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**Department of Defense
Fiscal Year (FY) 2025 Budget Estimates**

March 2024



Air Force

Justification Book Volume 3 of 4

Research, Development, Test & Evaluation, Air Force

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Air Force • Budget Estimates FY 2025 • RDT&E Program

Volume 3 Table of Contents

Introduction and Explanation of Contents.....Volume 3 - iii

Comptroller Exhibit R-1..... Volume 3 - v

Master Program Element Table of Contents (by Budget Activity then Line Item Number)..... Volume 3 - xxi

Master Program Element Table of Contents (Alphabetically by Program Element Title)..... Volume 3 - xxxix

Summary 3600..... Volume 3 - iv

2025PB OP8 Exhibit 3600..... Volume 3 - Ivii

Acronyms..... Volume 3 - lxi

Exhibit R-2s..... Volume 3 - 1

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Fiscal Year (FY) 2025 President's Budget RDT&E Descriptive Summaries Budget Activities March 2024

INTRODUCTION AND EXPLANATION OF CONTENTS

GENERAL

- This document has been prepared to provide information on the United States Air Force (USAF) Research, Development, Test and Evaluation (RDT&E) program elements and projects in the FY25 Budget Estimate Submission (BES).
 - All exhibits in this document have been assembled in accordance with DoD 7000.14R, Financial Management Regulation, Volume 2B, Chapter 5.
 - Other comments on exhibit contents in this document:
 - Exhibits R-2/2a and R-3 provide narrative information for all RDT&E program elements and projects within the USAF FY 2025 RDT&E program with the exception of classified program elements. The format and contents of this document are in accordance to the guidelines and requirements of the Congressional committees in so far as possible.
 - The “Other Program Funding Summary” portion of the R-2 includes, in addition to RDT&E funds, Procurement funds and quantities, Military Construction appropriation funds on specific development programs, Operations and Maintenance appropriation funds where they are essential to the development effort described, and where appropriate, Department of Energy (DOE) costs.

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- All exhibits contained in Volumes I, II, and III are unclassified. Classified exhibits are not included in the submission due to the level of security classification and necessity of special security clearances.

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Department of the Air Force
 FY 2025 President's Budget
 Exhibit R-1 FY 2025 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

Mar 2024

Appropriation: 3600F Research, Development, Test and Evaluation, Air Force

Line No	Program Element Number	Item	Act	Sec	FY 2023	FY 2024 PB	FY 2025
					Actuals	Request with CR Adjustments'	Request
1	0601102F	Defense Research Sciences	01	U	377,616	401,486	361,930
2	0601103F	University Research Initiatives	01	U	191,797	182,372	143,372
	Basic Research				569,413	583,858	505,302
3	0602020F	Future AF Capabilities Applied Research University Affiliated Research Center (UARC) - Tactical	02	U	93,684	90,713	85,477
4	0602022F	Autonomy	02	U		8,018	8,225
5	0602102F	Materials	02	U	266,944	142,325	142,336
6	0602201F	Aerospace Vehicle Technologies	02	U	188,407	161,268	5,235
7	0602202F	Human Effectiveness Applied Research	02	U	133,233	146,921	138,204
8	0602203F	Aerospace Propulsion	02	U	201,798	184,867	339,477
9	0602204F	Aerospace Sensors	02	U	249,300	216,269	193,029
10	0602212F	Defense Laboratories R&D Projects (10 U.S.C, Sec 2358) Science and Technology Management - Major Headquarters	02	U	107,281		
11	0602298F	Activities	02	U	8,856	10,303	9,662
12	0602602F	Conventional Munitions	02	U	136,169	160,599	138,497
13	0602605F	Directed Energy Technology	02	U	104,085	129,961	114,962
14	0602788F	Dominant Information Sciences and Methods	02	U	258,606	182,076	176,333
	Applied Research				1,748,363	1,433,320	1,351,437
15	0603032F	Future AF Integrated Technology Demos	03	U	144,712	255,855	248,506
16	0603112F	Advanced Materials for Weapon Systems	03	U	53,164	30,372	29,661

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 Exhibit R-1 FY 2025 President's Budget
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					Actuals	Request with CR Adjustments'	Request
17	0603199F	Sustainment Science and Technology (S&T)	03	U	17,907	10,478	12,558
18	0603203F	Advanced Aerospace Sensors	03	U	35,354	48,046	37,935
19	0603211F	Aerospace Technology Dev/Demo	03	U	95,428	51,896	102,529
20	0603216F	Aerospace Propulsion and Power Technology	03	U	91,041	56,789	
21	0603270F	Electronic Combat Technology	03	U	32,338	32,510	36,445
22	0603273F	Science & Technology for Nuclear Re-entry Systems	03	U	22,893	70,321	91,885
23	0603444F	Maui Space Surveillance System (MSSS)	03	U		2	
24	0603456F	Human Effectiveness Advanced Technology Development	03	U	29,250	15,593	19,568
25	0603601F	Conventional Weapons Technology	03	U	144,026	132,311	125,460
26	0603605F	Advanced Weapons Technology	03	U	81,040	102,997	25,050
27	0603680F	Manufacturing Technology Program	03	U	261,998	44,422	34,730
28	0603788F	Battlespace Knowledge Development and Demonstration	03	U	50,138	37,779	26,172
29	0604776F	Deployment & Distribution Enterprise R&D	03	U			27,762
30	0207412F	Control and Reporting Center (CRC)	03	U		2,005	2,012
	Advanced Technology Development				1,059,289	891,376	820,273
31	0603036F	Modular Advanced Missile	04	U	73,250	105,238	
32	0603260F	Intelligence Advanced Development	04	U	7,401	6,237	3,820
33	0603742F	Combat Identification Technology	04	U	13,718	21,298	24,799
34	0603790F	NATO Research and Development	04	U	4,295	2,208	4,498
35	0603851F	Intercontinental Ballistic Missile - Dem/Val	04	U	44,751	45,319	119,197

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 Exhibit R-1 FY 2025 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

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					Actuals	Request with CR Adjustments'	Request
36	0604001F	NC3 Advanced Concepts	04	U	5,098	10,011	10,148
37	0604003F	Advanced Battle Management System (ABMS)	04	U	229,842	500,575	743,842
38	0604004F	Advanced Engine Development	04	U	212,586	595,352	562,337
39	0604005F	NC3 Commercial Development & Prototyping	04	U	93,485	78,799	68,124
40	0604006F	Dept of the Air Force Tech Architecture	04	U	48,808	2,620	
41	0604007F	E-7	04	U	411,704	681,039	418,513
42	0604009F	AFWERX Prime	04	U	164,648	83,336	20,580
43	0604015F	Long Range Strike - Bomber	04	U	3,037,499	2,984,143	2,654,073
44	0604025F	Rapid Defense Experimentation Reserve (RDER)	04	U	61,915	154,300	75,051
45	0604032F	Directed Energy Prototyping	04	U	4,202	1,246	3,712
46	0604033F	Hypersonics Prototyping	04	U	112,015	150,340	
47	0604183F	Hypersonics Prototyping - Hypersonic Attack Cruise Missile (HACM)	04	U	387,325	381,528	516,971
48	0604201F	PNT Resiliency, Mods, and Improvements	04	U	28,902	18,041	
49	0604257F	Advanced Technology and Sensors	04	U	12,311	27,650	24,204
50	0604288F	Survivable Airborne Operations Center (SAOC)	04	U	94,740	888,829	1,687,500
51	0604317F	Technology Transfer	04	U	34,986	26,638	3,485
52	0604327F	Hard and Deeply Buried Target Defeat System (HDBTDS) Program	04	U	113,552	19,266	154,417
53	0604414F	Cyber Resiliency of Weapon Systems-ACS	04	U	42,068	37,121	59,539
54	0604534F	Adaptive Engine Transition Program (AETP)	04	U	276,659		

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Department of the Air Force
 FY 2025 President's Budget
 Exhibit R-1 FY 2025 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

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					Actuals	Request with CR Adjustments'	Request
55	0604609F	Requirements Analysis & Concept Maturation	04	U			22,667
56	0604668F	Joint Transportation Management System (JTMS)	04	U	27,758	37,026	174,723
57	0604776F	Deployment & Distribution Enterprise R&D	04	U	27,586	31,833	4,840
58	0604858F	Tech Transition Program	04	U	298,057	210,806	234,342
59	0604860F	Operational Energy and Installation Resilience	04	U	24,603	46,305	63,194
60	0605057F	Next Generation Air-refueling System	04	U			7,014
61	0605164F	Air Refueling Capability Modernization	04	U	11,281	19,400	13,661
62	0606005F	Digital Transformation Office	04	U			9,800
63	0201184F	Counter Narco-Terrorism Program Office	04	U	2		
64	0207110F	Next Generation Air Dominance	04	U	1,608,787	2,326,128	3,306,355
65	0207179F	Autonomous Collaborative Platforms	04	U	54,954	118,826	51,666
66	0207420F	Combat Identification	04	U	1,866	1,902	1,914
67	0207431F	Combat Air Intelligence System Activities	04	U			18,733
68	0207448F	C2ISR Tactical Data Link	04	U			42,371
69	0207455F	Three Dimensional Long-Range Radar (3DELRR)	04	U	13,959	19,763	8,100
70	0207522F	Airbase Air Defense Systems (ABADS)	04	U	48,252	78,867	17,273
71	0207606F	Joint Simulation Environment (JSE)	04	U			191,337
72	0208030F	War Reserve Materiel - Ammunition	04	U	10,288	8,175	5,226
73	0305236F	Common Data Link Executive Agent (CDL EA)	04	U	37,460	25,157	33,349
74	0305601F	Mission Partner Environments	04	U	16,741	17,727	22,028

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 Exhibit R-1 FY 2025 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

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					Actuals	Request with CR Adjustments'	Request
75	0306250F	Cyber Operations Technology Support	04	U	272,583		
76	0306415F	Enabled Cyber Activities	04	U	16,728		
77	0708051F	Rapid Sustainment Modernization (RSM)	04	U	69,000	43,431	37,044
78	0808736F	Special Victim Accountability and Investigation	04	U			3,006
79	0808737F	Integrated Primary Prevention	04	U	8,973	9,364	5,364
80	0901410F	Contracting Information Technology System	04	U	13,630	28,294	28,995
81	1206415F	U.S. Space Command Research and Development Support	04	U	8,350	14,892	28,392
Advanced Component Development & Prototypes					8,086,618	9,859,030	11,486,204
82	0604200F	Future Advanced Weapon Analysis & Programs	05	U	11,641	9,757	7,205
83	0604201F	PNT Resiliency, Mods, and Improvements	05	U	170,057	163,156	217,662
84	0604222F	Nuclear Weapons Support	05	U	61,736	45,884	70,823
85	0604270F	Electronic Warfare Development	05	U	8,352	13,804	19,264
86	0604281F	Tactical Data Networks Enterprise	05	U	120,186	74,023	78,480
87	0604287F	Physical Security Equipment Hard and Deeply Buried Target Defeat System (HDBTDS)	05	U	6,664	10,605	10,569
88	0604336F	Prototyping	05	U			39,079
89	0604602F	Armament/Ordnance Development	05	U	6,120	5,918	7,157
90	0604604F	Submunitions	05	U	3,273	3,345	3,427
91	0604617F	Agile Combat Support	05	U	18,677	21,967	24,178
92	0604706F	Life Support Systems	05	U	32,820	39,301	25,502

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 Exhibit R-1 FY 2025 President's Budget
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					Actuals	Request with CR Adjustments'	Request
93	0604735F	Combat Training Ranges	05	U	100,322	152,569	224,783
94	0604932F	Long Range Standoff Weapon	05	U	921,891	911,406	623,491
95	0604933F	ICBM Fuze Modernization	05	U	97,499	71,732	10,408
96	0605030F	Joint Tactical Network Center (JTNC)	05	U	2,222	2,256	
97	0605031F	Joint Tactical Network (JTN)	05	U		452	
98	0605056F	Open Architecture Management	05	U	37,262	36,582	41,223
99	0605057F	Next Generation Air-refueling System	05	U		7,928	
100	0605223F	Advanced Pilot Training	05	U	32,513	77,252	83,985
101	0605229F	HH-60W	05	U	27,722	48,268	
102	0605238F	Ground Based Strategic Deterrent EMD	05	U	3,434,623	3,746,935	3,721,024
103	0207171F	F-15 EPAWSS	05	U	65,587	13,982	
104	0207279F	Isolated Personnel Survivability and Recovery	05	U	9,591	56,225	10,020
105	0207328F	Stand In Attack Weapon	05	U	243,076	298,585	375,528
106	0207701F	Full Combat Mission Training	05	U	12,528	7,597	7,754
107	0208036F	Medical C-CBRNE Programs	05	U		2,006	
108	0303267F	Auctioned Spectrum Relocation Fund	05	U	60,167		
109	0303667F	Citizen Broadband Radio System	05	U	8		
110	0303867F	AMBIT - Post-Auctioned SRF	05	U	14,851		
111	0305155F	Theater Nuclear Weapon Storage & Security System	05	U			9,018
112	0305205F	Endurance Unmanned Aerial Vehicles	05	U		30,000	

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 Exhibit R-1 FY 2025 President's Budget
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					Actuals	Request with CR Adjustments'	Request
113	0401221F	KC-46A Tanker Squadrons	05	U	140,395	124,662	93,620
114	0401319F	VC-25B	05	U	79,623	490,701	433,943
115	0701212F	Automated Test Systems	05	U	16,657	12,911	26,640
116	0804772F	Training Developments	05	U	10,838	1,922	4,960
117	1203176F	Combat Survivor Evader Locator	05	U			2,269
System Development & Demonstration					5,746,901	6,481,731	6,172,012
118	0604256F	Threat Simulator Development	06	U	20,835	16,626	19,927
119	0604759F	Major T&E Investment	06	U	169,432	31,143	74,228
120	0605101F	RAND Project Air Force	06	U	37,655	38,398	39,720
121	0605502F	Small Business Innovation Research	06	U	836,355	1,466	
122	0605712F	Initial Operational Test & Evaluation	06	U	13,926	13,736	14,247
123	0605807F	Test and Evaluation Support	06	U	842,401	913,213	936,913
124	0605827F	Acq Workforce- Global Vig & Combat Sys	06	U	288,812	317,901	316,924
125	0605828F	Acq Workforce- Global Reach	06	U	456,624	541,677	496,740
126	0605829F	Acq Workforce- Cyber, Network, & Bus Sys	06	U	471,073	551,213	521,987
127	0605830F	Acq Workforce- Global Battle Mgmt	06	U	3,696		
128	0605831F	Acq Workforce- Capability Integration	06	U	261,016	243,780	262,349
129	0605832F	Acq Workforce- Advanced Prgm Technology	06	U	64,081	109,030	69,319
130	0605833F	Acq Workforce- Nuclear Systems	06	U	236,382	336,788	343,180
131	0605898F	Management HQ - R&D	06	U	6,054	5,005	6,291

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					Actuals	Request with CR Adjustments'	Request
132	0605976F	Facilities Restoration and Modernization - Test and Evaluation Support	06	U	133,420	87,889	94,828
133	0605978F	Facilities Sustainment - Test and Evaluation Support	06	U	31,561	35,065	63,579
134	0606017F	Requirements Analysis and Maturation	06	U	106,454	89,956	41,550
135	0606398F	Management HQ - T&E	06	U	7,535	7,453	7,647
136	0303166F	Joint Information Operations Range	06	U	556		
137	0303255F	Command, Control, Communication, and Computers (C4) - STRATCOM	06	U	29,092	20,871	19,607
138	0308602F	ENTEPRISE INFORMATION SERVICES (EIS)	06	U	71,020	100,357	104,133
139	0702806F	Acquisition and Management Support	06	U	48,331	20,478	25,216
140	0804731F	General Skill Training	06	U	871	796	10
141	0804776F	Advanced Distributed Learning	06	U			1,652
142	0909999F	Financing for Cancelled Account Adjustments	06	U	1,887		
143	1001004F	International Activities	06	U	2,593	3,917	4,590
Management Support					4,141,662	3,486,758	3,464,637
144	0604233F	Specialized Undergraduate Flight Training	07	U	16,729	41,464	39,667
145	0604281F	Tactical Data Networks Enterprise	07	U			22
146	0604283F	Battle Mgmt Com & Ctrl Sensor Development	07	U		40,000	100,183
147	0604445F	Wide Area Surveillance	07	U		8,018	21,443
148	0604617F	Agile Combat Support	07	U	7,937	5,645	
149	0604776F	Deployment & Distribution Enterprise R&D	07	U	156		

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					Actuals	Request with CR Adjustments'	Request
150	0604840F	F-35 C2D2	07	U	994,924	1,275,268	1,124,207
151	0605018F	AF Integrated Personnel and Pay System (AF-IPPS)	07	U	41,872	40,203	49,739
152	0605024F	Anti-Tamper Technology Executive Agency	07	U	49,908	49,613	65,792
153	0605117F	Foreign Materiel Acquisition and Exploitation	07	U	117,838	93,881	94,188
154	0605229F	HH-60W	07	U			52,314
155	0605278F	HC/MC-130 Recap RDT&E	07	U	47,174	36,536	24,934
156	0606018F	NC3 Integration	07	U	24,317	22,910	21,864
157	0101113F	B-52 Squadrons	07	U	701,934	950,815	1,045,570
158	0101122F	Air-Launched Cruise Missile (ALCM)	07	U	571	290	542
159	0101126F	B-1B Squadrons	07	U	19,456	12,619	17,939
160	0101127F	B-2 Squadrons	07	U	100,590	87,623	41,212
161	0101213F	Minuteman Squadrons	07	U	71,339	33,237	62,550
162	0101316F	Worldwide Joint Strategic Communications	07	U	17,894	24,653	13,690
163	0101318F	Service Support to STRATCOM - Global Strike	07	U		7,562	7,330
164	0101324F	Integrated Strategic Planning & Analysis Network	07	U	31,043		
165	0101328F	ICBM Reentry Vehicles	07	U	112,282	475,415	629,928
167	0102110F	MH-139A	07	U	15,805	25,737	
168	0102326F	Region/Sector Operation Control Center Modernization Program	07	U	389	831	852
169	0102412F	North Warning System (NWS)	07	U	231,884	102	103

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 Exhibit R-1 FY 2025 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

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170	0102417F	Over-the-Horizon Backscatter Radar	07	U	4,400	428,754	383,575
171	0202834F	Vehicles and Support Equipment - General	07	U	13,715	15,498	6,097
172	0205219F	MQ-9 UAV	07	U	144,827	81,123	7,074
173	0205671F	Joint Counter RCIED Electronic Warfare	07	U	3,901	2,303	3,372
174	0207040F	Multi-Platform Electronic Warfare Equipment	07	U	44,264	7,312	
175	0207131F	A-10 Squadrons	07	U	52,797		
176	0207133F	F-16 Squadrons	07	U	241,482	98,633	106,952
177	0207134F	F-15E Squadrons	07	U	193,307	50,965	178,603
178	0207136F	Manned Destructive Suppression	07	U	9,540	16,543	16,182
179	0207138F	F-22A Squadrons	07	U	542,659	725,889	768,561
180	0207142F	F-35 Squadrons	07	U	60,501	97,231	47,132
181	0207146F	F-15EX	07	U	91,178	100,006	56,228
182	0207161F	Tactical AIM Missiles	07	U	33,365	41,958	34,932
183	0207163F	Advanced Medium Range Air-to-Air Missile (AMRAAM)	07	U	36,055	53,679	53,593
184	0207227F	Combat Rescue - Pararescue	07	U	863	726	743
185	0207238F	E-11A	07	U		64,888	64,127
186	0207247F	AF TENCAP	07	U	28,809	25,749	50,263
187	0207249F	Precision Attack Systems Procurement	07	U	12,284	11,872	12,723
188	0207253F	Compass Call	07	U	54,758	66,932	132,475
189	0207268F	Aircraft Engine Component Improvement Program	07	U	131,325	55,223	68,743

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Department of the Air Force
 FY 2025 President's Budget
 Exhibit R-1 FY 2025 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

Mar 2024

Appropriation: 3600F Research, Development, Test and Evaluation, Air Force

Line No	Program Element Number	Item	Act	Sec	FY 2023	FY 2024 PB	FY 2025
					Actuals	Request with CR Adjustments'	Request
190	0207325F	Joint Air-to-Surface Standoff Missile (JASSM)	07	U	123,852	132,937	183,532
191	0207327F	Small Diameter Bomb (SDB)	07	U	37,988	37,518	29,910
192	0207410F	Air & Space Operations Center (AOC)	07	U	76,216	72,059	71,442
193	0207412F	Control and Reporting Center (CRC)	07	U	6,409	17,498	18,473
194	0207417F	Airborne Warning and Control System (AWACS)	07	U	11,191		
195	0207418F	AFSPECWAR - TACP	07	U	5,763	2,106	2,206
197	0207431F	Combat Air Intelligence System Activities	07	U	36,704	72,010	46,702
198	0207438F	Theater Battle Management (TBM) C4I	07	U	5,647	6,467	4,873
199	0207439F	Electronic Warfare Integrated Reprogramming (EWIR)	07	U	15,990	10,388	17,149
200	0207444F	Tactical Air Control Party-Mod	07	U	10,008	10,060	12,171
201	0207452F	DCAPES	07	U	7,754	8,233	8,431
202	0207521F	Air Force Calibration Programs	07	U	20,226	2,172	2,223
203	0207573F	National Technical Nuclear Forensics	07	U	2,039	2,049	2,060
204	0207590F	Seek Eagle	07	U	32,794	33,478	34,985
205	0207601F	USAF Modeling and Simulation	07	U	20,980		
206	0207605F	Wargaming and Simulation Centers	07	U	7,004	11,894	
207	0207697F	Distributed Training and Exercises	07	U	4,480	3,811	4,847
208	0207701F	Full Combat Mission Training	07	U			7,048
209	0208006F	Mission Planning Systems	07	U	96,492	96,272	92,566
210	0208007F	Tactical Deception	07	U	32,343	26,533	539

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Department of the Air Force
 FY 2025 President's Budget
 Exhibit R-1 FY 2025 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

Mar 2024

Appropriation: 3600F Research, Development, Test and Evaluation, Air Force

Line No	Program Element Number	Item	Act	Sec	FY 2023	FY 2024 PB	FY 2025
					Actuals	Request with CR Adjustments'	Request
211	0208064F	OPERATIONAL HQ - CYBER	07	U	13,841		
212	0208087F	Distributed Cyber Warfare Operations	07	U	69,414	50,122	29,996
213	0208088F	AF Defensive Cyberspace Operations	07	U	16,220	113,064	113,218
214	0208097F	Joint Cyber Command and Control (JCC2)	07	U	86,631		
215	0208099F	Unified Platform (UP)	07	U	103,792		
219	0208288F	Intel Data Applications	07	U	1,026	967	988
220	0301025F	GeoBase	07	U	2,256	1,514	1,002
221	0301112F	Nuclear Planning and Execution System (NPES)	07	U	17,276		
222	0301113F	Cyber Security Intelligence Support	07	U	8,972	8,476	18,141
228	0301377F	Countering Advanced Conventional Weapons (CACW)	07	U			1,668
230	0301401F	AF Multi-Domain Non-Traditional ISR Battlespace Awareness	07	U	3,069	2,890	3,436
231	0302015F	E-4B National Airborne Operations Center (NAOC)	07	U	29,425	39,868	40,441
232	0302315F	Non-Kinetic Countermeasure Support	07	U			15,180
233	0303004F	EIT CONNECT	07	U		32,900	32,960
234	0303089F	Cyberspace and DoDIN Operations	07	U		4,881	9,776
235	0303131F	Minimum Essential Emergency Communications Network (MEECN)	07	U	32,876	33,567	25,500
236	0303133F	High Frequency Radio Systems	07	U	2,315	40,000	8,667
237	0303140F	Information Systems Security Program	07	U	63,048	95,523	94,424
238	0303248F	All Domain Common Platform	07	U	44,989	71,296	82,927

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Department of the Air Force
 FY 2025 President's Budget
 Exhibit R-1 FY 2025 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

Mar 2024

Appropriation: 3600F Research, Development, Test and Evaluation, Air Force

Line No	Program Element Number	Item	Act	Sec	FY 2023	FY 2024 PB	FY 2025
					Actuals	Request with CR Adjustments'	Request
239	0303260F	Joint Military Deception Initiative	07	U	2,493	4,682	7,324
240	0304100F	Strategic Mission Planning & Execution System (SMPES)	07	U		64,944	69,441
243	0304260F	Airborne SIGINT Enterprise	07	U	98,297	108,947	85,284
244	0304310F	Commercial Economic Analysis	07	U	4,054	4,635	4,719
247	0305015F	C2 Air Operations Suite - C2 Info Services	07	U	7,499	13,751	13,524
248	0305020F	CCMD Intelligence Information Technology	07	U	1,821	1,660	1,836
249	0305022F	ISR Modernization & Automation Dvmt (IMAD)	07	U	15,138	18,680	22,909
250	0305099F	Global Air Traffic Management (GATM)	07	U	4,727	5,031	5,151
251	0305103F	Cyber Security Initiative	07	U	87	301	304
252	0305111F	Weather Service	07	U	52,060	26,329	31,372
253	0305114F	Air Traffic Control, Approach, and Landing System (ATCALs)	07	U	6,729	8,751	15,143
254	0305116F	Aerial Targets	07	U	1,316	6,915	7,685
257	0305128F	Security and Investigative Activities	07	U	214	352	481
258	0305146F	Defense Joint Counterintelligence Activities	07	U	8,328	6,930	6,387
259	0305158F	Tactical Terminal	07	U			1,002
260	0305179F	Integrated Broadcast Service (IBS)	07	U	14,123	21,588	16,006
261	0305202F	Dragon U-2	07	U	35,170	16,842	
262	0305206F	Airborne Reconnaissance Systems	07	U	76,139	43,158	84,363
263	0305207F	Manned Reconnaissance Systems	07	U	14,590	14,330	16,323

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Department of the Air Force
 FY 2025 President's Budget
 Exhibit R-1 FY 2025 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

Mar 2024

Appropriation: 3600F Research, Development, Test and Evaluation, Air Force

Line No	Program Element Number	Item	Act	Sec	FY 2023	FY 2024 PB	FY 2025
					Actuals	Request with CR Adjustments'	Request
264	0305208F	Distributed Common Ground/Surface Systems	07	U	26,901	88,854	86,476
265	0305220F	RQ-4 UAV	07	U	36,791	1,242	9,516
266	0305221F	Network-Centric Collaborative Targeting	07	U	17,564	12,496	8,952
267	0305238F	NATO AGS	07	U	826	2	865
268	0305240F	Support to DCGS Enterprise	07	U	28,774	31,589	30,932
269	0305600F	International Intelligence Technology and Architectures	07	U	25,036	15,322	18,670
270	0305881F	Rapid Cyber Acquisition	07	U	3,636	8,830	
271	0305984F	Personnel Recovery Command & Ctrl (PRC2)	07	U	3,123	2,764	2,831
272	0307577F	Intelligence Mission Data (IMD)	07	U	6,332	7,090	3,658
273	0401115F	C-130 Airlift Squadron	07	U	392	5,427	
274	0401119F	C-5 Airlift Squadrons (IF)	07	U	3,095	29,502	33,003
275	0401130F	C-17 Aircraft (IF)	07	U	25,387	2,753	17,395
276	0401132F	C-130J Program	07	U	9,782	19,100	34,423
277	0401134F	Large Aircraft IR Countermeasures (LAIRCM)	07	U	2,820	5,982	7,768
278	0401218F	KC-135s	07	U	18,409	51,105	31,977
279	0401318F	CV-22	07	U	9,678	18,127	26,249
280	0408011F	Special Tactics / Combat Control	07	U	6,163	9,198	9,421
281	0708055F	Maintenance, Repair & Overhaul System	07	U	18,313		
282	0708610F	Logistics Information Technology (LOGIT)	07	U	15,882	17,520	11,895

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Department of the Air Force
 FY 2025 President's Budget
 Exhibit R-1 FY 2025 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

Mar 2024

Appropriation: 3600F Research, Development, Test and Evaluation, Air Force

Line No	Program Element Number	Item	Act	Sec	FY 2023	FY 2024 PB	FY 2025
					Actuals	Request with CR Adjustments'	Request
283	0801380F	AF LVC Operational Training (LVC-OT)	07	U		25,144	29,815
284	0804743F	Other Flight Training	07	U	1,908	2,265	2,319
285	0901202F	Joint Personnel Recovery Agency	07	U	1,805	2,266	2,320
286	0901218F	Civilian Compensation Program	07	U	3,461	4,006	4,267
287	0901220F	Personnel Administration	07	U	2,883	3,078	3,163
288	0901226F	Air Force Studies and Analysis Agency	07	U	866	5,309	18,937
289	0901538F	Financial Management Information Systems Development	07	U	4,922	4,279	5,634
290	0901554F	Defense Enterprise Acntng and Mgt Sys (DEAMS)	07	U	43,111	45,925	57,689
291	1202140F	Service Support to SPACECOM Activities	07	U	13,418	9,778	
999	999999999	Classified Programs	07	U	17,634,854	16,814,245	18,038,552
	Operational Systems Development				23,662,019	23,829,283	25,308,906
293	0901560F	Continuing Resolution Programs	20	U		-1,651,372	
	Undistributed					-1,651,372	
Total Research, Development, Test and Evaluation, Air Force					45,014,265	44,913,984	49,108,771

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UNCLASSIFIED

Department of the Air Force
 FY 2025 President's Budget
 Exhibit R-1 FY 2025 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

Mar 2024

Appropriation: 3600F Research, Development, Test and Evaluation, Air Force

Line No	Program Element Number	Item	Act	Sec	FY 2024 PB	FY 2025
					Request Overseas Operations Costs (OOC)*	Request Overseas Operations Costs (OOC)*
86	0604281F	Tactical Data Networks Enterprise	05	U	1,792	1,831
		System Development & Demonstration			1,792	1,831
219	0208288F	Intel Data Applications	07	U	967	988
		Operational Systems Development			967	988
Total Research, Development, Test and Evaluation, Air Force					2,759	2,819

*FY 2024 and FY 2025 Overseas Operations Costs (OOC) numbers are a subset of the baseline submission.

*FY 2023 includes \$0K in Overseas Operations Costs (OOC) Actuals. FY 2024 includes \$2,759K in OOC Requested. FY 2025 includes \$2,819K for the OOC Budget Estimate. OOC were financed previously with former Overseas Contingency Operations (OCO) funding.

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Master Program Element Table of Contents (by Budget Activity then Line Item Number)

Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line #	Budget Activity	Program Element Number	Program Element Title	Page
1	01	0601102F	Defense Research Sciences.....	Volume 1 - 1
2	01	0601103F	University Research Initiatives.....	Volume 1 - 23

Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line #	Budget Activity	Program Element Number	Program Element Title	Page
3	02	0602020F	Future AF Capabilities Applied Research.....	Volume 1 - 29
4	02	0602022F	University Affiliated Research Center (UARC) - Tactical Autonomy.....	Volume 1 - 37
5	02	0602102F	Materials.....	Volume 1 - 41
6	02	0602201F	Aerospace Vehicle Technologies.....	Volume 1 - 61
7	02	0602202F	Human Effectiveness Applied Research.....	Volume 1 - 79
8	02	0602203F	Aerospace Propulsion.....	Volume 1 - 103
9	02	0602204F	Aerospace Sensors.....	Volume 1 - 139
10	02	0602212F	Defense Laboratories R&D Projects (10 U.S.C, Sec 2358).....	Volume 1 - 167

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line #	Budget Activity	Program Element Number	Program Element Title	Page
11	02	0602298F	Science and Technology Management - Major Headquarters Activities.....	Volume 1 - 169
12	02	0602602F	Conventional Munitions.....	Volume 1 - 171
13	02	0602605F	Directed Energy Technology.....	Volume 1 - 183
14	02	0602788F	Dominant Information Sciences and Methods.....	Volume 1 - 193

Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line #	Budget Activity	Program Element Number	Program Element Title	Page
15	03	0603032F	Future AF Integrated Technology Demos.....	Volume 1 - 211
16	03	0603112F	Advanced Materials for Weapon Systems.....	Volume 1 - 229
17	03	0603199F	Sustainment Science and Technology (S&T).....	Volume 1 - 239
18	03	0603203F	Advanced Aerospace Sensors.....	Volume 1 - 243
19	03	0603211F	Aerospace Technology Dev/Demo.....	Volume 1 - 255
20	03	0603216F	Aerospace Propulsion and Power Technology.....	Volume 1 - 273
21	03	0603270F	Electronic Combat Technology.....	Volume 1 - 287
22	03	0603273F	Science & Technology for Nuclear Re-entry Systems.....	Volume 1 - 301
23	03	0603444F	Maui Space Surveillance System (MSSS).....	Volume 1 - 309

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line #	Budget Activity	Program Element Number	Program Element Title	Page
24	03	0603456F	Human Effectiveness Advanced Technology Development.....	Volume 1 - 311
25	03	0603601F	Conventional Weapons Technology.....	Volume 1 - 325
26	03	0603605F	Advanced Weapons Technology.....	Volume 1 - 333
27	03	0603680F	Manufacturing Technology Program.....	Volume 1 - 339
28	03	0603788F	Battlespace Knowledge Development and Demonstration.....	Volume 1 - 349
29	03	0604776F	Deployment & Distribution Enterprise R&D.....	Volume 1 - 361
30	03	0207412F	Control and Reporting Center (CRC).....	Volume 1 - 373

Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line #	Budget Activity	Program Element Number	Program Element Title	Page
31	04	0603036F	Modular Advanced Missile.....	Volume 2 - 1
32	04	0603260F	Intelligence Advanced Development.....	Volume 2 - 7
33	04	0603742F	Combat Identification Technology.....	Volume 2 - 19
34	04	0603790F	NATO Research and Development.....	Volume 2 - 43
35	04	0603851F	Intercontinental Ballistic Missile - Dem/Val.....	Volume 2 - 49
36	04	0604001F	NC3 Advanced Concepts.....	Volume 2 - 73

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line #	Budget Activity	Program Element Number	Program Element Title	Page
37	04	0604003F	Advanced Battle Management System (ABMS).....	Volume 2 - 79
38	04	0604004F	Advanced Engine Development.....	Volume 2 - 101
39	04	0604005F	NC3 Commercial Development & Prototyping.....	Volume 2 - 109
40	04	0604006F	Dept of the Air Force Tech Architecture.....	Volume 2 - 117
41	04	0604007F	E-7.....	Volume 2 - 127
42	04	0604009F	AFWERX Prime.....	Volume 2 - 135
43	04	0604015F	Long Range Strike - Bomber.....	Volume 2 - 151
44	04	0604025F	Rapid Defense Experimentation Reserve (RDER).....	Volume 2 - 163
45	04	0604032F	Directed Energy Prototyping.....	Volume 2 - 177
46	04	0604033F	Hypersonics Prototyping.....	Volume 2 - 183
47	04	0604183F	Hypersonics Prototyping - Hypersonic Attack Cruise Missile (HACM).....	Volume 2 - 191
48	04	0604201F	PNT Resiliency, Mods, and Improvements.....	Volume 2 - 201
49	04	0604257F	Advanced Technology and Sensors.....	Volume 2 - 209
50	04	0604288F	Survivable Airborne Operations Center (SAOC).....	Volume 2 - 223
51	04	0604317F	Technology Transfer.....	Volume 2 - 231
52	04	0604327F	Hard and Deeply Buried Target Defeat System (HDBTDS) Program.....	Volume 2 - 249
53	04	0604414F	Cyber Resiliency of Weapon Systems-ACS.....	Volume 2 - 257
54	04	0604534F	Adaptive Engine Transition Program (AETP).....	Volume 2 - 277

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line #	Budget Activity	Program Element Number	Program Element Title	Page
55	04	0604609F	Requirements Analysis & Concept Maturation.....	Volume 2 - 283
56	04	0604668F	Joint Transportation Management System (JTMS).....	Volume 2 - 303
57	04	0604776F	Deployment & Distribution Enterprise R&D.....	Volume 2 - 309
58	04	0604858F	Tech Transition Program.....	Volume 2 - 349
59	04	0604860F	Operational Energy and Installation Resilience.....	Volume 2 - 387
60	04	0605057F	Next Generation Air-refueling System.....	Volume 2 - 409
61	04	0605164F	Air Refueling Capability Modernization.....	Volume 2 - 415
62	04	0606005F	Digital Transformation Office.....	Volume 2 - 421
64	04	0207110F	Next Generation Air Dominance.....	Volume 2 - 427
65	04	0207179F	Autonomous Collaborative Platforms.....	Volume 2 - 439
66	04	0207420F	Combat Identification.....	Volume 2 - 457
67	04	0207431F	Combat Air Intelligence System Activities.....	Volume 2 - 463
68	04	0207448F	C2ISR Tactical Data Link.....	Volume 2 - 469
69	04	0207455F	Three Dimensional Long-Range Radar (3DELRR).....	Volume 2 - 475
70	04	0207522F	Airbase Air Defense Systems (ABADS).....	Volume 2 - 483
71	04	0207606F	Joint Simulation Environment (JSE).....	Volume 2 - 493
72	04	0208030F	War Reserve Materiel - Ammunition.....	Volume 2 - 501
73	04	0305236F	Common Data Link Executive Agent (CDL EA).....	Volume 2 - 509

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line #	Budget Activity	Program Element Number	Program Element Title	Page
74	04	0305601F	Mission Partner Environments.....	Volume 2 - 523
75	04	0306250F	Cyber Operations Technology Support.....	Volume 2 - 529
76	04	0306415F	Enabled Cyber Activities.....	Volume 2 - 537
77	04	0708051F	Rapid Sustainment Modernization (RSM).....	Volume 2 - 543
78	04	0808736F	Special Victim Accountability and Investigation.....	Volume 2 - 551
79	04	0808737F	Integrated Primary Prevention.....	Volume 2 - 559
80	04	0901410F	Contracting Information Technology System.....	Volume 2 - 569
81	04	1206415F	U.S. Space Command Research and Development Support.....	Volume 2 - 579

Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line #	Budget Activity	Program Element Number	Program Element Title	Page
82	05	0604200F	Future Advanced Weapon Analysis & Programs.....	Volume 2 - 589
83	05	0604201F	PNT Resiliency, Mods, and Improvements.....	Volume 2 - 599
84	05	0604222F	Nuclear Weapons Support.....	Volume 2 - 609
85	05	0604270F	Electronic Warfare Development.....	Volume 2 - 633
86	05	0604281F	Tactical Data Networks Enterprise.....	Volume 2 - 647

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line #	Budget Activity	Program Element Number	Program Element Title	Page
87	05	0604287F	Physical Security Equipment.....	Volume 2 - 663
88	05	0604336F	Hard and Deeply Buried Target Defeat System (HDBTDS) Prototyping.....	Volume 2 - 671
89	05	0604602F	Armament/Ordnance Development.....	Volume 2 - 677
90	05	0604604F	Submunitions.....	Volume 2 - 701
91	05	0604617F	Agile Combat Support.....	Volume 2 - 709
92	05	0604706F	Life Support Systems.....	Volume 2 - 725
93	05	0604735F	Combat Training Ranges.....	Volume 2 - 733
94	05	0604932F	Long Range Standoff Weapon.....	Volume 2 - 745
95	05	0604933F	ICBM Fuze Modernization.....	Volume 2 - 757
96	05	0605030F	Joint Tactical Network Center (JTNC).....	Volume 2 - 765
97	05	0605031F	Joint Tactical Network (JTN).....	Volume 2 - 773
98	05	0605056F	Open Architecture Management.....	Volume 2 - 781
99	05	0605057F	Next Generation Air-refueling System.....	Volume 2 - 793
100	05	0605223F	Advanced Pilot Training.....	Volume 2 - 799
101	05	0605229F	HH-60W.....	Volume 2 - 807
102	05	0605238F	Ground Based Strategic Deterrent EMD.....	Volume 2 - 817
103	05	0207171F	F-15 EPAWSS.....	Volume 2 - 837
104	05	0207279F	Isolated Personnel Survivability and Recovery.....	Volume 2 - 845

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line #	Budget Activity	Program Element Number	Program Element Title	Page
105	05	0207328F	Stand In Attack Weapon.....	Volume 2 - 853
106	05	0207701F	Full Combat Mission Training.....	Volume 2 - 863
107	05	0208036F	Medical C-CBRNE Programs.....	Volume 2 - 877
108	05	0303267F	Auctioned Spectrum Relocation Fund.....	Volume 2 - 883
109	05	0303667F	Citizen Broadband Radio System.....	Volume 2 - 889
110	05	0303867F	AMBIT - Post-Auctioned SRF.....	Volume 2 - 895
111	05	0305155F	Theater Nuclear Weapon Storage & Security System.....	Volume 2 - 901
112	05	0305205F	Endurance Unmanned Aerial Vehicles.....	Volume 2 - 907
113	05	0401221F	KC-46A Tanker Squadrons.....	Volume 2 - 913
114	05	0401319F	VC-25B.....	Volume 2 - 933
115	05	0701212F	Automated Test Systems.....	Volume 2 - 941
116	05	0804772F	Training Developments.....	Volume 2 - 955
117	05	1203176F	Combat Survivor Evader Locator.....	Volume 2 - 967

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line #	Budget Activity	Program Element Number	Program Element Title	Page
118	06	0604256F	Threat Simulator Development.....	Volume 3 - 1
119	06	0604759F	Major T&E Investment.....	Volume 3 - 11
120	06	0605101F	RAND Project Air Force.....	Volume 3 - 17
121	06	0605502F	Small Business Innovation Research.....	Volume 3 - 25
122	06	0605712F	Initial Operational Test & Evaluation.....	Volume 3 - 29
123	06	0605807F	Test and Evaluation Support.....	Volume 3 - 35
124	06	0605827F	Acq Workforce- Global Vig & Combat Sys.....	Volume 3 - 43
125	06	0605828F	Acq Workforce- Global Reach.....	Volume 3 - 47
126	06	0605829F	Acq Workforce- Cyber, Network, & Bus Sys.....	Volume 3 - 53
127	06	0605830F	Acq Workforce- Global Battle Mgmt.....	Volume 3 - 61
128	06	0605831F	Acq Workforce- Capability Integration.....	Volume 3 - 63
129	06	0605832F	Acq Workforce- Advanced Prgm Technology.....	Volume 3 - 67
130	06	0605833F	Acq Workforce- Nuclear Systems.....	Volume 3 - 71
131	06	0605898F	Management HQ - R&D.....	Volume 3 - 75
132	06	0605976F	Facilities Restoration and Modernization - Test and Evaluation Support.....	Volume 3 - 79
133	06	0605978F	Facilities Sustainment - Test and Evaluation Support.....	Volume 3 - 85

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line #	Budget Activity	Program Element Number	Program Element Title	Page
134	06	0606017F	Requirements Analysis and Maturation.....	Volume 3 - 91
135	06	0606398F	Management HQ - T&E.....	Volume 3 - 101
136	06	0303166F	Support to Information Operations (IO) Capabilities.....	Volume 3 - 103
137	06	0303255F	Command, Control, Communication, and Computers (C4) - STRATCOM.....	Volume 3 - 107
138	06	0308602F	ENTEPRISE INFORMATION SERVICES (EIS).....	Volume 3 - 113
139	06	0702806F	Acquisition and Management Support.....	Volume 3 - 123
141	06	0804776F	Advanced Distributed Learning.....	Volume 3 - 131
142	06	0909999F	Financing for Cancelled Account Adjustments.....	Volume 3 - 133
143	06	1001004F	International Activities.....	Volume 3 - 135

Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line #	Budget Activity	Program Element Number	Program Element Title	Page
144	07	0604233F	Specialized Undergraduate Flight Training.....	Volume 3 - 141
145	07	0604281F	Tactical Data Networks Enterprise.....	Volume 3 - 161
146	07	0604283F	Battle Mgmt Com & Ctrl Sensor Development.....	Volume 3 - 167
147	07	0604445F	Wide Area Surveillance.....	Volume 3 - 175

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line #	Budget Activity	Program Element Number	Program Element Title	Page
148	07	0604617F	Agile Combat Support.....	Volume 3 - 181
149	07	0604776F	Deployment & Distribution Enterprise R&D.....	Volume 3 - 189
150	07	0604840F	F-35 C2D2.....	Volume 3 - 195
151	07	0605018F	AF Integrated Personnel and Pay System (AF-IPPS).....	Volume 3 - 277
152	07	0605024F	Anti-Tamper Technology Executive Agency.....	Volume 3 - 287
153	07	0605117F	Foreign Materiel Acquisition and Exploitation.....	Volume 3 - 297
154	07	0605229F	HH-60W.....	Volume 3 - 305
155	07	0605278F	HC/MC-130 Recap RDT&E.....	Volume 3 - 315
156	07	0606018F	NC3 Integration.....	Volume 3 - 343
157	07	0101113F	B-52 Squadrons.....	Volume 3 - 351
158	07	0101122F	Air-Launched Cruise Missile (ALCM).....	Volume 3 - 415
159	07	0101126F	B-1B Squadrons.....	Volume 3 - 421
160	07	0101127F	B-2 Squadrons.....	Volume 3 - 429
161	07	0101213F	Minuteman Squadrons.....	Volume 3 - 447
162	07	0101316F	Worldwide Joint Strategic Communications.....	Volume 3 - 475
163	07	0101318F	Service Support to STRATCOM - Global Strike.....	Volume 3 - 485
164	07	0101324F	Integrated Strategic Planning & Analysis Network.....	Volume 3 - 493
165	07	0101328F	ICBM Reentry Vehicles.....	Volume 3 - 501

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line #	Budget Activity	Program Element Number	Program Element Title	Page
167	07	0102110F	MH-139A.....	Volume 3 - 519
168	07	0102326F	Region/Sector Operation Control Center Modernization Program.....	Volume 3 - 535
169	07	0102412F	North Warning System (NWS).....	Volume 3 - 541
170	07	0102417F	Over-the-Horizon Backscatter Radar.....	Volume 3 - 547
171	07	0202834F	Vehicles and Support Equipment - General.....	Volume 3 - 563
172	07	0205219F	MQ-9 UAV.....	Volume 3 - 571
173	07	0205671F	Joint Counter RCIED Electronic Warfare.....	Volume 3 - 593
174	07	0207040F	Multi-Platform Electronic Warfare Equipment.....	Volume 3 - 599
175	07	0207131F	A-10 Squadrons.....	Volume 3 - 607
176	07	0207133F	F-16 Squadrons.....	Volume 3 - 615
177	07	0207134F	F-15E Squadrons.....	Volume 3 - 629
178	07	0207136F	Manned Destructive Suppression.....	Volume 3 - 641
179	07	0207138F	F-22A Squadrons.....	Volume 3 - 649
180	07	0207142F	F-35 Squadrons.....	Volume 3 - 669
181	07	0207146F	F-15EX.....	Volume 3 - 693
182	07	0207161F	Tactical AIM Missiles.....	Volume 3 - 701
183	07	0207163F	Advanced Medium Range Air-to-Air Missile (AMRAAM).....	Volume 3 - 709
184	07	0207227F	Combat Rescue - Pararescue.....	Volume 3 - 717

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line #	Budget Activity	Program Element Number	Program Element Title	Page
185	07	0207238F	E-11A.....	Volume 3 - 723
186	07	0207247F	AF TENCAP.....	Volume 3 - 743
187	07	0207249F	Precision Attack Systems Procurement.....	Volume 3 - 751
188	07	0207253F	Compass Call.....	Volume 3 - 757
189	07	0207268F	Aircraft Engine Component Improvement Program.....	Volume 3 - 765
190	07	0207325F	Joint Air-to-Surface Standoff Missile (JASSM).....	Volume 3 - 781
191	07	0207327F	Small Diameter Bomb (SDB).....	Volume 3 - 791
192	07	0207410F	Air & Space Operations Center (AOC).....	Volume 3 - 801
193	07	0207412F	Control and Reporting Center (CRC).....	Volume 3 - 809
194	07	0207417F	Airborne Warning and Control System (AWACS).....	Volume 3 - 817
195	07	0207418F	AFSPECWAR - TACP.....	Volume 4 - 1
197	07	0207431F	Combat Air Intelligence System Activities.....	Volume 4 - 7
198	07	0207438F	Theater Battle Management (TBM) C4I.....	Volume 4 - 21
199	07	0207439F	Electronic Warfare Integrated Reprogramming (EWIR).....	Volume 4 - 27
200	07	0207444F	Tactical Air Control Party-Mod.....	Volume 4 - 35
201	07	0207452F	DCAPES.....	Volume 4 - 45
202	07	0207521F	Air Force Calibration Programs.....	Volume 4 - 61
203	07	0207573F	National Technical Nuclear Forensics.....	Volume 4 - 69

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line #	Budget Activity	Program Element Number	Program Element Title	Page
204	07	0207590F	Seek Eagle.....	Volume 4 - 75
205	07	0207601F	USAF Modeling and Simulation.....	Volume 4 - 85
206	07	0207605F	Wargaming and Simulation Centers.....	Volume 4 - 99
207	07	0207697F	Distributed Training and Exercises.....	Volume 4 - 109
208	07	0207701F	Full Combat Mission Training.....	Volume 4 - 117
209	07	0208006F	Mission Planning Systems.....	Volume 4 - 127
210	07	0208007F	Tactical Deception.....	Volume 4 - 145
211	07	0208064F	OPERATIONAL HQ - CYBER.....	Volume 4 - 153
212	07	0208087F	Distributed Cyber Warfare Operations.....	Volume 4 - 161
213	07	0208088F	AF Defensive Cyberspace Operations.....	Volume 4 - 173
214	07	0208097F	Joint Cyber Command and Control (JCC2).....	Volume 4 - 209
215	07	0208099F	Unified Platform (UP).....	Volume 4 - 217
219	07	0208288F	Intel Data Applications.....	Volume 4 - 225
220	07	0301025F	GeoBase.....	Volume 4 - 231
221	07	0301112F	Nuclear Planning and Execution System (NPES).....	Volume 4 - 237
222	07	0301113F	Cyber Security Intelligence Support.....	Volume 4 - 245
228	07	0301377F	Countering Advanced Conventional Weapons (CACW).....	Volume 4 - 251
230	07	0301401F	AF Multi-Domain Non-Traditional ISR Battlespace Awareness.....	Volume 4 - 257

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line #	Budget Activity	Program Element Number	Program Element Title	Page
231	07	0302015F	E-4B National Airborne Operations Center (NAOC).....	Volume 4 - 263
232	07	0302315F	Non-Kinetic Countermeasure Support.....	Volume 4 - 271
233	07	0303004F	EIT CONNECT.....	Volume 4 - 277
234	07	0303089F	Cyberspace Operations Systems.....	Volume 4 - 283
235	07	0303131F	Minimum Essential Emergency Communications Network (MEECN).....	Volume 4 - 289
236	07	0303133F	High Frequency Radio Systems.....	Volume 4 - 309
237	07	0303140F	Information Systems Security Program.....	Volume 4 - 317
238	07	0303248F	All Domain Common Platform.....	Volume 4 - 339
239	07	0303260F	Joint Military Deception Initiative.....	Volume 4 - 355
240	07	0304100F	Strategic Mission Planning & Execution System (SMPES).....	Volume 4 - 361
243	07	0304260F	Airborne SIGINT Enterprise.....	Volume 4 - 375
244	07	0304310F	Commercial Economic Analysis.....	Volume 4 - 397
247	07	0305015F	C2 Air Operations Suite - C2 Info Services.....	Volume 4 - 403
248	07	0305020F	CCMD Intelligence Information Technology.....	Volume 4 - 411
249	07	0305022F	ISR Modernization & Automation Dvmt (IMAD).....	Volume 4 - 417
250	07	0305099F	Global Air Traffic Management (GATM).....	Volume 4 - 429
251	07	0305103F	Cyber Security Initiative.....	Volume 4 - 437
252	07	0305111F	Weather Service.....	Volume 4 - 443

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line #	Budget Activity	Program Element Number	Program Element Title	Page
253	07	0305114F	Air Traffic Control, Approach, and Landing System (ATCALs).....	Volume 4 - 455
254	07	0305116F	Aerial Targets.....	Volume 4 - 467
257	07	0305128F	Security and Investigative Activities.....	Volume 4 - 477
258	07	0305146F	Defense Joint Counterintelligence Activities.....	Volume 4 - 483
259	07	0305158F	Tactical Terminal.....	Volume 4 - 489
260	07	0305179F	Integrated Broadcast Service (IBS).....	Volume 4 - 495
261	07	0305202F	Dragon U-2.....	Volume 4 - 505
262	07	0305206F	Airborne Reconnaissance Systems.....	Volume 4 - 513
263	07	0305207F	Manned Reconnaissance Systems.....	Volume 4 - 555
264	07	0305208F	Distributed Common Ground/Surface Systems.....	Volume 4 - 565
265	07	0305220F	RQ-4 UAV.....	Volume 4 - 577
266	07	0305221F	Network-Centric Collaborative Targeting.....	Volume 4 - 587
267	07	0305238F	NATO AGS.....	Volume 4 - 595
268	07	0305240F	Support to DCGS Enterprise.....	Volume 4 - 601
269	07	0305600F	International Intelligence Technology and Architectures.....	Volume 4 - 613
270	07	0305881F	Rapid Cyber Acquisition.....	Volume 4 - 621
271	07	0305984F	Personnel Recovery Command & Ctrl (PRC2).....	Volume 4 - 627
272	07	0307577F	Intelligence Mission Data (IMD).....	Volume 4 - 635

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line #	Budget Activity	Program Element Number	Program Element Title	Page
273	07	0401115F	C-130 Airlift Squadron.....	Volume 4 - 641
274	07	0401119F	C-5 Airlift Squadrons (IF).....	Volume 4 - 649
275	07	0401130F	C-17 Aircraft (IF).....	Volume 4 - 663
276	07	0401132F	C-130J Program.....	Volume 4 - 671
277	07	0401134F	Large Aircraft IR Countermeasures (LAIRCM).....	Volume 4 - 687
278	07	0401218F	KC-135s.....	Volume 4 - 695
279	07	0401318F	CV-22.....	Volume 4 - 707
280	07	0408011F	Special Tactics / Combat Control.....	Volume 4 - 715
281	07	0708055F	Maintenance, Repair & Overhaul System.....	Volume 4 - 725
282	07	0708610F	Logistics Information Technology (LOGIT).....	Volume 4 - 735
283	07	0801380F	AF LVC Operational Training (LVC-OT).....	Volume 4 - 747
284	07	0804743F	Other Flight Training.....	Volume 4 - 763
285	07	0901202F	Joint Personnel Recovery Agency.....	Volume 4 - 769
286	07	0901218F	Civilian Compensation Program.....	Volume 4 - 775
287	07	0901220F	Personnel Administration.....	Volume 4 - 781
288	07	0901226F	Air Force Studies and Analysis Agency.....	Volume 4 - 791
289	07	0901538F	Financial Management Information Systems Development.....	Volume 4 - 797
290	07	0901554F	Defense Enterprise Acntng and Mgt Sys (DEAMS).....	Volume 4 - 807

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line #	Budget Activity	Program Element Number	Program Element Title	Page
291	07	1202140F	Service Support to SPACECOM Activities.....	Volume 4 - 817

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Master Program Element Table of Contents (Alphabetically by Program Element Title)

Program Element Title	Program Element Number	Line #	BA	Page
A-10 Squadrons	0207131F	175	07.....	Volume 3 - 607
AF Defensive Cyberspace Operations	0208088F	213	07.....	Volume 4 - 173
AF Integrated Personnel and Pay System (AF-IPPS)	0605018F	151	07.....	Volume 3 - 277
AF LVC Operational Training (LVC-OT)	0801380F	283	07.....	Volume 4 - 747
AF Multi-Domain Non-Traditional ISR Battlespace Awareness	0301401F	230	07.....	Volume 4 - 257
AF TENCAP	0207247F	186	07.....	Volume 3 - 743
AFSPECWAR - TACP	0207418F	195	07.....	Volume 4 - 1
AFWERX Prime	0604009F	42	04.....	Volume 2 - 135
AMBIT - Post-Auctioned SRF	0303867F	110	05.....	Volume 2 - 895
Acq Workforce- Advanced Prgm Technology	0605832F	129	06.....	Volume 3 - 67
Acq Workforce- Capability Integration	0605831F	128	06.....	Volume 3 - 63
Acq Workforce- Cyber, Network, & Bus Sys	0605829F	126	06.....	Volume 3 - 53
Acq Workforce- Global Battle Mgmt	0605830F	127	06.....	Volume 3 - 61
Acq Workforce- Global Reach	0605828F	125	06.....	Volume 3 - 47
Acq Workforce- Global Vig & Combat Sys	0605827F	124	06.....	Volume 3 - 43
Acq Workforce- Nuclear Systems	0605833F	130	06.....	Volume 3 - 71
Acquisition and Management Support	0702806F	139	06.....	Volume 3 - 123

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Program Element Title	Program Element Number	Line #	BA	Page
Adaptive Engine Transition Program (AETP)	0604534F	54	04.....	Volume 2 - 277
Advanced Aerospace Sensors	0603203F	18	03.....	Volume 1 - 243
Advanced Battle Management System (ABMS)	0604003F	37	04.....	Volume 2 - 79
Advanced Distributed Learning	0804776F	141	06.....	Volume 3 - 131
Advanced Engine Development	0604004F	38	04.....	Volume 2 - 101
Advanced Materials for Weapon Systems	0603112F	16	03.....	Volume 1 - 229
Advanced Medium Range Air-to-Air Missile (AMRAAM)	0207163F	183	07.....	Volume 3 - 709
Advanced Pilot Training	0605223F	100	05.....	Volume 2 - 799
Advanced Technology and Sensors	0604257F	49	04.....	Volume 2 - 209
Advanced Weapons Technology	0603605F	26	03.....	Volume 1 - 333
Aerial Targets	0305116F	254	07.....	Volume 4 - 467
Aerospace Propulsion	0602203F	8	02.....	Volume 1 - 103
Aerospace Propulsion and Power Technology	0603216F	20	03.....	Volume 1 - 273
Aerospace Sensors	0602204F	9	02.....	Volume 1 - 139
Aerospace Technology Dev/Demo	0603211F	19	03.....	Volume 1 - 255
Aerospace Vehicle Technologies	0602201F	6	02.....	Volume 1 - 61
Agile Combat Support	0604617F	91	05.....	Volume 2 - 709
Agile Combat Support	0604617F	148	07.....	Volume 3 - 181
Air & Space Operations Center (AOC)	0207410F	192	07.....	Volume 3 - 801

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Program Element Title	Program Element Number	Line #	BA	Page
Air Force Calibration Programs	0207521F	202	07.....	Volume 4 - 61
Air Force Studies and Analysis Agency	0901226F	288	07.....	Volume 4 - 791
Air Refueling Capability Modernization	0605164F	61	04.....	Volume 2 - 415
Air Traffic Control, Approach, and Landing System (ATCAL)	0305114F	253	07.....	Volume 4 - 455
Air-Launched Cruise Missile (ALCM)	0101122F	158	07.....	Volume 3 - 415
Airbase Air Defense Systems (ABADS)	0207522F	70	04.....	Volume 2 - 483
Airborne Reconnaissance Systems	0305206F	262	07.....	Volume 4 - 513
Airborne SIGINT Enterprise	0304260F	243	07.....	Volume 4 - 375
Airborne Warning and Control System (AWACS)	0207417F	194	07.....	Volume 3 - 817
Aircraft Engine Component Improvement Program	0207268F	189	07.....	Volume 3 - 765
All Domain Common Platform	0303248F	238	07.....	Volume 4 - 339
Anti-Tamper Technology Executive Agency	0605024F	152	07.....	Volume 3 - 287
Armament/Ordnance Development	0604602F	89	05.....	Volume 2 - 677
Auctioned Spectrum Relocation Fund	0303267F	108	05.....	Volume 2 - 883
Automated Test Systems	0701212F	115	05.....	Volume 2 - 941
Autonomous Collaborative Platforms	0207179F	65	04.....	Volume 2 - 439
B-1B Squadrons	0101126F	159	07.....	Volume 3 - 421
B-2 Squadrons	0101127F	160	07.....	Volume 3 - 429
B-52 Squadrons	0101113F	157	07.....	Volume 3 - 351

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Program Element Title	Program Element Number	Line #	BA	Page
Battle Mgmt Com & Ctrl Sensor Development	0604283F	146	07.....	Volume 3 - 167
Battlespace Knowledge Development and Demonstration	0603788F	28	03.....	Volume 1 - 349
C-130 Airlift Squadron	0401115F	273	07.....	Volume 4 - 641
C-130J Program	0401132F	276	07.....	Volume 4 - 671
C-17 Aircraft (IF)	0401130F	275	07.....	Volume 4 - 663
C-5 Airlift Squadrons (IF)	0401119F	274	07.....	Volume 4 - 649
C2 Air Operations Suite - C2 Info Services	0305015F	247	07.....	Volume 4 - 403
C2ISR Tactical Data Link	0207448F	68	04.....	Volume 2 - 469
CCMD Intelligence Information Technology	0305020F	248	07.....	Volume 4 - 411
CV-22	0401318F	279	07.....	Volume 4 - 707
Citizen Broadband Radio System	0303667F	109	05.....	Volume 2 - 889
Civilian Compensation Program	0901218F	286	07.....	Volume 4 - 775
Combat Air Intelligence System Activities	0207431F	67	04.....	Volume 2 - 463
Combat Air Intelligence System Activities	0207431F	197	07.....	Volume 4 - 7
Combat Identification	0207420F	66	04.....	Volume 2 - 457
Combat Identification Technology	0603742F	33	04.....	Volume 2 - 19
Combat Rescue - Pararescue	0207227F	184	07.....	Volume 3 - 717
Combat Survivor Evader Locator	1203176F	117	05.....	Volume 2 - 967
Combat Training Ranges	0604735F	93	05.....	Volume 2 - 733

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Program Element Title	Program Element Number	Line #	BA	Page
Command, Control, Communication, and Computers (C4) - STRATCOM	0303255F	137	06.....	Volume 3 - 107
Commercial Economic Analysis	0304310F	244	07.....	Volume 4 - 397
Common Data Link Executive Agent (CDL EA)	0305236F	73	04.....	Volume 2 - 509
Compass Call	0207253F	188	07.....	Volume 3 - 757
Contracting Information Technology System	0901410F	80	04.....	Volume 2 - 569
Control and Reporting Center (CRC)	0207412F	30	03.....	Volume 1 - 373
Control and Reporting Center (CRC)	0207412F	193	07.....	Volume 3 - 809
Conventional Munitions	0602602F	12	02.....	Volume 1 - 171
Conventional Weapons Technology	0603601F	25	03.....	Volume 1 - 325
Countering Advanced Conventional Weapons (CACW)	0301377F	228	07.....	Volume 4 - 251
Cyber Operations Technology Support	0306250F	75	04.....	Volume 2 - 529
Cyber Resiliency of Weapon Systems-ACS	0604414F	53	04.....	Volume 2 - 257
Cyber Security Initiative	0305103F	251	07.....	Volume 4 - 437
Cyber Security Intelligence Support	0301113F	222	07.....	Volume 4 - 245
Cyberspace Operations Systems	0303089F	234	07.....	Volume 4 - 283
DCAPES	0207452F	201	07.....	Volume 4 - 45
Defense Enterprise Acntng and Mgt Sys (DEAMS)	0901554F	290	07.....	Volume 4 - 807
Defense Joint Counterintelligence Activities	0305146F	258	07.....	Volume 4 - 483
Defense Laboratories R&D Projects (10 U.S.C, Sec 2358)	0602212F	10	02.....	Volume 1 - 167

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Program Element Title	Program Element Number	Line #	BA	Page
Defense Research Sciences	0601102F	1	01.....	Volume 1 - 1
Deployment & Distribution Enterprise R&D	0604776F	29	03.....	Volume 1 - 361
Deployment & Distribution Enterprise R&D	0604776F	57	04.....	Volume 2 - 309
Deployment & Distribution Enterprise R&D	0604776F	149	07.....	Volume 3 - 189
Dept of the Air Force Tech Architecture	0604006F	40	04.....	Volume 2 - 117
Digital Transformation Office	0606005F	62	04.....	Volume 2 - 421
Directed Energy Prototyping	0604032F	45	04.....	Volume 2 - 177
Directed Energy Technology	0602605F	13	02.....	Volume 1 - 183
Distributed Common Ground/Surface Systems	0305208F	264	07.....	Volume 4 - 565
Distributed Cyber Warfare Operations	0208087F	212	07.....	Volume 4 - 161
Distributed Training and Exercises	0207697F	207	07.....	Volume 4 - 109
Dominant Information Sciences and Methods	0602788F	14	02.....	Volume 1 - 193
Dragon U-2	0305202F	261	07.....	Volume 4 - 505
E-11A	0207238F	185	07.....	Volume 3 - 723
E-4B National Airborne Operations Center (NAOC)	0302015F	231	07.....	Volume 4 - 263
E-7	0604007F	41	04.....	Volume 2 - 127
EIT CONNECT	0303004F	233	07.....	Volume 4 - 277
ENTEPRISE INFORMATION SERVICES (EIS)	0308602F	138	06.....	Volume 3 - 113
Electronic Combat Technology	0603270F	21	03.....	Volume 1 - 287

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Program Element Title	Program Element Number	Line #	BA	Page
Electronic Warfare Development	0604270F	85	05.....	Volume 2 - 633
Electronic Warfare Integrated Reprogramming (EWIR)	0207439F	199	07.....	Volume 4 - 27
Enabled Cyber Activities	0306415F	76	04.....	Volume 2 - 537
Endurance Unmanned Aerial Vehicles	0305205F	112	05.....	Volume 2 - 907
F-15 EPAWSS	0207171F	103	05.....	Volume 2 - 837
F-15E Squadrons	0207134F	177	07.....	Volume 3 - 629
F-15EX	0207146F	181	07.....	Volume 3 - 693
F-16 Squadrons	0207133F	176	07.....	Volume 3 - 615
F-22A Squadrons	0207138F	179	07.....	Volume 3 - 649
F-35 C2D2	0604840F	150	07.....	Volume 3 - 195
F-35 Squadrons	0207142F	180	07.....	Volume 3 - 669
Facilities Restoration and Modernization - Test and Evaluation Support	0605976F	132	06.....	Volume 3 - 79
Facilities Sustainment - Test and Evaluation Support	0605978F	133	06.....	Volume 3 - 85
Financial Management Information Systems Development	0901538F	289	07.....	Volume 4 - 797
Financing for Cancelled Account Adjustments	0909999F	142	06.....	Volume 3 - 133
Foreign Materiel Acquisition and Exploitation	0605117F	153	07.....	Volume 3 - 297
Full Combat Mission Training	0207701F	106	05.....	Volume 2 - 863
Full Combat Mission Training	0207701F	208	07.....	Volume 4 - 117
Future AF Capabilities Applied Research	0602020F	3	02.....	Volume 1 - 29

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Program Element Title	Program Element Number	Line #	BA	Page
Future AF Integrated Technology Demos	0603032F	15	03.....	Volume 1 - 211
Future Advanced Weapon Analysis & Programs	0604200F	82	05.....	Volume 2 - 589
GeoBase	0301025F	220	07.....	Volume 4 - 231
Global Air Traffic Management (GATM)	0305099F	250	07.....	Volume 4 - 429
Ground Based Strategic Deterrent EMD	0605238F	102	05.....	Volume 2 - 817
HC/MC-130 Recap RDT&E	0605278F	155	07.....	Volume 3 - 315
HH-60W	0605229F	101	05.....	Volume 2 - 807
HH-60W	0605229F	154	07.....	Volume 3 - 305
Hard and Deeply Buried Target Defeat System (HDBTDS) Program	0604327F	52	04.....	Volume 2 - 249
Hard and Deeply Buried Target Defeat System (HDBTDS) Prototyping	0604336F	88	05.....	Volume 2 - 671
High Frequency Radio Systems	0303133F	236	07.....	Volume 4 - 309
Human Effectiveness Advanced Technology Development	0603456F	24	03.....	Volume 1 - 311
Human Effectiveness Applied Research	0602202F	7	02.....	Volume 1 - 79
Hypersonics Prototyping	0604033F	46	04.....	Volume 2 - 183
Hypersonics Prototyping - Hypersonic Attack Cruise Missile (HACM)	0604183F	47	04.....	Volume 2 - 191
ICBM Fuze Modernization	0604933F	95	05.....	Volume 2 - 757
ICBM Reentry Vehicles	0101328F	165	07.....	Volume 3 - 501
ISR Modernization & Automation Dvmt (IMAD)	0305022F	249	07.....	Volume 4 - 417
Information Systems Security Program	0303140F	237	07.....	Volume 4 - 317

UNCLASSIFIED

UNCLASSIFIED

Air Force • Budget Estimates FY 2025 • RDT&E Program

Program Element Title	Program Element Number	Line #	BA	Page
Initial Operational Test & Evaluation	0605712F	122	06.....	Volume 3 - 29
Integrated Broadcast Service (IBS)	0305179F	260	07.....	Volume 4 - 495
Integrated Primary Prevention	0808737F	79	04.....	Volume 2 - 559
Integrated Strategic Planning & Analysis Network	0101324F	164	07.....	Volume 3 - 493
Intel Data Applications	0208288F	219	07.....	Volume 4 - 225
Intelligence Advanced Development	0603260F	32	04.....	Volume 2 - 7
Intelligence Mission Data (IMD)	0307577F	272	07.....	Volume 4 - 635
Intercontinental Ballistic Missile - Dem/Val	0603851F	35	04.....	Volume 2 - 49
International Activities	1001004F	143	06.....	Volume 3 - 135
International Intelligence Technology and Architectures	0305600F	269	07.....	Volume 4 - 613
Isolated Personnel Survivability and Recovery	0207279F	104	05.....	Volume 2 - 845
Joint Air-to-Surface Standoff Missile (JASSM)	0207325F	190	07.....	Volume 3 - 781
Joint Counter RCIED Electronic Warfare	0205671F	173	07.....	Volume 3 - 593
Joint Cyber Command and Control (JCC2)	0208097F	214	07.....	Volume 4 - 209
Joint Military Deception Initiative	0303260F	239	07.....	Volume 4 - 355
Joint Personnel Recovery Agency	0901202F	285	07.....	Volume 4 - 769
Joint Simulation Environment (JSE)	0207606F	71	04.....	Volume 2 - 493
Joint Tactical Network (JTN)	0605031F	97	05.....	Volume 2 - 773
Joint Tactical Network Center (JTNC)	0605030F	96	05.....	Volume 2 - 765

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Air Force • Budget Estimates FY 2025 • RDT&E Program

Program Element Title	Program Element Number	Line #	BA	Page
Joint Transportation Management System (JTMS)	0604668F	56	04.....	Volume 2 - 303
KC-135s	0401218F	278	07.....	Volume 4 - 695
KC-46A Tanker Squadrons	0401221F	113	05.....	Volume 2 - 913
Large Aircraft IR Countermeasures (LAIRCM)	0401134F	277	07.....	Volume 4 - 687
Life Support Systems	0604706F	92	05.....	Volume 2 - 725
Logistics Information Technology (LOGIT)	0708610F	282	07.....	Volume 4 - 735
Long Range Standoff Weapon	0604932F	94	05.....	Volume 2 - 745
Long Range Strike - Bomber	0604015F	43	04.....	Volume 2 - 151
MH-139A	0102110F	167	07.....	Volume 3 - 519
MQ-9 UAV	0205219F	172	07.....	Volume 3 - 571
Maintenance, Repair & Overhaul System	0708055F	281	07.....	Volume 4 - 725
Major T&E Investment	0604759F	119	06.....	Volume 3 - 11
Management HQ - R&D	0605898F	131	06.....	Volume 3 - 75
Management HQ - T&E	0606398F	135	06.....	Volume 3 - 101
Manned Destructive Suppression	0207136F	178	07.....	Volume 3 - 641
Manned Reconnaissance Systems	0305207F	263	07.....	Volume 4 - 555
Manufacturing Technology Program	0603680F	27	03.....	Volume 1 - 339
Materials	0602102F	5	02.....	Volume 1 - 41
Maui Space Surveillance System (MSSS)	0603444F	23	03.....	Volume 1 - 309

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Air Force • Budget Estimates FY 2025 • RDT&E Program

Program Element Title	Program Element Number	Line #	BA	Page
Medical C-CBRNE Programs	0208036F	107	05.....	Volume 2 - 877
Minimum Essential Emergency Communications Network (MEECN)	0303131F	235	07.....	Volume 4 - 289
Minuteman Squadrons	0101213F	161	07.....	Volume 3 - 447
Mission Partner Environments	0305601F	74	04.....	Volume 2 - 523
Mission Planning Systems	0208006F	209	07.....	Volume 4 - 127
Modular Advanced Missile	0603036F	31	04.....	Volume 2 - 1
Multi-Platform Electronic Warfare Equipment	0207040F	174	07.....	Volume 3 - 599
NATO AGS	0305238F	267	07.....	Volume 4 - 595
NATO Research and Development	0603790F	34	04.....	Volume 2 - 43
NC3 Advanced Concepts	0604001F	36	04.....	Volume 2 - 73
NC3 Commercial Development & Prototyping	0604005F	39	04.....	Volume 2 - 109
NC3 Integration	0606018F	156	07.....	Volume 3 - 343
National Technical Nuclear Forensics	0207573F	203	07.....	Volume 4 - 69
Network-Centric Collaborative Targeting	0305221F	266	07.....	Volume 4 - 587
Next Generation Air Dominance	0207110F	64	04.....	Volume 2 - 427
Next Generation Air-refueling System	0605057F	60	04.....	Volume 2 - 409
Next Generation Air-refueling System	0605057F	99	05.....	Volume 2 - 793
Non-Kinetic Countermeasure Support	0302315F	232	07.....	Volume 4 - 271
North Warning System (NWS)	0102412F	169	07.....	Volume 3 - 541

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Air Force • Budget Estimates FY 2025 • RDT&E Program

Program Element Title	Program Element Number	Line #	BA	Page
Nuclear Planning and Execution System (NPES)	0301112F	221	07.....	Volume 4 - 237
Nuclear Weapons Support	0604222F	84	05.....	Volume 2 - 609
OPERATIONAL HQ - CYBER	0208064F	211	07.....	Volume 4 - 153
Open Architecture Management	0605056F	98	05.....	Volume 2 - 781
Operational Energy and Installation Resilience	0604860F	59	04.....	Volume 2 - 387
Other Flight Training	0804743F	284	07.....	Volume 4 - 763
Over-the-Horizon Backscatter Radar	0102417F	170	07.....	Volume 3 - 547
PNT Resiliency, Mods, and Improvements	0604201F	48	04.....	Volume 2 - 201
PNT Resiliency, Mods, and Improvements	0604201F	83	05.....	Volume 2 - 599
Personnel Administration	0901220F	287	07.....	Volume 4 - 781
Personnel Recovery Command & Ctrl (PRC2)	0305984F	271	07.....	Volume 4 - 627
Physical Security Equipment	0604287F	87	05.....	Volume 2 - 663
Precision Attack Systems Procurement	0207249F	187	07.....	Volume 3 - 751
RAND Project Air Force	0605101F	120	06.....	Volume 3 - 17
RQ-4 UAV	0305220F	265	07.....	Volume 4 - 577
Rapid Cyber Acquisition	0305881F	270	07.....	Volume 4 - 621
Rapid Defense Experimentation Reserve (RDER)	0604025F	44	04.....	Volume 2 - 163
Rapid Sustainment Modernization (RSM)	0708051F	77	04.....	Volume 2 - 543
Region/Sector Operation Control Center Modernization Program	0102326F	168	07.....	Volume 3 - 535

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Air Force • Budget Estimates FY 2025 • RDT&E Program

Program Element Title	Program Element Number	Line #	BA	Page
Requirements Analysis & Concept Maturation	0604609F	55	04.....	Volume 2 - 283
Requirements Analysis and Maturation	0606017F	134	06.....	Volume 3 - 91
Science & Technology for Nuclear Re-entry Systems	0603273F	22	03.....	Volume 1 - 301
Science and Technology Management - Major Headquarters Activities	0602298F	11	02.....	Volume 1 - 169
Security and Investigative Activities	0305128F	257	07.....	Volume 4 - 477
Seek Eagle	0207590F	204	07.....	Volume 4 - 75
Service Support to SPACECOM Activities	1202140F	291	07.....	Volume 4 - 817
Service Support to STRATCOM - Global Strike	0101318F	163	07.....	Volume 3 - 485
Small Business Innovation Research	0605502F	121	06.....	Volume 3 - 25
Small Diameter Bomb (SDB)	0207327F	191	07.....	Volume 3 - 791
Special Tactics / Combat Control	0408011F	280	07.....	Volume 4 - 715
Special Victim Accountability and Investigation	0808736F	78	04.....	Volume 2 - 551
Specialized Undergraduate Flight Training	0604233F	144	07.....	Volume 3 - 141
Stand In Attack Weapon	0207328F	105	05.....	Volume 2 - 853
Strategic Mission Planning & Execution System (SMPES)	0304100F	240	07.....	Volume 4 - 361
Submunitions	0604604F	90	05.....	Volume 2 - 701
Support to DCGS Enterprise	0305240F	268	07.....	Volume 4 - 601
Support to Information Operations (IO) Capabilities	0303166F	136	06.....	Volume 3 - 103
Survivable Airborne Operations Center (SAOC)	0604288F	50	04.....	Volume 2 - 223

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Air Force • Budget Estimates FY 2025 • RDT&E Program

Program Element Title	Program Element Number	Line #	BA	Page
Sustainment Science and Technology (S&T)	0603199F	17	03.....	Volume 1 - 239
Tactical AIM Missiles	0207161F	182	07.....	Volume 3 - 701
Tactical Air Control Party-Mod	0207444F	200	07.....	Volume 4 - 35
Tactical Data Networks Enterprise	0604281F	86	05.....	Volume 2 - 647
Tactical Data Networks Enterprise	0604281F	145	07.....	Volume 3 - 161
Tactical Deception	0208007F	210	07.....	Volume 4 - 145
Tactical Terminal	0305158F	259	07.....	Volume 4 - 489
Tech Transition Program	0604858F	58	04.....	Volume 2 - 349
Technology Transfer	0604317F	51	04.....	Volume 2 - 231
Test and Evaluation Support	0605807F	123	06.....	Volume 3 - 35
Theater Battle Management (TBM) C4I	0207438F	198	07.....	Volume 4 - 21
Theater Nuclear Weapon Storage & Security System	0305155F	111	05.....	Volume 2 - 901
Threat Simulator Development	0604256F	118	06.....	Volume 3 - 1
Three Dimensional Long-Range Radar (3DELRR)	0207455F	69	04.....	Volume 2 - 475
Training Developments	0804772F	116	05.....	Volume 2 - 955
U.S. Space Command Research and Development Support	1206415F	81	04.....	Volume 2 - 579
USAF Modeling and Simulation	0207601F	205	07.....	Volume 4 - 85
Unified Platform (UP)	0208099F	215	07.....	Volume 4 - 217
University Affiliated Research Center (UARC) - Tactical Autonomy	0602022F	4	02.....	Volume 1 - 37

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Air Force • Budget Estimates FY 2025 • RDT&E Program

Program Element Title	Program Element Number	Line #	BA	Page
University Research Initiatives	0601103F	2	01.....	Volume 1 - 23
VC-25B	0401319F	114	05.....	Volume 2 - 933
Vehicles and Support Equipment - General	0202834F	171	07.....	Volume 3 - 563
War Reserve Materiel - Ammunition	0208030F	72	04.....	Volume 2 - 501
Wargaming and Simulation Centers	0207605F	206	07.....	Volume 4 - 99
Weather Service	0305111F	252	07.....	Volume 4 - 443
Wide Area Surveillance	0604445F	147	07.....	Volume 3 - 175
Worldwide Joint Strategic Communications	0101316F	162	07.....	Volume 3 - 475

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Department of Defense
 FY 2025 President's Budget
 Exhibit R-1 FY 2025 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

Mar 2024

	FY 2023 Actuals	FY 2024 PB Request with CR Adjustments*	FY 2025 Request
<u>Summary Recap of Budget Activities</u>			
Basic Research	622,674	583,858	541,382
Applied Research	2,117,867	1,639,516	1,596,401
Advanced Technology Development	1,648,354	1,473,902	1,383,709
Advanced Component Development & Prototypes	10,991,064	14,088,176	16,037,150
System Development & Demonstration	11,193,856	12,489,748	11,823,371
Management Support	5,100,989	4,049,779	4,032,006
Operational Systems Development	30,143,717	31,317,391	32,237,640
Software And Digital Technology Pilot Programs	191,980	122,326	157,265
Undistributed		-4,234,749	
Total Research, Development, Test, & Evaluation	62,010,501	61,529,947	67,808,924
<u>Summary Recap of FYDP Programs</u>			
Strategic Forces	1,307,587	2,047,638	2,203,291
General Purpose Forces	4,609,324	5,160,229	6,329,448
Intelligence and Communications	1,215,200	1,061,042	1,073,411
Mobility Forces	295,744	756,557	687,799
Research and Development	19,717,934	20,470,919	20,509,040
Central Supply and Maintenance	168,183	94,340	100,795
Training Medical and Other	22,590	39,491	47,126
Administration and Associated Activities	74,312	-4,141,592	121,005

*A full-year FY 2024 appropriation for this account was not enacted at the time the budget was prepared; account is operating under the Further Additional Continuing Appropriations and Other Extensions Act, 2024 (Public Law 118-35). The amounts included for FY 2024 reflect the annualized level provided by the continuing resolution.

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Department of the Air Force
FY 2025 President's Budget
Exhibit R-1 FY 2025 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Mar 2024

	FY 2024 PB Request Overseas Operations Costs (OOC)*	FY 2025 Overseas Operations Costs (OOC)*
<u>Summary Recap of Budget Activities</u>		
System Development & Demonstration	1,792	1,831
Operational Systems Development	967	988
Total Research, Development, Test, & Evaluation	2,759	2,819
<u>Summary Recap of FYDP Programs</u>		
General Purpose Forces	967	988
Research and Development	1,792	1,831
Total Research, Development, Test, & Evaluation	2,759	2,819

*FY 2024 and FY 2025 Overseas Operations Costs (OOC) numbers are a subset of the baseline submission.

*FY 2023 includes \$0K in Overseas Operations Costs (OOC) Actuals. FY 2024 includes \$2,759K in OOC Requested. FY 2025 includes \$2,819K for the OOC Budget Estimate. OOC were financed previously with former Overseas Contingency Operations (OCO) funding.

Department of the Air Force
TOTAL CIVILIAN PERSONNEL COSTS
OP-8B: OP-8 (PB)
FY 2025 President's Budget Submission
(FY 2023)

Table with columns for personnel categories (Direct Funded, Reimbursable Funded, Total Personnel) and rows for various hire types (US Direct Hire, Foreign Nationals, Indirect Hire) and benefits. Columns include strength, FTEs, basic comp, overtime pay, holiday pay, other O.C.11, total variables, comp O.C.11, benefits O.C.12/13, and rates/variables/benefits.

Department of the Air Force
TOTAL CIVILIAN PERSONNEL COSTS
OP-8B: OP-8 (PB)
FY 2025 President's Budget Submission
(FY 2024)

Table with columns: (S in Thousands), a: Begin Strength, b: End Strength, c: FTEs, d: Basic Comp, e: Overtime Pay, f: Holiday Pay, g: Other O.C.11, e+f+g: Total Variables, d+h: i Comp O.C.11, i: Benefits O.C.12/13, i+j: k Comp & Benefits, d/c: l Basic Comp, i/c: m Total Comp, Rates: n k/c Comp & Benefits, h/d: o % BC Variables, j/d: p % BC Benefits. Rows include Direct Funded Personnel (OC 13), Reimbursable Funded Personnel (OC 13), and Total Personnel (OC 13) with sub-categories like US Direct Hire and Foreign Nationals.

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ACRONYMS

GENERAL ACRONYMS

A&AS	- Advisory & Assistance Services
ABIDES	- Automated Budget Interactive Data Environment System
ACAT	- Acquisition Category
ACTD	- Advanced Concept Technology Demonstration
AGM	- Air-to-Ground Missile
AIM	- Air Intercept Missile
AIS	- Avionics Intermediate Shop
ACMI	- Aircraft Combat Maneuvering Instrumentation
AMRAAM	- Advanced Medium-Range Air-to-Air Missile
APPN	- Appropriation
ATD	- Advanced Technology Development
BA	- Budget Activity
BES	- Budget Estimate Submission
BY	- Budget Year
C3	- Command, Control, and Communication System
CFE	- Contractor Furnished Equipment
CONOPS	- Concept of Operation
CONUS	- Continental United States
CPMS	- Comprehensive Power Management System
CPT	- Cockpit Procedures Trainer
CRA	- Continuing Resolution Authority
CTS	- Countermeasures Test Set
CY	- Current Year
ECCM	- Electronic Counter Counter-Measures
ECM	- Electronic Counter Measures
ECO	- Engineering Change Orders
EOQ	- Economic Order Quantity
ECP	- Engineering Change Proposal
EPA	- Economic Price Adjustment
EW	- Electronic Warfare
EWASIP	- Electronic Warfare Avionics Integration Support Facility
FLIR	- Forward Looking Infra Red

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FOT&E	- Follow-on Test and Evaluation
FOC	- Fully Operational Capability
FLTS	- Flight Line Test Set
FPIF	- Fixed Price Incentive Firm
FPIS	- Fixed Price Incentive Fee, Successive Targets
FY	- Fiscal Year
GANS	- Global Access Navigation & Safety
GATM	- Global Air Traffic Management
GFE	- Government Furnished Equipment
GFP	- Government Furnished Property
GPS	- Global Positioning System
GSE	- Ground Support Equipment
ICS	- Interim Contractor Support
IOC	- Initial Operating Capability
IT	- Information Technology
JUON	- Joint Urgent Operational Need
MAIS	- Major Automated Information System Program
MDAP	- Major Defense Acquisition Program
METS	- Mobile Electronic Test Stations
MYP	- Multiyear Procurement
NAVWAR	- Navigation Warfare
NMC Rate	- Not Mission Capable Rate
OCO	- Overseas Contingency Operations
OOC	- Overseas Operations Costs
OT&E	- Operational Test and Evaluation
OWRM	- Other War Reserve Material
PAGEL	- Priced Aerospace Ground Equipment List
PB	- President's Budget
PBR	- Program Budget Review
PMA	- Program Management Administration
PMC	- Procurement Method Code
PNO	- Acquisition Program Number (MDAP Codes)
PR	- Purchase Request
PRCP	- Program Resource Collection Process
PTT	- Part Task Trainer
PY	- Prior Year

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R&M	- Reliability and Maintainability
RAA	- Rapid Acquisition Authority
RDT&E	- Research, Development, Test and Evaluation
RWR	- Radar Warning Receiver
ROM	- Rough Order of Magnitude
SS	- Sole Source
SOF	- Special Operation Force
TAF	- Tactical Air Force
TCAS	- Traffic Collision Alert and Avoidance System
TEWS	- Tactical Electronic Warfare System
TISS	- TEWS Intermediate Support System
TOA	- Total Obligation Authority
WCF	- Working Capital Fund
WRM	- War Reserve Material
WST	- Weapon System Trainer
UAV	- Unmanned Aerial Vehicle
XML	- Extensible Markup Language

BASE / ORGANIZATIONAL ACRONYMS

ACC	- Air Combat Command
AETC	- Air Education & Training Command
AFCAO	- Air Force Computer Acquisition Office
AFCESA	- Air Force Civil Engineering Support Agency
AFCIC	- AF Communications & Information Center
AFCSC	- Air Force Cryptologic Service Center
AFESC	- Air Force Engineering Services Center
AFGWC	- Air Force Global Weather Central
AFIT	- Air Force Institute of Technology
AFLCMC	- Air Force Life Cycle Management Center
AFMC	- Air Force Materiel Command
AFMETCAL	- Air Force Metrology and Calibration Office
AFMLO	- Air Force Medical Logistics Office
AFOSI	- Air Force Office of Special Investigation
AFOTEC	- Air Force Operational Test & Evaluation Center
AFPC	- Air Force Personnel Center

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AFPSL	- AF Primary Standards Lab
AFR	- Air Force Reserve
AFSOC	- AF Special Operations Command
AFSPC	- Air Force Space Command
AIA	- Air Intelligence Agency
ALC	- Air Logistics Center
AMC	- Air Mobility Command
ANG	- Air National Guard
ASC	- Aeronautical Systems Center
AETC	- Air Education Training Command
AU	- Air University
AWS	- Air Weather Service
CIA	- Central Intelligence Agency
DGSC	- Defense General Support Center
DLA	- Defense Logistics Center
DOE	- Department of Energy
DPSC	- Defense Personnel Support Center
DSCC	- Defense Supply Center, Columbus
DTIC	- Defense Technical Information Center
ER	- Eastern Range
ESC	- Electronic Systems Center
FAA	- Federal Aviation Agency
FBI	- Federal Bureau of Investigation
GSA	- General Services Administration
JCS	- Joint Chiefs of Staff
NATO	- North Atlantic Treaty Organization
OSD	- Office of the Secretary of Defense
PACAF	- Pacific Air Forces
USAF	- United States Air Force
USAFA	- United States Air Force Academy
USAFE	- United States Air Force Europe
USCENTCOM	- United States Central Command
USEUCOM	- United States European Command
USMC	- United States Marine Corps
USSTRATCOM	- United States Strategic Command
WP AFB	- Wright-Patterson AFB, OH

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CONTRACT METHOD / TYPE ACRONYMS

C	- Competitive
BA	- Basic Agreement
BOA	- Basic Ordering Agreement
BPA	- Blanket Purchasing Agreement
CS	- Cost Sharing
IDDQ	- Indefinite Delivery, Definite Quantity
IDIQ	- Indefinite Delivery, Indefinite Quantity
IDRT	- Indefinite Delivery, Requirements
Letter	- Letter
LH	- Labor-hour
MIPR	- Military Interdepartmental Purchase Request
MIPR-C	- Military Interdepartmental Purchase Request - Competitive
MIPR-OPT	- Military Interdepartmental Purchase Request - Option
MIPR-OTH	- Military Interdepartmental Purchase Request – Other
MIPR-SS	- Military Interdepartmental Purchase Request - Sole Source
OPT	- Option
OTH	- Other
PO	- Project Order
REQN	- Requisition
SS	- Sole Source
T&M	- Time and Materials
UCA	- Undefinitized Contract Action
WP	- Work Project

CONTRACTED BY ACRONYMS

11 WING	- 11th Support Wing, Washington, DC
ACC	- Air Combat Command, Langley AFB, VA
AEDC	- Arnold Engineering Development Center, Arnold AFB, TN
AAC	- Air Armament Center, Eglin AFB, FL
AEDC	- Arnold Engineering Development Center, Arnold AFB, TN
AETC	- Air Education and Training Command, Randolph AFB, TX
AFCIC	- Air Force Communications and Information Center, Washington, DC
AFCESA	- Air Force Civil Engineering Support Agency, Tyndall AFB, FL

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AFFTC	- Air Force Flight Test Center, Edwards AFB, CA
AFLCMC	- Air Force Life Cycle Management Center, Wright-Patterson AFB, OH
AFMC	- Air Force Materiel Command, Wright-Patterson AFB, OH
AFMETCAL	- Air Force Metrology and Calibration Office, Heath, Ohio
AFMLO	- Air Force Medical Logistics Office, Ft Detrick, MD
AIA	- Air Intelligence Agency, Kelly AFB, TX
AMC	- Air Mobility Command, Scott AFB, IL
ASC	- Aeronautical Systems Center, Wright-Patterson AFB, OH & Eglin AFB, FL
AFWA	- Air Force Weather Agency, Offutt AFB, NE
DGSC	- Defense General Support Center, Richmond, VA
DPSC	- Defense Personnel Support Center, Philadelphia, PA
ER	- Eastern Range, Patrick SFB, FL
ESC	- Electronic Systems Center, Hanscom AFB, MA
HSC	- Human Services Center, Brook AFB, TX
OC-ALC	- Oklahoma City Air Logistics Center, Tinker AFB, OK
OO-ALC	- Ogden Air Logistics Center, Hill AFB, UT
SMC	- Space & Missile Systems Center, Los Angeles AFB, CA
US STRATCOM	- US Strategic Command, Offutt AFB, NE
WACC	- Washington Area Contracting Center, Washington DC
WR	- Western Range, Vandenberg SFB, CA
WR-ALC	- Warner-Robins Air Logistics Center, Robins AFB, GA
AFSPC	- Air Force Space Command, Peterson AFB, CO
HQ ANG	- Headquarters, Air National Guard, Washington, DC
USAFE	- United States Air Force Europe, Ramstein AB, GE
USAFA	- United States Air Force Academy, Colorado Springs, CO

IDENTIFICATION CODES

Code "A"	- Line items of material which have been approved for Air Force service use.
Code "B"	- Line items of material that have not been approved for Service use
OBAN	- Operating Budget Account Number, 2-digit code for unit allocated funds

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0604256F / <i>Threat Simulator Development</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	20.835	16.626	19.927	0.000	19.927	43.055	49.189	50.969	51.974	Continuing	Continuing
662907: <i>Electronic Combat Intel Support</i>	-	2.801	2.863	2.932	0.000	2.932	3.004	3.066	3.178	3.240	Continuing	Continuing
663321: <i>Electronic Warfare Ground Test Resources</i>	-	15.893	5.819	8.687	0.000	8.687	31.535	37.432	38.785	39.551	Continuing	Continuing
667500: <i>Foreign Materiel Acquisition/Analysis</i>	-	2.141	7.944	8.308	0.000	8.308	8.516	8.691	9.006	9.183	Continuing	Continuing

A. Mission Description and Budget Item Justification

The AF requires a comprehensive set of indoor and outdoor test facilities to implement the Air Force Electronic Warfare (EW) Test Process in order to test EW systems, including Directed Energy (DE). To manage program risk effectively throughout the EW weapons system acquisition process, and to conduct T&E effectively and efficiently, a broad multi-spectrum integrated set of T&E capabilities, ranging from Modeling and Simulation (M&S), to full-scale chamber testing, to flight testing on open-air ranges (OAR), is required. The EW Test Process Support task provides investment management and coordinated technical oversight of EW T&E facilities, including studies, analyses, and related documentation. Additionally, successful EW capabilities in battle are predicated upon a thorough understanding of the threat. To meet that requirement, this PE also includes funding to acquire foreign materiel, and to thoroughly test and evaluate that foreign materiel to understand how those threat systems affect and are affected by our EW systems.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025 Base</u>	<u>FY 2025 OCO</u>	<u>FY 2025 Total</u>
Previous President's Budget	21.067	16.626	20.391	0.000	20.391
Current President's Budget	20.835	16.626	19.927	0.000	19.927
Total Adjustments	-0.232	0.000	-0.464	0.000	-0.464
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.232	0.000			
• Other Adjustments	0.000	0.000	-0.464	0.000	-0.464

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0604256F / <i>Threat Simulator Development</i>
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Change Summary Explanation

The FY 2025 budget request was reduced by \$0.500 million to account for the availability of prior year execution balances.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 6					R-1 Program Element (Number/Name) PE 0604256F / Threat Simulator Development				Project (Number/Name) 662907 / Electronic Combat Intel Support			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
662907: <i>Electronic Combat Intel Support</i>	-	2.801	2.863	2.932	0.000	2.932	3.004	3.066	3.178	3.240	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides funding to support Foreign Materiel Operational Test and Evaluation (FMOT&E), which ensures the ability of operational commands to test and develop effective Electronic Attack/Electronic Protection (EA/EP) techniques and tactics. Funds are required for: deployment of systems to test facilities; travel of personnel to the test sites to evaluate and validate test results; range and laboratory costs; test consumables; costs for instrumentation of systems; and contracted engineering support for the conduct of tests and subsequent reporting. Funding for this program is required to prevent future aircraft losses due to improper and inaccurate aircrew tactics (e.g., lack of evasive action or proper tactics training to avoid missile attack).

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: FMOT&E	2.801	2.863	2.932
Description: Supports Foreign Materiel Operational Test and Evaluation (FMOT&E)			
FY 2024 Plans: Continue operations of electronic combat intelligence support for fighter and bomber testing, mobility special operations transport and helicopter testing, classified operational assessments and extensive evaluations and reporting of system effectiveness.			
FY 2025 Plans: Continue operations of electronic combat intelligence support for fighter and bomber testing, mobility special operations transport and helicopter testing, classified operational assessments and extensive evaluations and reporting of system effectiveness.			
FY 2024 to FY 2025 Increase/Decrease Statement: N/A			
Accomplishments/Planned Programs Subtotals	2.801	2.863	2.932

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• RDTE 06 0605807F: <i>Test and Evaluation Support</i>	842.401	913.213	936.913	-	936.913	1,088.746	1,273.317	1,316.674	1,368.799	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0604256F / <i>Threat Simulator Development</i>	Project (Number/Name) 662907 / <i>Electronic Combat Intel Support</i>

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2023	FY 2024	FY 2025	FY 2025	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Cost To	
			Base	OCO	Total					Complete	Total Cost
• RDTE 06 0605976F: <i>Facilities Restoration and Modernization - Test and Evaluation Support</i>	133.420	87.889	94.828	-	94.828	218.485	211.294	250.223	237.553	Continuing	Continuing
• RDTE 06 0605978F: <i>Facilities Sustainment - Test and Evaluation Support</i>	31.561	35.065	63.579	-	63.579	92.273	173.434	176.909	180.417	Continuing	Continuing
• RDTE 06 0604759F: <i>Major T&E Investment</i>	169.432	31.143	74.228	-	74.228	208.911	282.949	278.682	274.774	Continuing	Continuing
• RDTE 06 0606398F: <i>Management HQ - T&E</i>	7.535	7.453	7.647	-	7.647	7.788	7.950	8.297	8.457	Continuing	Continuing

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 6					R-1 Program Element (Number/Name) PE 0604256F / <i>Threat Simulator Development</i>				Project (Number/Name) 663321 / <i>Electronic Warfare Ground Test Resources</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
663321: <i>Electronic Warfare Ground Test Resources</i>	-	15.893	5.819	8.687	0.000	8.687	31.535	37.432	38.785	39.551	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The AF requires a comprehensive set of test facility modernizations to improve Electronic Warfare (EW) which includes Directed Energy (DE) weapons Test and Evaluation (T&E) capabilities. This funding is used to improve and modernize threat system simulators, stimulators, emitters and supporting infrastructure to sufficiently and cost effectively test and evaluate current and future weapon systems' ability to perform in realistic EW threat representative environments. The National Radar Cross Section (RCS) Test Facility (NRTF) at Holloman AFB, NM, provides timely, accurate, and secure RCS and antenna measurements for tri-service and joint program offices, DoD laboratories, Defense Advanced Research Projects Agency (DARPA) and industry. The NRTF tests fielded and developmental systems and technologies to meet Low Observable (LO) and EW customer requirements. The Guided Weapons Evaluation Facility (GWEF) at Eglin AFB, FL, and the Digital Integrated Air Defense System (DIADS) at Edwards AFB, CA, provide the ability to realistically evaluate hardware and software components of US weapon systems against manned hardware threat representations throughout the acquisition process. The GWEF provides simulations of advanced Infrared (IR) Surface-to-Air Missiles (SAMs) and Air-to-Air Missiles (AAMs), IR and Laser countermeasure functions, and the integration of actual threat hardware and ground clutter into advanced threat IR missile simulations. DIADS provides mission level simulations of both algorithm-based and man-in-the-loop-based enemy command and control (C2) capabilities that integrate early warning radar detection, SAM engagement capabilities, and limited ground-controlled fighter intercepts. The Benefield Anechoic Facility (BAF) at Edwards AFB, CA, and the Joint Preflight Integration of Munitions and Electronic Systems (J-PRIMES) facility at Eglin AFB, FL, both provide threat-representative EW emitters and stimulators to replicate a variety of land, sea and airborne threats in a controlled RF environment to evaluate full-scale weapon systems. The BAF additionally provides an ability to perform Electromagnetic Interference/Compatibility (EMI/EMC) testing to ensure radars, jammers, radios, and other flight-critical electronic systems will not interfere with each other during a mission. The Central Inertial and GPS Test Facility (CIGTF) at the 704th Test Group at Holloman AFB, NM provides threat-representative GPS jammers and laydowns in both lab and open-air environments to test avionics systems' performance when under various GPS-denial conditions. Provides EW test process support, conducting requirements analyses and other studies in support of AF T&E investments in test infrastructure and capabilities.

In previous R-2 Exhibits, EW T&E modernization efforts within this PE's BPAC were identified via two mission area categories: Improvement and Modernization (I&M) and EC Test Process Support. To more accurately align this R-2 Exhibit with the funding/execution baseline for this BPAC, the two aforementioned mission area categories have been combined into a single mission area titled, "Electronic Warfare Ground Test Resources".

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Electronic Warfare Ground Test Resources	15.893	5.819	8.687
Description: Provides for planning, monitoring, improvement, and modernization of test capabilities to conduct and support the AF EW test process. Conducts requirements analyses and other studies in support of Air Force T&E investments in test			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0604256F / <i>Threat Simulator Development</i>	Project (Number/Name) 663321 / <i>Electronic Warfare Ground Test Resources</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>infrastructure and capabilities. Plans for FY2024 and FY2025 include, but are not limited to, the following EW efforts which are all delayed due to the availability of prior year execution balances (under execution).</p> <p><i>FY 2024 Plans:</i> Close out the Red Integrated Air defense System (Red IADS) project. The Jammer/ECM Enhancement & Integration (JECM) project will have to split the C-band antenna purchase between FY24 and 25 funds delaying the capability into FY26. Planning for the Advanced NAVWAR Open-Air T&E project at AEDC will continue. Continue executing development, procurement, and integration of EW programs (at significantly reduced funding) such as the National RCS Test Facility (NRTF) Modernization and Measurement, Infra-Red Countermeasure-capability Modernization (IRCM-CM). Other projects currently on hold due to funding shortfalls, Electronic Combat Range - Dynamic Moving Target Simulator (ECR-DMTS) and the ECR Early Warning Radar (EWR), both threat simulators. Also included is continued funding of SETA support necessary to implement planned Air Force test processes and infrastructure for I&M capabilities, support tri-service monitoring and analysis teams established to identify emerging joint investment needs and requirements development and assist in the management and monitoring of I&M program elements and activities.</p> <p><i>FY 2025 Plans:</i> Execute Red Integrated Air Defense System (Red-IADS). The Jammer/ECM Enhancement & Integration (JECM) project will have to split the C-band antenna purchase between FY24 and 25 funds delaying the capability into FY26. Start execution of the DIADS Hypersonic Air Defense Effectiveness and Susceptibility (HADES) project and the Advanced NAVWAR Open-Air T&E project at AEDC. Continue executing development, procurement, and integration of EW programs; National RCS Test Facility (NRTF) Modernization and Measurement, Infra-Red Countermeasure-capability Modernization (IRCM-CM). Start planning of Electronic Combat Range - Dynamic Moving Target Simulator (ECR-DMTS) and the ECR Early Warning Radar (EWR), both threat simulators. Also included is continued funding of SETA support necessary to implement planned Air Force test processes and infrastructure for I&M capabilities, support tri-service monitoring and analysis teams established to identify emerging joint investment needs and requirements development and assist in the management and monitoring of I&M program elements and activities.</p> <p><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> A net increase of \$2.868 million is due to \$2.795 million in support of Hypersonics and nonpay non-fuel inflation.</p>			
Accomplishments/Planned Programs Subtotals	15.893	5.819	8.687

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0604256F / Threat Simulator Development	Project (Number/Name) 663321 / Electronic Warfare Ground Test Resources
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• RDTE 06 0605807F: Test and Evaluation Support	842.401	913.213	936.913	-	936.913	1,088.746	1,273.317	1,316.674	1,368.799	0.000	7,740.063
• RDTE 06 0605976F: Facilities Restoration and Modernization - Test and Evaluation Support	133.420	87.889	94.828	-	94.828	218.485	211.294	250.223	237.553	0.000	1,233.692
• RDTE 06 0605978F: Facilities Sustainment - Test and Evaluation Support	31.561	35.065	63.579	-	63.579	92.273	173.434	176.909	180.417	0.000	753.238
• RDTE 06 0604759F: Major T&E Investment	169.432	31.143	74.228	-	74.228	208.911	282.949	278.682	274.774	0.000	1,320.119
• RDTE 06 0606398F: Management HQ - T&E	7.535	7.453	7.647	-	7.647	7.788	7.950	8.297	8.457	0.000	55.127

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 6					R-1 Program Element (Number/Name) PE 0604256F / Threat Simulator Development				Project (Number/Name) 667500 / Foreign Materiel Acquisition/Analysis			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
667500: Foreign Materiel Acquisition/Analysis	-	2.141	7.944	8.308	0.000	8.308	8.516	8.691	9.006	9.183	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project's specific purpose is to support DAF Foreign Materiel Program requirements through the acquisition and analysis of foreign materiel. Due to the unique capabilities of the DAF FMP, both USAF and USSF work cooperatively to support DAF FMP requirements. Items considered for these Foreign Materiel Acquisition (FMA) funds are included in the prioritized Service's FMA Top 50 list established each year. Annually, the MAJCOM and Field Commands create integrated prioritized lists of their top 50 requirements. The requirements lists are integrated and prioritized into a classified Service requirement list. System analyses are based on and driven by acquisitions. The DAF FMP provides assessments and data for threat systems to all DoD components.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: FMP	2.141	7.944	8.308
Description: Supports DAF Foreign Materiel Program (FMP) Requirements through the acquisition and analysis of foreign materiel.			
FY 2024 Plans: Continue to fund acquisition of available Foreign Materiel in accordance with the DAF Foreign Materiel Priority Lists; analysis of acquired Foreign Materiel; and operations and maintenance of the specialized Foreign Materiel assets.			
FY 2025 Plans: Continue to fund acquisition of available Foreign Materiel in accordance with the DAF Foreign Materiel Priority Lists; analysis of acquired Foreign Materiel; and operations and maintenance of the specialized Foreign Materiel assets.			
FY 2024 to FY 2025 Increase/Decrease Statement: N/A			
Accomplishments/Planned Programs Subtotals	2.141	7.944	8.308

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• RDTE 06 0605807F: Test and Evaluation Support	842.401	913.213	936.913	-	936.913	1,088.746	1,273.317	1,316.674	1,368.799	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024	
Appropriation/Budget Activity 3600 / 6				R-1 Program Element (Number/Name) PE 0604256F / Threat Simulator Development				Project (Number/Name) 667500 / Foreign Materiel Acquisition/ Analysis			

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2023	FY 2024	FY 2025	FY 2025	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Cost To	
			Base	OCO	Total					Complete	Total Cost
• RDTE 06 0605976F: <i>Facilities Restoration and Modernization - Test and Evaluation Support</i>	133.420	87.889	94.828	-	94.828	218.485	211.294	250.223	237.553	Continuing	Continuing
• RDTE 06 0605978F: <i>Facilities Sustainment - Test and Evaluation Support</i>	31.561	35.065	63.579	-	63.579	92.273	173.434	176.909	180.417	Continuing	Continuing
• RDTE 06 0604759F: <i>Major T&E Investment</i>	169.432	31.143	74.228	-	74.228	208.911	282.949	278.682	274.774	Continuing	Continuing
• RDTE 06 0606398F: <i>Management HQ - T&E</i>	7.535	7.453	7.647	-	7.647	7.788	7.950	8.297	8.457	Continuing	Continuing

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0604759F / <i>Major T&E Investment</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	169.432	31.143	74.228	0.000	74.228	208.911	282.949	278.682	274.774	Continuing	Continuing
664597: <i>AF Test Investments</i>	-	169.432	31.143	74.228	0.000	74.228	208.911	282.949	278.682	274.774	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This PE provides planning, improvements, and modernization for test capabilities within Air Force Test Center (AFTC) Major Range and Test Facility Base organizations: 96 Test Wing at Eglin AFB FL, the 412 Test Wing at Edwards AFB CA, and Arnold Engineering Development Complex (AEDC) at Arnold AFB TN. The 704th Test Group at Holloman AFB NM is aligned under AEDC as part of the management consolidation of Ground test capabilities. Finally, in FY20 and FY21 this PE provided funds to Air Force Space Command (AFSPC) now United States Space Force (USSF) for space threat testing. In FY22, Space threat funding was transferred to USSF.

The improvement and modernization (I&M) requirements are defined through the AF Test Investment Planning & Programming (TIPP) Process. All projects have been reviewed through the Tri-Service Reliance Process (to communicate AF efforts to the other services and avoid unwarranted duplication of effort) and are documented in the Technology Development Acquisition Program (TDAP) database. Each project has its own planning, development, equipment acquisition, equipment installation, and checkout phases which often require significant differences in funding from one year to the next. As such, the changes in category funding from year to year does not necessarily indicate program growth, but rather a planned phasing of I&M efforts. The test capabilities at these locations enable testing through all phases of weapon system acquisition, from system concept exploration through component and full-scale integrated weapon system test to operational test.

The 96 TW, at Eglin AFB FL, conducts and supports Developmental Test and Evaluation (DT&E) of non-nuclear air armaments; Command, Control, Communications, Computers, Cyber, Intelligence, Surveillance, Reconnaissance (C5ISR) systems; target acquisition and weapon delivery systems; determines target/test item spectral signatures; and provides cyber testing capabilities as part of the Avionics Cyber Range (ACR).

The 412 Test Wing, at Edwards AFB CA, conducts and supports DT&E and Operational Test and Evaluation (OT&E) of aircraft and aircraft systems, aerospace research vehicles, unmanned aerial vehicles, cruise missiles, parachute delivery/recovery/systems, and cargo handling systems.

AEDC, at Arnold AFB TN, provides pre-flight reliability environmental test support for DoD aeropropulsion, flight systems, and space and missile programs. The center has 53 test facilities providing: aerodynamic testing of scale model aircraft, missiles, and space systems; testing of large and full-scale satellites, sensors, and space vehicles in a simulated space environment; altitude environmental testing for aircraft, missile, and spacecraft propulsion systems; testing of large-scale models such as space boosters together with their propulsion systems. The 704th TG at Holloman AFB, NM provides flight test and test support for joint, international and commercial customers in advanced avionics and weapons, inertial navigation systems, Global Positioning System (GPS) and other integrated aircraft and missile navigation systems. They test subsonic through hypersonic ground performance of aircraft and missiles in a flight-representative, highly instrumented environment while also coordinating and scheduling all US Air Force test operations at White Sands Missile Range. The 704 TG OL-AC at Wright-Patterson AFB, OH provides independent

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force Date: March 2024

Appropriation/Budget Activity
3600: Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support

R-1 Program Element (Number/Name)
PE 0604759F I Major T&E Investment

developmental T&E in support of aircraft survivability and evaluation of full-scale aircraft landing gear, tires and brakes. They also provide an independent capability for component qualification.

In order to align the strategic capability goals set forth in the National Defense Strategy and the mission of the AFTC, program element funding has been assigned to these six mission area categories: T&E Range Asset Modernization, Hypersonics, Directed Energy, Cyberspace and Avionics Cyber, Autonomy, and Space Test Infrastructure.

- 1) T&E Range and Test Asset Modernization refers to those capabilities required to acquire the ability to test long range, high-speed, highly-instrumented, high-data rate weapons in a crowded and restricted spectrum, while operating at multiple classification and cybersecurity levels. Also included in this mission area is the ability to collect, analyze and store big data and the ability to do multi-domain testing across the enterprise with realistic threat scenarios at multiple classification level up to Special Access Program (SAP).
2) Hypersonics refers to the ability to test and evaluate flight-representative hypersonic engines, materials, warheads and fuzes in all portions of the employment envelope and conduct flight testing both in simulation and open-air ranges with sufficient space, telemetry, photo-optics and Time Space Position Information (TSPI) to appropriately inform decision-makers fielding such systems.
3) Directed Energy/Electronic Combat acquires the ability to characterize irradiance and beam properties on aircraft, small UAVs and ground targets and create realistic environments to simulate adversary air defense capabilities in the year 2030. Enables 5th-6th generation weapon testing/tactics development in a threat-realistic Anti-Access Area Denial (A2AD) environment using a combination of indoor and open-air ranges.
4) Cyberspace and Avionics Cyber is the advancement of cybersecurity/resiliency test capability for network, C5ISR, and airborne weapon platforms and includes development of tools, techniques and hardware-in-the-loop capabilities focused on cybersecurity and cyber-resiliency.
5) Autonomy refers to the ability to test autonomous aerial and ground systems with hundreds of independent vehicles. Must be able to monitor system-under-test locations and states with the ability for soft and hard termination. Must develop techniques and processes to test systems with artificial intelligence.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0604759F / <i>Major T&E Investment</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	171.314	31.143	74.096	0.000	74.096
Current President's Budget	169.432	31.143	74.228	0.000	74.228
Total Adjustments	-1.882	0.000	0.132	0.000	0.132
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-1.882	0.000			
• Other Adjustments	0.000	0.000	0.132	0.000	0.132

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: T&E Range and Test Asset Modernization	24.401	17.313	31.945
Description: Description: T&E Range and Test Asset Modernization refers to those capabilities required to acquire the ability to test long range, high-speed, highly-instrumented, high-data rate weapons in a crowded and restricted spectrum, while operating at multiple classification and cybersecurity levels. Ability to collect, analyze and store big data and ability to do multi-domain testing across the enterprise with realistic threat scenarios at multiple classification level up to Special Access Program (SAP).			
FY 2024 Plans: Continue building Modular Mission Control Room Upgrade (MMCRU). Continue planning/execution for Gulf Range Enhancement (GRE), Next Generation Thrust Management (NGTM), and the Low Observability (RCS) Engine Test Stand. Start planning the Multi-Object Tracking Radar (EMOTOR) project and build on the 96TW Imaging Improvement Modernization Project (IIMP). Add on to the High-Pressure Air Additional Capability (HPAAC) Congressional Add by building another AEDC bottle farm. Close out Improve Plant Reliability and Efficiency/Transonic Aero Test Capability (IMTPC), Improve Large Model Supersonic Aerodynamic Ground T&E Capability (ILMSC) [formerly Tunnel 16S Reactivation].			
FY 2025 Plans: Continue building Modular Mission Control Room Upgrade (MMCRU). Continue execution for Gulf Range Enhancement (GRE), Next Generation Thrust Management (NGTM), and the Low Observability (RCS) Engine Test Stand. Continue execution the Multi-Object Tracking Radar (EMOTOR) project and build on the 96TW Imaging Improvement Modernization Project (IIMP). Add on to the High-Pressure Air Additional Capability (HPAAC) Congressional Add by building another AEDC bottle farm. Improve Large Model Supersonic Aerodynamic Ground T&E Capability (ILMSC) [formerly Tunnel 16S Reactivation].			
FY 2024 to FY 2025 Increase/Decrease Statement:			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>		R-1 Program Element (Number/Name) PE 0604759F / <i>Major T&E Investment</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
The increase from FY24 to FY25 is due to a reduction to the FY24 funding request by \$14.6 million to account for the availability of prior year execution balances.				
<p>Title: Hypersonics</p> <p>Description: Hypersonics refers to the ability to T&E flight-representative hypersonic engines, materials, warheads and fuzes in all portions of the employment envelope and conduct flight testing both in simulation and open-air ranges with sufficient space, telemetry, photo-optics and Time Space Position Information (TSPI) to appropriately inform decision-makers fielding such systems.</p> <p>The Department of Defense Test Resource Management Center (TRMC) oversees and manages all hypersonic test investment.</p> <p>FY 2024 Plans: Begin Planning the GWEF Hypersonic Hardware in the Loop (GWEF HS HITL) project. Continue planning the following Ground Test projects: Turbine Base Combined Cycle (TBCC), Mach 5 Continuous Flow Test Capability (M5CFTC), True Temperature Mach 7 (TTM7), Integrated Scramjet Direct Connect Diagnostics (ISDCD).</p> <p>FY 2025 Plans: Continue planning and execution of the GWEF Hypersonic Hardware in the Loop (GWEF HS HITL) project. Execute the following Ground Test projects: Turbine Base Combined Cycle (TBCC), Mach 5 Continuous Flow Test Capability (M5CFTC), True Temperature Mach 7 (TTM7), Integrated Scramjet Direct Connect Diagnostics (ISDCD).</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: The increase from FY24 to FY25 is due to a reduction to the FY24 funding request by \$16.6 million to account for the availability of prior year execution balances.</p>		134.639	1.500	18.090
<p>Title: Directed Energy/Electronic Combat</p> <p>Description: Directed Energy/Electronic Combat acquires the ability to characterize irradiance and beam properties on aircraft, small Unmanned Aerial Vehicles (UAV) and ground targets and create realistic environments to simulate adversary air defense capabilities in the year 2030. Enables 5th-6th generation weapon testing/tactics development in a threat-realistic Anti-Access Area Denial (A2AD) environment using a combination of indoor and open-air ranges.</p> <p>FY 2024 Plans: Continue Planning/Executing of the Advanced Multispectral Development - Phase I (AMD-I). Execute the plan for Next Generation Engineering Targets (OPTICAMS).</p> <p>FY 2025 Plans:</p>		0.700	4.000	8.293

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>		R-1 Program Element (Number/Name) PE 0604759F / <i>Major T&E Investment</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
Continue Execution of the Advanced Multispectral Development - Phase I (AMD-I) and Next Generation Engineering Targets (OPTICAMS). Start executing the DIADS Hypersonic Air Defense Effectiveness and Survivability (HADES) project. FY 2024 to FY 2025 Increase/Decrease Statement: The increase from FY24 to FY25 is due to a reduction to the FY24 funding request by \$4.3 million to account for the availability of prior year execution balances.				
Title: Cyberspace and Avionics Cyber Description: Cyberspace and Avionics Cyber is the advancement of cybersecurity/resiliency test capability for network, C41SR and airborne weapon platforms and includes development of tools, techniques and hardware in the loop capabilities focused on cybersecurity and cyber-resiliency. FY 2024 Plans: Close out Weapon System Cyber Security Tools/Facility (WSCS) project. Continue developing an Enterprise Cross Platform Data Center. Start planning and potentially executing the War-fighter Data Links Test Capability (WDLTC) across the Enterprise (96TW & 412TW) to support next generation aircraft and UAVs. WDLTC was previously 6th Gen Data Links. Enterprise funding for MLS-JCE and ABMS-JADC2 type of work has dropped off due to unknown and ever-changing requirements, studies have been completed in both of these subject areas that have resulted in non-starts for projects. It is still on the Test Center radar and is developing a plan. FY 2025 Plans: Continue developing an Enterprise Cross Platform Data Center. Start executing the War-fighter Data Links Test Capability (WDLTC) across the Enterprise (96TW & 412TW) to support next generation aircraft and UAVs. WDLTC was previously 6th Gen Data Links. FY 2024 to FY 2025 Increase/Decrease Statement: The increase from FY24 to FY25 is due to a reduction to the FY24 funding request by \$6.3 million to account for the availability of prior year execution balances.		9.492	6.830	13.150
Title: Autonomy Description: Autonomy refers to the ability to test autonomous aerial and ground systems with hundreds of independent vehicles. Must be able to monitor system-under-test locations and states with the ability for soft and hard termination. Must develop techniques and processes to test systems with artificial intelligence. FY 2024 Plans:		0.200	1.500	2.750

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0604759F / <i>Major T&E Investment</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Start Executing the Non-Cooperative Tracking/Multi-Object Tracking phase I (NCT-1) project at the 412TW. This capability will track non-instrumented small scale UAV's/drones.			
FY 2025 Plans: Continue Executing the Non-Cooperative Tracking/Multi-Object Tracking Phase I (NCT-1) project at the 412TW. This capability will track non-instrumented small-scale UAVs/drones.			
FY 2024 to FY 2025 Increase/Decrease Statement: The increase from FY24 to FY25 is due to a reduction to the FY24 funding request by \$1.3 million to account for the availability of prior year execution balances.			
Accomplishments/Planned Programs Subtotals	169.432	31.143	74.228

D. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• RDTE 06 0605807F: <i>Test and Evaluation Support</i>	842.401	913.213	936.913	-	936.913	1,088.746	1,273.317	1,316.674	1,368.799	Continuing	Continuing
• RDTE 06 0605976F: <i>Facilities Restoration and Modernization - Test and Evaluation Support</i>	133.420	87.889	94.828	-	94.828	218.485	211.294	250.223	237.553	Continuing	Continuing
• RDTE 06 0605978F: <i>Facilities Sustainment - Test and Evaluation Support</i>	31.561	35.065	63.579	-	63.579	92.273	173.434	176.909	180.417	Continuing	Continuing
• RDTE 06 0604256F: <i>Threat Simulator Development</i>	20.835	16.626	19.927	-	19.927	43.055	49.189	50.969	51.974	Continuing	Continuing
• RDTE 06 0606398F: <i>Management HQ - T&E</i>	7.535	7.453	7.647	-	7.647	7.788	7.950	8.297	8.457	Continuing	Continuing

Remarks

E. Acquisition Strategy
N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605101F / <i>RAND Project Air Force</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	37.655	38.398	39.720	0.000	39.720	40.715	41.550	43.054	43.904	Continuing	Continuing
661110: <i>Project Air Force</i>	-	37.655	38.398	39.720	0.000	39.720	40.715	41.550	43.054	43.904	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

PAF is organized in four primary research program areas: Strategy & Doctrine (SD); Force Modernization & Employment (FME); Workforce, Development & Health (WDH); and Resource Management (RM). Integrative research projects are also conducted with direct support provided through the most applicable program. Research programs address organizational crosscutting issues as defined by specific research themes approved by the Department of the Air Force Steering Group which is tri-chaired by the Under Secretary of the Air Force, Vice Chief of Staff of the Air Force, and Vice Chief of Space Operations. These research programs encompass a wide spectrum of topics including external challenges to national security; joint and coalition operations; integrated roadmap development for Air and Space military capabilities; enhancing, tailoring and reducing infrastructure to meet new force requirements; potential changes to the Active/Reserve/National Guard/Civilian/Contractor manpower mix; and improved weapon system costing.

The research program will continue to build upon research foundations, examining the evolving security environment, emerging threats, national and military strategy, transformation approaches including investment strategies to provide capabilities within changing Defense budgets, operational concepts to meet evolving and increasingly joint missions, exploiting advanced technologies, increasing the effectiveness and efficiency of combat support, and developing the total force (Active/Reserve/National Guard/Civilian/Contractor). These efforts will continue to inform and support decision-making by senior Department of the Air Force leadership regarding personnel management and training; improving logistical efficiencies and force sustainment; ongoing conflicts and joint operations; force structure capabilities, limitations, and operational concepts; and making force structure tradeoffs within resource constraints to meet future national security and Air Force needs.

Future research will build upon earlier work to continue to help the Department of the Air Force to rapidly and appropriately adapt to the changing world environment and emerging threats; continue to modernize and employ its force structure to provide capabilities within changing DoD budgets; assess lessons learned from recent and ongoing conflicts; develop and utilize its total force; and enhance the support of our aerospace forces, ranging from sustainment of the force structure to agile combat support.

PAF research spans functional and organizational boundaries and is managed in a manner to facilitate independence and freedom from organizational bias thereby providing perspectives and insights to senior Department of the Air Force leaders free from parochial influences not necessarily in the best interest of the Department of the Air Force at large. Benefits of independent non-Department of Defense analysis of complex present day and emerging issues are shared beyond the Air and Space Forces. PAF study results are given wide dissemination within the DOD on a routine basis and are deposited with the Defense Technical Information Center available to a broad range of qualified government and commercial-sector individuals and activities.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605101F / <i>RAND Project Air Force</i>
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This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY22 0M was expended for civilian pay expenses in this program element, and in FY23 0M is forecasted for civilian pay expenses in this program element.

In FY23, a 5.154M reduction was applied by Department of the Air Force as an initial share of the reduction referenced in FY 23 section 8026(e) of the Appropriations Law to 'the total amount appropriated in this Act for FFRDCs Historically this reduction has not been applied to the RAND Project Air Force program element to a significant degree. Funds from this reduction were restored by the Department of Air Force as an unfunded requirement in FY23 to avoid critical impacts and cancellations to ongoing studies. The budget requests for FY25 and FY24 are in line with the FY 23 appropriation, prior to the reduction (which was later effectively reversed by Air Force), and the amount appropriated in FY22 on an inflation adjusted basis.

Please note that the grand total of Staff Years of Technical Effort (STE) requested by RAND Project Air Force as part of the Department's FFRDC budget request has remained constant at 127 STE from FY22 to FY24.

This program provides for continuing analytical research across a broad spectrum of aerospace issues and concerns. The Project AIR FORCE (PAF) research agenda is focused primarily on mid to long-term problems; in addition, PAF provides quick response assistance for senior Air Force officials on high priority, near term issues. Within these areas, PAF addresses difficult and complex, far-reaching and inter-related questions linked to future strategies, approaches and policies, in order to enhance Air Force senior leadership's deliberations and decision making on major issues. The Air Force Steering Group, chaired by the Vice Chief of Staff, reviews, monitors, and approves PAF annual research efforts. Each project is initiated, processed, and approved in accordance with PAF Sponsoring Agreement which requires General Officer (or SES equivalent) sponsorship and involvement on a continuing basis.

FY23 Actuals and FY24 TriChair Approved Projects are identified in the table below.

FY23			FY24			
Projects STE			Projects STE			
SDP	7	19.75	8,182,425	8	20.00	8,568,000
FMEP	6	20.25	8,389,575	7	24.00	10,281,600
WDHP	7	20.75	8,596,725	8	20.00	8,568,000
RMP	7	21.25	8,803,875	7	21.00	8,996,400
CV Reserve		4.00	1,657,200		2.00	856,800
TOTAL	27	86.00	35,629,800	30	87.00	37,270,800

PAFC23 Task # / STE / \$: Title
 Strategy and Doctrine Program (SDP)
 S310 / 3 / 1.24M : China and Russia Space Net Assessment Project
 S320 / 2.5 / 1.04M : Integrated Deterrence with Allies and Partners - Implications for Department of the Air Force (DAF) Security Cooperation (SC)

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605101F / <i>RAND Project Air Force</i>	
<p>S330 / 2.75 / 1.14M : Long-Range Strike Options to Stay Below the Nuclear Threshold</p> <p>S340 / 3 / 1.24M : Crisis Stability in Space</p> <p>S350 / 3 / 1.24M : Plan Blue 23 Wargame Analytic Effort & Title 10 Wargame Integration</p> <p>S360 / 2 / 0.83M : Lessons Learned from Space Operations with Allies and Partners and Implications for Security Cooperation (SC)</p> <p>S370 / 2.5 / 1.04M : United States Air Force (USAF) Missions in Competition with Russia and China</p> <p>S301 / 1 / 0.41M : SDP Concept Formulation</p> <p>SDP / 19.75 / 8.18M : SDP Total</p> <p>Force Modernization and Employment Program (FMEP)</p> <p>F310 / 3 / 1.24M : Data-centric Warfighting - Sharing at Speed and Scale</p> <p>F320 / 2.75 / 1.14M : Artificial Intelligence (AI) for Space Domain Awareness</p> <p>F330 / 3 / 1.24M : Enhancing Space Mission Assurance to Cyber Threats</p> <p>F340 / 3.5 / 1.45M : Characterizing Air Force Electromagnetic Battle Management</p> <p>F350 / 3.5 / 1.45M : Formulating The Future Aerial Refueling Enterprise For Peer-Conflict</p> <p>F360 / 3.5 / 1.45M : Integration of Op C2 and Intel to Meet the Pacing Threat in PACAF</p> <p>F301 / 1 / 0.41M : FMEP Concept Formulation</p> <p>FMEP / 20.25 / 8.39M : FMEP Total</p> <p>Workforce, Development, and Health Program (WDHP)</p> <p>W310 / 3.5 / 1.45M : Developing Digital Airmen: Talent Management of Tomorrow</p> <p>W320 / 3 / 1.24M : Analysis of Barriers to USSF Talent Management Transformation</p> <p>W330 / 2.5 / 1.04M : Optimization of Active and Reserve Component Force Structure</p> <p>W340 / 2.5 / 1.04M : Exploring the Use of Advanced Learning Technologies to Enhance the Efficiency and Effectiveness of Air Force Training</p> <p>W350 / 2 / 0.83M : Synchronizing the U.S. Air Force (USAF) USAF and U.S. Space Force (USSF) in a Department of the Air Force (DAF)-Wide Acquisition Workforce</p> <p>W360 / 3.75 / 1.55M : Reducing Racial/Ethnic and Gender Disparities in Force Development</p> <p>W370 / 2.5 / 1.04M : Manning the Nuclear Deterrence Operations (NDO) Force Through 2040</p> <p>W301 / 1 / 0.41M : WDHP Concept Formulation</p> <p>WDHP / 20.75 / 8.6M : WDHP Total</p> <p>Resource Management Program (RMP)</p> <p>R310 / 3.5 / 1.45M : Cost for Effectiveness - Efficiency of Critical Infrastructure Protection Options</p> <p>R320 / 3 / 1.24M : Civil Engineer and Logistics Challenges in Generating Sorties Under Attack Within the Agile Combat Employment Construct</p> <p>R330 / 2 / 0.83M : Transforming United States Space Force's (USSF's) Capability Development</p> <p>R340 / 2.75 / 1.14M : Assessment of Digital Engineering: Its Implications for Weapon System Programs and Supply Chain Adoption</p> <p>R350 / 3 / 1.24M : Energizing and Synchronizing Research, Development, and Technology Transfer for the Use of Space</p> <p>R360 / 3 / 1.24M : Transforming Legacy Logistics Support to Agile Combat Employment (ACE) Operations in a Contested Environment</p> <p>R370 / 3 / 1.24M : Accelerating and Improving Nuclear Safety Design Certification of Weapon Systems Through Digital Engineering</p>		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605101F / <i>RAND Project Air Force</i>	
<p>R301 / 1 / 0.41M : RMP Concept Formulation RMP / 21.25 / 8.8M : RMP Total CV Reserve R385 / 2 / 0.83M : CV Reserve P301 / 2 / 0.83M : Unit Concept Formulation CVRes / 4 / 1.66M : CV Reserve Total RAND PAF Program Total ALL / 86 / 35.63M : RAND PAF ALL</p> <p>FY24 Tri-Chair Approved Projects PAFC24 Task # / STE / \$: Title Strategy and Doctrine Program (SDP) S410 / 2.5 / 1.07M : Adversary perceptions and reactions to U.S. proliferated LEO S420 / 2 / 0.86M : The Day After...Taiwan S430 / 2 / 0.86M : End Game: How Might War in Ukraine End and How Will the Outcome Shape Future Force Needs S440 / 2 / 0.86M : Air Base Defense Gaps and Seams S450 / 3 / 1.29M : Plan Blue 24 Wargame Analytic Effort & Title 10 Wargame Integration S460 / 2.5 / 1.07M : Deterring Multiple Nuclear-Armed Adversaries in a Post-New START Environment: Implications for Air Force Posture and Requirements S470 / 3 / 1.29M : Objectively Comparing the Spillage Risk of Sharing Information with Key Allies/Partners against the Operational Risk of Not Sharing It S480 / 2 / 0.86M : Monitoring Adversary Approaches to Security Cooperation (SC) and the Impact to Strategic Outcomes S401 / 1 / 0.43M : SDP Concept Formulation SDP / 20 / 8.57M : SDP Total Force Modernization and Employment Program (FMEP) F410 / 3.5 / 1.5M : Kill chain analysis and support to the USSF and USAF F420 / 3.5 / 1.5M : Winning the First Critical Battle: Designing an Autonomous and Resilient Sensing Grid to Enable Effective JADC2 at the Forward Edge of Combat F430 / 3 / 1.29M : Ensuring Successful Electromagnetic Operations in a Complex, Contested, and Congested Electromagnetic Environment F440 / 2.5 / 1.07M : E-7 Kill Chain and Survivability Improvement Study F450 / 3.5 / 1.5M : Enabling Effective Modernization for Sense-making for Key Operation Missions F460 / 3.5 / 1.5M : Measuring the Contributions of Space across Military Operations, National Defense, and National Security F470 / 3.5 / 1.5M : Force Mix and Munitions Planning for Autonomous and Manned Platforms in High Intensity Conflict F401 / 1 / 0.43M : FMEP Concept Formulation FMEP / 24 / 10.28M : FMEP Total Workforce, Development, and Health Program (WDHP) W410 / 3 / 1.29M : Developing Multi-Capable Airmen for Agile Combat Support W420 / 2 / 0.86M : Science, Technology, Engineering and Math (STEM) Workforce Needs for the Development of Future Technology Required to Defeat China</p>		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605101F / <i>RAND Project Air Force</i>	
<p>W430 / 2 / 0.86M : Manning the Nuclear Deterrence Operations (NDO) Force Through 2040: Part 2</p> <p>W440 / 2 / 0.86M : Bonus and Incentive Pay Analysis</p> <p>W450 / 2 / 0.86M : OTTI Business Model/Organizational Roles & Responsibilities</p> <p>W460 / 3 / 1.29M : Methods and processes to realize and improve EMSO readiness for the CAF</p> <p>W470 / 2 / 0.86M : Evaluation of Air Force Recruiting Enterprise Structure and Business Mode</p> <p>W480 / 3 / 1.29M : Addressing Perceptions of Racial/Ethnic and Gender Disparities in the DAF Work Environment</p> <p>W401 / 1 / 0.43M : WDHP Concept Formulation</p> <p>WDHP / 20 / 8.57M : WDHP Total</p> <p>Resource Management Program (RMP)</p> <p>R410 / 3 / 1.29M : Base Resilience Investment Strategies</p> <p>R420 / 2 / 0.86M : Expanding Combat Capability by Improving Interoperability with Joint and Allied Partners</p> <p>R430 / 3 / 1.29M : The US Defense Industrial Base (DIB) Munition Production Capacity Impacts to Air Force Wartime Surge Capability and Protracted Warfare Sustainability</p> <p>R440 / 3 / 1.29M : Global Posture Strategy to Enable Agile and Responsive Operations in (Chemical, Biological, Radiological and Nuclear) CBRN Environments</p> <p>R450 / 2.5 / 1.07M : More Effective and Efficient Modeling and Simulation Capabilities Across U.S. Space Force Communities</p> <p>R460 / 4 / 1.71M : Pacific Basing, Logistics and Sustainment Roadmap - Agile Combat Employment (ACE) 2030-2040</p> <p>R470 / 2.5 / 1.07M : Reducing Space Mission Risk from Cyber Threats to ICS and SCADA systems</p> <p>R401 / 1 / 0.43M : RMP Concept Formulation</p> <p>RMP / 21 / 9M : RMP Total</p> <p>CV Reserve</p> <p>N/A / 0 / 0M : CV Reserve</p> <p>P401 / 2 / 0.86M : Unit Concept Formulation</p> <p>CVRes / 2 / 0.86M : CV Reserve Total</p> <p>RAND PAF Program Total</p> <p>ALL / 87 / 37.27M : RAND PAF ALL</p> <p>This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.</p>		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605101F / <i>RAND Project Air Force</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	32.767	38.398	39.650	0.000	39.650
Current President's Budget	37.655	38.398	39.720	0.000	39.720
Total Adjustments	4.888	0.000	0.070	0.000	0.070
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	6.276	0.000			
• SBIR/STTR Transfer	-1.388	0.000			
• Other Adjustments	0.000	0.000	0.070	0.000	0.070

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Title: Strategy & Doctrine</p> <p>Description: Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--strategy and doctrine.</p> <p>FY 2024 Plans: Will conduct analytical research across a broad spectrum of aerospace issues and concerns--integrative research/direct support</p> <p>FY 2025 Plans: Continue conducting analytical research across a broad spectrum of aerospace issues and concerns--integrative research/direct support</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increase required due to SecAF request to stand up a China-Russia Center within the four RAND program areas--specifically, Strategic and Doctrine Program.</p>	8.983	9.139	9.402
<p>Title: Force Development</p> <p>Description: Provides analytical research across a broad spectrum of aerospace issues and concerns--force development employment.</p> <p>FY 2024 Plans: Will conduct analytical research across a broad spectrum of aerospace issues and concerns--force development employment.</p> <p>FY 2025 Plans:</p>	8.664	8.800	9.097

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>		R-1 Program Element (Number/Name) PE 0605101F / <i>RAND Project Air Force</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
Continue conducting analytical research across a broad spectrum of aerospace issues and concerns--force development employment. FY 2024 to FY 2025 Increase/Decrease Statement: Funding increase required due to SecAF request to stand up a China-Russia Center within the four RAND program areas--specifically, Strategic and Doctrine Program.				
Title: Manpower, Personnel & Training Description: Provides analytical research across a broad spectrum of aerospace issues and concerns--manpower, personnel and training. FY 2024 Plans: Will conduct analytical research across a broad spectrum of aerospace issues and concerns--manpower, personnel and training. FY 2025 Plans: Continue conducting analytical research across a broad spectrum of aerospace issues and concerns--manpower, personnel and training. FY 2024 to FY 2025 Increase/Decrease Statement: Funding increase required due to SecAF request to stand up a China-Russia Center within the four RAND program areas--specifically, Strategic and Doctrine Program.		8.994	9.364	10.042
Title: Resource Management Description: Provides analytical research across a broad spectrum of aerospace issues and concerns--resource management. FY 2024 Plans: Will conduct analytical research across a broad spectrum of aerospace issues and concerns--manpower, personnel and training. FY 2025 Plans: Continue conducting analytical research across a broad spectrum of aerospace issues and concerns--manpower, personnel and training. FY 2024 to FY 2025 Increase/Decrease Statement: Funding increase required due to SecAF request to stand up a China-Russia Center within the four RAND program areas--specifically, Strategic and Doctrine Program.		8.879	8.955	9.028
Title: Integrative Research/Direct Support		2.135	2.140	2.151

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605101F / <i>RAND Project Air Force</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Description: Provides for continuing analytical research across a broad spectrum of aerospace issues and concerns--integrative research/direct support.</p> <p>FY 2024 Plans: Will conduct analytical research across a broad spectrum of aerospace issues and concerns--integrative research/direct support.</p> <p>FY 2025 Plans: Continue conducting analytical research across a broad spectrum of aerospace issues and concerns--manpower, personnel and training.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increase required due to SecAF request to stand up a China-Russia Center within the four RAND program areas--specifically, Strategic and Doctrine Program.</p>			
Accomplishments/Planned Programs Subtotals	37.655	38.398	39.720

D. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

E. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605502F / <i>Small Business Innovation Research</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	836.355	1.466	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
663005: <i>Small Business Innovation Research</i>	-	836.355	1.466	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) program implements 15 U.S.C Section 638 to maximize the creative, innovative, and entrepreneurial spirit of small businesses to solve technological problems. AFWERX administers the DAF SBIR/STTR program with a vision to empower an innovation ecosystem that delivers disruptive Air & Space capabilities. AFWERX accelerates agile and affordable capability transitions by teaming innovation technology developers with Airmen and Guardian talent. AFWERX accomplishes this through (1) connecting diverse, innovative industry, academia, and Government entities; (2) creating capability options and prototype opportunities for the DAF; (3) facilitating streamlined acquisition processes; and (4) fostering a culture of innovation. Additionally, this Program Element (PE) has a direct tie to PE 0604009F (AFWERX Prime) as this program improves DAF capabilities by connecting innovators, simplifying technology transfer, and accelerating results.

Funding is spread across multiple focus areas that change from year to year based on known and emerging technology gaps, warfighting demand signals, and broader assessments of the military industrial base in light of its reliance on foundational commercial industries. Expected proportional execution of SBIR/STTR funds in each fiscal year's focus area, as well as a description of each of these areas, is provided below. Actuals may vary depending on allocation of actual funds received, timeliness of funds availability, or changes to strategic guidance or executive priorities.

The DAF SBIR/STTR program implements three different approaches to provide funding and opportunities to small businesses. Open Topic: The Open Topic Program uses a technology-agnostic solicitation which encourages commercial industry to submit dual-use technology solutions without having a known end-user. It is used to capture the best capabilities and emerging technologies and allows industry to bring novel solutions to the DAF. Specific Topic: The Specific Topic Program seeks innovative solutions for SECAF identified Operational Imperatives and defined problem sets by a DAF end user or customer. Specific Topics have clearly-defined requirements and a known DAF customer built into the topic solicitation. STRATFI/TACFI: The STRATFI (Strategic Funding Increase) and TACFI (Tactical Funding Increase) Programs help to scale Phase II efforts to the level needed to achieve technology transitions. These programs de-risk development through syndication with multiple transition-focused partners and leveraging outside investment.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605502F / <i>Small Business Innovation Research</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	0.000	1.466	2.425	0.000	2.425
Current President's Budget	836.355	1.466	0.000	0.000	0.000
Total Adjustments	836.355	0.000	-2.425	0.000	-2.425
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	836.355	0.000			
• Other Adjustments	0.000	0.000	-2.425	0.000	-2.425

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Title: Small Business Innovation Research & Small Business Technology Transfer</p> <p>Description: The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) program implements 15 U.S.C Section 638 to maximize the creative, innovative, and entrepreneurial spirit of small businesses to solve technological problems. AFWERX's mission is to accelerate agile and affordable capability transitions by teaming leaders in innovative technology with Airmen and Guardian talent.</p> <p>The DAF SBIR/STTR program implements three different approaches to provide funding and opportunities to small businesses:</p> <p>Open Topic: The Open Topic Program uses a technology-agnostic solicitation which encourages commercial industry to submit dual-use technology solutions without having a known end-user. It is used to capture the best capabilities and emerging technologies and allows industry to bring novel solutions to the DAF.</p> <p>Specific Topic: The Specific Topic Program seeks innovative solutions for SECAF identified Operational Imperatives and defined problem sets by a DAF end user or customer. Specific Topics have clearly-defined requirements and a known DAF customer built into the topic solicitation.</p> <p>STRATFI/TACFI: The STRATFI (Strategic Funding Increase) and TACFI (Tactical Funding Increase) Programs help to scale Phase II efforts to the level needed to achieve technology transitions. These program de-risk development through syndication with multiple transition-focused partners and leveraging outside investment.</p> <p>FY 2024 Plans:</p>	836.355	1.466	0.000

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605502F / <i>Small Business Innovation Research</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
FY 2024 SBIR/STTR funds are intended to be allocated as follows: Specific Topic: 37% Open Topic: 37% STRATFI/TACFI: 20% Administrative: 6% <i>FY 2025 Plans:</i> FY 2025 Plans: FY 2025 SBIR/STTR funds are intended to be allocated as follows: Specific Topic: 37% Open Topic: 37% STRATFI/TACFI: 20% Administrative: 6% <i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> FY 2025 funding decreased compared to FY 2024 by \$1.466 million due to the correction of a civilian pay raise assumption that should not have been in this PE.			
Accomplishments/Planned Programs Subtotals	836.355	1.466	0.000

D. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

N/A

E. Acquisition Strategy

Not applicable

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605712F / <i>Initial Operational Test & Evaluation</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	13.926	13.736	14.247	0.000	14.247	14.597	14.896	15.435	15.738	0.000	102.575
660191: <i>Initial Operational Test and Eval</i>	-	13.926	13.736	14.247	0.000	14.247	14.597	14.896	15.435	15.738	0.000	102.575
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The program element funds the Air Force Operational Test and Evaluation Center (AFOTEC) to conduct Congressionally mandated Initial Operational Test and Evaluation (IOT&E) to support major weapon system acquisition decisions beyond Low-Rate Initial Production (LRIP), Milestone C, full rate production, fielding, and declaration of Initial Operational Capability (IOC). For Major Defense Acquisition Programs (MDAP), the law requires IOT&E be completed under realistic operating conditions before proceeding beyond LRIP. IOT&E is planned to answer all critical operational issues (COI) as thoroughly as possible. IOT&E is conducted to determine the operational effectiveness and suitability, and resolve overall mission capability, of systems undergoing research and development (R&D) efforts. It is an evaluation of a system's performance when the complete system is tested and evaluated against operational criteria by personnel with the same qualifications as those who will operate, maintain, and support the system when deployed. In general, IOT&E is performed on new systems in development, major modifications, and other systems as directed. This PE also funds participation in Multiservice Operational Test and Evaluation (MOT&E), and Follow-on Operational Test and Evaluation (FOT&E) when it is the continuation of IOT&E activities past the full rate production decision. FOT&E answers specific questions about unresolved COIs and test issues or completes areas not finished during the IOT&E. The PE funds related OT&E activities such as conducting Continuous Operational Testing (COT), Early Influence, agile release tests, Integrated Test and Evaluation (IT&E), Operational Utility Evaluations (OUE), Early Operational Assessments (EOA), Operational Assessments (OA) and operationally realistic valuations of advanced technologies which informs military utility determination. These tests support releases and major milestones and decision points prior to Milestone C, full rate production, fielding, or declaration of IOC. IOT&E programs are identified in four system categories: Air; Weapons; Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR); and Combat Support. This program element is driven by Congressional and DoD acquisition mandated requirements for operational testing. AFOTEC schedules and executes tests according to the forecasted test readiness of the MDAP program offices.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605712F / <i>Initial Operational Test & Evaluation</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	13.926	13.736	14.221	0.000	14.221
Current President's Budget	13.926	13.736	14.247	0.000	14.247
Total Adjustments	0.000	0.000	0.026	0.000	0.026
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.026	0.000	0.026

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: Air Systems OT&E	9.169	5.457	5.079
Description: Plan, execute and report OT&E for Air Systems			
FY 2024 Plans: -B-2 Military Global Positioning System User Equipment (B-2 MGUE): Conduct OT ISO 4 TES -E-7A: Conduct Attack Path EX, CVI -T-6A ARP: Attack Path EX FY24, FY24-1, CVI, CVI-1, CVPA, CVPA-1 -Conduct other planning and operational testing for new air system programs as the requirement becomes known to AFOTEC			
FY 2025 Plans: -B-2 Military Global Positioning System User Equipment (B-2 MGUE): Conduct OT ISO 4 TES -E-7A: Conduct Attack Path EX, CVI -F-15 Eagle Passive and Active Warning and Survivability System (F-15 EPAWSS): Contractor Analyst Support, Transportation, Conduct IT&E -F-15EX: Conduct IT&E, Test team travel, Support for CVPA, AA -F-22 Sensor Enhancement: Contractor Analyst Support, Support for CVPA, Test team travel -F-35 Block 4 C2D2: Contractor Analyst Support, Test team travel -Conduct other planning and operational testing for new air system programs as the requirement becomes known to AFOTEC			
FY 2024 to FY 2025 Increase/Decrease Statement:			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>		R-1 Program Element (Number/Name) PE 0605712F / <i>Initial Operational Test & Evaluation</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
Funding decreased due to greater funding provided from Fighter Program Office in accordance with DAFMAN 65-605 requiring programs with OT in excess of \$2M to include in their program budget.				
<p>Title: Weapons Systems OT&E</p> <p>Description: Plan, execute and report OT&E for Weapons Systems</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> -Joint Air-to-Surface Standoff Missile - Weapons Data Link (JASSM-WDL): Conduct AA, CVPA, IOT&E, MRAP-C, OA -Unified Platform (UP): Conduct agile release tests, AA, CVPA -Conduct other planning and operational testing for new weapons system programs as the requirement becomes known to AFOTEC <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> -Joint Air-to-Surface Standoff Missile - Weapons Data Link (JASSM-WDL): Conduct AA, CVPA -Unified Platform (UP): Conduct agile release tests, AA -Air Intercept Missile-9X Sidewinder (AIM-9X Block II): Conduct MOT&E -Hypersonic Attack Cruise Missile (HACM): Measures Development OA -Stand-In Attack Weapon (SiAW): Measures Development OA Plan -SENTINEL (GBSD): Conduct IT&E Test Activity Test team travel, Contractor Analyst Support -Conduct other planning and operational testing for new weapons system programs as the requirement becomes known to AFOTEC <p>FY 2024 to FY 2025 Increase/Decrease Statement:</p> <p>Funding decreased due to delays in Measures Development of OA Plans impacting FY25, as well as test slippage, and Test team travel.</p>		0.406	1.569	1.164
<p>Title: C4ISR Systems OT&E</p> <p>Description: Plan, execute and report OT&E for C4ISR Systems</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> -Three-Dimensional Expeditionary Long Range Radar (3DELRR): Conduct AA 1 & CVPA TYQ-23 A Interface, AA 2 & CVPA Army IFCN Interface, RF Cyber -Global Aircrew Strategic Network Terminal (ASNT) Inc 2: Conduct Phase 2 OPS DEMO -Joint Cyber Command and Control (JCC2): Conduct AA, CVPA -Survivable Airborne Operations Center (SAOC): Conduct MRAP-C 		3.457	4.847	5.437

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>		R-1 Program Element (Number/Name) PE 0605712F / <i>Initial Operational Test & Evaluation</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>-Conduct other planning and operational testing for new C4ISR programs as the requirement becomes known to AFOTEC</p> <p>FY 2025 Plans:</p> <p>-Three-Dimensional Expeditionary Long-Range Radar (3DELRR): Conduct AA 1 & CVPA TYQ-23 A Interface, AA 2 & CVPA Army IFCN Interface, RF Cyber, IOT&E</p> <p>-Advanced Battle Management System Cloud Based Command and Control (ABMS-CBC2): Test Team support AA</p> <p>-Air Operations Center Weapon System Block 20 (AOC WS Block 20): CVPA, AA, IOT&E</p> <p>-Global Aircrew Strategic Network Terminal (ASNT) Inc 2: Conduct/finalize Phase 2 OPS DEMO</p> <p>-Joint Cyber Command and Control (JCC2): Conduct AA, CVPA, IOT&E</p> <p>-Survivable Airborne Operations Center (SAOC): Early Involvement Travel, Planning for MRAP-C, AA, RF Cyber</p> <p>-Conduct other planning and operational testing for new C4ISR programs as the requirement becomes known to AFOTEC</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement:</p> <p>Funding increased due to continuing existing efforts, coupled with increased cost of Cyber testing and Test Team support/travel.</p>				
<p>Title: Combat Support OT&E</p> <p>Description: Plan, execute and report OT&E for Combat Support OT&E</p> <p>FY 2024 Plans:</p> <p>-Air Force Integrated Personnel and Pay System (AFIPPS): Conduct IOT&E</p> <p>-Deliberate and Crisis Action Planning and Execution Segments Increment 2B (DCAPES Inc 2B): Conduct IOT&E</p> <p>-Maintenance, Repair, and Overhaul Initiative (MROI): Conduct AA 1, CVPA 1 & 2, OUE</p> <p>-Next Generation Chemical Detection Proximity Chemical Agent Detection (NGCD PCAD): Early Involvement, FA/HIS Testing, DT Chamber Testing</p> <p>-Military GPS User Equipment Inc 2 Handheld (MGUE Inc 2 HH): Conduct early involvement</p> <p>-Conduct other planning and operational testing for new combat support programs as the requirement becomes known to AFOTEC</p> <p>FY 2025 Plans:</p> <p>-Air Force Integrated Personnel and Pay System (AFIPPS): Conduct IOT&E</p> <p>-Deliberate and Crisis Action Planning and Execution Segments Increment 2B (DCAPES Inc 2B): Conduct IOT&E</p> <p>-Maintenance, Repair, and Overhaul Initiative (MROI): Conduct AA 1, CVPA 1 & 2, OUE</p> <p>-Next Generation Chemical Detection Proximity Chemical Agent Detection (NGCD PCAD): Early Involvement, FA/HIS Testing, DT Chamber Testing</p> <p>-Military GPS User Equipment Inc 2 Handheld (MGUE Inc 2 HH): MRAP-C, Conduct Obj B Ops Demo, ITD Meeting</p>		0.894	1.863	2.567

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605712F / <i>Initial Operational Test & Evaluation</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
-Conduct other planning and operational testing for new combat support programs as the requirement becomes known to AFOTEC			
<i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Increase due to continuing existing efforts, coupled with increased cost of Cyber testing and Test Team support/travel.			
Accomplishments/Planned Programs Subtotals	13.926	13.736	14.247

D. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

E. Acquisition Strategy
N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605807F / <i>Test and Evaluation Support</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	842.401	913.213	936.913	0.000	936.913	1,088.746	1,273.317	1,316.674	1,368.799	Continuing	Continuing
6606TG: <i>704th Test Group</i>	-	46.257	47.991	49.723	0.000	49.723	60.689	54.140	56.651	57.734	Continuing	Continuing
6606TS: <i>Test and Evaluation Support</i>	-	796.144	865.222	887.190	0.000	887.190	1,028.057	1,219.177	1,260.023	1,311.065	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element provides resources to operate the Air Force Test Center (AFTC) test activities which are included in the Department of Defense (DoD) Major Range and Test Facility Base (MRTFB). Test facilities/capabilities include wind tunnels, rocket and jet engine test cells, hypersonic and subsonic testing, modeling and simulation, technology, limited space environmental simulation chambers, armament test ranges, hardware-in-the-loop test facilities, climatic test facilities, avionics test facilities, aircraft testbeds, dry lake bed landing sites, instrumented test ranges, and test aircraft maintenance, as well as USAF Test Pilot School.

Test and Evaluation (T&E) Support funds institutional test infrastructure activities including: Command and supervisory staffs; supply stocks; maintenance, repair, and replacement of worn or obsolete test equipment and facilities; test infrastructure for data collection, transmission, reduction, and analysis; civilian salaries; temporary duty travel; range operations and material support contract costs for hardware and software engineering and maintenance; and minor improvement and modernization projects. It also funds institutional test aircraft depot level maintenance such as: Programmed Depot Maintenance (PDM), the calendar-based cyclic scheduling of aircraft into depots for update/inspection; modifications and any other depot level repairs required by the aircraft System Program Directors (SPD); engine overhauls; depot-provided area assistance; and assorted ground support equipment overhauls.

Within AFTC there are three test wings. The first is Arnold Engineering and Development Complex (AEDC), located at Arnold Air Force Base (AFB), TN. The AEDC institutional test infrastructure supports operations of the largest complex of ground test facilities in the world (including transonic, supersonic, and hypersonic wind tunnels; rocket motor and turbine engine test cells; space environmental test chambers, hyper ballistic ranges; and other specialized facilities). AEDC also supports geographically separated facilities which include the National Full-Scale Aerodynamic Complex (NFAC) located at NASA's AMES Research Center, California, and Tunnel 9 located at White Oak, Maryland. The 412 Test Wing (TW) is located at Edwards AFB, CA. Its institutional test infrastructure supports weapons system development and operational test and evaluation for aircraft, aircraft subsystems and aircraft weapon systems, aerospace research vehicles, unmanned miniature vehicles, cruise missiles, parachute delivery/recovery systems, cargo handling systems, communications, information operations, and Electronic Warfare (EW) systems for DoD and allied forces. The 412TW mission also includes the USAF Test Pilot School. Lastly, the 96 TW, located at Eglin AFB, FL, is a joint test and training complex comprised of 724 square miles of land area, and approximately 123,000 square miles of water area. The 96TW provides the institutional test infrastructure required to conduct developmental and operational test and evaluation of non-nuclear air armaments (including aircraft guns, ammunition, and air-to-surface and air-to-air guided munitions); Command, Control, Communications, Computers, Cyber and Intelligence/Surveillance/Reconnaissance (C5ISR) systems; target acquisition and weapon delivery systems; and special operations aircraft systems. 96TW provides a scientific test process that supports the development, production, sustainment, and enhancement of munitions systems that support tri-service digital weapons development. T&E support services contracts are awarded on the basis of full and open competition.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605807F / <i>Test and Evaluation Support</i>
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This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	841.854	913.213	892.125	0.000	892.125
Current President's Budget	842.401	913.213	936.913	0.000	936.913
Total Adjustments	0.547	0.000	44.788	0.000	44.788
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.547	0.000	44.788	0.000	44.788

Change Summary Explanation

FY25: Funding net increase of \$44.8 million due to the following actions: an increase of \$6.4 million due to an AF transfer of 44 authorizations with an Average Work Year Cost (AWYC) of \$144.5 thousand; a civpay reprice of \$16.8 million with an AWYC of \$150.7 thousand; a non-pay to civpay realignment of \$2.1 million to fund 13 authorizations with an AWYC of \$150.7 thousand in support of Hypersonics capabilities; an increase of \$9.8 million for Project VENOM operations funding; an increase of \$9.0 million to fund flying hours for F-35 DT aircraft, and an increase of \$2.2 million due to fuel reprice and non-pay non-fuel inflation.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 6					R-1 Program Element (Number/Name) PE 0605807F / <i>Test and Evaluation Support</i>				Project (Number/Name) 6606TG / <i>704th Test Group</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
6606TG: <i>704th Test Group</i>	-	46.257	47.991	49.723	0.000	49.723	60.689	54.140	56.651	57.734	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Project infrastructure support is provided for the unique capabilities of the 704th Test Group (TG) facilities: Central Inertial and Global Positioning System (GPS) Test Facility (CIGTF/746th Test Squadron), the Holloman High Speed Test Track (HHSTT/846th Test Squadron) and the National Radar Cross Section (RCS) Test Facility (NRTF/704 TG Det 2), the 586th Flight Test Squadron including Detachment 1 (Det 1), 704 TG Operating Location (704 TG OL-AA) at Kirtland AFB, and 704 TG Operation Location (704 TG OL-AC) at Wright-Patterson AFB.

CIGTF provides independent test and evaluation of inertial, Global Positioning System, and integrated systems used for aircraft navigation and missile guidance systems, including vulnerability to electronic interference.

HHSTT capabilities include full-scale testing in flight representative environments, realistic live-fire simulations, test item and target fragment recovery, precision trajectory analysis and high speed photography.

NRTF provides radar cross section (RCS) monostatic and bistatic amplitude and phase measurements, antenna pattern measurements, glint and near field measurements for low observable targets.

The 586th Flight Test Squadron executes flight test and test support for advanced avionics and weapons development of joint, international and commercial test programs. Det 1 provides the liaison function for coordinating and scheduling all US Air Force test and training operations at White Sands Missile Range (WSMR). OL-AA provides test support for the Air Force Research Lab (AFRL) Directed Energy Division.

The 704 TG OL-AC includes the Landing Gear Test Facility (LGTF) with capabilities such as variable and fixed inertia dynamometers, compression/tension load applicators, 4 drop towers, a burst pit and a dynamic load simulator. The 704 TG OL-AC also includes the Air Vehicle Survivability Office that provides support for Air Force aircraft acquisition programs. The 704th TG support services contracts are awarded on the basis of full and open competition.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Civ Pay	25.380	30.893	31.674
Description: Provide civilian pay at the 704th Test Group (TG) to support testing of DoD, other Government Agencies, foreign military sales, and commercial weapon systems.			
FY 2024 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0605807F / <i>Test and Evaluation Support</i>	Project (Number/Name) 6606TG / <i>704th Test Group</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Continue civilian pay at the 704th Test Group (TG) to support testing of DoD, other Government Agencies, foreign military sales, and commercial weapon systems.</p> <p>FY 2025 Plans: Continue civilian pay at the 704th Test Group (TG) to support testing of DoD, other Government Agencies, foreign military sales, and commercial weapon systems.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A</p>			
<p>Title: Non Pay</p> <p>Description: Provide infrastructure at the 704th Test Group (TG) to support testing of DoD, other Government Agencies, foreign military sales, and commercial weapon systems.</p> <p>FY 2024 Plans: Resources provide operational support for AFTC test activates. Efforts include Aircraft Ops, Flying Hour Program (FHP), contracted services, test equipment and supplies, general operations and maintenance, and utilities (list not all inclusive).</p> <p>FY 2025 Plans: Resources provide operational support for AFTC test activates. Efforts include Aircraft Ops, Flying Hour Program (FHP), contracted services, test equipment and supplies, general operations and maintenance, and utilities (list not all inclusive).</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A</p>	20.877	17.098	18.049
Accomplishments/Planned Programs Subtotals	46.257	47.991	49.723

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 6					R-1 Program Element (Number/Name) PE 0605807F / <i>Test and Evaluation Support</i>				Project (Number/Name) 6606TS / <i>Test and Evaluation Support</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
6606TS: <i>Test and Evaluation Support</i>	-	796.144	865.222	887.190	0.000	887.190	1,028.057	1,219.177	1,260.023	1,311.065	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program activity provides resources to operate the Air Force Test Center (AFTC) test activities which are included in the Department of Defense (DoD) Major Range and Test Facility Base (MRTFB). Test facilities/capabilities operated through this program include wind tunnels, rocket and jet engine test cells, hypersonic and subsonic testing, modeling and simulation, technology, limited space environmental simulation chambers, armament test ranges, hardware-in-the-loop test facilities, climatic test facilities, avionics test facilities, aircraft testbeds, dry lakebed landing sites, instrumented test ranges, and test aircraft maintenance, as well as USAF Test Pilot School.

Test and Evaluation (T&E) Support funds institutional test infrastructure activities including: Command and supervisory staffs; supply stocks; maintenance, repair, and replacement of worn or obsolete test equipment and facilities; test infrastructure for data collection, transmission, reduction, and analysis; civilian salaries; temporary duty travel; range operations and material support contract costs for hardware and software engineering and maintenance; and minor improvement and modernization projects. It also funds institutional test aircraft depot level maintenance such as: Programmed Depot Maintenance (PDM), the calendar-based cyclic scheduling of aircraft into depots for update/inspection; modifications and any other depot level repairs required by the aircraft System Program Directors (SPD); engine overhauls; depot-provided area assistance; and assorted ground support equipment overhauls.

The AFTCs three test wings are supported by this project: (1) Arnold Engineering and Development Complex (AEDC), located at Arnold Air Force Base (AFB), TN, whose institutional test infrastructure supports operations of the largest complex of ground test facilities in the world (includes transonic, supersonic, and hypersonic wind tunnels; rocket motor and turbine engine test cells; space environmental test chambers, hyperballistic ranges; and other specialized facilities). Included are operations at the National Full-Scale Aerodynamic Complex (NFAC) located at NASA's AMES Research Center, California as well as operations at Tunnel 9 located at White Oak, Maryland.(2) 412 Test Wing (TW), located at Edwards AFB, CA, whose institutional test infrastructure supports weapons system development and operational test and evaluation for aircraft, aircraft subsystems and aircraft weapon systems, aerospace research vehicles, unmanned miniature vehicles, cruise missiles, parachute delivery/recovery systems, cargo handling systems, communications, information operations, and Electronic Warfare (EW) systems for DoD and allied forces. The 412TW mission includes the USAF Test Pilot School. (3) 96 TW, located at Eglin AFB, FL, is a joint test and training complex of 724 square miles of land area, and approximately 123,000 square miles of water area. 96TW provides the institutional test infrastructure required to conduct developmental and operational test and evaluation of non-nuclear air armaments (including aircraft guns, ammunition, and air-to-surface and air-to-air guided munitions); Command, Control, Communications, Computers and Intelligence/Surveillance/Reconnaissance (C4ISR) systems; target acquisition and weapon delivery systems; the McKinley Climatic Lab, multi-service climatic simulation capability, located at Eglin AFB, FL; and special operations aircraft systems. 96TW provides a scientific test process that supports the development, production, sustainment, and enhancement of munitions systems that support tri-service digital weapons development. T&E support services contracts are awarded on the basis of full and open competition.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Civ Pay	346.712	414.451	441.105

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0605807F / <i>Test and Evaluation Support</i>	Project (Number/Name) 6606TS / <i>Test and Evaluation Support</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Description: Provide civ pay to support testing at Arnold Engineering and Development Complex (AEDC), the 412TW and USAF Test Pilot School at Edwards AFB, and the 96TW at Eglin AFB.</p> <p>FY 2024 Plans: Total consists of civilian pay to support testing at Arnold Engineering and Development Complex (AEDC), the 412TW and USAF Test Pilot School at Edwards AFB, and the 96TW at Eglin AFB.</p> <p>FY 2025 Plans: Total consists of civilian pay to support testing at Arnold Engineering and Development Complex (AEDC), the 412TW and USAF Test Pilot School at Edwards AFB, and the 96TW at Eglin AFB.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: A funding increase of \$25.0 million due to the following actions: Increase of \$6.4 million due to transfer of 44 authorizations from ACC with an AWYC of \$144.5 thousand; civpay reprice of \$16.8 million with an AWYC of \$150.7 thousand; and non-pay to civpay realignment of \$2.1 million to fund 13 authorizations with an AWYC of \$150.7 thousand in support of Hypersonics capabilities.</p>			
<p>Title: Non Pay</p> <p>Description: Provide infrastructure to support testing at Arnold Engineering and Development Complex (AEDC), the 412TW and USAF Test Pilot School at Edwards AFB, and the 96TW at Eglin AFB.</p> <p>FY 2024 Plans: Resources provide operational support for AFTC test activities. Efforts include Civilian pay, Aircraft Ops, Flying Hour Program (FHP), Programmed Depot Maintenance (PDM), contracted services, test equipment and supplies, general operations and maintenance, utilities, and Test Pilot School (list not all inclusive). Additional operations funding will be utilized to add manpower required to meet the increased demand for ground test and evaluation in numerous facilities at AEDC. Transonic, supersonic, and hypersonic wind tunnels require additional manning to meet Major Defense Acquisition Program and technology maturation project milestones. New facilities that will add scramjet test capability and high temperature material testing will be coming online and require manpower to operate and sustain those new facilities.</p> <p>FY 2025 Plans: Resources provide operational support for AFTC test activities. Efforts include Civilian pay, Aircraft Ops, Flying Hour Program (FHP), Programmed Depot Maintenance (PDM), contracted services, test equipment and supplies, general operations and maintenance, utilities, and Test Pilot School (list not all inclusive). Additional operations funding will be utilized to add manpower required to meet the increased demand for ground test and evaluation in numerous facilities at AEDC. Transonic, supersonic, and hypersonic wind tunnels require additional manning to meet Major Defense Acquisition Program and technology maturation</p>	449.432	450.771	446.085

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0605807F / <i>Test and Evaluation Support</i>	Project (Number/Name) 6606TS / <i>Test and Evaluation Support</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
project milestones. New facilities that will add scramjet test capability and high temperature material testing will be coming online and require manpower to operate and sustain those new facilities.			
<i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Funding net decrease of \$4.7 million due to partial return of Project VENOM operations funding of \$7.1 million coupled with an increase of \$2.3 million due to fuel reprice and non-pay non-fuel inflation adjustment.			
Accomplishments/Planned Programs Subtotals	796.144	865.222	887.190

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity	R-1 Program Element (Number/Name)											
3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	PE 0605827F / Acq Workforce- Global Vig & Combat Sys											
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	288.812	317.901	316.924	0.000	316.924	308.745	315.143	359.458	366.496	Continuing	Continuing
665827: <i>Acq Workforce-Global Vig & Combat Sys</i>	-	288.812	317.901	316.924	0.000	316.924	308.745	315.143	359.458	366.496	Continuing	Continuing

Note

In FY 2022, PE 0605827F, Acq Workforce - Global Vig & Combat Sys, Project 664127, Acq Workforce - Direct, was transferred to PE 0605827F, Project 665827, Acq Workforce - Global Vig & Combat Sys.

A. Mission Description and Budget Item Justification

The Air Force Life Cycle Management Center (AFLCMC) equips U.S. and allied forces with operational weapon systems in support of military and national security operations. The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee acquisition programs throughout their life cycle. The direct funded acquisition workforce funded in this program element will support all phases of acquisition programs to include material solution analysis, technology development, engineering and manufacturing development, production and deployment, and operations and support. This funding does not include costs for base operating support civilian personnel.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	283.995	317.901	297.156	0.000	297.156
Current President's Budget	288.812	317.901	316.924	0.000	316.924
Total Adjustments	4.817	0.000	19.768	0.000	19.768
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	4.817	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	19.768	0.000	19.768

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force Date: March 2024

Appropriation/Budget Activity
3600: *Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support*

R-1 Program Element (Number/Name)
PE 0605827F / *Acq Workforce- Global Vig & Combat Sys*

Change Summary Explanation

In FY 2023, the \$4.817M increase was part of a Below Threshold Reprogramming realigning funding between the Acquisition Workforce Program Elements within AFMC. The net transfer amount among the Acquisition Workforce Program Elements totaled net sum zero and was necessary to correct funds alignment for proper execution.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0605827F / Acq Workforce- Global Vig & Combat Sys	Project (Number/Name) 665827 / Acq Workforce-Global Vig & Combat Sys
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
665827: Acq Workforce-Global Vig & Combat Sys	-	288.812	317.901	316.924	0.000	316.924	308.745	315.143	359.458	366.496	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Air Force Life Cycle Management Center (AFLCMC) equips U.S. and allied forces with operational weapon systems in support of military and national security operations. The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee acquisition programs throughout their life cycle. The direct funded acquisition workforce funded in this program element will support all phases of acquisition programs to include material solution analysis, technology development, engineering and manufacturing development, production and deployment, and operations and support. This funding does not include costs for base operating support civilian personnel. These program elements support both civilian pay and non-pay support requirements.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Acquisition Workforce - Civilian Pay	288.712	317.801	316.924
Description: The acquisition and product support workforce civilian pay provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee Global Vigilance and Combat Systems acquisition programs throughout their life cycle.			
FY 2024 Plans: N/A			
FY 2025 Plans: N/A			
FY 2024 to FY 2025 Increase/Decrease Statement: The FY24 PB funded 2,019 WYs at \$317.801M for a budgeted AWYC of \$157,405 per WY. Given an actual FY23 AWYC of \$148,284, the FY24 projected AWYC is \$155,772 (5.2% rate increase), and the FY25 projected AWYC is \$160,134 (2.0% rate increase). The \$0.877M FY24 (FY25 PB) to FY25 (FY25 PB) decrease is due to the FY25 PB funding 39.88 fewer WYs (- \$6.278M) which is offset by an AWYC increase of \$2,729 per WY (\$5.401M).			
Title: Acquisition Workforce - Non-Civilian Pay	0.100	0.100	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0605827F / Acq Workforce- Global Vig & Combat Sys	Project (Number/Name) 665827 / Acq Workforce-Global Vig & Combat Sys

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Description: The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee Global Vigilance and Combat Systems acquisition programs throughout their life cycle.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Non-Civilian Pay is no longer executed in Acquisition Workforce, 0605827F, 665827.</p>			
Accomplishments/Planned Programs Subtotals	288.812	317.901	316.924

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605828F / <i>Acq Workforce- Global Reach</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	456.624	541.677	496.740	0.000	496.740	526.871	537.470	616.038	627.940	Continuing	Continuing
665826: <i>acq workforce-global power</i>	-	287.841	347.232	312.223	0.000	312.223	338.957	345.734	395.292	402.945	Continuing	Continuing
665828: <i>Acq Workforce-Global Reach</i>	-	168.783	194.445	184.517	0.000	184.517	187.914	191.736	220.746	224.995	0.000	1,373.136

A. Mission Description and Budget Item Justification

The Air Force Life Cycle Management Center (AFLCMC) equips U.S. and allied forces with operational weapon systems in support of military and national security operations. The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee acquisition programs throughout their life cycle. The direct funded acquisition workforce funded in this program element will support all phases of acquisition programs to include material solution analysis, technology development, engineering and manufacturing development, production and deployment, and operations and support. This funding does not include costs for base operating support civilian personnel.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

B. Program Change Summary (\$ in Millions)

	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025 Base</u>	<u>FY 2025 OCO</u>	<u>FY 2025 Total</u>
Previous President's Budget	457.589	541.677	506.041	0.000	506.041
Current President's Budget	456.624	541.677	496.740	0.000	496.740
Total Adjustments	-0.965	0.000	-9.301	0.000	-9.301
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-0.965	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-9.301	0.000	-9.301

Change Summary Explanation

In FY 2023, the \$0.965M decrease was part of a Below Threshold Reprogramming realigning funding between the Acquisition Workforce Program Elements within AFMC. The net transfer amount among the Acquisition Workforce Program Elements totaled net sum zero and was necessary to correct funds alignment for proper execution.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 6					R-1 Program Element (Number/Name) PE 0605828F / Acq Workforce- Global Reach				Project (Number/Name) 665826 / acq workforce-global power			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
665826: acq workforce-global power	-	287.841	347.232	312.223	0.000	312.223	338.957	345.734	395.292	402.945	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Air Force Life Cycle Management Center (AFLCMC) equips U.S. and allied forces with operational weapon systems in support of military and national security operations. The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee acquisition programs throughout their life cycle. The direct funded acquisition workforce funded in this program element will support all phases of acquisition programs to include material solution analysis, technology development, engineering and manufacturing development, production and deployment, and operations and support. This funding does not include costs for base operating support civilian personnel. These program elements support both civilian pay and non-pay support requirements.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Acquisition Workforce - Civilian Pay	282.390	341.781	307.336
Description: The acquisition and product support workforce civilian pay provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee Global Power acquisition programs throughout their life cycle.			
FY 2024 Plans: N/A			
FY 2025 Plans: N/A			
FY 2024 to FY 2025 Increase/Decrease Statement: The FY24 PB funded 1,898 WYs at \$341.781M for a budgeted AWYC of \$180,074 per WY. Given an actual FY23 AWYC of \$150,758, the FY24 projected AWYC is \$158,371 (5.2% rate increase), and the FY25 projected AWYC is \$162,806 (2.0% rate increase). The \$34.445M FY24 (FY25 PB) to FY25 (FY25 PB) decrease is due to the FY25 PB funding 10.25 fewer WYs (-\$1.846M) and an AWYC adjustment of -\$17,269 per WY (-\$32.599M).			
Title: Acquisition Workforce - Non-Civilian Pay	5.451	5.451	4.887

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0605828F / Acq Workforce- Global Reach	Project (Number/Name) 665826 / acq workforce-global power

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Description: The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee Global Power acquisition programs throughout their life cycle.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: The \$0.564M FY24 (FY25 PB) to FY25 (FY25 PB) decrease is due to a decrease in non-civilian pay requirements for the Armament PEO.</p>			
Accomplishments/Planned Programs Subtotals	287.841	347.232	312.223

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 6					R-1 Program Element (Number/Name) PE 0605828F / Acq Workforce- Global Reach				Project (Number/Name) 665828 / Acq Workforce-Global Reach			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
665828: Acq Workforce-Global Reach	-	168.783	194.445	184.517	0.000	184.517	187.914	191.736	220.746	224.995	0.000	1,373.136
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Air Force Life Cycle Management Center (AFLCMC) equips U.S. and allied forces with operational weapon systems in support of military and national security operations. The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee acquisition programs throughout their life cycle. The direct funded acquisition workforce funded in this program element will support all phases of acquisition programs to include material solution analysis, technology development, engineering and manufacturing development, production and deployment, and operations and support. This funding does not include costs for base operating support civilian personnel. These program elements support both civilian pay and non-pay support requirements.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Acquisition Workforce - Civilian Pay	168.683	194.345	184.517
Description: The acquisition and product support workforce civilian pay provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee Global Reach acquisition programs throughout their life cycle.			
FY 2024 Plans: N/A			
FY 2025 Plans: N/A			
FY 2024 to FY 2025 Increase/Decrease Statement: The FY24 PB funded 1,182 WYs at \$194.345M for a budgeted AWYC of \$164,420 per WY. Given an actual FY23 AWYC of \$147,936, the FY24 projected AWYC is \$155,407 (5.2% rate increase), and the FY25 projected AWYC is \$159,758 (2.0% rate increase). The \$9.828M FY24 (FY25 PB) to FY25 (FY25 PB) decrease is due to the FY25 PB funding 27.02 fewer WYs (-\$4.443M) and an AWYC adjustment of -\$4,662 per WY (-\$5.385M).			
Title: Acquisition Workforce Non-Civilian Pay	0.100	0.100	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0605828F / Acq Workforce- Global Reach	Project (Number/Name) 665828 / Acq Workforce-Global Reach

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Description: The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee Global Reach acquisition programs throughout their life cycle.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Non-Civilian Pay is no longer executed in Acquisition Workforce, 0605828F, 665828.</p>			
Accomplishments/Planned Programs Subtotals	168.783	194.445	184.517

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605829F / <i>Acq Workforce- Cyber, Network, & Bus Sys</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	471.073	551.213	521.987	0.000	521.987	522.491	532.955	614.508	626.420	Continuing	Continuing
664127: <i>Acq Workforce - Direct</i>	-	7.257	16.978	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
665829: <i>acq workforce-cyber network & bus sys</i>	-	271.113	291.928	288.505	0.000	288.505	284.479	290.005	337.083	343.513	0.000	2,106.626
665830: <i>Acq Workforce-Global Battle Mgmt</i>	-	192.703	242.307	233.482	0.000	233.482	238.012	242.950	277.425	282.907	Continuing	Continuing

Note
 In FY 2022, PE 0605829F, Acq Workforce - Cyber, Network, & Bus Sys, Project 664127, Acq Workforce - Direct, was transferred to PE 0605829F, Project 665829, Acq Workforce - Cyber, Network, & Bus Sys. Additionally, PE 0605830F, Acq Workforce - Global Battle Mgmt, Project 664127, Acq Workforce - Direct, was transferred to PE 0605829F, Project 665830, Acq Workforce - Global Battle Mgmt.

A. Mission Description and Budget Item Justification
 The Air Force Life Cycle Management Center (AFLCMC) equips U.S. and allied forces with operational weapon systems in support of military and national security operations. The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee acquisition programs throughout their life cycle. The direct funded acquisition workforce funded in this program element will support all phases of acquisition programs to include material solution analysis, technology development, engineering and manufacturing development, production and deployment, and operations and support. This funding does not include costs for base operating support civilian personnel.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605829F / <i>Acq Workforce- Cyber, Network, & Bus Sys</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	479.423	551.213	505.278	0.000	505.278
Current President's Budget	471.073	551.213	521.987	0.000	521.987
Total Adjustments	-8.350	0.000	16.709	0.000	16.709
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-8.350	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	16.709	0.000	16.709

Change Summary Explanation

In FY 2023, the \$8.350M decrease was part of a Below Threshold Reprogramming realigning funding between the Acquisition Workforce Program Elements within AFMC. The net transfer amount among the Acquisition Workforce Program Elements totaled net sum zero and was necessary to correct funds alignment for proper execution.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0605829F / Acq Workforce- Cyber, Network, & Bus Sys	Project (Number/Name) 664127 / Acq Workforce - Direct
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
664127: Acq Workforce - Direct	-	7.257	16.978	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2022, PE 0605829F, Acq Workforce - Cyber, Network, & Bus Sys, Project 664127, Acq Workforce - Direct, was transferred to PE 0605829F, Project 665829, Acq Workforce - Cyber, Network, & Bus Sys. Additionally, PE 0605830F, Acq Workforce - Global Battle Mgmt, Project 664127, Acq Workforce - Direct, was transferred to PE 0605829F, Project 665830, Acq Workforce - Global Battle Mgmt.

A. Mission Description and Budget Item Justification

The Air Force Life Cycle Management Center (AFLCMC) equips U.S. and allied forces with operational weapon systems in support of military and national security operations. The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee acquisition programs throughout their life cycle. The direct funded acquisition workforce funded in this program element will support all phases of acquisition programs to include material solution analysis, technology development, engineering and manufacturing development, production and deployment, and operations and support. This funding does not include costs for base operating support civilian personnel. These program elements support both civilian pay and non-pay support requirements.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Acquisition Workforce - Civilian Pay	7.257	16.978	0.000
Description: The acquisition and product support workforce civilian pay provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee Cyber, Network, and Business Systems acquisition programs throughout their life cycle.			
FY 2024 Plans: N/A			
FY 2025 Plans: N/A			
FY 2024 to FY 2025 Increase/Decrease Statement: The FY24 PB incorrect aligned \$16.978M in PE 0605829F, Project 664127. The FY25 PB correctly aligns \$15.931M to PE 0605829F, Project 665829. The \$1.05M FY24 (FY25 PB) to FY25 (FY25 PB) decrease is included in the 0605829F, Project 665829, change statement.			
Title: Acquisition Workforce - Non-Civilian Pay	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0605829F / Acq Workforce- Cyber, Netw ork, & Bus Sys	Project (Number/Name) 664127 / Acq Workforce - Direct

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Description: The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee Cyber, Network, and Business Systems acquisition programs throughout their life cycle.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A</p>			
Accomplishments/Planned Programs Subtotals	7.257	16.978	0.000

<p>C. Other Program Funding Summary (\$ in Millions) N/A</p> <p>Remarks N/A</p> <p>D. Acquisition Strategy N/A</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0605829F / Acq Workforce- Cyber, Network, & Bus Sys	Project (Number/Name) 665829 / acq workforce-cyber network & bus sys
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
665829: acq workforce-cyber network & bus sys	-	271.113	291.928	288.505	0.000	288.505	284.479	290.005	337.083	343.513	0.000	2,106.626
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Air Force Life Cycle Management Center (AFLCMC) equips U.S. and allied forces with operational weapon systems in support of military and national security operations. The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee acquisition programs throughout their life cycle. The direct funded acquisition workforce funded in this program element will support all phases of acquisition programs to include material solution analysis, technology development, engineering and manufacturing development, production and deployment, and operations and support. This funding does not include costs for base operating support civilian personnel. These program elements support both civilian pay and non-pay support requirements.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
<p>Title: Acquisition Workforce - Civilian Pay</p> <p>Description: The acquisition and product support workforce civilian pay provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee Cyber, Network, and Business Systems acquisition programs throughout their life cycle.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: The FY24 PB funded 1,701 WYs at \$279.809M for a budgeted AWYC of \$164,497 per WY. Given an actual FY23 AWYC of \$153,558, the FY24 projected AWYC is \$161,313 (5.2% rate increase), and the FY25 projected AWYC is \$165,829 (2.0% rate increase). The \$8.286M FY24 (FY25 PB) to FY25 (FY25 PB) increase is due to the FY25 PB funding 36.30 additional WYs (\$5.971M) and an AWYC adjustment of \$1,332 per WY (\$2.315M).</p>	258.994	279.809	288.095
<p>Title: Acquisition Workforce - Non-Civilian Pay</p>	12.119	12.119	0.410

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0605829F / Acq Workforce- Cyber, Network, & Bus Sys	Project (Number/Name) 665829 / acq workforce-cyber network & bus sys

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Description: The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee Global Power acquisition programs throughout their life cycle.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: The \$11.709M FY24 (FY25 PB) to FY25 (FY25 PB) decrease is due to a decrease in non-pay requirements for the Business Enterprise System PEO.</p>			
Accomplishments/Planned Programs Subtotals	271.113	291.928	288.505

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 6					R-1 Program Element (Number/Name) PE 0605829F / Acq Workforce- Cyber, Network, & Bus Sys				Project (Number/Name) 665830 / Acq Workforce-Global Battle Mgmt			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
665830: Acq Workforce-Global Battle Mgmt	-	192.703	242.307	233.482	0.000	233.482	238.012	242.950	277.425	282.907	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Air Force Life Cycle Management Center (AFLCMC) equips U.S. and allied forces with operational weapon systems in support of military and national security operations. The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee acquisition programs throughout their life cycle. The direct funded acquisition workforce funded in this program element will support all phases of acquisition programs to include material solution analysis, technology development, engineering and manufacturing development, production and deployment, and operations and support. This funding does not include costs for base operating support civilian personnel. These program elements support both civilian pay and non-pay support requirements.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Acquisition Workforce - Civilian Pay	192.603	242.207	233.482
Description: The acquisition and product support workforce civilian pay provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee Cyber, Network, and Business Systems acquisition programs throughout their life cycle.			
FY 2024 Plans: N/A			
FY 2025 Plans: N/A			
FY 2024 to FY 2025 Increase/Decrease Statement: The FY24 PB funded 1,384 WYs at \$242.207M for a budgeted AWYC of \$175,005 per WY. Given an actual FY23 AWYC of \$157,413, the FY24 projected AWYC is \$165,362 (5.2% rate increase), and the FY25 projected AWYC is \$169,993 (2.0% rate increase). The \$8.725M FY24 (FY25 PB) to FY25 (FY25 PB) decrease is due to the FY25 PB funding 10.52 fewer WYs (-\$1.841M) and an AWYC adjustment of -\$5,012 per WY (-\$6.884M).			
Title: Acquisition Workforce - Non-Civilian Pay	0.100	0.100	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0605829F / Acq Workforce- Cyber, Network, & Bus Sys	Project (Number/Name) 665830 / Acq Workforce-Global Battle Mgmt

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Description: The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee Cyber, Network, and Business Systems acquisition programs throughout their life cycle.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Non-Civilian Pay is no longer executed in Acquisition Workforce, 0605829F, 665830.</p>			
Accomplishments/Planned Programs Subtotals	192.703	242.307	233.482

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605830F / <i>Acq Workforce- Global Battle Mgmt</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	3.696	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
664127: <i>Acq Workforce - Direct</i>	-	3.696	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note
 In FY 2022, PE 0605830F, Acq Workforce - Global Battle Mgmt, Project 664127F, Acq Workforce - Direct, was transferred to PE 0605829F, Acq Workforce - Cyber, Network, & Bus Sys, Project 665830, Acq Workforce - Global Battle Mgmt.

A. Mission Description and Budget Item Justification

The Air Force Life Cycle Management Center (AFLCMC) equips U.S. and allied forces with operational weapon systems in support of military and national security operations. The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee acquisition programs throughout their life cycle. The direct funded acquisition workforce funded in this program element will support all phases of acquisition programs to include material solution analysis, technology development, engineering and manufacturing development, production and deployment, and operations and support. This funding does not include costs for base operating support civilian personnel.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	3.696	0.000	0.000	0.000	0.000
Current President's Budget	3.696	0.000	0.000	0.000	0.000
Total Adjustments	0.000	0.000	0.000	0.000	0.000
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.000	0.000	0.000

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: Acquisition Workforce - Civilian Pay	3.696	0.000	0.000

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force</i> / BA 6: <i>RDT&E Management Support</i>		R-1 Program Element (Number/Name) PE 0605830F / <i>Acq Workforce- Global Battle Mgmt</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>Description: The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee Global Battle Management acquisition programs throughout their life cycle.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A</p>				
<p>Title: Acquisition Workforce - Non-Civilian Pay</p> <p>Description: The acquisition & product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee Global Battle Management acquisition programs throughout their life cycle.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A</p>		0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals		3.696	0.000	0.000
D. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
N/A				
E. Acquisition Strategy				
N/A				

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity	R-1 Program Element (Number/Name)											
3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	PE 0605831F / <i>Acq Workforce- Capability Integration</i>											
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	261.016	243.780	262.349	0.000	262.349	195.282	198.505	222.693	225.673	Continuing	Continuing
665831: <i>Acq Workforce - Capability Integration</i>	-	261.016	243.780	262.349	0.000	262.349	195.282	198.505	222.693	225.673	Continuing	Continuing

Note

In FY 2022, PE 0605831F, Acq Workforce - Capability Integration, Acq Workforce - Direct, was transferred to PE 0605831F, Project 665831, Acq Workforce - Capability Integration.

A. Mission Description and Budget Item Justification

The Air Force Life Cycle Management Center (AFLCMC) equips U.S. and allied forces with operational weapon systems in support of military and national security operations. The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee acquisition programs throughout their life cycle. The direct funded acquisition workforce funded in this program element will support all phases of acquisition programs to include material solution analysis, technology development, engineering and manufacturing development, production and deployment, and operations and support. This funding does not include costs for base operating support civilian personnel.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	253.568	243.780	171.196	0.000	171.196
Current President's Budget	261.016	243.780	262.349	0.000	262.349
Total Adjustments	7.448	0.000	91.153	0.000	91.153
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	7.448	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	91.153	0.000	91.153

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605831F / <i>Acq Workforce- Capability Integration</i>	

Change Summary Explanation

In FY 2023, the \$7.448M increase was part of a Below Threshold Reprogramming realigning funding between the Acquisition Workforce Program Elements within AFMC. The net transfer amount among the Acquisition Workforce Program Elements totaled net sum zero and was necessary to correct funds alignment for proper execution.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 6					R-1 Program Element (Number/Name) PE 0605831F / <i>Acq Workforce- Capability In tegration</i>				Project (Number/Name) 665831 / <i>Acq Workforce - Capability Integration</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
665831: <i>Acq Workforce - Capability Integration</i>	-	261.016	243.780	262.349	0.000	262.349	195.282	198.505	222.693	225.673	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2022, PE 0605831F, Acq Workforce - Capability Integration, Acq Workforce - Direct, was transferred to PE 0605831F, Project 665831, Acq Workforce - Capability Integration.

A. Mission Description and Budget Item Justification

This program element funds the AFLCMC civilian workforce in cross-cutting and mission support organizations such as Plans & Programs, Engineering, Contracting, Financial Management, Logistics, Program Management, Test, Intelligence, Safety, Personnel, Small Business, Inspector General, and Staff Judge Advocate. In addition, this program element funds the AFLCMC civilian workforce directly executing programs such as the Rapid Sustainment Office and the Cyber Resiliency Office for Weapon Systems. The Air Force Life Cycle Management Center (AFLCMC) equips U.S. and allied forces with operational weapon systems in support of military and national security operations. The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee acquisition programs throughout their life cycle. The direct funded acquisition workforce funded in this program element will support all phases of acquisition programs to include material solution analysis, technology development, engineering and manufacturing development, production and deployment, and operations and support. This funding does not include costs for base operating support civilian personnel. These program elements support both civilian pay and non-pay support requirements.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Acquisition Workforce - Civilian Pay	243.103	224.602	252.404
Description: The acquisition and product support workforce civilian pay provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee Capability Integration acquisition programs throughout their life cycle.			
FY 2024 Plans: N/A			
FY 2025 Plans: N/A			
FY 2024 to FY 2025 Increase/Decrease Statement: The FY24 PB funded 1,466 WYs at \$224.602M for a budgeted AWYC of \$153,207 per WY. Given an actual FY23 AWYC of \$161,870, the FY24 projected AWYC is \$170,044 (5.2% rate increase), and the FY25 projected AWYC is \$174,806 (2.0% rate			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0605831F / Acq Workforce- Capability In tegration	Project (Number/Name) 665831 / Acq Workforce - Capability Integration		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
increase). The \$27.802M FY24 (FY25 PB) to FY25 (FY25 PB) increase is due to the FY25 PB funding 22.09 fewer WYs (-\$3.384M) which is offset by an AWYC adjustment of \$21,599 per WY (\$31.186M).				
Title: Acquisition Workforce - Non-Civilian Pay		17.913	19.178	9.945
Description: The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee Capability Integration acquisition programs throughout their life cycle.				
FY 2024 Plans: N/A				
FY 2025 Plans: N/A				
FY 2024 to FY 2025 Increase/Decrease Statement: The \$9.233M FY24 (FY25 PB) to FY25 (FY25 PB) decrease is due to a decrease in non-pay requirements in the Capability Integration organizations.				
Accomplishments/Planned Programs Subtotals		261.016	243.780	262.349
C. Other Program Funding Summary (\$ in Millions) N/A				
Remarks				
D. Acquisition Strategy N/A				

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>					PE 0605832F / <i>Acq Workforce- Advanced Prgm Technology</i>							
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	64.081	109.030	69.319	0.000	69.319	104.878	107.022	123.066	125.409	Continuing	Continuing
665832: <i>Acq Workfoce- Advanced Prgm Technology</i>	-	64.081	109.030	69.319	0.000	69.319	104.878	107.022	123.066	125.409	Continuing	Continuing

Note

In FY 2022, PE 0605832F, Acq Workforce - Advanced Prgm Technology, Project 664127, Acq Workforce - Direct, was transferred to PE 0605832F, Project 665832, Acq Workforce - Advanced Prgm Technology.

A. Mission Description and Budget Item Justification

The Air Force Life Cycle Management Center (AFLCMC) equips U.S. and allied forces with operational weapon systems in support of military and national security operations. The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee acquisition programs throughout their life cycle. The direct funded acquisition workforce funded in this program element will support all phases of acquisition programs to include material solution analysis, technology development, engineering and manufacturing development, production and deployment, and operations and support. This funding does not include costs for base operating support civilian personnel.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	67.361	109.030	100.217	0.000	100.217
Current President's Budget	64.081	109.030	69.319	0.000	69.319
Total Adjustments	-3.280	0.000	-30.898	0.000	-30.898
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-3.280	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-30.898	0.000	-30.898

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force Date: March 2024

Appropriation/Budget Activity
3600: *Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support*

R-1 Program Element (Number/Name)
PE 0605832F / *Acq Workforce- Advanced Prgm Technology*

Change Summary Explanation

In FY 2023, the \$3.280M decrease was part of a Below Threshold Reprogramming realigning funding between the Acquisition Workforce Program Elements within AFMC. The net transfer amount among the Acquisition Workforce Program Elements totaled net sum zero and was necessary to correct funds alignment for proper execution.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 6					R-1 Program Element (Number/Name) PE 0605832F / <i>Acq Workforce- Advanced Prgm Technology</i>			Project (Number/Name) 665832 / <i>Acq Workfoce-Advanced Prgm Technology</i>				
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
665832: <i>Acq Workfoce-Advanced Prgm Technology</i>	-	64.081	109.030	69.319	0.000	69.319	104.878	107.022	123.066	125.409	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Air Force Life Cycle Management Center (AFLCMC) equips U.S. and allied forces with operational weapon systems in support of military and national security operations. The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee acquisition programs throughout their life cycle. The direct funded acquisition workforce funded in this program element will support all phases of acquisition programs to include material solution analysis, technology development, engineering and manufacturing development, production and deployment, and operations and support. This funding does not include costs for base operating support civilian personnel. These program elements support both civilian pay and non-pay support requirements.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Acquisition Workforce - Civilian Pay	64.081	109.030	69.319
Description: The acquisition and product support workforce civilian pay provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee Advanced Program Technology acquisition programs throughout their life cycle.			
FY 2024 Plans: Continue to fund the Advanced Program Technology acquisition and product support workforce.			
FY 2025 Plans: N/A			
FY 2024 to FY 2025 Increase/Decrease Statement: The FY24 PB funded 426 WYs at \$109.030M for a budgeted AWYC of \$255,939 per WY. Given an actual FY23 AWYC of \$158,851, the FY24 projected AWYC is \$166,873 (5.2% rate increase), and the FY25 projected AWYC is \$171,545 (2.0% rate increase). The \$39.711M FY24 (FY25 PB) to FY25 (FY25 PB) decrease is due to the FY25 PB funding 21.92 fewer WYs (-\$5.609M) and an AWYC adjustment of -\$84,394 per WY (-\$34.102M).			
Title: Acquisition Workforce - Non-Civilian Pay	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0605832F / <i>Acq Workforce- Advanced Prgm Technology</i>	Project (Number/Name) 665832 / <i>Acq Workfoce-Advanced Prgm Technology</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Description: The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee Advanced Program Technology acquisition programs throughout their life cycle.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A</p>			
Accomplishments/Planned Programs Subtotals	64.081	109.030	69.319

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>					R-1 Program Element (Number/Name) PE 0605833F / <i>Acq Workforce- Nuclear Systems</i>							
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	236.382	336.788	343.180	0.000	343.180	368.848	376.576	431.830	440.840	Continuing	Continuing
665833: <i>Acq Workforce - Nuclear Systems</i>	-	236.382	336.788	343.180	0.000	343.180	368.848	376.576	431.830	440.840	Continuing	Continuing

Note

In FY 2022, PE 0605833F, Acquisition Workforce - Nuclear Systems, Project 664127, (ACQ Workforce - Direct) efforts were transferred to Project 665833 (Acq Workforce - Nuclear Systems) in order to better provide transparency to congress on acquisition workforce execution.

A. Mission Description and Budget Item Justification

This program element directly funds the Air Force Nuclear Weapons Center (AFNWC) and Air Force Life Cycle Management Center (AFLCMC) nuclear acquisition workforce.

AFNWC and AFLCMC equip U.S. forces with operational nuclear weapon systems in support of military and national security operations. The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, technical and business capabilities needed to oversee Nuclear Systems acquisition programs throughout their life cycle. The direct funded acquisition workforce funded in this program element will support all phases of acquisition programs to include material solution analysis, technology development, engineering and manufacturing development, production and deployment, and operations and support. This funding does not include costs for base operating support civilian personnel. These program elements support both civilian pay and non-pay support requirements.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605833F / <i>Acq Workforce- Nuclear Systems</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	236.382	336.788	362.944	0.000	362.944
Current President's Budget	236.382	336.788	343.180	0.000	343.180
Total Adjustments	0.000	0.000	-19.764	0.000	-19.764
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-19.764	0.000	-19.764

Change Summary Explanation

FY23 4.84M reduction reflects AF requested adjustment.

The FY (24) PB provides (1973) authorizations. The FY (24) budgeted Average Work Year Cost (AWYC) is 148,592. The 89.091M FY23 (FY (CY) PB) to FY24 (FY (BY) PB) increase is due to 314 additional authorizations (46.658M), a budgeted AWYC increase (0.003M). The increase of 314 authorizations in this program element is due to 1) projected workforce growth to support and address the nuclear enterprise recapitalization and sustainment efforts and 2) multiple incremental workload transitions within the Center.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 6					R-1 Program Element (Number/Name) PE 0605833F / Acq Workforce- Nuclear Sys tems				Project (Number/Name) 665833 / Acq Workforce - Nuclear Systems			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
665833: Acq Workforce - Nuclear Systems	-	236.382	336.788	343.180	0.000	343.180	368.848	376.576	431.830	440.840	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2022, PE 0605833F, Acquisition Workforce - Nuclear Systems, Project 664127, (ACQ Workforce - Direct) efforts were transferred to Project 665833 (Acq Workforce - Nuclear Systems) in order to better provide transparency to congress on acquisition workforce execution.

A. Mission Description and Budget Item Justification

This program element directly funds the Air Force Nuclear Weapons Center (AFNWC) and Air Force Life Cycle Management Center (AFLCMC) nuclear acquisition workforce.

AFNWC and AFLCMC equip U.S. forces with operational nuclear weapon systems in support of military and national security operations. The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, technical and business capabilities needed to oversee Nuclear Systems acquisition programs throughout their life cycle. The direct funded acquisition workforce funded in this program element will support all phases of acquisition programs to include material solution analysis, technology development, engineering and manufacturing development, production and deployment, and operations and support. This funding does not include costs for base operating support civilian personnel. These program elements support both civilian pay and non-pay support requirements.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Acquisition Workforce	230.003	330.316	336.600
Description: The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee Nuclear Systems acquisition programs throughout their life cycle.			
FY 2024 Plans: Continue to fund the Nuclear Systems acquisition and product support workforce.			
FY 2025 Plans: Continue to fund the Nuclear Systems acquisition and product support workforce growth.			
FY 2024 to FY 2025 Increase/Decrease Statement: The FY25 PB provides 2,015 Full Time Equivalents (FTE). The FY25 budgeted Average Work Year Cost (AWYC) is 167K. The 6.28M FY24 (CY) to FY25 (BY) PB increase is due to 174 additional FTEs (29.019M), a budgeted AWYC increase (0.003M)			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0605833F / <i>Acq Workforce- Nuclear Sys tems</i>	Project (Number/Name) 665833 / <i>Acq Workforce - Nuclear Systems</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
totaling 336.057M total FTEs. The increase of 174 FTEs in this program element was directed by PBD 700A projected growth due to nuclear modernization efforts within the Air Force Nuclear Weapons Center enterprise.				
<p>Title: AFNWC Headquarters (HQ) Management Support</p> <p>Description: Provides resources for non-pay AFNWC HQ Management Support providing continuous cutting edge nuclear weapon systems, sustainment capabilities, management, tools, and technical and business capabilities needed to over see Nuclear Weapons acquisition programs throughout their life cycle.</p> <p>FY 2024 Plans: Provide day-to-day operations support for AFNWC HQ Staff such as IT support, A&AS contract support, supplies, temporary duty travel, operations, facilities upkeep and material support contract costs for nuclear system engineering and maintenance.</p> <p>FY 2025 Plans: Continue to provide day-to-day operations support for AFNWC HQ Staff such as IT support, A&AS contract support, supplies, temporary duty travel, operations, facilities upkeep and material support contract costs for nuclear system engineering and maintenance.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased to meet inflationary growth of costs within the AFNWC HQ Staff Portfolio.</p>		6.379	6.472	6.580
Accomplishments/Planned Programs Subtotals		236.382	336.788	343.180
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
N/A				

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605898F / <i>Management HQ - R&D</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	6.054	5.005	6.291	0.000	6.291	4.770	4.866	5.608	5.712	Continuing	Continuing
665898: <i>Management HQ-R&D</i>	-	6.054	5.005	6.291	0.000	6.291	4.770	4.866	5.608	5.712	Continuing	Continuing

Note

In FY 2022, PE 0605898F, Management HQ - R&D, Project 664127, Acq Workforce - Direct, was transferred to PE 0605898F, Project 665898, Management HQ - R&D.

A. Mission Description and Budget Item Justification

The Management Headquarters program element 0605898F includes management headquarters personnel for Air Force Life Cycle Management Center.

The Air Force Life Cycle Management Center (AFLCMC) equips U.S. and allied forces with operational weapon systems in support of military and national security operations. The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee acquisition programs throughout their life cycle. The direct funded acquisition workforce funded in this program element will support all phases of acquisition programs to include material solution analysis, technology development, engineering and manufacturing development, production and deployment, and operations and support. This funding does not include costs for base operating support civilian personnel.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	5.624	5.005	4.539	0.000	4.539
Current President's Budget	6.054	5.005	6.291	0.000	6.291
Total Adjustments	0.430	0.000	1.752	0.000	1.752
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.430	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	1.752	0.000	1.752

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force Date: March 2024

Appropriation/Budget Activity
3600: *Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support*

R-1 Program Element (Number/Name)
PE 0605898F / *Management HQ - R&D*

Change Summary Explanation

In FY 2023, the \$0.430M increase was part of a Below Threshold Reprogramming realigning funding between the Acquisition Workforce Program Elements within AFMC. The net transfer amount among the Acquisition Workforce Program Elements totaled net sum zero and was necessary to correct funds alignment for proper execution.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 6					R-1 Program Element (Number/Name) PE 0605898F / Management HQ - R&D				Project (Number/Name) 665898 / Management HQ-R&D			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
665898: Management HQ-R&D	-	6.054	5.005	6.291	0.000	6.291	4.770	4.866	5.608	5.712	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2022, PE 0605898F, Management HQ - R&D, Project 664127, Acq Workforce - Direct, was transferred to PE 0605898F, Project 665898, Management HQ - R&D.

A. Mission Description and Budget Item Justification

The Management Headquarters program element 0605898F includes management headquarters personnel for Air Force Life Cycle management Center.

The Air Force Life Cycle Management Center (AFLCMC) equips U.S. and allied forces with operational weapon systems in support of military and national security operations. The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee acquisition programs throughout their life cycle. The direct funded acquisition workforce funded in this program element will support all phases of acquisition programs to include material solution analysis, technology development, engineering and manufacturing development, production and deployment, and operations and support. This funding does not include costs for base operating support civilian personnel. This program element supports both civilian pay and non-pay support requirements.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Acquisition Workforce - Civilian Pay	6.054	5.005	6.291
Description: Life Cycle Management Center management headquarters civilian pay.			
FY 2024 Plans: N/A			
FY 2025 Plans: N/A			
FY 2024 to FY 2025 Increase/Decrease Statement: The FY24 PB funded 37 WYs at \$5.005M for a budgeted AWYC of \$135,270 per WY. Given an actual FY23 AWYC of \$154,888, the FY24 projected AWYC is \$162,710 (5.2% rate increase), and the FY25 projected AWYC is \$167,266 (2.0% rate increase). The \$1.286M FY24 (FY25 PB) to FY25 (FY25 PB) increase is due to the FY25 PB funding a 0.61 additional WY (\$0.083M) and an AWYC adjustment of \$31,996 per WY (\$1.203M).			
Title: Acquisition Workforce - Non-Civilian Pay	0.000	0.000	0.000
Description: Life Cycle Management Center management headquarters non-civilian pay.			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0605898F / <i>Management HQ - R&D</i>	Project (Number/Name) 665898 / <i>Management HQ-R&D</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<i>FY 2024 Plans:</i> N/A			
<i>FY 2025 Plans:</i> N/A			
Accomplishments/Planned Programs Subtotals	6.054	5.005	6.291

C. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

D. Acquisition Strategy
N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605976F / <i>Facilities Restoration and Modernization - Test and Evaluation Support</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	133.420	87.889	94.828	0.000	94.828	218.485	211.294	250.223	237.553	Continuing	Continuing
6606MC: <i>Facility Restoration and Modernization - T&E</i>	-	133.420	87.889	94.828	0.000	94.828	218.485	207.447	213.847	217.840	Continuing	Continuing
6606TS: <i>Test and Evaluation Support*</i>	-	0.000	0.000	0.000	0.000	0.000	0.000	3.847	36.376	19.713	Continuing	Continuing

*This project's R-2a exhibit has been suppressed due to funding not beginning until after FY 2025

A. Mission Description and Budget Item Justification

Restoration includes repair and replacement work to restore damaged facilities caused by accident or failure attributed to inadequate sustainment, excessive age, or other causes. Modernization includes alteration of facilities to implement updates, improved standards (including regulatory and engineering changes), to accommodate new functions, or to replace aging building components. For example, foundations and structural components (which typically last more than 50 years). Other tasks associated with facilities operations (such as custodial services, grass cutting, and the provision of central utilities) are not included. Restoration/modernization funds support the following Air Force test organizations and their associated test and evaluation facilities, including: the 96th Test Wing (TW) at Eglin AFB, FL; Arnold Engineering and Development Complex (AEDC) at Arnold AFB, TN; including AEDC's 704th Test Group (TG) at Holloman AFB, NM; 704 TG Landing Gear Test Facility (LGTf) at Wright-Patterson AFB, OH; AEDC's Hypersonic Wind Tunnel 9 at White Oak, MD; AEDC's National Full-Scale Aerodynamics Complex (NFAC) at Moffett Field, CA; 96TW's McKinley Climatic Lab (MCL) at Eglin AFB, FL; the 412th TW at Edwards AFB, CA; and remote locations.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605976F / <i>Facilities Restoration and Modernization - Test and Evaluation Support</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	133.420	87.889	94.662	0.000	94.662
Current President's Budget	133.420	87.889	94.828	0.000	94.828
Total Adjustments	0.000	0.000	0.166	0.000	0.166
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.166	0.000	0.166

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 6					R-1 Program Element (Number/Name) PE 0605976F / <i>Facilities Restoration and Modernization - Test and Evaluation Support</i>				Project (Number/Name) 6606MC / <i>Facility Restoration and Modernization - T&E</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
6606MC: <i>Facility Restoration and Modernization - T&E</i>	-	133.420	87.889	94.828	0.000	94.828	218.485	207.447	213.847	217.840	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Restoration includes repair and replacement work to restore damaged facilities caused by accident or failure attributed to inadequate sustainment, excessive age, or other causes. Modernization includes alteration of facilities to implement updates, improved standards (including regulatory and engineering changes), to accommodate new functions, or to replace aging building components. For example, foundations and structural components (which typically last more than 50 years). Other tasks associated with facilities operations (such as custodial services, grass cutting, and the provision of central utilities) are not included. Restoration/modernization funds support the following Air Force test organizations and their associated test and evaluation facilities, including: the 96th Test Wing (TW) at Eglin AFB, FL; Arnold Engineering and Development Complex (AEDC) at Arnold AFB, TN; including AEDC's 704th Test Group (TG) at Holloman AFB, NM; 704 TG Landing Gear Test Facility (LGTf) at Wright-Patterson AFB, OH; AEDC's Hypersonic Wind Tunnel 9 at White Oak, MD; AEDC's National Full-Scale Aerodynamics Complex (NFAC) at Moffett Field, CA; 96TW's McKinley Climatic Lab (MCL) at Eglin AFB, FL; the 412th TW at Edwards AFB, CA; and remote locations.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
<p>Title: Facility restoration and modernization at the 96 TW</p> <p>Description: Facility restoration and modernization at the 96th TW.</p> <p>FY 2024 Plans: Continue Restoration and Modernization (R&M) efforts across the range complex including Heating, Ventilation and Air Conditioning (HVAC) systems, repair/replace lightning protection systems, repair/replace fire protection systems and corrosion control.</p> <p>FY 2025 Plans: Continue Restoration and Modernization (R&M) efforts across the range complex including Heating, Ventilation and Air Conditioning (HVAC) systems, repair/replace lightning protection systems, repair/replace fire protection systems and corrosion control.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A</p>	8.309	8.482	8.637
<p>Title: Facility restoration and modernization at AEDC</p> <p>Description: Facility restoration and modernization at AEDC.</p>	115.562	69.660	76.259

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0605976F / <i>Facilities Restoration and Modernization - Test and Evaluation Support</i>	Project (Number/Name) 6606MC / <i>Facility Restoration and Modernization - T&E</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>FY 2024 Plans: With the additional restoration and modernization funding targeting hypersonic test capabilities, AEDC will start several multi-year restoration efforts to include: Propulsion Wind Tunnel 16S Compressor Modernization and facility restoration, developing a common solid rocket motor cradle to reduce cost and schedule delays, and improve and modernize optical test systems in supersonic and hypersonic wind tunnels.</p> <p>FY 2025 Plans: With the additional restoration and modernization funding targeting hypersonic test capabilities, AEDC will start several multi-year restoration efforts to include: Propulsion Wind Tunnel 16S Compressor Modernization and facility restoration, developing a common solid rocket motor cradle to reduce cost and schedule delays, and improve and modernize optical test systems in supersonic and hypersonic wind tunnels.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: The increase from FY24 to FY25 reflects a \$6 million reduction to FY24 to account for the availability of prior year execution balances.</p>				
<p>Title: Facility restoration and modernization at 412 TW</p> <p>Description: Facility restoration and modernization at the 412 TW.</p> <p>FY 2024 Plans: Continuation of the upgrade and restoration of T&E facilities. Areas of effort include repair and modernization of electrical system components, address fire safety deficiencies, continue seismic upgrades, and address other restoration and modernization needs throughout the test wing.</p> <p>FY 2025 Plans: Continuation of the upgrade and restoration of T&E facilities. Areas of effort include repair and modernization of electrical system components, address fire safety deficiencies, continue seismic upgrades, and address other restoration and modernization needs throughout the test wing.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A</p>		9.549	9.747	9.932
Accomplishments/Planned Programs Subtotals		133.420	87.889	94.828

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0605976F / <i>Facilities Restoration and Modernization - Test and Evaluation Support</i>	Project (Number/Name) 6606MC / <i>Facility Restoration and Modernization - T&E</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• RDTE 06 0606398F: <i>Management HQ - T&E</i>	7.535	7.453	7.647	-	7.647	7.788	7.950	8.297	8.457	Continuing	Continuing
• RDTE 06 0605807F: <i>Test and Evaluation Support</i>	842.401	913.213	936.913	-	936.913	1,088.746	1,273.317	1,316.674	1,368.799	Continuing	Continuing
• RDTE 06 0605978F: <i>Facilities Sustainment - Test and Evaluation Support</i>	31.561	35.065	63.579	-	63.579	92.273	173.434	176.909	180.417	Continuing	Continuing
• RDTE 06 0604256F: <i>Threat Simulator Development</i>	20.835	16.626	19.927	-	19.927	43.055	49.189	50.969	51.974	Continuing	Continuing
• RDTE 06 0604759F: <i>Major T&E Investment</i>	169.432	31.143	74.228	-	74.228	208.911	282.949	278.682	274.774	Continuing	Continuing

Remarks

D. Acquisition Strategy

N/A.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605978F / <i>Facilities Sustainment - Test and Evaluation Support</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	31.561	35.065	63.579	0.000	63.579	92.273	173.434	176.909	180.417	Continuing	Continuing
6606MR: <i>Facility Sustainment-T&E Support</i>	-	31.561	35.065	63.579	0.000	63.579	92.273	92.108	94.759	96.651	Continuing	Continuing
6606TS: <i>Test and Evaluation Support*</i>	-	0.000	0.000	0.000	0.000	0.000	0.000	81.326	82.150	83.766	Continuing	Continuing

*This project's R-2a exhibit has been suppressed due to funding not beginning until after FY 2025

A. Mission Description and Budget Item Justification

Provides resources for sustainment activities required for an inventory of Air Force Material Command (AFMC) Test and Evaluation (T&E) facilities. Facility sustainment includes regularly scheduled adjustments and inspections, preventative maintenance tasks, and emergency response and service calls for minor repairs. It also includes major repairs or replacement of facility components that are expected to occur periodically. In addition to standard facility sustainment, such as roof replacement, refinishing of wall and floor surfaces, and repairing and replacing of heating and cooling systems, this work includes inspections and repairs of heavy plant machinery in large industrial facilities. This work includes, but is not limited to, inspection and repair of high-power electrical switching gear, hydraulic, lubrication, forced-air and fluid cooling systems, high pressure vessel health monitoring, facility control and remote monitoring systems, liquid oxygen systems, steam systems, test instrumentation, and fire detection and suppression systems. Other tasks associated with facilities operations (such as custodial services, grass cutting, and landscaping, waste disposal, and the provision of central utilities) are not included. These sustainment funds support the following Air Force organizations and their associated test and evaluation facilities, including: remote locations, 704th Test Group (TG) at Holloman AFB, NM, the 96th Test Wing (TW) at Eglin AFB, FL, Arnold Engineering and Development Complex (AEDC) at Arnold AFB, TN, the 412 Test Wing (TW) at Edwards AFB, CA, 704 TG Landing Gear Test Facility (LGTF) at Wright-Patterson AFB, OH, AEDC's Hypersonic Wind Tunnel 9 at White Oak, MD, and AEDC's National Full-Scale Aerodynamics Complex (NFAC) at Moffett Field, CA.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0605978F / <i>Facilities Sustainment - Test and Evaluation Support</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	31.561	35.065	41.225	0.000	41.225
Current President's Budget	31.561	35.065	63.579	0.000	63.579
Total Adjustments	0.000	0.000	22.354	0.000	22.354
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	22.354	0.000	22.354

Change Summary Explanation

A net increase of \$22.354 million is due to APPN 3400 to APPN 3600 funding transfer of \$22.236 million to support real property and non-pay non-fuel inflation.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 6					R-1 Program Element (Number/Name) PE 0605978F / <i>Facilities Sustainment - Test and Evaluation Support</i>				Project (Number/Name) 6606MR / <i>Facility Sustainment-T&E Support</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
6606MR: <i>Facility Sustainment-T&E Support</i>	-	31.561	35.065	63.579	0.000	63.579	92.273	92.108	94.759	96.651	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Provides resources for sustainment activities required for an inventory of Air Force Materiel Command (AFMC) Test and Evaluation (T&E) facilities. Facility sustainment includes regularly scheduled adjustments and inspections, preventative maintenance tasks, and emergency response and service calls for minor repairs. It also includes major repairs or replacement of facility components that have exceeded their useful life. In addition to standard facility sustainment, such as roof replacement, refinishing of wall and floor surfaces, and repairing and replacing of heating and cooling systems, funding in this program element allows for inspections and repairs of heavy plant machinery. Examples of the maintenance work performed are inspection and repair of high-power electrical switching gear, hydraulic, lubrication, forced-air and fluid cooling systems, high pressure vessel health monitoring, facility control and remote monitoring systems, liquid oxygen systems, steam systems, test instrumentation, and fire detection and suppression systems. Other tasks associated with facilities operations (such as custodial services, grass cutting, and landscaping, waste disposal, and the provision of central utilities) are not included. These sustainment funds support the following Air Force organizations and their associated test and evaluation facilities, including: remote locations, the 96th Test Wing (TW) at Eglin AFB, FL, Arnold Engineering and Development Complex (AEDC) at Arnold AFB, TN, AEDC's 704th Test Group (TG) at Holloman AFB, NM, AEDC's 704 TG Landing Gear Test Facility (LGTF) at Wright-Patterson AFB, OH, AEDC's Hypersonic Wind Tunnel 9 at White Oak, MD, AEDC's National Full-Scale Aerodynamics Complex (NFAC) at Moffett Field, CA, 96TW's McKinley Climatic Laboratory (MCL) at Eglin AFB, FL and the 412 Test Wing (TW) at Edwards AFB, CA.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Facility sustainment at the 96 TW.	1.079	1.102	3.451
Description: Facility sustainment at the 96 TW.			
FY 2024 Plans: Continue to work through Direct Scheduled Work Orders (DSWs) within the test infrastructure.			
FY 2025 Plans: Continue to work through Direct Scheduled Work Orders (DSWs) within the test infrastructure.			
FY 2024 to FY 2025 Increase/Decrease Statement: Increase of \$2.418 million is due to APPN 3400 to APPN 3600 to support real property.			
Title: Facility sustainment at the AEDC.	27.581	31.001	39.508
Description: Facility sustainment at the AEDC.			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0605978F / <i>Facilities Sustainment - Test and Evaluation Support</i>	Project (Number/Name) 6606MR / <i>Facility Sustainment-T&E Support</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p><i>FY 2024 Plans:</i> AEDC will continue to perform calendar based scheduled preventative maintenance on Engine Test Facility Plant and associated engine test cells, Propulsion Wind Tunnel Plant and associated wind tunnels, Von Karman Facility (VKF) Plant Core and associated test cells, arc heaters, rocket test facility, space chambers, and hypersonic engine test facilities, along with associated infrastructure that supports all test operations. Sustainment project includes painting buildings, carpet replacement, heating, ventilation, air conditioning (HVAC) repairs and roof repairs throughout the 704 TG.</p> <p><i>FY 2025 Plans:</i> AEDC will continue to perform calendar based scheduled preventative maintenance on Engine Test Facility Plant and associated engine test cells, Propulsion Wind Tunnel (PWT) and associated wind tunnels, Von Karman Facility (VKF) Plant Core and associated test cells, arc heaters, rocket test facility, space chambers, and hypersonic engine test facilities, along with associated infrastructure that supports all test operations. Sustainment projects includes Central Inertial and GPS Test Facility (CIGTF) renovations, proactive maintenance for Space Test Unit (J6), Aerodynamic and Propulsion Test Unit (APTU) (for hypersonics ground test), and test utility maintenance.</p> <p><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Increase of \$2.433 million is due to APPN 3400 to APPN 3600 to support real property.</p>			
<p><i>Title:</i> Facility sustainment at the 412 TW.</p> <p><i>Description:</i> Facility sustainment at the 412 TW.</p> <p><i>FY 2024 Plans:</i> Continue sustainment of test unique infrastructure in 412 TW Electronic Warfare, Range, and other T&E facilities located at Edwards AFB, CA.</p> <p><i>FY 2025 Plans:</i> Continue sustainment of test unique infrastructure in 412 TW Electronic Warfare, Range, and other T&E facilities located at Edwards AFB, CA.</p> <p><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Increase of \$17.603 million is due to APPN 3400 to APPN 3600 to support real property.</p>	2.901	2.962	20.620
Accomplishments/Planned Programs Subtotals	31.561	35.065	63.579

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0605978F / <i>Facilities Sustainment - Test and Evaluation Support</i>	Project (Number/Name) 6606MR / <i>Facility Sustainment-T&E Support</i>

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2023	FY 2024	FY 2025	FY 2025	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Cost To	
			Base	OCO	Total					Complete	Total Cost
• RDTE 06 0606398F: <i>Management HQ - T&E</i>	7.535	7.453	7.647	-	7.647	7.788	7.950	8.297	8.457	Continuing	Continuing
• RDTE 06 0605807F: <i>Test and Evaluation Support</i>	842.401	913.213	936.913	-	936.913	1,088.746	1,273.317	1,316.674	1,368.799	Continuing	Continuing
• RDTE 06 0605976F: <i>Facilities Restoration and Modernization - Test and Evaluation Support</i>	133.420	87.889	94.828	-	94.828	218.485	211.294	250.223	237.553	Continuing	Continuing
• RDTE 06 0604256F: <i>Threat Simulator Development</i>	20.835	16.626	19.927	-	19.927	43.055	49.189	50.969	51.974	Continuing	Continuing
• RDTE 06 0604759F: <i>Major T&E Investment</i>	169.432	31.143	74.228	-	74.228	208.911	282.949	278.682	274.774	Continuing	Continuing

Remarks

D. Acquisition Strategy

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0606017F / <i>Requirements Analysis and Maturation</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	106.454	89.956	41.550	0.000	41.550	31.839	32.456	33.415	34.045	Continuing	Continuing
666157: <i>Development Planning</i>	-	13.070	14.065	14.425	0.000	14.425	14.723	14.981	15.229	15.519	Continuing	Continuing
666158: <i>INTEGRATED SIMULATION AND ANALYSIS</i>	-	93.384	75.891	27.125	0.000	27.125	17.116	17.475	18.186	18.526	Continuing	Continuing

Note

FY 2025 funding decreased compared to FY 2024 by 12.424M due to stand up and transfer of Requirements Analysis and Concept Maturation (RACM) PE 604609F. The 604609F PE standup clarifies the distinct roles and missions between two organizations (AFLCMC/XA and AFRL/SDPE).

A. Mission Description and Budget Item Justification

The Requirements Analysis and Maturation (RAM) program funds development planning (DP) of long-lead and strategic capabilities, emerging technology, and Air Force game-changers. Key activities include mission forecasting, problem decomposition and technology-focused requirements analysis, capability decomposition and trade space characterization, technology-enabled concept development, architecture design for technology integration, cost implications and assessments, model validation, analytical tool development, and focused technology risk reduction. Outcomes of RAM development planning activities include technologically informed requirements; mature concepts that are technically feasible and operationally relevant; and recommendations for science and technology (S&T) investment to reduce technical risks. Strategic development planning activities provide the Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities, and Policy (DOTMLPF-P) analytic basis for cost and capability trades driving non-materiel and materiel solutions. Technical planning activities funded by this program provide informed strategic investment decisions and sound technical foundations for successful program establishment. Strategic development planning efforts arise from engagements with industry and academia, intersections of technology improvements with Air Force missions, emerging operational requirements, vetted future-fight strategies, and threat-informed future-fight forecasts.

This requirement supports performance of a full financial audit as required by title 10 U.S.C. Chapter 9A, Sec 240-D.

This program element may include necessary and emergent civilian pay expenses required to manage, execute, and deliver Requirements Analysis and Maturation capability for both Projects. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605831F, 0605827F, and 0604858F.

This program element may include necessary emergent or unanticipated civilian pay expenses required to manage, execute, and deliver Integrated Simulation and Analysis for emergent or unanticipated weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605831F, 0605827F, and 0604858F.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0606017F / <i>Requirements Analysis and Maturation</i>
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This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	109.513	89.956	53.974	0.000	53.974
Current President's Budget	106.454	89.956	41.550	0.000	41.550
Total Adjustments	-3.059	0.000	-12.424	0.000	-12.424
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-3.059	0.000			
• Other Adjustments	0.000	0.000	-12.424	0.000	-12.424

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 666157: *Development Planning*

Congressional Add: *Program increase - nuclear modernization analytics*

Congressional Add Subtotals for Project: 666157

	FY 2023	FY 2024
0.000	0.000	-
0.000	0.000	-
8.000	8.000	-
8.000	8.000	-
8.000	8.000	-

Project: 666158: *INTEGRATED SIMULATION AND ANALYSIS*

Congressional Add: *Digital Modernization*

Congressional Add Subtotals for Project: 666158

Congressional Add Totals for all Projects

Change Summary Explanation

FY 2025 funding decreased compared to FY 2024 by 12.424M due to stand up and transfer of Requirements Analysis and Concept Maturation (RACM) PE 604609F. The 604609F PE standup clarifies the distinct roles and missions between two organizations (AFLCMC/XA and AFRL/SDPE).

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0606017F / <i>Requirements Analysis and Maturation</i>	Project (Number/Name) 666157 / <i>Development Planning</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
<i>666157: Development Planning</i>	-	13.070	14.065	14.425	0.000	14.425	14.723	14.981	15.229	15.519	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Development Planning (DP) project funds activities that analyze Air Force capability needs and requirements to identify potential shortfalls and opportunities; formulate candidate concepts and solution options addressing identified capability needs and shortfalls; obtain specific evidence to confirm and refute capability bounds; and conduct coordinated early systems engineering to derive key capability trades, technology needs, and cost and schedule implications. Emphasis is placed on activities informing strategic planning and operational experimentation, analyzing multi-domain capabilities that look first at non-materiel solutions before generating materiel needs and requirements.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Future Capability Analyses	6.262	6.279	6.455
<p>Description: Conduct capability analyses that decompose long-term warfighter capability goals and requirements into pertinent materiel and non-materiel elements. Identify opportunities and potential shortfalls between planned investments and long-term capability needs. Engage technology base and test communities to inform capability employment and constraints. Reduce analytical uncertainties through focused investments yielding specific capability information.</p>			
<p>FY 2024 Plans: Continue to assess capabilities derived from future Air Force constructs, collaborating within and across Service analysis organizations as subject-matter expertise requires. Conduct capabilities-based assessments scoped in a manner consistent with Department of the Air Force operational imperatives. Document mission impact statements and their corresponding materiel and non-materiel gaps. Derive capability gaps from operational mission definitions and estimates of current-inventory performance and technical state of the art. Engage Federally Funded Research and Development Centers and policy research institutes on appropriate operational imperatives. Develop mission impact and gap findings into initial capability visions and early capability concepts consistent with relevant time horizons.</p>			
<p>FY 2025 Plans: Continue to assess capabilities derived from future Air Force constructs, collaborating within and across Service analysis organizations as subject-matter expertise requires. Conduct capabilities-based assessments scoped in a manner consistent with Department of the Air Force Operational Imperative goals and mission concepts. Document mission impact statements and their corresponding materiel and non-materiel gaps. Derive capability gaps from operational mission definitions and estimates of current-inventory performance and technical state of the art. Engage Federally Funded Research and Development Centers and</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0606017F / <i>Requirements Analysis and Maturation</i>	Project (Number/Name) 666157 / <i>Development Planning</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
policy research institutes on appropriate operational imperatives. Develop mission impact and gap findings into initial capability visions and early capability concepts consistent with relevant missions, scenarios, and time horizons.				
FY 2024 to FY 2025 Increase/Decrease Statement: FY 2025 funding increased from FY 2024 by \$0.176 million due to additional emphasis on future mission concept development.				
Title: Concept Development		4.639	5.276	5.401
Description: Develop operationally consistent and technologically informed capability concepts delivering military utility and informing strategic investment decisions. Validate materiel and non-materiel capability elements through rigorous problem decomposition, engagement with warfighters and with industry, and access to operationally relevant evidence to include suitability considerations. Discern critical dependencies among capability concept elements, including operational mission assets and technology investments. Distinguish developmental capability concept elements from materiel and non-materiel elements currently available. Develop capability tailored measures of performance and measures of effectiveness, which may include necessary digital tools. Identify key drivers for technical risk, cost risk, and schedule risk. Verify suitability of analysis baseline for capabilities being investigated, communicating limitations to stakeholders and proposing mitigation strategies as appropriate. Revisit previously developed capability concepts as needed, update concept elements and operational employment to reflect emerging mission needs and maturing technology alternatives.				
FY 2024 Plans: Continue to develop advanced capability concepts with appropriate partners and stakeholders. Conduct market research and engage industry elements with historical experience consistent with Air Force operational imperatives. Develop early capability concepts into industry-informed, operationally impactful, technically viable concept characterizations that inform investment priorities and acquisition decisions.				
FY 2025 Plans: Continue to develop advanced capability concepts with appropriate partners and stakeholders. Propose, develop and refine high-level mission concepts as necessary for long-lead technology and novel capabilities. Conduct market research and engage industry elements with historical experience consistent with Air Force operational imperatives. Develop early capability concepts into industry-informed, operationally impactful, technically viable concept characterizations that inform investment priorities and acquisition decisions. Identify, facilitate, and execute key mission, capability, technology, and threat analyses.				
FY 2024 to FY 2025 Increase/Decrease Statement: FY 2025 funding increased from FY 2024 by \$0.125 million due to expanding outreach to relevant industry.				
Title: Capability Development Strategies		2.169	2.510	2.569

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0606017F / <i>Requirements Analysis and Maturation</i>	Project (Number/Name) 666157 / <i>Development Planning</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Description: Conduct strategic planning activities that translate capability concepts into candidate courses of action suitable for informing future acquisition and future research and development. Identify critical decisions, milestones, and operational employment factors influencing capability courses of action. Identify technology alternatives, potential materiel/non-materiel mixes, and order-of-magnitude cost estimates within candidate courses of action. Develop recommendations for materiel and non-materiel investments providing key capability enablers. Develop capability risk mitigation approaches and conduct focused risk reduction. Refine capability cost and schedule drivers as additional information is obtained. Estimate system-of-system, system, sub-system, component, and/or contributing technology performance needed to achieve warfighter-driven thresholds on capability performance and effectiveness. Develop recommendations for time-phased and performance-gated capability delivery, including incremental system and sub-system capabilities where appropriate.</p> <p>FY 2024 Plans: Continue to perform pre-systems acquisition planning activities including refinement of concepts into risk-informed, industry-informed preliminary designs and including development of recommendations for science and technology investments.</p> <p>FY 2025 Plans: Continue to perform pre-systems acquisition planning activities including refinement of concepts into risk-informed, industry-informed preliminary designs and including development of recommendations for essential science and technology investments.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: FY 2025 funding increased from FY 2024 by \$0.059 million due to expanding collaboration with warfighter partners.</p>			
Accomplishments/Planned Programs Subtotals	13.070	14.065	14.425

	FY 2023	FY 2024
Congressional Add: Program increase - nuclear modernization analytics	0.000	-
FY 2023 Accomplishments: N/A		
Congressional Adds Subtotals	0.000	-

C. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

D. Acquisition Strategy
Not Applicable

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 6					R-1 Program Element (Number/Name) PE 0606017F / <i>Requirements Analysis and Maturation</i>				Project (Number/Name) 666158 / <i>INTEGRATED SIMULATION AND ANALYSIS</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
666158: <i>INTEGRATED SIMULATION AND ANALYSIS</i>	-	93.384	75.891	27.125	0.000	27.125	17.116	17.475	18.186	18.526	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Notes on funding changes:

(-12.424M) ZBT to stand up RACM PE (604609F) in FY25. FY24 to FY25 decrease of (-43.132M) due to JSE standing up in PE 27606F.

A. Mission Description and Budget Item Justification

The Integrated Simulation and Analysis project provides a collaborative cross-organizational, multi-domain, holistic enterprise system-of-systems perspective in synthetic environments for modeling, simulation, analysis, and experimentation of systems, systems-of-systems, and threat-/tech-/mission-informed concepts under assessment while enabling exploration of innovative materiel and non-materiel alternatives. This effort produces system performance representations/models, environments, architectures, data, and tools that underpin variable fidelity, stand-alone, interactive, and distributed simulations; and virtual prototyping using an adaptive ecosystem comprised of organizations and capabilities aligned with purpose and linkages to Model Based Systems Engineering/Digital Engineering processes. Integrated Simulation and Analysis combines real-time and constructive simulations, operators-in-the-loop, Modeling and Simulation powered war-gaming, experimental and operational software and hardware engineered in synthesized environments to conduct rapid air, space, cyber, and multi-domain warfighting capabilities assessments in support of capability development, experimentation, readiness, developmental and operational testing, and training requirements. This ecosystem is a component of a larger Department of the Air Force level Modeling and Simulation infrastructure, and serves as a template to identify, roadmap, and enable the Modeling and Simulation-centric portions of the acquisition lifecycle and of operational missions.

In FY 2025, PE 0606017F, Requirements Analysis and Maturation, Project 666158, Integrated Simulation and Analysis, efforts for Joint Simulation Environment (JSE) were transferred to PE 0207606F, Joint Simulation Environment, Project 642407, Joint Simulation Environment, in order to consolidate all JSE efforts under one PE 0207606F. JSE development efforts (10.1M) remaining in PE 0606017F are to fund FY 2025 Civilian Pay expenses, as well as, but not limited to, continued JSE environment enhancement development efforts.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Modeling, Simulation, Analysis, and Experimentation Ecosystem	14.054	19.168	17.025
Description: Develop enterprise capable, cross-domain system-of-systems modeling, simulation, and analysis capabilities to support development planning, capabilities assessment, and acquisition decisions.			
FY 2024 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0606017F / <i>Requirements Analysis and Maturation</i>	Project (Number/Name) 666158 / <i>INTEGRATED SIMULATION AND ANALYSIS</i>

B. Accomplishments/Planned Programs (\$ in Millions)

Continue to evolve and implement the design template for the broader Department of the Air Force level capability development Modeling and Simulation enterprise ecosystem while accounting for integration with Digital Material Management. Continue integration of Department of the Air Force Modeling and Simulation capabilities into the ecosystem supporting both system and broad system-of-system, multi-domain level capability development concepts, pre-systems planning, and other relevant strategic development planning activities. Evolve and integrate the modeling, simulation and analysis ecosystem containing extensive software models and software tools consistent with Air Force and Joint enterprise needs, including digital engineering and model-based systems engineering. Continue to enhance tools and enable Modeling and Simulation powered wargaming, support secure data management and sharing, maintain a skilled cadre of analysts, and develop advanced analytical methods required for tailored fidelity of battlespace environments. Continue to make available and enhance composable models and common frameworks that can be used to support robust development planning and experimentation for Air Force leadership. This activity will be leveraged to scale up for the broader Department of the Air Force level Modeling and Simulation enterprise and identify Modeling and Simulation synergies for reusability, commonality, and interoperability between analytic, experimentation, test, training, and planning activities in support of enterprise infrastructure.

FY 2025 Plans:

Scale, evolve and operationalize the design template for the broader Department of the Air Force Modeling and Simulation enterprise ecosystem while transitioning from an environment under test to production development environment. Continue to drive M&S community toward integration with Digital Material Management and Digital Engineering community through investment in tools and network infrastructure that integrate Modeling and Simulation with DMM and DE. Continued integration of United States Space Force Modeling and Simulation capabilities into the ecosystem supporting both system and broad system-of-system, multi-domain level capability development concepts, pre-systems planning, and other relevant strategic development planning activities. Provide users a common interface across different compute types (local, High Performance Computer, Cloud Computer) and security levels (CUI through TS//SCI//SAR) with integrated tie to DMM ecosystems for activities such as data and Authoritative Source of Truth integration. Continue to enhance tools and enable Modeling and Simulation empowered wargaming, support secure data management and sharing, maintain a skilled cadre of analysts, and develop advanced analytical methods required for tailored fidelity of battlespace environments. Continue to make available and enhance composable models and common frameworks that can be used to support robust development planning and experimentation for Air Force leadership. This activity will be leveraged to scale up for the broader Department of the Air Force level Modeling and Simulation enterprise and identify Modeling and Simulation synergies for reusability, commonality, and interoperability between analytic, experimentation, test, training, and planning activities in support of enterprise infrastructure.

FY 2024 to FY 2025 Increase/Decrease Statement:

FY 2023	FY 2024	FY 2025

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0606017F / <i>Requirements Analysis and Maturation</i>	Project (Number/Name) 666158 / <i>INTEGRATED SIMULATION AND ANALYSIS</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
FY 2025 funding decreased compared to FY 2024 by \$2.143 million due to increase in scope of ecosystem, increasing capacity and capability, and integration costs in support of Department of the Air Force Modeling and Simulation Ecosystem and tools.				
<p>Title: Common Synthetic Training Environment (CSTE)</p> <p>Description: Develop a Government-owned synthetic training capability suitable for distributed training scenarios in a single shared environment across multiple warfighting and security domains. This effort is required to address capability gaps highlighted in the Joint Tactical Air Analysis of Alternatives study, to include systemic deficiencies for both live and synthetic training and an expanding gap between warfighter needs and training infrastructure capabilities.</p> <p>FY 2024 Plans: Requirement for a synthetic training environment will be met by the Joint Simulation Environment effort. Funding in FY22, FY23 and FY24 will be used to further the development of JSE test and training capabilities to Initial Operational Capability, enabling future training applications. Activities include continued JSE development of synthetic test and training capabilities, as well as the application of new technologies (Multi-Level Security, distributed operations, etc.) and capabilities to the JSE architecture. Costs include hardware, software, facilities, and personnel needed to develop JSE.</p> <p>FY 2025 Plans: Not Applicable.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Not Applicable.</p>		54.871	0.000	0.000
<p>Title: Joint Simulation Environment (JSE)</p> <p>Description: Develops a government-owned and operated modeling and simulation capability that enables multi-platform, multi-domain integration and interoperability. This capability is required to support developmental and operational testing, tactics development, and advanced training for 5th-generation platforms and other future capabilities that are critical for force development.</p> <p>FY 2024 Plans: Continue activities to develop JSE capabilities enabling further test, integration and training. Efforts include continued Virtual Air Threats (VATs) development and Multi Mission Test Platform (MMTPs) refinement. Continue developing, testing, documenting and delivering aircraft threat models using the Threat Modeling and Analysis Program (TMAP), and continued platform/capability integration within JSE. Costs include (but are not limited to) establishing equipment, personnel, processes, contracts, etc. to support JSE product development for the Air Force.</p> <p>FY 2025 Plans:</p>		13.107	52.232	10.100

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0606017F / <i>Requirements Analysis and Maturation</i>	Project (Number/Name) 666158 / <i>INTEGRATED SIMULATION AND ANALYSIS</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>In FY 2025, PE 0606017F, Requirements Analysis and Maturation, Project 666158, Integrated Simulation and Analysis, efforts for Joint Simulation Environment (JSE) were transferred to PE 0207606F, Joint Simulation Environment, Project 642407, Joint Simulation Environment, in order to consolidate all JSE efforts under one PE 0207606F. JSE development efforts (10.1M) remaining in PE 0606017F are to fund FY 2025 Civilian Pay expenses, as well as, but not limited to, continued JSE environment enhancement development efforts.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: FY 2025 funding decreased compared to FY 2024 by \$42.132 million due to JSE efforts transitioning to PE 0207606F Joint Simulation Environment. As part of the transition plan, \$10.100 million has been left to cover Civilian Pay expenses, as well as, but not limited to, continued JSE environment enhancement development efforts.</p>				
<p>Title: Simulation and Analysis Facility Support</p> <p>Description: Develops high-fidelity, live-virtual-constructive modeling, simulation, and analysis capability to evaluate warfighting capabilities, strategies, concepts of operation, tactics, emerging technologies, and human system interfaces to support and enable acquisition, test, and training.</p> <p>FY 2024 Plans: Continue to perform pre-systems acquisition planning activities. Continue to develop capability concepts into high-level initial designs supporting dependency analysis, performance estimation, risk identification, and additional concept refinement in coordination with Air Force leadership. Develop prioritized recommendations for science and technology investments in the critical path of key capability enablers. Expand agile software programming capabilities. These funds may cover hardware, software, personnel and other costs needed to accomplish the mission.</p> <p>FY 2025 Plans: AFLCMC/XA has been given a new PE 06064609F in FY25. Under the new PE, XA will provide, but not limited to, early acquisition investment activities, capability gap analysis, cost estimation, and pre-acquisition planning and analysis.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: FY 2025 funding decreased compared to FY 2024 by \$4.491 million due to funding realigned to PE 0604609F where efforts continue.</p>		3.352	4.491	0.000
Accomplishments/Planned Programs Subtotals		85.384	75.891	27.125
		FY 2023	FY 2024	
Congressional Add: Digital Modernization		8.000	-	

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0606017F / <i>Requirements Analysis and Maturation</i>	Project (Number/Name) 666158 / <i>INTEGRATED SIMULATION AND ANALYSIS</i>

	FY 2023	FY 2024
FY 2023 Accomplishments: Conduct Congressionally Directed Activities		
Congressional Adds Subtotals	8.000	-

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not Applicable

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0606398F / <i>Management HQ - T&E</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	7.535	7.453	7.647	0.000	7.647	7.788	7.950	8.297	8.457	Continuing	Continuing
6606TS: <i>Test and Evaluation Support</i>	-	7.535	7.453	7.647	0.000	7.647	7.788	7.950	8.297	8.457	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program element funds civilian salaries of Air Force Test Center (AFTC) management headquarters personnel who lead, guide and direct the operation of AFTC test activities which are included in the Department of Defense (DoD) Major Range and Test Facility Base (MRTFB).

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	6.285	7.453	7.481	0.000	7.481
Current President's Budget	7.535	7.453	7.647	0.000	7.647
Total Adjustments	1.250	0.000	0.166	0.000	0.166
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	1.250	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.166	0.000	0.166

Change Summary Explanation

In FY23, program element 65807F transferred \$1.250 million to program element 66398F via a below reprogramming effort to adequately fund 42 civilian pay authorizations at an Average Work Year Cost of \$183.78 thousand.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: Air Force Test Center Civilian Pay	7.535	7.453	7.647
Description: Air Force Test Center management headquarters civilian pay			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0606398F / <i>Management HQ - T&E</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<i>FY 2024 Plans:</i> Air Force Test Center management headquarters civilian pay. <i>FY 2025 Plans:</i> Air Force Test Center management headquarters civilian pay. <i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> N/A			
Accomplishments/Planned Programs Subtotals	7.535	7.453	7.647

D. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

E. Acquisition Strategy
N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0303166F / <i>Support to Information Operations (IO) Capabilities</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	0.556	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.556
666158: <i>INTEGRATED SIMULATION AND ANALYSIS</i>	-	0.556	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.556
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note
 In FY 2023, Project 666158, (Integrated Simulation and Analysis) was completed.

A. Mission Description and Budget Item Justification

The Joint Information Operations Range (JIOR) provides DoD with a closed-loop network that forms a global live-fire information operations range complex. JIOR uses encrypted tunneling over existing transport networks to conduct mission rehearsal, training, testing, concept development and experimentation in support of Information Operations (IO), Electronic Warfare (EW), Offensive Cyber Operations (OCO), Defensive Cyber Operations (DCO), Spectrum Warfare, Space Operations, and Special Operations Forces mission areas in a realistic threat representative environment. JIOR provides the capability to train and certify Cyber Mission Forces on the full spectrum of cyber weapons/capabilities without risk of observation or fratricide. JIOR is accredited by DIA for operations at Unclassified through Top Secret-Special Compartment Information (TS-SCI). JIOR is approved for use by Special Access Programs (SAP), Special Access Required Programs (SAR), and for Special Technical Operations (STO).

JIOR provides Combatant Commands, Services and Agencies (C/S/A's) and key allied partners with the ability to test deployment and gain insights into advanced cyberspace and Electronic Warfare (EW) capabilities under current and future operational environments. JIOR integrates available cyberspace ranges with the training/test communities providing access to low density/high demand test and training resources including critical infrastructure, cyber targets, internet traffic, and opposing forces. JIOR supports Presidential policy and CJCS mandates for training, certification, and recertification of 6000+ cyber mission forces and DoD/Interagency cyber vulnerability assessments. C/S/A's conduct hundreds of mission rehearsal, training, testing, and experimentation events on the JIOR annually.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support	R-1 Program Element (Number/Name) PE 0303166F I Support to Information Operations (IO) Capabilities
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	0.556	0.000	0.000	0.000	0.000
Current President's Budget	0.556	0.000	0.000	0.000	0.000
Total Adjustments	0.000	0.000	0.000	0.000	0.000
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.000	0.000	0.000

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: Joint Information Operations Range	0.556	0.000	0.000
Description: The Joint Information Operations Range (JIOR) is a closed-loop network that forms a live-fire, distributed range complex utilizing encrypted tunneling to conduct mission rehearsal, training, testing, and experimentation in a threat representative environment to support Information Operations (IO), Cyberspace, Electronic Warfare (EW), Spectrum Warfare, Space Operations, and Special Operations Forces (SOF) mission areas.			
FY 2024 Plans: N/A			
FY 2025 Plans: N/A			
FY 2024 to FY 2025 Increase/Decrease Statement: Funding decreased due to completion of RDT&E activity in FY 2023.			
Accomplishments/Planned Programs Subtotals			
	0.556	0.000	0.000

D. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• OPAF 03 834320: C3 Countermeasures	1.160	1.178	1.253	-	1.253	1.280	1.324	1.352	1.378	Continuing	Continuing

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0303166F / <i>Support to Information Operations (IO) Capabilities</i>
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D. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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Remarks

E. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0303255F <i>I Command, Control, Communication, and Computers (C4) - STRATCOM</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	29.092	20.871	19.607	0.000	19.607	19.971	20.257	20.968	21.381	Continuing	Continuing
664620: <i>NC3 Enterprise Center</i>	-	29.092	20.871	19.607	0.000	19.607	19.971	20.257	20.968	21.381	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note
 USSTRATCOM received a 10.0 million dollar Congressional add to establish and maintain a collaborative network capability in support of the NC3 Enterprise Center (NEC) Research Engineering and Architecture Collaboration Hub (REACH) in FY 2022 and FY 2023.

USSTRATCOM also received a 5.0 million dollar Congressional add in FY 2023 to conduct an NC3 network sensor demonstration.

A. Mission Description and Budget Item Justification

Secretary of Defense tasked USSTRATCOM Nuclear Command, Control and Communications (NC3) Enterprise Center (NEC) to oversee and monitor operations and security of the enterprise, develop tools to assist in monitoring the readiness of the NC3 architecture, and capture the operational risks as adversaries develop the ability to disrupt our capabilities from multiple threat vectors. This effort will fund enterprise operations, requirements, systems engineering and assessment activities. The NEC will capture and integrate process and system data to assess operational risk, characterize multi-domain threats, and explore operational trade space associated with next generation NC3 architectures. The NEC will work with the Services to explore new technologies and develop innovative solutions in a virtual environment, and capture metrics that identify system problems and readiness issues before they impact operations. The NEC will also develop digital engineering capabilities to support governance responsibilities of NC3.

The USSTRATCOM Strategic Mission Assurance Database System (SMADS) is a net-centric application that supports the overall Defense Critical Infrastructure Program (DCIP) by providing an operations support-focused capability leveraging built-in tools and DoD/DHS data to anticipate and quickly analyze and assess national, strategic, and operational impacts/risks associated with the loss or disruption of critical systems, assets and infrastructure. Current information together with logical links-nodes dependency views directly support mitigation COA development. SMADS supports OSD/JS-directed classified continuity responsibilities and the CJCS Residual Capabilities Assessment program. As the JS-designated repository for DoD task critical assets, SMADS is a key component of the federated Mission Assurance Risk Management System (MARMS) used across the DoD and interagency partners for mission assurance and operations-related activities.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support	R-1 Program Element (Number/Name) PE 0303255F I Command, Control, Communication, and Computers (C4) - STRATCOM
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	29.092	20.871	19.573	0.000	19.573
Current President's Budget	29.092	20.871	19.607	0.000	19.607
Total Adjustments	0.000	0.000	0.034	0.000	0.034
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.034	0.000	0.034

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 664620: NC3 Enterprise Center

Congressional Add: NC3 Enterprise Center REACH

Congressional Add: NC3 Network Sensor Demonstration

Congressional Add Subtotals for Project: 664620

Congressional Add Totals for all Projects

	FY 2023	FY 2024
	10.000	-
	5.000	-
Congressional Add Subtotals for Project: 664620	15.000	-
Congressional Add Totals for all Projects	15.000	-

C. Accomplishments/Planned Programs (\$ in Millions)

Title: NC3 Systems Engineering and Assessments

Description: Maintain NC3 Systems Engineering and Assessment Capability

FY 2024 Plans:

- Continue oversight and configuration control of the NC3 functional baseline
- Continue to identify NC3 capability gaps
- Continue to recommend plans for future NC3 capabilities
- Continue NC3 Enterprise Operational Assessment Program
- Continue to develop the NC3 Reference Architecture, its associated NC3 Roadmap, and the technical architecture patterns that will guide future solution architecture development

FY 2025 Plans:

	FY 2023	FY 2024	FY 2025
Title: NC3 Systems Engineering and Assessments	13.059	19.823	18.536

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>		R-1 Program Element (Number/Name) PE 0303255F <i>I Command, Control, Communication, and Computers (C4) - STRATCOM</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>"Continue NC3 Enterprise Operation Assessment Program" - examine assets and procedures to provide end-to-end connectivity from warning sensors to national decision makers to executing forces through the National Military Command System (NMCS).</p> <p>-Continue to update the NC3 Roadmap and develop NC3 Reference Architecture and technical architecture patterns to guide future solution architecture development.</p> <p>-Continue to conduct mission engineering and trade space analysis to inform enterprise-level investments and assist with modernization of NC3 systems to include command centers.</p> <p>-Continue to develop enterprise level interoperability standards and plans, and provide engineering support for interoperability standard implementation to evolve the NC3 systems.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding decrease is due to partnership with OUSD (R&E) in developing enterprise level interoperability standards, plans and best practices to evolve the NC3 systems.</p>				
<p>Title: Strategic Mission Assurance Database System (SMADS)</p> <p>Description: Supports the USSTRATCOM NC3 Watch Floor (Global Operations Center), DoD Defense Critical Infrastructure Program (DCIP) and the Mission Assurance Risk Management System (MARMS).</p> <p>-Joint Staff (JS) designated repository for defense critical infrastructure data (assets/systems) used in MARMS federation.</p> <p>-Mission assurance analysis tool for the Residual Capabilities Assessment (RECA)/Mission Assurance Operations (MAO) ISO of the USSTRATCOM Battle Watch Commander (BWC) at USSTRATCOM and deployed locations.</p> <p>-Provides asset/system analysis, dependency, risks/vulnerabilities, mitigation and impacts of natural/man-made events.</p> <p>-Supports other NC3 Command Centers (airborne/mobile/back-up) with SMADS capabilities.</p> <p>FY 2024 Plans:</p> <p>-Continue to provide the asset database and analysis tools needed to support USSTRATCOM, DTRA/MARMS and HHQ.</p> <p>-Develop upgraded analysis tools for the 2000+ SMADS users (i.e., Advanced Asset Search, Multi-NUDET Tool, etc.).</p> <p>-Expand SMADS to JWICS Top Secret domain ISO the Joint Staff Umbrella Policy to ensure assets in DCIP are accurately represented at the proper classification level for asset/system description, loss impact, risks, vulnerabilities, survivability, and dependency analysis. NOTE: The expansion of SMADS onto JWICS (SMADS-J) was approved in summer 2023.</p> <p>FY 2025 Plans:</p> <p>-Maintain base program for SIPR SMADS as the JS repository for DCIP assets/systems</p> <p>-Development of SMADS on JWICS for Data Management/Applications/Analysis and consumption by MARMS federated systems.</p> <p>-Respond to user comments on improvements to SMADS applications on both domains</p> <p>-Create new applications for SMADS analysis; work with DTRA to ensure MARMS compatibility to SMADS</p>		1.033	1.048	1.071

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support	R-1 Program Element (Number/Name) PE 0303255F I Command, Control, Communication, and Computers (C4) - STRATCOM
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
-Ensure SMADS assists DTRA in accomplishing MARMS milestones			
<i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Funding increase for FY25 is due to inflation.			
Accomplishments/Planned Programs Subtotals	14.092	20.871	19.607

	FY 2023	FY 2024
<i>Congressional Add:</i> NC3 Enterprise Center REACH	10.000	-
<i>FY 2023 Accomplishments:</i> - Support secure hosting and collaboration environment for test, demonstration, and prototyping in support of the NC3 Enterprise Center (NEC) Research Engineering and Architecture Collaboration Hub (REACH). - Enhance and sustain REACH collaborative network extending capability to mission partners. - Inform future architectures through technology evaluation, assessment, demonstration, experimentation, or development in a secure environment.		
<i>Congressional Add:</i> NC3 Network Sensor Demonstration	5.000	-
<i>FY 2023 Accomplishments:</i> - Enable a demonstration to facilitate and conduct pre-emptive network security visibility on NC3 networks - Determine effectiveness of networks security sensors, and network traffic data analysis tools, within current network traffic flow - Validate an enterprise network modeling tool that will map out a given NC3 network and enable more effective sensor suite placement - Verify NC3 network traffic data collected, and its integrity, and deploy dedicated defenders, within DoD's core for defensive cyber operations and cyber surveillance, Unified Platform		
Congressional Adds Subtotals	15.000	-

D. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPAF 03 0303255F: STRATCOM C4	4.282	4.436	4.797	-	4.797	4.900	5.071	5.178	5.281	Continuing	Continuing

Remarks

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity
3600: *Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support*

R-1 Program Element (Number/Name)
PE 0303255F *I Command, Control, Communication, and Computers (C4) - STRATCOM*

E. Acquisition Strategy

The Digital Engineering effort is led by the NC3 Enterprise Center (NEC) under USSTRATCOM and will utilize existing contracts to purchase equipment and software, in particular, requesting and funding additional capability development from on-going Service software efforts to model NC3 activities.

Projects funded through DCIP will be awarded using competitive contracts to the maximum extent possible.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0308602F / <i>ENTEPRISE INFORMATION SERVICES (EIS)</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	71.020	100.357	104.133	0.000	104.133	108.031	112.368	134.092	136.739	Continuing	Continuing
6622P1: <i>Platform One</i>	-	0.000	91.449	94.895	0.000	94.895	98.541	102.625	123.867	126.312	Continuing	Continuing
66ACSI: <i>R&D Change Management</i>	-	71.020	8.908	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
66ACSI: <i>Acquisition and Command Support Integration</i>	-	0.000	0.000	9.238	0.000	9.238	9.490	9.743	10.225	10.427	Continuing	Continuing

Note

In FY 2025, PE 0308602F (Enterprise Information Services) Enterprise Resource Planning Common Services (ERP-CS) efforts transferred from PE 0308602F BPAC 66ACSI to PE 0308602F BPAC 66ACSI to correct a database error.

In FY 2024, PE 0308602F (Enterprise Information Services) Platform One efforts transferred from PE 0308602F BPAC 66ACSI to PE 0308602F BPAC 6622P1 to provide better visibility into the funding delineation between the two programs.

A. Mission Description and Budget Item Justification

Enterprise Information Services (EIS) is a portfolio of integrated programs/technologies/services that enables and sustains Air Force Information Management, Knowledge Operations and Development, Security and Operations (DevSecOps) initiatives. EIS provides Air Force personnel access to, and management of, timely, accurate, and trusted mission data, information, and knowledge supporting information/decision superiority. EIS utilizes the services provided by Platform One (P1) and Enterprise Resource Planning Common Services (ERP CS).

P1 and ERP CS provide common platforms, common application support services, data center migration to the cloud options, and security services for hosting AF mission applications. P1 provides access to a cyber-secure software supply chain and an existing, accredited DevSecOps infrastructure reusable by DoD programs that accelerate widespread adoption of DevSecOps methodologies IAW DoD Digital Modernization strategy. ERP CS provides the AF target environments for AF ERP mission applications. P1 and ERP CS acquisitions are critical for multiple hosting environments leveraging DoD Joint Information Environment (JIE) Core Data Centers (CDC) and DoD and Air Force brokered commercial cloud capabilities that complies with the Air Force Information Technology (AF IT) baselines. These efforts also provide technical expertise, programmatic guidance, and policy navigation that support AF approved application rationalization processes to multiple hosting environments and enterprise IT Lifecycle Capabilities Integration Environment (CIE) testing of services.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605829F. In FY23 \$0.000M was expended for civilian pay expenses in this program element; and in FY24 \$0.000M is forecasted for civilian pay expenses in this program element.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0308602F / <i>ENTEPRISE INFORMATION SERVICES (EIS)</i>
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This requirement supports performance of a full financial audit as required by title 10 U.S.C. Chapter 9A, Sec 240-D.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	73.100	100.357	103.949	0.000	103.949
Current President's Budget	71.020	100.357	104.133	0.000	104.133
Total Adjustments	-2.080	0.000	0.184	0.000	0.184
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-2.080	0.000			
• Other Adjustments	0.000	0.000	0.184	0.000	0.184

Change Summary Explanation

No significant change to FY25 budget request.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0308602F / ENTEPRISE INFORMATION SERVICES (EIS)	Project (Number/Name) 6622P1 / Platform One
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
6622P1: Platform One	-	0.000	91.449	94.895	0.000	94.895	98.541	102.625	123.867	126.312	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Platform One delivers enterprise scale Development/Security/Operations (DevSecOps) managed services. It accelerates delivery of software and digital AF transformation by providing a secure centralized software development and delivery platform, tools and training for Department of the Air Force (DAF) and its DoD programs.

Platform One provides access to existing, accredited and supported DevSecOps infrastructure, via four key products (value streams) including Iron Bank, Big Bang, Party Bus, and Cloud Native Access Point (CNAP) to accelerate widespread adoption of DevSecOps methodology IAW DoD Digital Modernization strategy.

High-level definitions for the four key-products (value streams) follow:

Iron Bank - Software supply chain security and hardening capability

Big Bang - Templates and guidelines for deploying a secure DevSecOps Platform in any environment, tailorable for mission needs.

Party Bus - Turnkey Platform as a Service (PaaS) for continuous software development and rapid fielding

CNAP - Secure access to DevSecOps cloud environments

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Platform One	-	91.449	94.895
Description: Platform One is the DoD CIO's preferred DevSecOps enterprise solution delivering full stack automation tools, services, and standards as-a-service. Platform One allows programs developing and/or delivering software to focus on building flexible and interoperable mission capability rapidly and securely.			
FY 2024 Plans:			
FY24 centrally funds core services, including but not limited to: software hardening pipeline and repository dedicated to software Supply Chain Risk Management (SCRM) and Software Bill of Materials (SBOM) for Commercial and Open Source software at multiple commercial cloud impact levels (IL-2, IL-4, IL-5, and IL-6); Infrastructure as Code (IaC) tailorable to a program's needs and deployable to unclassified and classified cloud, on-premise environments, disconnected systems in a denied, degraded, intermittent, and limited (DDIL) operational environments, and exploring embedded systems common in many weapon systems. This infrastructure comes with a continuous-Authority to Operate/Field (c-ATO/F) addressing the Risk Management Framework (RMF). Platform One capability enables continuous delivery of software capabilities through the use of secure, tailorable and agile software factory services, tools and standards.			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0308602F / ENTEPRISE INFORMATIO N SERVICES (EIS)	Project (Number/Name) 6622P1 / Platform One

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>- Will continue enabling DevSecOps efforts at the warfighting edge supporting DoD CIO priorities, especially to support expanded Joint All-Domain Command and Control (JADC2) and coalition capabilities.</p> <p>- Will continue development and delivery of DevSecOps tools and services supporting enterprise transform of software capabilities to match the speed of technology and threats.</p> <p>- Will continue integration and evolution of enterprise zero trust architecture to provide secure and resilient DevSecOps from development to edge employment.</p> <p>- Will expand container hardening capability to higher impact levels and enhance supply chain risk mitigation of commercial and open source products.</p> <p>FY 2025 Plans: FY25 centrally funds core services, including but not limited to: software hardening pipeline and repository dedicated to software Supply Chain Risk Management (SCRM) and Software Bill of Materials (SBOM) for Commercial and Open Source software at multiple commercial cloud impact levels (IL-2, IL-4, IL-5, and IL-6); Infrastructure as Code (IaC) tailorable to a program's needs and deployable to unclassified and classified cloud, on-premise environments, disconnected systems in a denied, degraded, intermittent, and limited (DDIL) operational environments; exploring embedded systems common in many weapon systems; long-term scaling of unclassified and classified DevSecOps capabilities to more government organizations with unique use-cases along with inflationary costs associated with DEVSECOPS contracts.</p> <p>This infrastructure comes with a continuous-Authority to Operate/Field (c-ATO/F) addressing the Risk Management Framework (RMF). Platform One capability enables continuous delivery of software capabilities through secure, tailorable and agile software factory services, tools and standards.</p> <p>- Will continue enabling DevSecOps efforts at the warfighting edge supporting DoD CIO priorities, especially to support expanded Joint All-Domain Command and Control (JADC2) and coalition capabilities.</p> <p>- Will continue development and delivery of DevSecOps tools and services supporting enterprise transform of software capabilities to match the speed of technology and threats.</p> <p>- Will continue integration and evolution of enterprise zero trust architecture to provide secure and resilient DevSecOps from development to edge employment.</p> <p>- Continue to expand container hardening capability to higher impact levels and enhance supply chain risk mitigation of commercial and open-source products.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement:</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0308602F / ENTEPRISE INFORMATION SERVICES (EIS)	Project (Number/Name) 6622P1 / Platform One

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Funding increased due to inflationary costs associated with DevSecOps contracts			
Accomplishments/Planned Programs Subtotals	-	91.449	94.895

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 6					R-1 Program Element (Number/Name) PE 0308602F / ENTEPRISE INFORMATION SERVICES (EIS)				Project (Number/Name) 66ACS1 / R&D Change Management			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
66ACS1: R&D Change Management	-	71.020	8.908	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Platform One efforts are included in BPAC 66ACS1 until FY24. In FY 2024 Platform One efforts transferred from BPAC 66ACS1 to BPAC 6622P1 in order to provide better visibility into the funding delineation between the two programs in PE 0308602F.

A. Mission Description and Budget Item Justification

Platform One and ERP CS provide common platforms, common application support services, data center migration strategy, and security services for hosting AF mission applications. Platform One provides access to existing, accredited and supported DevSecOps infrastructure, to accelerate widespread adoption of DevSecOps methodology IAW DoD Digital Modernization strategy. ERP CS provides the AF target environments for AF ERP mission applications. This acquisition is critical for multiple hosting environments leveraging DoD Joint Information Environment (JIE) Core Data Centers (CDC) and commercial cloud capabilities in compliance with the Air Force Information Technology (AF IT) baselines. This effort also provides technical expertise, programmatic guidance, and policy navigation that supports AF approved application rationalization processes to multiple hosting environments and enterprise IT Lifecycle Capabilities Integration Environment (CIE) testing of services.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Platform One	61.845	0.000	0.000
Description: Platform One is the DoD CIO's preferred DevSecOps enterprise solution delivering full stack automation tools, services, and standards as-a-service. Platform One allows programs developing and/or delivering software to focus on building flexible and interoperable mission capability rapidly and securely.			
FY 2024 Plans: N/A, In FY 2024 Platform One efforts transferred from BPAC 66ACS1 to BPAC 6622P1.			
FY 2025 Plans: N/A, In FY 2024 Platform One efforts transferred from BPAC 66ACS1 to BPAC 6622P1.			
FY 2024 to FY 2025 Increase/Decrease Statement: N/A; there is not an FY25 funding request.			
Title: Enterprise Resource Planning Common Services	9.175	8.908	0.000
Description: The portfolio aims to provide Joint Information Environment compliant enterprise and/or local application and data hosting. ERP CS costs consist of subject matter expert support, A&AS support, license costs, PMA directorate assessments,			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0308602F / ENTEPRISE INFORMATIO N SERVICES (EIS)	Project (Number/Name) 66ACS1 / R&D Change Management

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>cyber security tools/services, system implementer, studies, Cloud One costs, independent test services and other miscellaneous costs to successfully manage the program. This effort will design, develop and deliver consolidated common services for ERP applications in a cloud environment under Cloud One. Environments targeted for consolidation are development, test, production and disaster recovery across at least two geographically separated locations. This effort includes completing cybersecurity requirements and acquisition of supporting cloud infrastructure, software and management resources.</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - Provide access to modernized, standard, secure, and resilient IT infrastructure and platforms to support application workload and data storage for the Air Force ERPs supporting DoD CIO priorities. - Provide agile development and delivery of updates to the established DevSecOps infrastructure, tools, and services to meet the requirements of the ERPs and applications migrating to ERP CS environments in Cloud One Oracle Cloud Infrastructure (OCI). - Provide support for the migration/deployment of the MRO, DEAMS and AFIPPS Production instances to the ERP CS-developed environments in Cloud One OCI. <p>FY 2025 Plans:</p> <p>In FY 2025, PE 0308602F (Enterprise Information Services) Enterprise Resource Planning Common Services (ERP-CS) efforts transferred from PE 0308602F BPAC 66ACS1 to PE 0308602F BPAC 66ACSI to correct a database error.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement:</p> <p>In FY 2025, PE 0308602F (Enterprise Information Services) Enterprise Resource Planning Common Services (ERP-CS) efforts transferred from PE 0308602F BPAC 66ACS1 to PE 0308602F BPAC 66ACSI to correct a database error.</p>			
Accomplishments/Planned Programs Subtotals	71.020	8.908	0.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 6					R-1 Program Element (Number/Name) PE 0308602F / ENTEPRISE INFORMATIO N SERVICES (EIS)				Project (Number/Name) 66ACSI / Acquisition and Command Support Integration			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
66ACSI: Acquisition and Command Support Integration	-	0.000	0.000	9.238	0.000	9.238	9.490	9.743	10.225	10.427	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2025, PE 0308602F (Enterprise Information Services) Enterprise Resource Planning Common Services (ERP-CS) efforts transferred from PE 0308602F BPAC 66ACS1 to PE 0308602F BPAC 66ACSI to correct a database error.

A. Mission Description and Budget Item Justification

ERP CS provides common application support services, data center migration strategy, and security services for hosting AF mission applications. ERP CS provides the AF target environments for AF ERP mission applications. This acquisition is critical for multiple hosting environments leveraging DoD Joint Information Environment (JIE) Core Data Centers (CDC) and commercial cloud capabilities in compliance with the Air Force Information Technology (AF IT) baselines. This effort also provides technical expertise, programmatic guidance, and policy navigation that supports AF approved application rationalization processes to multiple hosting environments and enterprise IT Lifecycle Capabilities Integration Environment (CIE) testing of services.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Enterprise Resource Planning Common Services	-	-	9.238
Description: The portfolio aims to provide Joint Information Environment compliant enterprise and/or local application and data hosting. ERP CS costs consist of subject matter expert support, A&AS support, license costs, PMA directorate assessments, cyber security tools/services, system implementer, studies, Cloud One costs, independent test services and other miscellaneous costs to successfully manage the program. This effort will design, develop and deliver consolidated common services for ERP applications in a cloud environment under Cloud One. Environments targeted for consolidation are development, test, production and disaster recovery across at least two geographically separated locations. This effort includes completing cybersecurity requirements and acquisition of supporting cloud infrastructure, software and management resources.			
FY 2025 Plans:			
- Will continue providing access to modernized, standard, secure, and resilient IT infrastructure and platforms to support application workload and data storage for the Air Force ERPs supporting DoD CIO priorities.			
- Will continue agile development and delivery of updates to the established DevSecOps infrastructure, tools, and services to meet the requirements of the ERPs and applications migrating to ERP CS environments in Cloud One Oracle Cloud Infrastructure (OCI).			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0308602F / ENTEPRISE INFORMATIO N SERVICES (EIS)	Project (Number/Name) 66ACSI / Acquisition and Command Support Integration

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
- Will provide support for the migration/deployment of the MRO, DEAMS and AFIPPS Production instances to the ERP CS-developed environments in Cloud One OCI. FY 2024 to FY 2025 Increase/Decrease Statement: In FY 2025, PE 0308602F (EIS) ERP-CS efforts transferred from PE 0308602F BPAC 66ACS1 to PE 0308602F BPAC 66ACSI to correct a database error. Funding increased due to inflation.			
Accomplishments/Planned Programs Subtotals	-	-	9.238

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force</i> / BA 6: <i>RDT&E Management Support</i>					R-1 Program Element (Number/Name) PE 0702806F / <i>Acquisition and Management Support</i>							
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	48.331	20.478	25.216	0.000	25.216	25.332	25.298	25.629	26.139	0.000	196.423
66ACSI: <i>ACQ and Command Support Integration</i>	-	48.331	20.478	25.216	0.000	25.216	25.332	25.298	25.629	26.139	0.000	196.423

A. Mission Description and Budget Item Justification

The program funds efforts to meet the Defense Acquisition Workforce Improvement Act (DAWIA), as well as Congressional, SECDEF, and SECAF mandates to provide program management execution tools, systems integration and architectural analysis, information technology infrastructure development, and technical workforce management. Funding also provides the framework for Air Force business and acquisition transformation in developing capabilities-based architectures, re-engineering and enabling technologies, integrating robust systems engineering into early acquisition processes, acquisition process improvement analysis, and developing and managing a technical workforce with the expertise to uniformly implement OSD and Air Force engineering guidance and policies. These efforts provide stability in Air Force Acquisition by integrating major processes to reverse trends toward unpredictable program cost, schedule, and performance to facilitate quick response to urgent operational needs from across the entire spectrum of potential conflicts. These integrated capabilities will provide OSD and AF acquisition leadership insights needed to effectively manage a complex portfolio of acquisition programs through more timely and reliable access to authoritative acquisition data.

The Air Force is refocusing a number of science and technology concept explorations in artificial intelligence (AI) across command, control, communications, sensor, and intelligence areas within PE 0602788F, Dominant Information Sciences and Methods, and PE 0602204F, Aerospace Sensors, to improve and accelerate the delivery of artificial intelligence warfighting capabilities under the direction of both the Vice Chief of Staff of the Air Force and the Assistant Secretary of the Air Force (Acquisition, Technology & Logistics) and exercised through the Air Force Capability Development Council. The Air Force will now perform these science and technology concept explorations under this Program Element as the Air Force continues to respond to and reflect 1) the vision outlined for Artificial Intelligence in the 2018 National Defense Strategy, 2) expectations outlined by the February 2019 White House Executive Order on Artificial Intelligence and the United States Department of Defense (DoD) Artificial Intelligence Strategy, 3) initiatives by other Armed Services to create AI-centric organizations, 4) Senior Air Force leadership goals to develop Artificial Intelligence applications for the United States Air Force in the near term, and 5) senior Department of Defense leadership objectives to enrich and strengthen the broader Air Force and Department Artificial Intelligence ecosystem to impact national security.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY22 \$0M was expended for civilian pay expenses in this program element, and in FY23 \$0M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0702806F / <i>Acquisition and Management Support</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	49.152	20.478	21.603	0.000	21.603
Current President's Budget	48.331	20.478	25.216	0.000	25.216
Total Adjustments	-0.821	0.000	3.613	0.000	3.613
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	-0.821	0.000	3.613	0.000	3.613

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 66ACSI: *ACQ and Command Support Integration*

Congressional Add: *Digital Transformation Office (DTO)*

Congressional Add: *Document Generation Platform*

Congressional Add: *Digital Ecosystem Development*

Congressional Add Subtotals for Project: 66ACSI

Congressional Add Totals for all Projects

	FY 2023	FY 2024
	-	0.000
	15.000	0.000
	10.600	0.000
Congressional Add Subtotals for Project: 66ACSI	25.600	0.000
Congressional Add Totals for all Projects	25.600	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 6					R-1 Program Element (Number/Name) PE 0702806F / <i>Acquisition and Management Support</i>				Project (Number/Name) 66ACSI / <i>ACQ and Command Support Integration</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
66ACSI: <i>ACQ and Command Support Integration</i>	-	48.331	20.478	25.216	0.000	25.216	25.332	25.298	25.629	26.139	0.000	196.423
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The program funds efforts to meet the Defense Acquisition Workforce Improvement Act (DAWIA), as well as Congressional, SECDEF, and SECAF mandates to provide program management execution tools, systems integration and architectural analysis, information technology infrastructure development, and technical workforce management. Funding also provides the framework for Air Force business and acquisition transformation in developing capabilities-based architectures, re-engineering and enabling technologies, integrating robust systems engineering into early acquisition processes, acquisition process improvement analysis, and developing and managing a technical workforce with the expertise to uniformly implement OSD and Air Force engineering guidance and policies. These efforts provide stability in Air Force Acquisition by integrating major processes to reverse trends toward unpredictable program cost, schedule, and performance to facilitate quick response to urgent operational needs from across the entire spectrum of potential conflicts. These integrated capabilities will provide OSD and AF acquisition leadership insights needed to effectively manage a complex portfolio of acquisition programs through more timely and reliable access to authoritative acquisition data.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
<p>Title: Acquisition Mandates</p> <p>Description: Supporting Congressional, SECDEF, and SECAF mandates. Program funding provides the framework for Air Force business and acquisition.</p> <p>FY 2024 Plans: Continue program management and resources management oversight.</p> <p>FY 2025 Plans: Supporting Congressional, SECDEF, and SECAF mandates. Program funding provides the framework for Air Force business and acquisition.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Supports additional research for studies for Congressional, SECDEF, and SECAF mandates. Program funding provides the framework for Air Force business and acquisition.</p>	1.246	1.864	2.677
<p>Title: Acquisition Management in support of PEO Business Enterprise Systems</p> <p>Description: Funds AF required Network Operations/LAN at Gunter, Enterprise MITRE Support, IT Services, operational AF help desks, and A&AS in support of the SECAF and SAF/AQ vision within PEO BES.</p>	-	0.000	3.567

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0702806F / <i>Acquisition and Management Support</i>	Project (Number/Name) 66ACSI / <i>ACQ and Command Support Integration</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>FY 2024 Plans: Funds AF required Network Operations/LAN at Gunter, Enterprise MITRE Support, IT Services, operational AF help desks, and A&AS in support of the SECAF and SAF/AQ vision within PEO BES.</p> <p>FY 2025 Plans: Funds AF required Network Operations/LAN at Gunter, Enterprise MITRE Support, IT Services, operational AF help desks, and A&AS in support of the SECAF and SAF/AQ vision within PEO BES.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: This program was moved from PE 0605829F resulting in the increase to PE 0702806F.</p>				
<p>Title: Technical and Analytical Support</p> <p>Description: Supports Acquisition Domain-level effort to integrate existing acquisition business systems/services, data, and processes supporting key Acquisition capabilities at the enterprise level (via the Acquisition Domain Capabilities Integration (ADCI) activities). This support entails analysis required to architect an integrated environment on multiple hosting platforms to support the portfolio of acquisition business systems by solving problems across/outside of individual system boundaries with the goal of reducing redundancy, improving systems operations, and improving management of data resulting in dramatically improved transparency, efficiency, and effective management of the Acquisition process. This support also helps implement standards for data management and service-oriented design methodology to facilitate efficiency and interoperability as well as providing some business intelligence services. The creation and support of domain-level requirements and governance processes as well as the creation of domain-wide data standards are additional support items provided. In addition, includes support for Artificial Intelligence/Machine Learning (AI/ML) pilots, experimentation associated with business analytics, acquisition program performance measures, and predictive analytics in support of decision-making and workforce training for the acquisition enterprise.</p> <p>FY 2024 Plans: Continue supporting the automation of key Life Cycle Management Center (LCMC) and Space & Missile Systems Center (SMC) acquisition processes and onboarding of new capabilities across the Acquisition Domain. Supports refinement of CIO portfolio Artificial Intelligence (AI)/Machine Learning (ML) vision and incorporating functionalities built as part of AI/ML pilots, experimentation associated with business analytics, acquisition program performance measures, and predictive analytics in support of decision-making and workforce training for the acquisition enterprise.</p> <p>FY 2025 Plans: Continue supporting the automation of key Life Cycle Management Center (LCMC) and Space & Missile Systems Center (SMC) acquisition processes and onboarding of new capabilities across the Acquisition Domain. Supports refinement of CIO</p>		1.732	2.270	2.261

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0702806F / <i>Acquisition and Management Support</i>	Project (Number/Name) 66ACSI / <i>ACQ and Command Support Integration</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>portfolio Artificial Intelligence (AI)/Machine Learning (ML) vision and incorporating functionalities built as part of AI/ML pilots, experimentation associated with business analytics, acquisition program performance measures, and predictive analytics in support of decision-making and workforce training for the acquisition enterprise.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: No significant delta.</p>				
<p>Title: Associated Tool Development</p> <p>Description: Upgrade the enterprise tools that assist PMs and acquisition professionals with the day-to-day program management tasks throughout an Acquisition program's lifecycle.</p> <p>FY 2024 Plans: Upgrade the enterprise tools that assist PMs and acquisition professionals with the day-to-day program management tasks throughout an Acquisition program's lifecycle.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A</p>		0.000	0.000	-
<p>Title: Project Management Resource Tools (PMRT)</p> <p>Description: Upgrade enterprise PMRT tools that provide program/project resource management support to the Acquisition community.</p> <p>FY 2024 Plans: Continue enhancement of PMRT to allow increased visibility to acquisition programmatic and financial information for all AF Acquisition investment programs. Continued expansion of critical PMRT interfaces via Acquisition Data Service Broker (ADSB) and enhance PMRT native apps. Increase PMRT refactoring and migration to the Cloud for the incorporation of Artificial Intelligence (AI), Machine Learning (ML), and Predictive Analysis.</p> <p>FY 2025 Plans: Continue enhancement of PMRT to allow increased visibility to acquisition programmatic and financial information for all AF Acquisition investment programs. Continued expansion of critical PMRT interfaces via Acquisition Data Service Broker (ADSB) and enhance PMRT native apps. Increase PMRT refactoring and migration to incorporate Artificial Intelligence (AI), Machine Learning (ML), and Predictive Analysis.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement:</p>		5.713	3.692	1.460

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0702806F / <i>Acquisition and Management Support</i>	Project (Number/Name) 66ACSI / <i>ACQ and Command Support Integration</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
The decrease for PMRT is a result of the IT application moving into sustainment.				
<p>Title: Capabilities Integration Environment (CIE)</p> <p>Description: CIE is an Infrastructure as a Service (IaaS) provider that enables application proofs-of-concept, development, integration, and test activities in accredited on-premises government cloud and third-party commercial cloud environments.</p> <p>FY 2024 Plans: Continue support for secure, scalable environment for R&D, DT/OT, integration, exercises, experimentation, acquisition development and direct Warfighter support.</p> <p>FY 2025 Plans: There is no longer a requirement for this program due to it being terminated.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: This program is being terminated as part of a continued effort to support the Air Force Cloud Computing Strategy and desire to continue on a faster and more affordable trajectory.</p>		1.147	1.349	0.000
<p>Title: USAF Artificial Intelligence Accelerator at MIT</p> <p>Description: Establish the first phase of a state-of-the-art, end-to-end, sustainable ecosystem of AI technology from basic research to transformed data sets ready for use in developing artificial intelligence algorithms and operational prototypes. This effort creates an environment where integrated teams of MIT researchers and USAF Airmen develop Challenge Problems in AI and invites the academic and commercial communities to propose solutions to those Challenge Problems.</p> <p>FY 2024 Plans: Continue to perform each of the following activities: Guardian Autonomy for Safe Decision Making; Fast AI; Transferring Multi-Robot Learning through Virtual and Augmented Reality for Rapid Disaster Response; Conversational Interaction for Unstructured Information Access and Language Learning; Multimodal Vision for Synthetic Aperture Radar; AI-Assisted Optimization of Training Schedules; The Earth Intelligence Engine; Robust Neural Differential Models for Navigation and Beyond; Objective Performance Prediction & Optimization using Physiological and Cognitive Metrics; AI-Enhanced Spectral Awareness and Interference Rejection; Application of Evolutionary Algorithms for DoD Complex Enterprises; AI Education Research: Know, Apply and Lead; and Automation in Space Domain Awareness.</p> <p>FY 2025 Plans: Continue to perform each of the following activities: Guardian Autonomy for Safe Decision Making; Fast AI; Transferring Multi-Robot Learning through Virtual and Augmented Reality for Rapid Disaster Response; Conversational Interaction for Unstructured Information Access and Language Learning; Multimodal Vision for Synthetic Aperture Radar; AI-Assisted Optimization of Training</p>		12.693	11.103	15.051

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0702806F / <i>Acquisition and Management Support</i>	Project (Number/Name) 66ACSI / <i>ACQ and Command Support Integration</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
Schedules; The Earth Intelligence Engine; Robust Neural Differential Models for Navigation and Beyond; Objective Performance Prediction & Optimization using Physiological and Cognitive Metrics; AI-Enhanced Spectral Awareness and Interference Rejection; Application of Evolutionary Algorithms for DoD Complex Enterprises; AI Education Research: Know, Apply and Lead; and Automation in Space Domain Awareness. FY 2024 to FY 2025 Increase/Decrease Statement: The program was intended to have \$15M across the FYDP. The previous year was decremented due to SBIR withholds and as a result of under execution two years earlier. The program is funded at the level it was intended to be funded at.				
Title: Development and Retention Description: Supports activities to develop, manage and retain the acquisition workforce. FY 2024 Plans: Continue to perform activities to develop, manage, and retain the acquisition workforce by providing training on enhanced business and engineering processes. FY 2025 Plans: Continue to perform activities to develop, manage, and retain the acquisition workforce by providing training on enhanced business and engineering processes.		0.200	0.200	0.200
Accomplishments/Planned Programs Subtotals		22.731	20.478	25.216
		FY 2023	FY 2024	
Congressional Add: Digital Transformation Office (DTO) FY 2024 Plans: This program will no longer be funded in this PE.		-	0.000	
Congressional Add: Document Generation Platform FY 2023 Accomplishments: Doc generation Platform - Creating a file wrapper that enable secure documents at the document level that are geo fenced, open count controlled, time stamp corruptible, etc. (\$15.M) FY 2024 Plans: There are no longer requirements for this effort.		15.000	0.000	
Congressional Add: Digital Ecosystem Development		10.600	0.000	

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024	
Appropriation/Budget Activity 3600 / 6	R-1 Program Element (Number/Name) PE 0702806F / <i>Acquisition and Management Support</i>	Project (Number/Name) 66ACSI / <i>ACQ and Command Support Integration</i>	
		FY 2023	FY 2024
FY 2023 Accomplishments: Digital First Ecosystem - Building out connectivity between digital doers, digital needs, and digital solutions both inside and outside of the government. Leveraging NetworkOS, facilitated workshops, and culture to enable digital. (\$10.6M)			
FY 2024 Plans: There is no longer a requirement for this effort.			
Congressional Adds Subtotals		25.600	0.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0804776F / <i>Advanced Distributed Learning</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	0.000	0.000	1.652	0.000	1.652	1.686	1.724	1.758	1.794	Continuing	Continuing
665297: <i>Technical Training Information</i>	-	0.000	0.000	1.652	0.000	1.652	1.686	1.724	1.758	1.794	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

TECHNICAL TRAINING MANAGEMENT SYSTEM [TTMS]: TTMS provides AETC organizations with a world class commercial-off-the-shelf [COTS] / government-off-the-shelf [GOTS] learning management system which supports six functions: course design and development; student evaluation; instructor management; student management; data analysis; and resource administration. TTMS is a centralized web-based system which provides productivity enhancements and higher degree of efficiency to AETC. The primary requirement objectives currently under development are: 1] Integration of Basic Training Management System [BTMS] capabilities and student records into the TTMS.

Prior to FY25 these efforts were funded by to PE 0804731F, General Skill Training

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	1.652	0.000	1.652
Total Adjustments	0.000	0.000	1.652	0.000	1.652
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	1.652	0.000	1.652

C. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Technical Training Management System [TTMS]	-	-	1.652

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0804776F / <i>Advanced Distributed Learning</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Description: Provided TTMS productivity enhancements and higher degree of efficiency to AETC [i.e., Military Training Leader and Basic Training Management System].</p> <p>FY 2025 Plans: Continue TTMS development</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased in FY25 as a result of efforts transferred to PE 0804731F, Technical Training Information</p>			
Accomplishments/Planned Programs Subtotals	-	-	1.652

D. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

E. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0909999F / <i>Financing for Cancelled Account Adjustments</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	1.887	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.887
664277: <i>Financing for Canceled Account Adj</i>	-	1.887	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.887
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Financing for Cancelled Account Adjustment.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

B. Program Change Summary (\$ in Millions)

	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025 Base</u>	<u>FY 2025 OCO</u>	<u>FY 2025 Total</u>
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	1.887	0.000	0.000	0.000	0.000
Total Adjustments	1.887	0.000	0.000	0.000	0.000
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	1.887	0.000	0.000	0.000	0.000

Change Summary Explanation

Funds were required for payment of cancelled year validated invoices

C. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Financing for Cancelled Account Adjustment	0.000	-	-
Description: Funds were required for payment of cancelled year validated invoices.			
Accomplishments/Planned Programs Subtotals	0.000	-	-

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force Date: March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0909999F / <i>Financing for Cancelled Account Adjustments</i>
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D. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

E. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 1001004F / <i>International Activities</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	2.593	3.917	4.590	0.000	4.590	4.705	4.802	4.903	5.000	Continuing	Continuing
664645: <i>International Cooperative Research & Development</i>	-	2.593	3.917	4.590	0.000	4.590	4.705	4.802	4.903	5.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The mission of this program is to establish, sustain, expand, and enhance mutually beneficial international partnerships through the implementation of air, space, and cyber international armament cooperation (IAC) agreements thereby supporting DAF and DoD goals and objectives. These International Agreements (IAs) will: significantly improve US and allied conventional defense capacity and capabilities; accelerate the availability of defense systems; realize solutions to meet capability gaps; acquire, upgrade, sustain, and/or support common or interoperable equipment with our allies; create cooperative acquisition, production, or logistic partnerships; promote mutual and equitable sharing of effort, cost, information, and risk; provide access to remote or operational test sites; leverage economies of scale; and promote interoperability and commonality with our allies.

The DAF is party to more than 650 current air, space, and cyber bilateral and multilateral IAs to solve common US and allied military capability gaps, develop materiel solutions, harmonize requirements, and build interoperability with our international partners. This program element funds the DAF to identify, develop, process, negotiate, conclude, implement, and manage IAs in compliance with statutory provisions, legal authorities, fiscal constraints, technology transfer controls, intellectual property rights, third party transfer provisions, equitability criteria, industrial base factors, political-military interests, and the National Defense Strategy (NDS). Included in this budget are: air, space, and cyber IAC and IA activities; technology assessments; specialized working groups; Air Senior National Representative (ASNR) activities; technology assessments; technical planning for bilateral and multilateral IAs; Engineering and Scientist Exchange Program (ESEP); and Administrative and Professional Exchange Program (APEP).

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 1001004F / <i>International Activities</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	2.593	3.917	4.582	0.000	4.582
Current President's Budget	2.593	3.917	4.590	0.000	4.590
Total Adjustments	0.000	0.000	0.008	0.000	0.008
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.008	0.000	0.008

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: International Partnership Activities	0.694	0.800	0.890	0.000	0.890
<p>Description: Advocate, develop, and support DAF activities, goals, and objectives to build global partnerships in support of national security objectives and the NDS through IAC agreements. Funds DAF participation in NATO forums to promote harmonization and interoperability. Funds DAF support and participation in OSD bi-lateral IAC forums. Funds technical assessments and discussions that support technology development activities and interoperability. Funds DAF efforts to enhance existing relationships with Australia, Belgium, Canada, Denmark, France, Germany, Israel, Italy, Japan, NATO, Netherlands, New Zealand, Norway, South Korea, Singapore, Spain, Sweden, and UK. Funds DAF efforts to build stronger relationships with the Czech Republic, Estonia, Finland, Hungary, India, Luxembourg, Poland, and Turkey. Funds DAF efforts to establish IAC relationships with Brazil, Chile, Columbia, Peru, South Africa, Taiwan, and other emerging partners IAW the NDS.</p> <p>FY 2024 Plans: Advocate, develop, and support DAF goals and objectives to establish, sustain, expand and enhance mutually beneficial partnerships between the US and coalition and strategic partners to meet current and emerging global strategic challenges through optimization of interoperability, integration, and interdependence between coalition forces. Efforts will have an enhanced focus on mutually beneficial partnerships IAW the NDS.</p> <p>FY 2025 Base Plans: Increase efforts to advocate, develop, and support of IAC goals and objectives to establish, sustain, expand and enhance mutually beneficial partnerships between the US and coalition and strategic partners to meet current</p>					

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 1001004F / <i>International Activities</i>
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C. Accomplishments/Planned Programs (\$ in Millions)

and future global strategic challenges through optimization of interoperability, integration, and interdependence between forces. Efforts will have an enhanced focus on mutually beneficial partnerships IAW the NDS.

FY 2025 OCO Plans:

\$0 are planned for FY 2025 OCO Plan.

FY 2024 to FY 2025 Increase/Decrease Statement:

Funding increase will return the International Partnership effort to full funding ensuring the DAF can strengthen strategically important global partnerships to meet national security objectives.

Title: International Armaments Cooperation (IAC) Agreement Activities

Description: Identify, develop, process, negotiate, conclude, and implement RDT&E and acquisition bilateral and multilateral IAC Agreements that meet the goals, objectives, and mission of the DAF and DoD. IAC activities provide the DAF access to: critical geography; remote test ranges; challenged environments; operational environments; threat scenarios; new capabilities; world class R&D facilities; personnel; cost sharing; economies of scale; critical information systems; and launch vehicles. IAC activities will meet warfighter needs and enhance interoperability by cooperating with our partners in the areas of: secure communications; positioning, navigation, and timing; situational awareness; materials and composites; human effectiveness; space domain awareness; robotics; nanomaterial; pilot performance; missile warning; satellite communications; quantum communication; coalition information sharing; biometrics; munitions design; hypersonics; alternative energy; improvised explosive devices defeat; weapons of mass destruction defeat; responsive space; ground and space based radars; sensors; autonomous control; distributed missions; training systems; synthetic aviation fuels; lasers; weapon systems; weapon delivery; unmanned aerial systems; armaments interface; swarming; intelligence, surveillance and reconnaissance; sustainment; gap analysis; simulators; combined logistics; mission planning systems; world-wide flight requirements; electronic warfare; safety; aging aircraft; airlift; tankers; trainers; directed energy; weapon stores; systems acquisition; interoperability; and system development, updates, upgrades, and modifications.

FY 2024 Plans:

Identify, develop, process, negotiate, conclude, implement, and manage, bilateral and multilateral, RDT&E and Acquisition IAs that meet the goals, objectives, and mission of the DAF and DoD in the air, space, and cyber domains. Development and negotiations will continue on IAs not concluded in FY 2023. New air, space and cyber IAs are being pursued IAW OAF and OSD goals and objectives.

FY 2025 Base Plans:

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>and future global strategic challenges through optimization of interoperability, integration, and interdependence between forces. Efforts will have an enhanced focus on mutually beneficial partnerships IAW the NDS.</p> <p><i>FY 2025 OCO Plans:</i> \$0 are planned for FY 2025 OCO Plan.</p> <p><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Funding increase will return the International Partnership effort to full funding ensuring the DAF can strengthen strategically important global partnerships to meet national security objectives.</p> <p><i>Title:</i> International Armaments Cooperation (IAC) Agreement Activities</p> <p><i>Description:</i> Identify, develop, process, negotiate, conclude, and implement RDT&E and acquisition bilateral and multilateral IAC Agreements that meet the goals, objectives, and mission of the DAF and DoD. IAC activities provide the DAF access to: critical geography; remote test ranges; challenged environments; operational environments; threat scenarios; new capabilities; world class R&D facilities; personnel; cost sharing; economies of scale; critical information systems; and launch vehicles. IAC activities will meet warfighter needs and enhance interoperability by cooperating with our partners in the areas of: secure communications; positioning, navigation, and timing; situational awareness; materials and composites; human effectiveness; space domain awareness; robotics; nanomaterial; pilot performance; missile warning; satellite communications; quantum communication; coalition information sharing; biometrics; munitions design; hypersonics; alternative energy; improvised explosive devices defeat; weapons of mass destruction defeat; responsive space; ground and space based radars; sensors; autonomous control; distributed missions; training systems; synthetic aviation fuels; lasers; weapon systems; weapon delivery; unmanned aerial systems; armaments interface; swarming; intelligence, surveillance and reconnaissance; sustainment; gap analysis; simulators; combined logistics; mission planning systems; world-wide flight requirements; electronic warfare; safety; aging aircraft; airlift; tankers; trainers; directed energy; weapon stores; systems acquisition; interoperability; and system development, updates, upgrades, and modifications.</p> <p><i>FY 2024 Plans:</i> Identify, develop, process, negotiate, conclude, implement, and manage, bilateral and multilateral, RDT&E and Acquisition IAs that meet the goals, objectives, and mission of the DAF and DoD in the air, space, and cyber domains. Development and negotiations will continue on IAs not concluded in FY 2023. New air, space and cyber IAs are being pursued IAW OAF and OSD goals and objectives.</p> <p><i>FY 2025 Base Plans:</i></p>	1.599	2.817	3.200	0.000	3.200

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force</i> / BA 6: <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 1001004F / <i>International Activities</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>Increase efforts to identify, develop, process, negotiate, conclude, implement, and manage, bilateral and multilateral, RDT&E and Acquisition IAs that meet the goals, objectives, and mission of the DAF and DoD in the air, space, and cyber domains. Development and negotiations will continue on IAs not concluded in FY 2024. New IAs will be pursued IAW DAF and OSD goals and objectives.</p> <p>FY 2025 OCO Plans: \$0 are planned for FY 2025 OCO Plan.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increase will return the IAC Agreements effort to full funding ensuring the DAF can pursue more air, cyber, and space IAs to meet national security objectives.</p>					
<p>Title: Engineer and Scientist Exchange Program/Administrative and Professional Exchange Program (ESEP/APEP)</p> <p>Description: Oversight and program execution of ESEP and APEP Agreements with partner governments. Military and civilian personnel from DAF Command, Product Centers, Test Centers, and Logistic Centers for 2 year tours at selected allied partner government laboratories and facilities. Partner government military and civilian personnel are placed in DAF RDT&E facilities.</p> <p>FY 2024 Plans: Execute and support DAF execution of the ESEP and APEP personnel placed in foreign partner or DAF facilities.</p> <p>FY 2025 Base Plans: Continue to execute and support DAF execution of the ESEP and APEP personnel placed in foreign partner or DAF facilities.</p> <p>FY 2025 OCO Plans: \$0 are planned for FY 2024 OCO Plan.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increase will ensuring the DAF can place ESEP/APEP in important foreign facilities to meet national security objectives.</p>	0.300	0.300	0.500	0.000	0.500
Accomplishments/Planned Programs Subtotals	2.593	3.917	4.590	0.000	4.590

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 1001004F / <i>International Activities</i>
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D. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• RDTE 06 1001004F: <i>International Activities</i>	0.000	0.000	-	-	-	-	-	-	-	0.000	0.000

Remarks

There is no other program funding for the activities pursued under 1001004F International Activities.

E. Acquisition Strategy

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0604233F / <i>Specialized Undergraduate Flight Training</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	16.729	41.464	39.667	0.000	39.667	7.625	3.084	0.541	3.065	Continuing	Continuing
674101: <i>Undergraduate Remotely Piloted Aircraft Training</i>	-	0.830	0.877	0.898	0.000	0.898	0.920	0.939	0.363	0.370	Continuing	Continuing
676035: <i>T-6 Operational System Development</i>	-	2.727	36.721	38.624	0.000	38.624	6.558	1.997	0.021	2.535	0.000	89.183
676037: <i>T-38 Operational System Development</i>	-	13.172	3.866	0.145	0.000	0.145	0.147	0.148	0.157	0.160	0.000	17.795

A. Mission Description and Budget Item Justification

Supports Air Education and Training Command's (AETC) implementation of Specialized Undergraduate Pilot Training and the Department of Defense initiative for joint pilot training.

Undergraduate Remotely Piloted Aircraft (RPA) Training (URT) continues development, test, and implementation activities for the new URT Fundamentals Training System. This program produces RPA pilots and Sensor Operators from accession sources to man RPA squadrons.

T-6 Operational System Development continues follow on development activities to the T-6 including but not limited to studies & development efforts, instructional courseware, and logistics support to include Diminishing Manufacturing Sources & Material Shortages (DMSMS) and development activities related to DMSMS. Included is development for the Next Generation On-Board Oxygen Generation System (OBOGS), Crash Survivable Recorder (CSR), Avionics Replacement Program (ARP) and associated upgrades. There are currently 443 aircraft in the Air Force inventory with a service life through Dec 20249.

The T-38 is a twin-engine, two-seat (tandem), supersonic jet trainer. The T-38C is used by AETC as an advanced trainer in Specialized Undergraduate Pilot Training and Introduction to Fighter Fundamentals, and by Air Force Materiel Command as a test bed for fighter-type aircraft capability. T-38A/B aircraft are used by Air Combat Command as a companion trainer for U-2 operational units and in Adversary Air (ADAIR) exercises supporting F-22 readiness, and by Air Force Global Strike Command as a companion trainer for B-2 operational units. There are currently 497 active T-38s in the Air Force inventory (53 T-38A, six AT-38B and 438 T-38C). T-38s first entered service in 1960 and average over 50 years old.

This requirement supports performance of a full financial audit as required by title 10 U.S.C. Chapter 9A, Sec 240-D.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program elements 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F,

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0604233F / <i>Specialized Undergraduate Flight Training</i>
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0606398F. In FY23 \$1.166 million was expended for civilian pay expenses in this program element, and in FY24 \$1.742 million is forecast for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	17.267	41.464	37.182	0.000	37.182
Current President's Budget	16.729	41.464	39.667	0.000	39.667
Total Adjustments	-0.538	0.000	2.485	0.000	2.485
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.538	0.000			
• Other Adjustments	0.000	0.000	2.485	0.000	2.485

Change Summary Explanation

FY 2025 funding request increased by \$2.485 million due to rephase of Avionics Replacement Program efforts.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0604233F / <i>Specialized Undergraduate Flight Training</i>				Project (Number/Name) 674101 / <i>Undergraduate Remotely Piloted Aircraft Training</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
674101: <i>Undergraduate Remotely Piloted Aircraft Training</i>	-	0.830	0.877	0.898	0.000	0.898	0.920	0.939	0.363	0.370	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This effort supports Air Education and Training Command's (AETC) implementation of Undergraduate Remotely Piloted Aircraft (RPA) Training (URT). URT produces RPA pilots and Sensor Operators from accession sources to man RPA squadrons.

Success of the program is heavily dependent on multiple training systems to prepare undergraduate students for entry in RPA Formal Training Units (FTU). 19AF/CC approved a significant system upgrade along with a change in software. This change allowed for a more flexible and adaptable training system that can carry URT into the future. Funding will be used to develop organic software capabilities, update obsolete equipment, and develop new training tools. The goal of these changes is to build a more capable set of training systems focused on reducing costs while ensuring RPA training is ready to support the National Defense Strategy from today into tomorrow.

Funds may be used to address emerging and short-notice Diminishing Manufacturing Sources and Material Shortage (DMSMS) issues. Diminishing Manufacturing Sources efforts include removal of end-of-life software/hardware within simulators systems and move to a modular, common open system architecture that is sustainable and cyber-resilient.

Implementation requirements and standards are defined under the Simulator Common Architecture Requirements and Standards (SCARS) initiative.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program elements 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY 2023 \$0.150 million was expended for civilian pay expenses in this program element, and in FY 2024 \$0.000 million is forecast for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Undergraduate RPA Training Support	0.830	0.877	0.898
Description: Develop capabilities to support AETC's implementation of Undergraduate RPA Training to produce RPA pilots and Sensor Operators for RPA squadrons.			
FY 2024 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604233F / <i>Specialized Undergraduate Flight Training</i>	Project (Number/Name) 674101 / <i>Undergraduate Remotely Piloted Aircraft Training</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Continue development of new training simulation software to replace the current software utilized in the RPA Instrument Qualification Course to train RPA pilots. Continue effort to develop organic software capabilities and replace proprietary software. Move from small scale development into full scale implementation across both RPA Pilot and Sensor Operator training. Concurrently, software development will continue with feedback from small scale testing.</p> <p>FY 2025 Plans: Continues updates and upgrades of new training simulation software of current software utilized in the RPA Instrument Qualification Course to train RPA pilots. Continue full scale implementation across both RPA Pilot and Sensor Operator training. Concurrently, software development will continue with feedback from testing.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to economic adjustments.</p>			
Accomplishments/Planned Programs Subtotals	0.830	0.877	0.898

<p>C. Other Program Funding Summary (\$ in Millions) N/A</p> <p>Remarks</p>
<p>D. Acquisition Strategy Transition from contractor support to organic sustainment at Oklahoma City Air Logistics Complex, Tinker AFB, OK.</p>

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force												Date: March 2024				
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)								
3600 / 7				PE 0604233F / Specialized Undergraduate Flight Training				674101 / Undergraduate Remotely Piloted Aircraft Training								
Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Undergraduate Remotely Piloted Aircraft Training Phased planning, design, and development of software updates	SS/FFP	555th SWES, Tinker ALC : Tinker AFB, OK	-	0.576	Jan 2023	0.446	Oct 2023	0.470	Oct 2024	-		0.470	Continuing	Continuing	-	
Subtotal			-	0.576		0.446		0.470		-		0.470	Continuing	Continuing	N/A	
Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Direct Hire Civ Pay	TBD	Not specified. : TBD	-	0.150		-		-		-		-	Continuing	Continuing	-	
Subtotal			-	0.150		-		-		-		-	Continuing	Continuing	N/A	
Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Undergraduate Remotely Piloted Aircraft Training PSC Other Government Cost and Contract Services	SS/CPFF	Program Office : WPAFB, OH	-	0.104	Jul 2023	0.431	Oct 2023	0.428	Oct 2024	-		0.428	Continuing	Continuing	-	
Subtotal			-	0.104		0.431		0.428		-		0.428	Continuing	Continuing	N/A	
Project Cost Totals			-	0.830		0.877		0.898		-		0.898	Continuing	Continuing	N/A	
Remarks																

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force			Date: March 2024					
Appropriation/Budget Activity 3600 / 7			R-1 Program Element (Number/Name) PE 0604233F / <i>Specialized Undergraduate Flight Training</i>			Project (Number/Name) 674101 / <i>Undergraduate Remotely Piloted Aircraft Training</i>		

	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<i>Undergraduate RPA Training Support</i>																												
URT Training System Design/Development																												
URT Training System Test Implementation																												
URT Training System Continued Design/Development																												
URT Training System Full Scale Implementation																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604233F / <i>Specialized Undergraduate Flight Training</i>	Project (Number/Name) 674101 / <i>Undergraduate Remotely Piloted Aircraft Training</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Undergraduate RPA Training Support</i>				
URT Training System Design/Development	1	2023	2	2023
URT Training System Test Implementation	2	2023	4	2023
URT Training System Continued Design/Development	3	2023	1	2027
URT Training System Full Scale Implementation	4	2024	3	2029

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0604233F / <i>Specialized Undergraduate Flight Training</i>				Project (Number/Name) 676035 / <i>T-6 Operational System Development</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
676035: <i>T-6 Operational System Development</i>	-	2.727	36.721	38.624	0.000	38.624	6.558	1.997	0.021	2.535	0.000	89.183
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

T-6 Operational System Development continues follow on development activities to Joint Primary Aircraft Training System (JPATS) including but not limited to studies and development efforts, instructional courseware, and logistics support to include Diminishing Manufacturing Sources (DMS) and development activities related to DMS. Included is development for the Crash Survivable Recorder, Avionics Replacement Program (ARP), Enhanced Mission Cockpit (EMC) and associated upgrades. There are currently 443 aircraft (442 AETC & one TA-D Test aircraft) in the Air Force inventory. Remaining service life is through Dec 2049.

Funding contained in this platform's documentation directly aids Air Education Training Command (AETC) flying training enterprise to continue its overall pilot production increase starting in FY2020 thus reducing the USAF Pilot Shortage.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program's funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY 2023 \$1.016 million was expended for civilian pay expenses in this program element, and in FY 2024 \$1.742 million is forecast for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: T-6A JPATS Studies and Analysis	0.000	0.150	0.150
Description: T-6A JPATS studies and development activities including but not limited to: Engine Preservation/Upgrade Development, On-Board Oxygen Generation System (OBOGS) Characterization Study, Next Generation On-Board Oxygen Generation System Study, Supplemental Oxygen System Study, Cockpit Environmental Monitoring/Analysis, and Physiological Events (PE) Analysis, and HUD/EMC Study/Analysis. Includes engineering and contractor support/services and Program Support Costs (PSC).			
FY 2024 Plans: T-6 studies and analysis.			
FY 2025 Plans: T-6 studies and analysis.			
FY 2024 to FY 2025 Increase/Decrease Statement:			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604233F / <i>Specialized Undergraduate Flight Training</i>	Project (Number/Name) 676035 / <i>T-6 Operational System Development</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
N/A			
Title: T-6 Avionics Modernization (Avionics Replacement Program)	2.727	36.571	38.474
Description: T-6A Avionics Replacement Program (ARP). Current T-6A avionics are comprised of analog and 1st generation digital components which are increasingly by DMSMS resulting in reduced Aircraft Availability (AA) and increased life-cycle sustainment costs. The current federated nature of the avionics suite compounds engineering and integration costs of replacement components. No less than 23 components impacts by DMSMS will be replaced by the ARP to improve reliability, availability and reduce system sustainment costs, via a modern, integrated, open-system avionics suite. The ARP will address DMSMS issues, current T-6A FAA compliance issues and fulfill outstanding safety recommendations. The solution will be incorporated into all 443 AETC aircraft and 80 Ground Based Trainers.			
FY 2024 Plans: Contracting activities to award developmental contract for instrument panel integration; and other avionics suite engineering efforts.			
FY 2025 Plans: Post-award developmental activities for instrument panel integration and other avionics suite engineering efforts.			
FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to ramp up of integration and contract activities.			
Accomplishments/Planned Programs Subtotals	2.727	36.721	38.624

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025 Base</u>	<u>FY 2025 OCO</u>	<u>FY 2025 Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• APAF 05 Line Item JPAT00: T-6	6.215	2.942	130.281	-	130.281	413.188	185.123	370.785	324.550	39.983	1,473.067

Remarks

D. Acquisition Strategy

The Air Force is lead service for the T-6 Operational Systems Development program and currently manages upgrades to the entire family of systems for both the Air Force and Navy. T-6 Operational Systems Development acquisition strategy for satisfying emerging software and hardware requirements is designed to enable competition and control cost. Developmental requirements resulting from Diminishing Manufacturing Sources and Material Shortages research and reporting will be evaluated and implemented incrementally to efficiently deliver required capabilities to AETC.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604233F / <i>Specialized Undergraduate Flight Training</i>	Project (Number/Name) 676035 / <i>T-6 Operational System Development</i>
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
T-6 Avionics Modernization (Avionics Replacement Program)	C/FFP	Not specified. : TBD	-	0.000	Jul 2023	33.259	Nov 2023	35.228	Nov 2024	-		35.228	Continuing	Continuing	-
Subtotal			-	0.000		33.259		35.228		-		35.228	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test and Evaluation	C/CPAF	Not specified. : Tinker, OK	-	-		0.215	Mar 2024	0.150	Mar 2025	-		0.150	Continuing	Continuing	-
Subtotal			-	-		0.215		0.150		-		0.150	Continuing	Continuing	N/A

Remarks
Continue Unknown Physiological Event's studies.

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Support Cost [PSC] Contract Services	C/FFP	Not specified. : TBD	-	1.660	Feb 2023	1.172	Feb 2024	1.046	Feb 2025	-		1.046	Continuing	Continuing	-
Direct Cite Civ Pay	C/TBD	Not specified. : TBD	-	1.016	Mar 2023	1.742	Oct 2023	1.783	Oct 2024	-		1.783	Continuing	Continuing	-
PSC Other Government Costs	Various	Not specified. : TBD	-	0.051		0.333		0.417		-		0.417	Continuing	Continuing	-
Subtotal			-	2.727		3.247		3.246		-		3.246	Continuing	Continuing	N/A

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		-	2.727	36.721	38.624	38.624	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604233F / <i>Specialized Undergraduate Flight Training</i>	Project (Number/Name) 676035 / <i>T-6 Operational System Development</i>
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	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
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Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604233F / <i>Specialized Undergraduate Flight Training</i>	Project (Number/Name) 676035 / <i>T-6 Operational System Development</i>

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Joint Primary Aircraft Training System	
T-6 (JPATS) Studies	
Avionics Modernization	
T-6 Avionics Replacement Development	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604233F / <i>Specialized Undergraduate Flight Training</i>	Project (Number/Name) 676035 / <i>T-6 Operational System Development</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Joint Primary Aircraft Training System</i>				
T-6 (JPATS) Studies	1	2023	4	2029
<i>Avionics Modernization</i>				
T-6 Avionics Replacement Development	1	2023	4	2028

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0604233F / <i>Specialized Undergraduate Flight Training</i>				Project (Number/Name) 676037 / <i>T-38 Operational System Development</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
676037: <i>T-38 Operational System Development</i>	-	13.172	3.866	0.145	0.000	0.145	0.147	0.148	0.157	0.160	0.000	17.795
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The T-38 RDT&E budget is focused on modifications needed to overcome part obsolescence, aging of critical components, emerging safety concerns, and cybersecurity risks. Operational Flight Program (OFP) block upgrades incorporate software improvements for the aircraft and aircrew training devices (ATDs) to address flight safety issues, and to comply with new capabilities mandated by Department of Defense, Federal Aviation Administration, or National Airspace System. RDT&E include but are not limited to the following:

RDT&E requirements for the T-38C fleet are summarized below in the Terminal Avionics Replacement Program (TARP). This effort includes both RDT&E and Procurement funding to replace aging and obsolete avionics components that can no longer be repaired. Planned components include, but are not limited to, the Electronic Engine Display (EED), Multi-Function Display (MFD), Video Data Transfer Unit (VDTU), and Head-Up Display Camera (HUDC). Failure to fund these efforts will result in fleet-wide T-38C non-serviceability starting in Apr 2026.

RDT&E requirements for the T-38A/B fleet are summarized below in the Low-cost Avionics Modernization Program (LAMP). LAMP addresses high failure rates in T-38A/B navigation system components, which are currently causing a safety risk to pilot spatial orientation. Flight restrictions associated with this risk are impacting F-22, U-2, and B-2 readiness. Planned component replacements include, but are not limited to, the Attitude Director Indicator and the Horizontal Situation Indicator. Failure to fund this effort will result in ongoing safety risk for the T-38A/B fleet, and increased impact to F-22, U-2, and B-2 readiness.

The T-38 Studies and Development effort captures ongoing and emerging RDT&E requirements, to include budget for flight test, OFP updates, and emerging obsolescence or safety issues. Additional revisions may occur under this effort. Failure to fund these efforts will prevent the T-38 program from rapidly responding to emerging RDT&E requirements. Current requirements in work include but are not limited to, Block 11, Speed Brake, Canopy Open Warning, Lower Beacon Light, Landing Taxi Light, Emergency Locator Transmitter, Air Speed Indicator, Control of Both Radios, and Electronic Flight Bag USB Power Supply.

This requirement supports performance of a full financial audit as required by title 10 U.S.C. Chapter 9A, Sec 240-D.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program elements 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, and 0606398F. In FY 2023 \$0.000 million was expended for civilian pay expenses in this program element, and in FY 2024 \$0.000 million is forecast for civilian pay expenses in this program element.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604233F / <i>Specialized Undergraduate Flight Training</i>	Project (Number/Name) 676037 / <i>T-38 Operational System Development</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>Title: T-38C Terminal Avionics Replacement Program (TARP)</p> <p>Description: TARP develops replacements for four T-38C avionics components facing obsolescence. TARP includes, but is not limited to Electronic Engine Display (EED) and Multi-Function Display (MFD) (T-38C Displays) and Video Data Transfer Unit (VDTU) and Heads-Up Display Camera (HUDC) (T-38C Recording Devices). Compact Flash Cards that record flight data are no longer procurable. Inventory depleted in FY 2024. Without a functioning VDTU, the T-38C will be unsuitable for training purposes, with no ability to record flight data. The current HUDC will no longer function after the repair contract expires in Mar 2026. The HUDC is essential to the T-38C training mission, as a critical tool for student/instructor feedback.</p> <p>FY 2024 Plans: Continue test for EED and MFD; continue development of VDTU and HUDC.</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding decrease due to anticipated completion of EED/MFD Development efforts.</p>		11.260	3.539	0.000
<p>Title: T-38A/B Low-Cost Avionics Modification Program (LAMP)</p> <p>Description: LAMP will replace the current Attitude Director Indicator (ADI) and Horizontal Situation Indicator (HSI), which have low Mean Times Between Failure (MTBF). Ongoing LAMP activity may either refurbish or replace other navigation components, to include the Attitude Gyro Control Assembly, Rate Switching Gyro, Rate Gyro Transmitter, Servo-Amplifier, and Flight Director Computer.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A</p>		0.330	0.000	0.000
<p>Title: T-38 Studies and Development</p> <p>Description: Studies and development (including flight test) to support Engineering Change Proposals (ECP) and other requirements (1067's) to overcome part obsolescence issues, maintain system currency, or address emerging safety concerns</p>		1.582	0.327	0.145

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604233F / <i>Specialized Undergraduate Flight Training</i>	Project (Number/Name) 676037 / <i>T-38 Operational System Development</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
and T-38C Operational Flight Program (OFP) block upgrades for aircraft and aircrew training devices (ATDs) to implement interface improvements, cybersecurity enhancements, airspace mandates, or other user requirements.			
FY 2024 Plans: Execute emergent engineering change proposals, to include investigation into a speed brake warning indicator and canopy open warning for T-38A/B aircraft, and other safety modifications.			
FY 2025 Plans: Continuation of studies and development efforts.			
FY 2024 to FY 2025 Increase/Decrease Statement: Funding decrease due to reduced development efforts as program transitions to procurement phase.			
Accomplishments/Planned Programs Subtotals	13.172	3.866	0.145

C. Other Program Funding Summary (\$ in Millions)												
			<u>FY 2025</u>	<u>FY 2025</u>	<u>FY 2025</u>						<u>Cost To</u>	
	<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Complete</u>	<u>Total Cost</u>
•	APAF 05 Line Item T03800: T-38	84.721	119.364	109.346	-	109.346	76.156	92.881	96.608	153.978	101.196	834.250

Remarks

D. Acquisition Strategy
The T-38 Platform Operations System Development acquisition strategy for satisfying emerging software and hardware requirements is designed to enable competition and cost control. Developmental requirements resulting from Diminishing Manufacturing Sources and Material Shortages research and reporting will be evaluated and implemented incrementally to efficiently deliver required capabilities to using commands. T-38C block upgrades will be required to maintain aircraft airworthiness and will be implemented based on Air Education and Training Command requirements. An appropriate level of technical data rights is required by all current support contracts.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force												Date: March 2024			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)					Project (Number/Name)						
3600 / 7				PE 0604233F / Specialized Undergraduate Flight Training					676037 / T-38 Operational System Development						
Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
T-38 Studies and Development	C/FFP	The Boeing Company : St. Louis, MO	-	1.200	Jul 2023	-		-		-		-	0.000	1.200	-
TARP	C/FFP	The Boeing Company : St. Louis, MO	-	10.835	Feb 2023	3.539	Nov 2023	0.145	Nov 2024	-		0.145	Continuing	Continuing	-
LAMP	C/FFP	The Boeing Company : St. Louis, MO	-	0.330	Jan 2023	-		-		-		-	Continuing	Continuing	-
Subtotal			-	12.365		3.539		0.145		-		0.145	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Flight Testing	PO	Not specified. : TBD	-	0.323		0.249		-		-		-	0.000	0.572	-
Subtotal			-	0.323		0.249		-		-		-	0.000	0.572	N/A
Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PSC Contract Services	C/FFP	Not specified. : NV	-	0.000	Dec 2022	0.060		-		-		-	Continuing	Continuing	-
PSC Other Government Costs	Various	Not specified. : NV	-	0.484		0.018		-		-		-	Continuing	Continuing	-
Subtotal			-	0.484		0.078		-		-		-	Continuing	Continuing	N/A
Project Cost Totals			-	13.172		3.866		0.145		-		0.145	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force						Date: March 2024			
Appropriation/Budget Activity 3600 / 7			R-1 Program Element (Number/Name) PE 0604233F / <i>Specialized Undergraduate Flight Training</i>			Project (Number/Name) 676037 / <i>T-38 Operational System Development</i>			
	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Remarks									

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604233F / <i>Specialized Undergraduate Flight Training</i>	Project (Number/Name) 676037 / <i>T-38 Operational System Development</i>

	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
TARP T-38C																												
Displays Development																												
Displays Test																												
Recording Development																												
Recording Test																												
LAMP T-38 A/B																												
Test																												
T-38 Studies & Development																												
Development/Test																												
Block 11 Development																												
Block 11 Test																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604233F / <i>Specialized Undergraduate Flight Training</i>	Project (Number/Name) 676037 / <i>T-38 Operational System Development</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
TARP T-38C				
Displays Development	3	2023	4	2024
Displays Test	4	2024	1	2025
Recording Development	1	2023	4	2024
Recording Test	4	2024	2	2025
LAMP T-38 A/B				
Test	1	2023	4	2023
T-38 Studies & Development				
Development/Test	1	2024	4	2029
Block 11 Development	1	2023	1	2024
Block 11 Test	1	2024	1	2025

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0604281F / <i>Tactical Data Networks Enterprise</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	0.000	0.000	0.022	0.000	0.022	0.041	0.035	0.078	0.182	Continuing	Continuing
675383: <i>Battlefield Airborne Comm Node (BACN)</i>	-	0.000	0.000	0.022	0.000	0.022	0.041	0.035	0.078	0.182	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Air Force operations rely on secure communications capability for Command-and-Control messages, threat messages, target updates, etc. Adversaries continually attempt to detect, intercept, decrypt, defeat, disrupt, deny or degrade these communications capabilities--driving the Air Force to continuously upgrade its systems with enhanced encryption, increased technology for low probability of detection (LPD), low probability of interception (LPI), anti-jamming (AJ), increased security and performance engineering, and enhanced throughput and interoperability. These efforts ensure life-saving data can be transmitted before, during and after operations without adversary hostile intervention via secure and reliable communication paths. The communications paths utilized are often referred to as datalinks over which are transmitted messages via specific waveforms through radios, multi-function processors and affiliated and associated technologies in accordance with specifications and standards.

The Tactical Data Networks Enterprise (TDNE) program element analyzes and evaluates requirements, designs, develops, enhances, and fields prospective or needed systems. The TDNE focuses on the research, analysis, design, development, test, evaluation and fielding or other capability development of Tactical Datalink (TDL), gateway, radio, multi-function processor, antenna, multi-function aperture, license, waveform and other associated equipment, technology or capabilities. TDNE develops, enhances and fields technologies, architectures, documentation, tactics, techniques, procedures and capabilities. These efforts enhance Air Force communications capacity, efficiency, affordability, integration and optimization. TDNE supports interoperability of Air Force to: Air Force, Joint, Coalition, and NATO (Allied), and other partner platforms and systems, such as BACN; supports releasability engineering, cyber engineering, digital engineering, encryption and safety compliance, et al.

Budget Program Activity Code (BPAC) 675383 is primarily focused on Battlefield Airborne Communications Node (BACN) payload weapon system components. This funding will be represented in PE 0207238F BACN in future budget cycles.

This program element may include necessary civilian pay expenses required to support, manage, execute, and deliver weapon system capabilities across platforms, aerial network, and tactical data network enterprise. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY2023, 0.900M was expended for civilian pay expenses in this program element. In FY2024, 1.272M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0604281F / <i>Tactical Data Networks Enterprise</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	0.022	0.000	0.022
Total Adjustments	0.000	0.000	0.022	0.000	0.022
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.022	0.000	0.022

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: Battlefield Airborne Communications Node (BACN)	0.000	0.000	0.022
Description: Battlefield Airborne Communication Node (BACN) enables tactical edge Joint and Coalition information interoperability via air, space, and surface systems. As requirements emerge, BACN will integrate new hardware and software capabilities that improve system performance, interoperability, availability, prototyping of activities in line with department approach of system development upgrades to support current/future technologies.			
FY 2024 Plans: -No FY24 funding			
FY 2025 Plans: -Will support future BACN development and/or modification initiatives for payload form factor updates, integration effort, and other aerial gateway systems.			
FY 2024 to FY 2025 Increase/Decrease Statement: FY2025 increase due to inflationary increase. This funding will be represented in PE 0207238F in future budget cycles.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	0.022

D. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity
3600: *Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development*

R-1 Program Element (Number/Name)
PE 0604281F / *Tactical Data Networks Enterprise*

E. Acquisition Strategy

The Airborne Networking Directorate provides for common development, integration, and interoperability across the entire airborne network and ensures that data links are procured and maintained as a joint, end-to-end command and control system. Platform acquisition strategies vary by program, but the majority of development and integration is normally accomplished by the weapon system prime contractor.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604281F / <i>Tactical Data Networks Enterprise</i>	Project (Number/Name) 675383 / <i>Battlefield Airborne Comm Node (BACN)</i>
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
BACN Support	TBD	TBD : TBD	-	0.000		-		0.022		-		0.022	Continuing	Continuing	-	
Subtotal			-	0.000		-		0.022		-		0.022	Continuing	Continuing	N/A	
Project Cost Totals			-	0.000		-		0.022		-		0.022	Continuing	Continuing	N/A	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604281F / <i>Tactical Data Networks Enterprise</i>	Project (Number/Name) 675383 / <i>Battlefield Airborne Comm Node (BACN)</i>

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

BACN Support	
BACN Support	[REDACTED]

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604281F / <i>Tactical Data Networks Enterprise</i>	Project (Number/Name) 675383 / <i>Battlefield Airborne Comm Node (BACN)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
BACN Support				
BACN Support	1	2025	4	2025

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0604283F / <i>Battle Mgmt Com & Ctrl Sensor Development</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	0.000	40.000	100.183	0.000	100.183	10.045	0.000	0.000	0.000	0.000	150.228
673587: <i>ARSR-4 Replacement - Hawaii</i>	-	0.000	40.000	100.183	0.000	100.183	10.045	0.000	0.000	0.000	0.000	150.228
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This budget line item funds the replacement of the current Hawaii Air Route Surveillance Radar Version 4 (ARSR-4) to include prototype development, test, site preparation, and installation. The replacement radar will address DoD capability gaps driven by new threats and provide dual use for Hawaii Air Traffic Control (ATC) and weather monitoring. The new system is designated the ARSR-4 Replacement Hawaii (ARSR4R-HI) Long Range Radar (LRR). It is a key component of the USAF's defense of Hawaii as a high priority mission for the DoD and supports NORAD/NORTHCOM and PACAF/INDOPACOM Deterrence Initiatives.

The ARSR4R-HI program is part of an integrated Homeland Defense surveillance against air cruise missiles while maintaining the ATC capability required by both the Federal Aviation Administration (FAA) and the Department of Defense (DoD).

The ARSR4R-HI program is established to address the following surveillance shortfalls:

1. Lack of surveillance capabilities to meet today's mission needs such as inability to characterize and classify targets or cover all required airspace.
2. Inability to scale and update capabilities to pace evolving threats.
3. Obsolescence associated with 1980s era ARSR-4 equipment and infrastructure leading to excessive sustainment, operations, and maintenance costs.

To address these surveillance shortfalls, development of the ARSR4R-HI system will consist of improved detection performance for modern air threats, mitigate new interference sources, and utilize state of the art surveillance technologies and processing capabilities. The ARSR4R-HI effort will solidify the solution as a non-rotating, multi-panel, phased array radar system which provides persistent surveillance with improved accuracy and detection performance supporting an advanced engagement sequence to counter modern threats with target cueing and fire control quality data.

The ARSR4R-HI consists of a ground based radar, associated shelters, and other smaller Government Furnished Equipment (GFE) items. The DoD currently owns the site for the location of the installation and the FAA leases the site.

The FY2025 effort includes the award of two vendor contracts for Rapid Prototype Development and Demonstration followed by down-select to a single vendor for Non-Recurring Engineering (NRE), mature prototype delivery, installation, integration with Command and Control (C2) nodes, and test of the new radar at the Mt. Ka'ala site.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0604283F / <i>Battle Mgmt Com & Ctrl Sensor Development</i>
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The current schedule reflects a 4th Qtr FY27 IOC date however, the FY24 new start schedule delay and long lead time for critical components, identified in preliminary market research, may move the IOC date to the right. Final determination of a realistic IOC will be determined upon receipt of vendor demonstration proposals and Integrated Master Schedules in 4th Qtr FY24.

The total cost of the ARSR4R-HI Middle Tier of Acquisition effort is \$310.242M, including RDT&E and procurement of prototype unit. ARSR4R-HI is not fully funded across the Future Years Defense Program. The Department of the Air Force is assessing all options to address the funding shortfalls for MTA programs including additional funding in a future budget request, performance trades based on technical maturity, or transition to alternative pathways.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23, \$0.000M was expended for civilian pay expenses in this program element, and in FY24 \$2.952M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	0.000	40.000	100.006	0.000	100.006
Current President's Budget	0.000	40.000	100.183	0.000	100.183
Total Adjustments	0.000	0.000	0.177	0.000	0.177
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.177	0.000	0.177

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: ARSR-4 Replacement Hawaii (ARSR4R-HI)	-	40.000	100.183
Description: The ARSR4R-HI will be the Ground-Based detection, discrimination, and tracking radar to support defense of Hawaii. It will enable integrated fire control and engagement support. It will replace the current ARSR-4 radar located on Mount Ka'ala (4,019 ft in elevation), Oahu, Hawaii. The radar will provide data to multiple DoD and FAA missions simultaneously, including Area Air Defense (AAD), Air Traffic Control (ATC), and Traffic Management. The radar suite will provide capability to			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0604283F / <i>Battle Mgmt Com & Ctrl Sensor Development</i>
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C. Accomplishments/Planned Programs (\$ in Millions)

process modern threats, provide increased sensitivity using mature state of the art technologies, increase performance in multi-mission operations, provide modularity, flexibility, and growth opportunities.

FY 2024 Plans:

FY 24 Funding:

- Identifies DOD/FAA key internal/external stakeholders, and manpower requirements.
- Develops Memorandum of Agreement (MoA) with DOT FAA to codify program roles and responsibilities.
- Completes Requirements Document development to include cyber security with key DoD/FAA stakeholders.
- Develops DoD Acquisition Strategy and documents to support the Milestone Decision Authority (MDA) requirements.
- Establishes Model Based Systems Engineering environment to develop a Government Reference Architecture (GRA) to optimize open systems architecture of the system chosen.
- Initiates spectrum analysis/approval for this system's spectrum band w/DoD Spectrum Office.
- Uses the GRA to exercise use case scenarios, to determine capability performance in meeting Key Performance Parameters (KPPs) and Key System Attributes (KSAs).
- Conducts interaction with industry to determine mature, open systems architecture solutions that meet requirements.
- Develops networking architecture approach for Multi Level Security (MLS) data transmissions.
- Identifies radar interfaces to DoD/FAA Command and Control (C2) Nodes.
- Prepares / release of request for information to industry for a mature system meeting requirements, schedule, and open systems architecture.
- Releases Request for Proposals (RFP) to conduct a demo of capability solutions and execute a preliminary design review.
- Transfers funds to FAA for contract award and site-preparation including re-siting of existing antenna farm, re-siting of existing radio shelters, demolition and ground-work for base of tower for new radar (installation pad), design and develop electrical "power-to-port" connection for new radar, design and build cooling system for new radar.

FY 2025 Plans:

FY25 efforts:

- Will continue all statutory and regulatory efforts with respect to MTA documentation.
- Will continue spectrum and cyber certification authority efforts.
- Will award two Other Transactional Authority Contracts to two vendors for preliminary design review and a capability demonstration (fly-off).
- Will review cost proposals from the two vendors executing the fly-off.

	FY 2023	FY 2024	FY 2025

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0604283F / <i>Battle Mgmt Com & Ctrl Sensor Development</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> - Will support the capability demonstration (fly-off) test event with coordination of test assets, location, and personnel (46th Test Squadron). - Will score the capability demonstrations (fly-off) and evaluate cost proposals in order to down-select to a single vendor based on best performance for best cost. - Will award FAR Part 15 contract to single contractor for Rapid Prototyping to develop/deliver prototype system consisting of one ground-based primary radar and one secondary radar (beacon) integrated through an electronics suite with the ability to connect to and communicate with appropriate Command & Communications (C2) nodes. <p><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Increased funding in FY25 is required to develop, install, and test the prototype system for operational use. \$62.286M of the \$100.183M in FY25 is for the anticipated purchase price of the prototype hardware with the remaining ~\$38M dedicated to ongoing RDT&E.</p>			
Accomplishments/Planned Programs Subtotals	-	40.000	100.183

D. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

E. Acquisition Strategy

In order to meet the PACAF/INDOPACOM DoD/FAA urgent mission needs, a Middle Tier of Acquisition Rapid Development strategy is planned for the ARSR4R-HI replacement system. The acquisition strategy will include demonstration of two capable systems and down select to a single vendor.

Demonstrations will be conducted utilizing Other Transaction Authority. Following down select, a single FAR Part 15 contract will be awarded to deliver, install, and test the prototype system on Mt. Ka'ala. Other activities in support of this acquisition will be executed via Military Inter-Departmental Purchase Requests (MIPR), and Project Orders with various organizations as required. A FY24 MIPR to FAA will fund site-preparation costs.

This effort is being maintained in the office of Air Force Program Executive Officer (PEO) Digital. Program support, cost, contracts, logistics, and financial management support is managed by Air Force Life Cycle Management Center Aerospace Management Systems Division (AFLCMC/HBA).

Following IOC system sustainment will be provided by two, one-year options for Interim Contractor Support (ICS) in FY28 and FY29. The National Airspace System Defense Program /Long Range Radar Joint Program Office (NAS/LRR JPO) will provide long-term Operations & Sustainment in FY30 and beyond.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604283F / <i>Battle Mgmt Com & Ctrl Sensor Development</i>	Project (Number/Name) 673587 / <i>ARSR-4 Replacement - Hawaii</i>
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ARSR-4 Replacement Hawaii Vendor Demonstration A	C/CPFF	AFLCMC/HBA : HAFB, MA	-	-		-		12.000	Dec 2024	-		12.000	0.000	12.000	-
ARSR-4 Replacement Hawaii Vendor Demonstration B	C/CPFF	AFLCMC/HBA : HAFB, MA	-	-		-		12.000	Dec 2024	-		12.000	Continuing	Continuing	-
ARSR-4 Replacement Hawaii Sit Preparation	MIPR	FAA : Michael Monroney Ctr, OK	-	-		27.475	Mar 2024	-		-		-	Continuing	Continuing	-
ARSR-4 Replacement Hawaii Contract Award	C/CPIF	AFLCMC/HBA : HAFB, MA	-	-		-		62.286	Aug 2025	-		62.286	Continuing	Continuing	-
Subtotal			-	-		27.475		86.286		-		86.286	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
System Engineering	MIPR	DOT FAA : Washington, DC	-	-		6.286	Mar 2024	0.000	Dec 2024	-		0.000	0.000	6.286	-
Research/Analysis	MIPR	DOT FAA / MITRE : Washington, DC	-	-		1.308	Mar 2024	3.043	Dec 2024	-		3.043	0.000	4.351	-
Certifications - Spectrum Certification	MIPR	AFLCMC/EZAC : Wright-Patterson, OH	-	-		-		0.150	Dec 2024	-		0.150	Continuing	Continuing	-
Certifications - Cyber Certification	MIPR	AFLCMC/EZC : Hanscom, MA	-	-		-		0.150	Dec 2024	-		0.150	Continuing	Continuing	-
Subtotal			-	-		7.594		3.343		-		3.343	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604283F / <i>Battle Mgmt Com & Ctrl Sensor Development</i>	Project (Number/Name) 673587 / <i>ARSR-4 Replacement - Hawaii</i>
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Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government Test Support	Allot	AFLCMC/HBA : Hanscom AFB, MA	-	-		-		1.448	Dec 2024	-		1.448	Continuing	Continuing	-
Test and Evaluation	PO	46th Test Squadron : Eglin AFB, FL	-	-		0.000	Oct 2023	2.852	Dec 2024	-		2.852	0.000	2.852	-
Subtotal			-	-		0.000		4.300		-		4.300	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Civilian Direct Cite Authorization	Allot	AFLCMC/FZA: TBD : TBD	-	-		2.952	Mar 2024	3.307	Dec 2024	-		3.307	Continuing	Continuing	-
Program Support Cost (PSC) - Other Government Cost	Allot	AFLCMC/HBA : Hanscom AFB, MA	-	-		0.186	Dec 2023	0.295	Dec 2024	-		0.295	Continuing	Continuing	-
Program Support Cost (PSC) Contractor Services	C/CPAF	Various : Hanscom AFB, MA	-	-		1.793	Mar 2024	2.652	Dec 2024	-		2.652	0.000	4.445	-
Subtotal			-	-		4.931		6.254		-		6.254	Continuing	Continuing	N/A

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-	40.000	100.183	-	100.183	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604283F / <i>Battle Mgmt Com & Ctrl Sensor Development</i>	Project (Number/Name) 673587 / <i>ARSR-4 Replacement - Hawaii</i>

	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ARSR-4 Replacement Hawaii (ARSR4R-HI)																												
ARSR-4 Replacement Hawaii (ARSR4R-HI)																												
Requirements Development																												
Industry Engagement																												
MDA Approval Acq Strategy (Expected Mar of 24)																												
FAA Site Preparation																												
Demonstration RFP/Contract Award																												
-- Demonstrations																												
-- Prototype Proposal Evaluation / Score Demos																												
-- Down Select w/Prototype Proposal																												
Prototype Contract Award (Expected Aug of 25)																												
-- Prototype NRE, Delivery, Installation																												
-- FAA NAS Certification / DoD Capability Validation																												
IOC																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604283F / <i>Battle Mgmt Com & Ctrl Sensor Development</i>	Project (Number/Name) 673587 / <i>ARSR-4 Replacement - Hawaii</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
ARSR-4 Replacement Hawaii (ARSR4R-HI)				
ARSR-4 Replacement Hawaii (ARSR4R-HI)	2	2023	4	2027
Requirements Development	2	2023	4	2024
Industry Engagement	3	2023	2	2024
MDA Approval Acq Strategy (Expected Mar of 24)	2	2024	2	2024
FAA Site Preparation	2	2024	4	2027
Demonstration RFP/Contract Award	1	2025	3	2025
-- Demonstrations	1	2025	3	2025
-- Prototype Proposal Evaluation / Score Demos	4	2025	4	2025
-- Down Select w/Prototype Proposal	4	2025	4	2025
Prototype Contract Award (Expected Aug of 25)	4	2025	4	2025
-- Prototype NRE, Delivery, Installation	4	2025	4	2027
-- FAA NAS Certification / DoD Capability Validation	4	2027	4	2027
IOC	4	2027	4	2027

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0604445F / <i>Wide Area Surveillance</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	8.018	21.443	0.000	21.443	0.000	0.000	0.000	0.000	0.000	29.461
675899: <i>Wide Area Surveillance</i>	0.000	0.000	8.018	21.443	0.000	21.443	0.000	0.000	0.000	0.000	0.000	29.461

Program MDAP/MAIS Code: 519

A. Mission Description and Budget Item Justification

Wide Area Surveillance (WAS) consists of two advanced sensor systems, the Stateside Affordable Radar System (STARS) and Scorpion. Based on existing technological capabilities, WAS detects/tracks low, slow and other asymmetrical threats in the airspace and meets the user needs by sensing stressing airborne targets in complex environments with affordable sensors. The sensor outputs will be incorporated into the Battle Control Systems-Fixed (BCS-F) air picture and utilized as the North American Aerospace Defense Command/ Northern Command (NORAD/NORTHCOM) Command and Control (C2) air surveillance system of record.

Some aspects of the WAS program are classified. These will be provided on a need-to-know basis.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver Wide Area Surveillance capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 \$0.000M was expended for civilian pay expenses in this program element, and in FY24 \$0.000M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	0.000	8.018	0.000	0.000	0.000
Current President's Budget	0.000	8.018	21.443	0.000	21.443
Total Adjustments	0.000	0.000	21.443	0.000	21.443
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	21.443	0.000	21.443

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0604445F / <i>Wide Area Surveillance</i>				Project (Number/Name) 675899 / <i>Wide Area Surveillance</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
675899: <i>Wide Area Surveillance</i>	0.000	0.000	8.018	21.443	0.000	21.443	0.000	0.000	0.000	0.000	0.000	29.461
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Wide Area Surveillance (WAS) consists of two complementary advanced sensor systems, the Stateside Affordable Radar System (STARS) and Scorpion. Based on existing technological capabilities, WAS detects/tracks low, slow and other asymmetrical threats in the airspace and meets the user needs by sensing stressing airborne targets in complex environments with affordable sensors. The sensor outputs are incorporated into the Battle Control Systems-Fixed (BCS-F) air picture and utilized as the North American Aerospace Defense Command/ Northern Command (NORAD/NORTHCOM) Command and Control (C2) air surveillance system of record. This effort is for a S1 Block 2 for the STARS system.

FY25 funds will support development, integration, and test to upgrade from the S1 Block 1 to the S1 Block 2 system. These funds will upgrade the S1 Block 2 Minimum Viable Product (MVP) to complete the required scope for a full S1 Block 2 system, which will enable production upgrades of the remaining four (4) S1 sites. Funding will also support new software development required to integrate with new Command and Control system of record, new hardware to align current service architectures, and test and evaluate new sensor capabilities for automatic combat identification that increase compatibility with existing systems. Lastly, funding will support testing to validate both S1 and S2 sensor coverage to inform the program's Full Operational Capability (FOC) decision and provide program management office support to include, labor, training, travel, supplies, and equipment to effectively manage the program.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: STARS (S1) Block 2 Modernization	0.000	8.018	21.443
Description: Development, Testing & Fielding			
FY 2024 Plans: Activities include, but are not limited to: - Continue S1 Block 2 MVP engineering and development. - Support S1 Block 2 MVP integration and testing. - Conduct engineering, development, and testing to upgrade MVP to full S1 Block 2 system.			
FY 2025 Plans: Activities include, but are not limited to: - Complete engineering, development, and testing to upgrade MVP to full S1 Block 2 system - Conduct S1 Block 2 and S2 testing to inform program FOC decision			
FY 2024 to FY 2025 Increase/Decrease Statement:			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604445F / <i>Wide Area Surveillance</i>	Project (Number/Name) 675899 / <i>Wide Area Surveillance</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Funding increased to develop and test S1 Block 2 MVP into a production-ready design.			
Accomplishments/Planned Programs Subtotals	0.000	8.018	21.443

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• OPAF 03 Line Item 834240: <i>Wide Area Surveillance</i>	33.181	11.594	13.945	-	13.945	18.972	17.175	18.104	17.221	0.000	130.192
• OPAF 05 861900: <i>Spares and repair parts</i>	0.000	5.456	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	5.456

Remarks

D. Acquisition Strategy

The Wide Area Surveillance (WAS) strategy is a single step acquisition approach for full capability to develop, produce, and field highly capable and sustainable advanced sensors in the National Capital Region. Science & technology contracts were let prior to the Engineering and Manufacturing Development phase for both subsystems. The Cost Plus Fixed-Fee (CPFF) contract for Stateside Affordable Radar System (STARS) was awarded to a single developer to design, build, integrate, and test the STARS system. A subsequent task order was awarded (July 2017) to include pre-operational site support. The CPFF contract for Scorpion was awarded (August 2017) to a single developer to complete the design, build, integration, and testing of the Scorpion system, and conduct pre-operational site support. The pre-operational portion of the contract for the Scorpion system transitioned to Interim Contract Support (ICS) in December 2018 and, STARS system transitioned to ICS in June 2019. The ICS portion of both the Scorpion system and the STARS system contracts transitioned to Contractor Logistics Support (CLS) in July 2021. This strategy includes a single delivery approach with 5 STARS and 84 Scorpion systems for a total of 89 sub-systems delivered to achieve FOC. RDT&E funds support a Block 2 version of the fielded STARS system and software and hardware development.

Air Force Program Executive Officer (PEO) DIGITAL (AFPEO DIGITAL) is the PEO for WAS. Air Force Life Cycle Management Center (AFLCMC) is the Contracting Authority for the WAS program and provides contracts, legal, and comptroller support. AFPEO DIGITAL is the program's Milestone Decision Authority (MDA).

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604445F / <i>Wide Area Surveillance</i>	Project (Number/Name) 675899 / <i>Wide Area Surveillance</i>
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Wide Area Surveillance (WAS) S1 Block 2 MVP NRE	SS/CPFF	Raytheon : El Segundo, CA	0.000	-		0.288	Jan 2024	-		-		-	0.000	0.288	0.000
Wide Area Surveillance (WAS) S1 Block 2 MVP Development	SS/CPFF	Raytheon : El Segundo, CA	0.000	-		5.619	Mar 2024	-		-		-	0.000	5.619	-
Wide Area Surveillance (WAS) S1 Full Block 2 Development	SS/CPFF	Raytheon : El Segundo, CA	0.000	-		2.061	Jun 2024	18.661	Oct 2024	-		18.661	0.000	20.722	-
Subtotal			0.000	-		7.968		18.661		-		18.661	0.000	26.629	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test Support	Various	46 Test Squadron : Eglin AFB, FL	0.000	-		0.050	Jan 2024	1.074	Nov 2024	-		1.074	0.000	1.124	-
Subtotal			0.000	-		0.050		1.074		-		1.074	0.000	1.124	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Support Cost	Various	AFLCMC/HBDB : Hanscom AFB, MA	0.000	-		-		1.708	Jul 2025	-		1.708	0.000	1.708	-
Subtotal			0.000	-		-		1.708		-		1.708	0.000	1.708	N/A

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals		0.000	-	8.018	21.443	-	21.443	0.000	29.461	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604445F / <i>Wide Area Surveillance</i>	Project (Number/Name) 675899 / <i>Wide Area Surveillance</i>
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Wide Area Surveillance	
STARS Block 2 Development Effort	
STARS Block 2 MVP Development Test	
STARS Block 2 Development Test	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604445F / <i>Wide Area Surveillance</i>	Project (Number/Name) 675899 / <i>Wide Area Surveillance</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Wide Area Surveillance</i>				
STARS Block 2 Development Effort	1	2023	4	2025
STARS Block 2 MVP Development Test	2	2025	2	2025
STARS Block 2 Development Test	1	2026	1	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0604617F / <i>Agile Combat Support</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	7.937	5.645	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.582
675218: <i>Applications Development</i>	-	7.937	5.645	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.582
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This program is part of the overarching Kessel Run portfolio. In FY 2023, PE 0207522F, Airbase Air Defense Systems (ABADS), Project 675218, Applications Development efforts are transferred to PE 0604617F, Agile Combat Support (ACS), Project 675218, Applications Development.

Global all-hazards/threats to Department of the Air Force (DAF) installations continues to generate substantial risk to tactical, operational, and strategic missions. The DAF Emergency Management (EM) program builds secure and resilient installations with integrated, adaptable, and interoperable whole-of-community common core capabilities required across the range of military operations to prevent, protect against, mitigate, respond to, and recover from all-hazards/threats. The EM program is primarily concerned with natural, technological, and human-caused hazards/threats that pose the greatest risk to lives, resources, facilities, infrastructure, and mission assets. Included is DAF support to civil and host nation authorities; anti-terrorism programs; and Countering Weapons of Mass Destruction (CWMD). DAF EMIS shared battle space awareness is a critical enabler of DAF functions to deploy, employ, maneuver, and survive to operate in and through highly contested and degraded operational environments.

Development of a DAF Emergency Management Information System (EMIS) will excavate, consolidate, correlate, and propagate interoperable authoritative information to and from diverse mission partners (e.g., local, state, tribal, federal, higher headquarters, joint, and allied). It will generate the ability to collaborate with multi-jurisdictional partners and manage resources to save lives, mitigate resource loss, and continue operational missions. Included are capabilities to compress decision-making cycles; propagate a tactical, operational, and strategic Common Operating Picture (COP); and facilitate convergence of information through sensing, making sense, and taking action. DAF EMIS will enhance complex multi-jurisdictional/mission partner interoperability through use of common terminology, a COP, standardized processes, data sharing, and systematic methods. DAF EMIS interoperable informational capabilities are rooted in and support Homeland Security Presidential Directive 5 (HSPD-5), Management of Domestic Incidents, Presidential Policy Directive 8, National Preparedness, the Department of Homeland Security (DHS) National Planning Framework/Mission Areas, the National Preparedness System, the National Incident Management System (NIMS), Incident Command System (ICS), and explicit requirements expressed in DoD/DAF Emergency Management; CWMD; and Chemical, Biological, Radiological, and Nuclear (CBRN) Defense doctrine/policy. DAF EMIS requirements support SecAF operational imperatives, the AF/A4 Basing and Logistics Enterprise Strategy (BLES), the Air Force Advanced Battle Management System (ABMS), and the Joint All Domain Command and Control (JADC2) construct.

DAF EMIS requirements will be filled through agile development and new additive capabilities by leveraging the Command and Control Incident Management Emergency Response Application (C2IMERA). This tool is an installation Command and Control (C2) situational awareness and decision making capability and allows DAF EMIS to connect and integrate with the Air Force user base and C2 nodes including mission execution to include the application of air/space power authorities

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0604617F / <i>Agile Combat Support</i>
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during crisis response operations/major combat operations. The alignment of DAF EMIS (e.g., AF/A4 delegated authorities for EM & CBRN defense) within and through C2IMERA provides significant synergistic effects regarding cost burden sharing to include advancing response/ recovery outcomes in support of DAF tactical, operational, and strategic war-fighting capabilities.

Through RDT&E funding and agile development DAF EMIS will develop and deliver cross-cutting common core whole-of-community informational capabilities to 1) identify and manage all-hazard/threat risk to protected assets; 2) enhance planning and resource posturing and delivery; 3) support hazard/threat specific community resiliency training; 4) facilitate EM exercise planning and execution; 5) inform and warn the populace/public/higher headquarters; and 6) support incident/attack command and coordination during response and recovery operations.

Included are DAF EMIS capabilities synchronized with DHS planning framework/mission area information capabilities to 1) prevent a threatened or an actual act of terrorism and/or nation state adversary attack through consolidating and disseminating select threat information; 2) protect lives, resources, mission assets through escalation of physical protective measures (e.g., sheltering, evacuation, hardening, etc.) to include capturing and displaying mission partner CBRN hazard COP elements; 3) mitigate the impact, severity, or consequences for community determined hazard/threat vulnerabilities (and build resiliency); 4) respond to save lives, stabilize the incident, protect personnel/assets, meet basic human needs, and set the stage for initial recovery; and 5) recover the installation by stabilizing infrastructure and restoring lifeline systems through whole-of-community collaboration (e.g., water, electrical systems, cyber systems, communications, shelter, transportation, and hazardous material), meeting the needs of individuals/the installation/local community, and prioritizing recovery of near and long-term mission generation ability.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 0.50M is forecasted for Government Program Office manpower to include civ pay, MITRE, & A&AS expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	8.199	5.645	0.000	0.000	0.000
Current President's Budget	7.937	5.645	0.000	0.000	0.000
Total Adjustments	-0.262	0.000	0.000	0.000	0.000
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.262	0.000			
• Other Adjustments	0.000	0.000	0.000	0.000	0.000

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0604617F / <i>Agile Combat Support</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
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<p>Title: Department of the Air Force Emergency Management Information System (DAF EMIS)</p> <p>Description: DAF EMIS supports the ability to prepare for, prevent, protect against, mitigate, respond to, and recover from the greatest hazards/threats at tactical, operational, and strategic levels; it allows information to be shared and exchanged across the DAF enterprise and other relevant external agencies within the Continental United States (CONUS) and Outside the Continental United States (OCONUS) Air Force Installations.</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> -Continue software architectural improvements to C2IMERA, enable transition from incrementally delivered microservices to a multi-tenancy implementation with software as a service, and support additional DAF EMIS capabilities and increased user base. -Continue to develop DAF EMIS operational and IT system interoperability requirements. -Continue to develop interoperability capabilities and display of data within C2IMERA from servers hosting software based on Android Team Awareness Kit/Tactical Awareness Kit (ATAK) -Explore development of advanced whole-of-community EM planning and integrated risk management capabilities and enhance the ability to inform and warn the populace/public through connection/interoperability with emerging DHS CWMD sensors, DoD Joint Program Office for Chemical/Biological Defense Integrated Early Warning and CBRN support to C2 IT capabilities and concepts, and the Defense Threat Reduction Agency/DAF Austere Environment Reconnaissance and Surveillance (AERS) CBRN Defense sensors. -Continue to develop, implement, and maintain a sharable and interoperable, standardized, singular, near real-time situational awareness COP through C2IMERA for DAF and multi-jurisdictional response and recovery forces. -Improve the ability to monitor holistic near-real time status of community lifelines (Safety and Security; Food, Water, Shelter; Health and Medical; Energy/Power & Fuel; Communications; Transportation; and Hazardous Material). -Continue to support the Agile Dev Ops development of enhanced software and software architecture to make the system more scalable, add additional integrations and enhance data automation, and increase interoperability across CONUS and OCONUS DAF Installations. -Explore leveraging emergent technologies in machine learning, artificial intelligence (AI), image analytics, and other advanced algorithms to increase DAF capability to save lives, mitigate resource loss, and continue DAF missions. -Will lead and manage the program through daily interaction with contractor and key stakeholders. -Will identify, monitor, mitigate, and report program and known risks associated with software and testing. <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> -Incorporate emergent near-real time all-domain sensor data and visualization into Common Operating Pictures (COPs). -Integrate sensors/drones to assess post incident/attack impacts regarding the surrounding community and installation infrastructure status - increase response/recovery actions while reducing risk to personnel. 	7.937	5.645	0.000
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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0604617F / <i>Agile Combat Support</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> -Bridge Emergency Management (EM) related cross-domain (NIPR/SIPR) interoperable hazard/threat and effects data gaps between Local, State, Federal, Joint, and partner nations. -Continue with the extension of cross-domain capabilities to support full data synchronization between the NIPR and SIPR C2IMERA instances to facilitate the JADC2 construct. -Generate 3-Dimensional (3D) geospatial mapping. -Continue to support the Agile Dev Ops development of enhanced software and software architecture to make the system more scalable, add additional integrations and enhance data automation, and increase interoperability across CONUS and OCONUS DAF Installations. -Will lead and manage the program through daily interaction with contractor and key stakeholders. -Will identify, monitor, mitigate, and report program and <p><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Funding decreased due to development efforts not being supported in FY25+</p>			
Accomplishments/Planned Programs Subtotals	7.937	5.645	0.000

D. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

E. Acquisition Strategy
The acquisition strategy builds on agile software engineering methodologies and modernization of existing capabilities utilizing evolutionary acquisition. In FY21, the acquisition strategy transitioned to the Software Acquisition Pathway to support the continuous integration/continuous deliver (CI/CD) agile methodology. This program is part of the overarching Kessel Run portfolio and is dependent on support from the All Domain Common Platform (ADCP).

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604617F / <i>Agile Combat Support</i>	Project (Number/Name) 675218 / <i>Applications Development</i>
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Software development	
DAF EMIS Software development	[REDACTED]

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604617F / <i>Agile Combat Support</i>	Project (Number/Name) 675218 / <i>Applications Development</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Software development				
DAF EMIS Software development	1	2023	4	2028

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	0.156	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.156
674211: <i>GLOBAL ACCESS</i>	-	0.156	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.156
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note
 This BPAC has no more funding across the FYDP after FY23.

A. Mission Description and Budget Item Justification

Funding supports the transition of End-to-End Distribution Model (EDEM) initiatives. EDEM is the model of record for transportation programmatic analysis

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025 Base</u>	<u>FY 2025 OCO</u>	<u>FY 2025 Total</u>
Previous President's Budget	0.156	0.000	0.000	0.000	0.000
Current President's Budget	0.156	0.000	0.000	0.000	0.000
Total Adjustments	0.000	0.000	0.000	0.000	0.000
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.000	0.000	0.000

C. Accomplishments/Planned Programs (\$ in Millions)	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025 Base</u>	<u>FY 2025 OCO</u>	<u>FY 2025 Total</u>
Title: Deployment & Distribution Enterprise	0.156	0.000	0.000	0.000	0.000
Description: Develop deployment and distribution technology					
FY 2024 Plans:					

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Effort concluded in FY23; no current year plans					
<i>FY 2025 Base Plans:</i> Effort Concluded in FY23; no budget year plans					
<i>FY 2025 OCO Plans:</i> Effort Concluded in FY23; no budget year OCO plans					
Accomplishments/Planned Programs Subtotals	0.156	0.000	0.000	0.000	0.000

D. Other Program Funding Summary (\$ in Millions)
N/A

Remarks
To support FIAR compliance, the creation of new Program Element for FY23 was directed. When new PE is established, FY23 funds will move out of this BPAC

E. Acquisition Strategy
Transition funding for ETEM capabilities

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>	Project (Number/Name) 674211 / <i>GLOBAL ACCESS</i>
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total		Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost				
Develop deployment and distribution technology	Various	Not specified. : TBD	-	0.156		-		-		-		-	0.000	0.156	-	
Subtotal			-	0.156		-		-		-		-	0.000	0.156	N/A	

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	0.156	-	-	-	-	0.000	0.156	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>	Project (Number/Name) 674211 / <i>GLOBAL ACCESS</i>

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>End-to-End Distribution Model (ETEM) initiative</i>	
End-to-End Distribution Model (ETEM) initiative	██████████

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604776F / <i>Deployment & Distribution Enterprise R&D</i>	Project (Number/Name) 674211 / <i>GLOBAL ACCESS</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>End-to-End Distribution Model (EDEM) initiative</i>				
End-to-End Distribution Model (EDEM) initiative	2	2023	4	2023

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force / BA 7: Operational Systems Development	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	994.924	1,275.268	1,124.207	0.000	1,124.207	1,192.420	1,160.610	975.101	989.293	Continuing	Continuing
673501: Air Vehicle - Tech Refresh 3	-	89.738	0.000	0.000	0.000	0.000	0.000	8.619	8.930	9.106	Continuing	Continuing
673502: Air Vehicle Block 4 Planning & Sys Eng	-	338.287	490.402	179.043	0.000	179.043	293.475	323.024	268.189	272.851	Continuing	Continuing
673503: Test and Evaluation (T&E)	-	232.793	261.303	422.627	0.000	422.627	406.073	347.596	245.032	210.150	Continuing	Continuing
673504: Propulsion (PP)	-	50.634	266.422	267.962	0.000	267.962	206.961	217.240	197.919	201.828	Continuing	Continuing
673505: Maintenance Systems (MxS)	-	47.647	42.044	33.741	0.000	33.741	46.880	45.331	34.187	70.248	Continuing	Continuing
673506: Combat Data Systems (CDS)	-	49.844	39.496	29.955	0.000	29.955	36.407	39.513	40.945	41.754	Continuing	Continuing
673507: Training Systems & Simulation	-	85.490	61.472	54.987	0.000	54.987	62.560	68.360	70.835	72.234	Continuing	Continuing
673508: Infrastructure & Support Costs	-	85.165	73.600	84.758	0.000	84.758	88.073	90.127	93.555	95.308	Continuing	Continuing
673509: DevSecOps	-	15.326	22.886	23.540	0.000	23.540	24.637	4.414	4.573	4.663	Continuing	Continuing
673510: Utility and Subsystem Support to Mission Systems	-	0.000	16.263	27.251	0.000	27.251	27.354	16.386	10.936	11.151	Continuing	Continuing
674871: Information Operations Technology	-	0.000	0.342	0.343	0.000	0.343	0.000	0.000	0.000	0.000	0.000	0.685
675346: F-35	-	0.000	1.038	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.038

Program MDAP/MAIS Code: 198

A. Mission Description and Budget Item Justification

The F-35 Joint Strike Fighter (JSF) Program will develop and field an affordable, highly common family of next generation strike aircraft for the United States Air Force, United States Navy, United States Marine Corps and International Partners countries. There are three variants: the F-35A Conventional Takeoff and Landing (CTOL), F-35B Short Take Off and Vertical Landing (STOVL), and the F-35C Carrier Variant (CV). Maximum commonality among the variants, consistent with National Disclosure Policy, will minimize total air system life cycle costs. Planning, systems engineering, development, and testing for Block 4 continues across the F-35 Air

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2
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System to include the air vehicle, propulsion system, combat data systems, maintenance systems, and training systems as Initial Operational Capability (IOC) has been met for each variant.

The JSF Continuous Capability Development & Delivery (C2D2) efforts provide incremental warfighting capability improvements to maintain joint air dominance against evolving threats. Block 4 capability requirements were initiated through ongoing Service-led operational analysis of warfighting gaps identified in the Fifth Generation Fighter Modernization Initial Capabilities Document (ICD), and through F-35 JSF Block 4 Mission Decomposition analysis completed in FY2014. These analyses served as the basis for the Block 4 Capability Development Document (CDD), staffed through the Air Force Requirements Oversight Council (AFROC) and signed by the USAF Chief of Staff in January 2015. Joint Requirements Oversight Council (JROC) approved the CDD on 21 March 2017. Modernization activities in FY2025 continue with the incremental releases of Block 4 capabilities. Block 4 efforts include a robust weapons integration portfolio and provide new opportunities for International Partners to assess, integrate, and field unique capabilities based on global sovereign requirements.

The United Kingdom, Italy, Netherlands, Canada, Australia, Denmark and Norway are participants in F-35 modernization. The program shown here reflects United States Air Force funding. Foreign Military Sales are ongoing separately.

The FY2025 funding request was reduced by \$204 million to account for the availability of prior year execution balances.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23, \$63.6M was expended for civilian pay expenses in this project element, and in FY24, \$67.1M is forecasted for civilian pay expenses in this project element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	1,032.528	1,275.268	1,325.999	0.000	1,325.999
Current President's Budget	994.924	1,275.268	1,124.207	0.000	1,124.207
Total Adjustments	-37.604	0.000	-201.792	0.000	-201.792
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-9.999	0.000			
• SBIR/STTR Transfer	-27.605	0.000			
• Other Adjustments	0.000	0.000	-201.792	0.000	-201.792

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force Date: March 2024

Appropriation/Budget Activity
3600: *Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development*

R-1 Program Element (Number/Name)
PE 0604840F / F-35 C2D2

Change Summary Explanation

FY2023 funding reduced by \$9.999M due to reprogramming to PE 0207110F, Next Generation Air Dominance, Project 646007: AS 2030 Air Dominance Technologies (ADT), and \$27.604M for Small Business Innovative Research (SBIR).
FY2025 funding reduced by \$204M to leverage FY2024 carryover and rebalance the FY2025 profile to meet execution requirements while maintaining F-35 capability development.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673501 / Air Vehicle - Tech Refresh 3
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
673501: Air Vehicle - Tech Refresh 3	-	89.738	0.000	0.000	0.000	0.000	0.000	8.619	8.930	9.106	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Technology Refresh 3 (TR-3) conducts post Critical Design Review (CDR) design activities. This effort will develop and deliver a TR-3 system through full flight-worthy certification and production readiness review for Lot 15. The design of TR-3 subsystems Integrated Core Processor (ICP), Aircraft Memory System (AMS), and Panoramic Cockpit Display Electronics Unit and Display Unit (PCD-EU, PCD-DU) configurations will contain new backplane technology, commercial operating systems, and modified middleware necessary to support Block 3F functionality and incorporation of all Block 4 capabilities. This work includes nonrecurring engineering for the development, test, and certification of the ICP, AMS, PCD-EU, and PCD-DU, and includes processing capacity to ensure long term viability for future capabilities.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23, \$63.6M was expended for civilian pay expenses in this project element, and in FY24, \$67.1M is forecasted for civilian pay expenses in this project element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Technology Refresh 3 (TR-3)	89.738	0.000	0.000	-	0.000
Description: TR-3 conducts post CDR design activities. This effort will develop and deliver a TR-3 system through full flight-worthy certification and production readiness review for Lot 15. The design of TR-3 subsystems ICP, AMS, PCD-EU, and PCD-DU configurations will contain new backplane technology, commercial operating systems, and modified middleware necessary to support Block 3F functionality and incorporation of all Block 4 capabilities. This work includes nonrecurring engineering for the development, test, and certification of the ICP, AMS, PCD-EU, and PCD-DU, and includes processing capacity to ensure long term viability for future capabilities.					
FY 2024 Plans: N/A					
FY 2025 Base Plans: N/A					
FY 2024 to FY 2025 Increase/Decrease Statement:					

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673501 / Air Vehicle - Tech Refresh 3
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
N/A					
Accomplishments/Planned Programs Subtotals	89.738	0.000	0.000	-	0.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date: March 2024**

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673501 / Air Vehicle - Tech Refresh 3
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
TR-3 Prime Development	C/CPIF	LM : Fort Worth, TX	-	89.738	Oct 2022	-		-		-		-	0.000	89.738	-
TR-3 Prime Next GenDAS Shipsets Proc	C/CPIF	LM : Fort Worth, TX	-	-		-		-		-		-	0.000	0.000	-
TR-3 Prime OT NRE	C/CPIF	LM : Fort Worth, TX	-	-		-		-		-		-	0.000	0.000	-
TR-3 Prime OT NextGen DAS NRE	C/CPIF	LM : Fort Worth, TX	-	-		-		-		-		-	0.000	0.000	-
Subtotal			-	89.738		-		-		-		-	0.000	89.738	N/A
Project Cost Totals			-	89.738		-		-		-		-	0.000	89.738	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673501 / Air Vehicle - Tech Refresh 3

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

673501	
Perform Final Hardware Qualification Testing	████
Perform TR-3 Flight Test	████████████
Production Hardware Deliveries	████████████████
Production Software Available	████████████████
1st Aircraft Lot 15 DD250	████████
TR3 Complete	████████

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673501 / Air Vehicle - Tech Refresh 3
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
673501				
Perform Final Hardware Qualification Testing	1	2023	1	2023
Perform TR-3 Flight Test	1	2023	4	2023
Production Hardware Deliveries	1	2023	2	2024
Production Software Available	3	2023	2	2024
1st Aircraft Lot 15 DD250	2	2024	3	2024
TR3 Complete	3	2024	4	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2				Project (Number/Name) 673502 / Air Vehicle Block 4 Planning & Sys Eng			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
673502: Air Vehicle Block 4 Planning & Sys Eng	-	338.287	490.402	179.043	0.000	179.043	293.475	323.024	268.189	272.851	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The F-35 Air Vehicle Program Management Office (AV PMO) development portfolio includes efforts to improve the F-35 air vehicle lethality, survivability, and interoperability in response to emerging threats outlined in the National Security Strategy and Operational Plans. The AV PMO delivers these capabilities utilizing a Continuous Capability Development and Delivery (C2D2) strategy combining traditional hardware upgrades and agile software integration processes.

F-35 Block 4 Modernization is designed to counter the full spectrum of evolving near-peer enemy threats to ensure US and Allied forces have freedom of operation even in the face of advanced adversary Anti-Access/Area Denial (A2/AD) capabilities. As designed, Block 4 consists of three principle lines of effort: development of software-based capabilities, development and integration of new and modernized aircraft hardware which enable the development of new capabilities, and new weapons integration. Efforts under the Air Vehicle / Block 4 Planning and Systems Engineering project range from requirements decomposition and preliminary design of capabilities through completion of Developmental Flight Test. These activities are a continuation of the previous Block 4 developmental contracts, and include activities required to enable the successful completion of Flight Test, to include select facility upgrades required for research, development, test and evaluation. Block 4 upgraded capabilities and continuous improvements will maintain Air System viability against the evolving threats indicated in the Electronic Warfare Initial Capabilities Document (ICD), the Fifth Generation Fighter Modernization ICD, and the Block 4 Capability Development Document (CDD). Additionally, the Block 4 capabilities will reduce life cycle cost, improve Air System Integration, and improve operational suitability. Weapons integration efforts included under this project include AARGM-ER integration, employment envelope expansion for current F-35 weapons, and Increased Air-to-Air Missile Carriage.

Included in the Air Vehicle (AV)/Block 4 Planning and Systems Engineering effort is both Prime and Government Systems Engineering Support needed for Avionics/Electronic Warfare and Weapons Integration efforts to include studies, analysis and risk reduction efforts.

The FY2025 funding request was reduced by \$204 million to account for the availability of prior year execution balances

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23, \$63.6M was expended for civilian pay expenses in this project element, and in FY24, \$67.1M is forecasted for civilian pay expenses in this project element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Air Vehicle Block 4 Planning & Sys Eng	338.287	490.402	179.043	-	179.043

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673502 / Air Vehicle Block 4 Planning & Sys Eng

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>Description: The F-35 Air Vehicle Program Management Office (AV PMO) development portfolio includes efforts to improve the F-35 air vehicle lethality, survivability, and interoperability in response to emerging threats outlined in the National Security Strategy and Operational Plans. As designed, Block 4 consists of three principle lines of effort: development of software-based capabilities, development and integration of new and modernized aircraft hardware which enable the development of new capabilities, and new weapons integration. Included in the AV/Block 4 Planning and Systems Engineering effort is both Prime and Government Systems Engineering Support needed for Avionics/Electronic Warfare and Weapons Integration efforts to include studies, analysis and risk reduction efforts.</p> <p>FY 2024 Plans: Continued with Agile development of capabilities through Developmental and Operational Flight Test. Continued requirements decomposition and preliminary design activities for advanced Block 4 capabilities. Continued development and maturity of key long lead capabilities and service unique weapons, enabling A2AD strategies including increased payloads, integrated fires, passive weapons, interoperability and multi-spectrum dominance in response to near-peer threats. Initiated development of enhanced cyber detection and mitigation capability for the F-35 in response to critical and emerging threats. Continued the application of cyber resilience engineering processes and tools for software, hardware, and weapons, though flight test. Continued and expanded application of cyber resilient engineering processes and tools for software, hardware, and weapons, though flight test. Continued development and timely delivery of software drops to meet warfighter need. Continued supporting efforts for airframe, air vehicle systems, Air-Ship integration, including Electromagnetic aircraft launch system advanced arresting gear (EMALS-AAG) launch bulletins and related work, mission systems, future capabilities studies and weapons integration efforts. Continued support for Block 4 Capabilities and support preliminary systems engineering efforts associated with AARGM-ER, AGM-158 family of weapons, and increased air to-air missile carriage. Continued systems engineering, integration, and test (SEIT) development for avionics, sensors, weapons, studies & analyses, and risk reduction efforts. Continued the joint requirement for Common Low Observable Waveform development as a new tactical data link (TDL) to be used for interoperability across joint platforms within a highly contested environment.</p> <p>FY 2025 Base Plans: Continue with Agile development of capabilities through Developmental and Operational Flight Test. Continue requirements decomposition and preliminary design activities for advanced Block 4 capabilities. Continue development and maturity of key long lead capabilities and service unique weapons, enabling A2AD strategies including increased payloads, integrated fires, passive weapons, interoperability, and multi-spectrum dominance</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673502 / Air Vehicle Block 4 Planning & Sys Eng

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>in response to near-peer threats. Initiate development of enhanced cyber detection and mitigation capability for the F-35 in response to critical and emerging threats. Continue the application of cyber resilience engineering processes and tools for software, hardware, and weapons, though flight test. Continue the application of cyber resilient engineering processes and tools for software, hardware, and weapons, though flight test. Continuing development and timely delivery of software drops to meet warfighter need. Continue supporting efforts for airframe, air vehicle systems, Air-Ship integration, including Electromagnetic aircraft launch system advanced arresting gear (EMALS-AAG) launch bulletins and related work, mission systems, future capabilities studies and weapons integration efforts. Continue support for Block 4 Capabilities and advance systems engineering efforts associated with AARGM-ER, AGM-158 family of weapons, and increased air-to-air missile carriage. Continued systems engineering, integration, and test development for avionics, sensors, weapons, studies & analyses, and risk reduction efforts.</p> <p><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> The decrease from FY2024 to FY2025 will be managed with FY2024 carryover to meet execution requirements while maintaining F-35 capability development.</p>					
Accomplishments/Planned Programs Subtotals	338.287	490.402	179.043	-	179.043

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

The C2D2 acquisition strategy employs both Cost and Fixed Price Incentive contracts for the Block 4 engineering and development efforts. In addition, a separate Basic Ordering Agreement or Indefinite Quantity/Indefinite Delivery contract is planned to provide a long term approach to upgrading and maintaining laboratories and test aircraft and supporting technology maturation for future C2D2 capabilities.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force											Date: March 2024				
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2					Project (Number/Name) 673502 / Air Vehicle Block 4 Planning & Sys Eng				

Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AV Prime Phase II Cape/Development	C/CPIF	LM : Fort Worth, TX	-	240.633	Oct 2022	296.568	Nov 2023	77.000	Nov 2024	-		77.000	Continuing	Continuing	-
AV Prime Phase II Fee	C/CPIF	LM : Fort Worth, TX	-	11.500	Oct 2022	42.600	Nov 2023	7.500	Nov 2024	-		7.500	Continuing	Continuing	-
AV Prime LM Block Four Contract (BFC)	C/CPIF	LM : Fort Worth, TX	-	33.651		-		39.583	Nov 2024	-		39.583	Continuing	Continuing	-
AV Prime LM Block Four Contract (BFC) Fee	C/CPIF	LM : Fort Worth, TX	-	0.000		-		15.000	Nov 2024	-		15.000	Continuing	Continuing	-
AV Prime Air Vehicle Integration	C/CPFF	LM : Fort Worth, TX	-	2.500	Oct 2022	3.128	Nov 2023	1.500	Nov 2024	-		1.500	Continuing	Continuing	-
AV Common Low Observable Waveform	TBD	TBD : TBD	-	-		99.000	Nov 2023	11.000	Nov 2024	-		11.000	Continuing	Continuing	-
AV Systems Engineering	Various	Various : TBD	-	24.037	Dec 2022	11.668	Nov 2023	5.240	Nov 2024	-		5.240	Continuing	Continuing	-
AV Cyber Survivability	Various	Various : TBD	-	2.000	Oct 2022	18.764	Nov 2023	7.860	Nov 2024	-		7.860	Continuing	Continuing	-
Subtotal			-	314.321		471.728		164.683		-		164.683	Continuing	Continuing	N/A

Remarks
1. Breaking out the Prime LM Block Four Contract (BFC) lines starting in FY2025. This is not a new start and is captured under the Ph II Cape/Development line prior to FY2025.

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AV Mission Systems Support	Various	Various : TBD	-	12.499	Nov 2022	10.651	Nov 2023	6.480	Nov 2024	-		6.480	Continuing	Continuing	-
AV Vehicle Systems Support	Various	Various : TBD	-	4.380	Nov 2022	0.500	Nov 2023	3.340	Nov 2024	-		3.340	Continuing	Continuing	-
AV CSO Development Support	Various	Various : TBD	-	7.087	Nov 2022	7.523	Nov 2023	4.540	Nov 2024	-		4.540	Continuing	Continuing	-
Subtotal			-	23.966		18.674		14.360		-		14.360	Continuing	Continuing	N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673502 / Air Vehicle Block 4 Planning & Sys Eng

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

673502	
Systems Engineering & Agile Capability Development: Planning Events	
Systems Engineering & Agile Capability Development: IPRs	
Hardware Enablers: A/C Cooling	
Hardware Enablers: Electronic Warfare (EW) Upgrade	
Hardware Enablers: Embedded GPS Inertial (EGI)	
Hardware Enablers: Beyond Line Of Sight (BLOS) Communications	
Hardware Enablers: Common Low Observable Waveform	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673502 / Air Vehicle Block 4 Planning & Sys Eng

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
673502				
Systems Engineering & Agile Capability Development: Planning Events	1	2023	4	2029
Systems Engineering & Agile Capability Development: IPRs	1	2023	4	2029
Hardware Enablers: A/C Cooling	1	2023	4	2025
Hardware Enablers: Electronic Warfare (EW) Upgrade	1	2023	1	2028
Hardware Enablers: Embedded GPS Inertial (EGI)	1	2023	1	2027
Hardware Enablers: Beyond Line Of Sight (BLOS) Communications	4	2023	4	2029
Hardware Enablers: Common Low Observable Waveform	1	2024	4	2028

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2				Project (Number/Name) 673503 / Test and Evaluation (T&E)			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
673503: Test and Evaluation (T&E)	-	232.793	261.303	422.627	0.000	422.627	406.073	347.596	245.032	210.150	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Integrated Test activities in support of C2D2, to include Lockheed Martin support at all test sites. Non-recurring engineering required to plan for the service life extension of existing DT aircraft and modifications necessary to bring DT aircraft fleet to a more production-representative and sustainable configuration, and to develop flight test instrumentation and release test software to meet Block 4 requirements. Additional upgrades required to support development and evaluation of improvements driven by changes in the threat environment and as identified in the Electronic Warfare ICD, the Fifth Generation Fighter Modernization ICD, and the Block 4 Capability Development Document (CDD). Efforts include non-recurring engineering and procurement of a test article to evaluate service life of F-35B STOVL Aircraft. Integrated test also supports the evaluation of upgrades to ALIS, fielding of ODIN Base Kits, regression testing of fielded weapons upgrades, and various validation/verification efforts.

Costs in the Accomplishments/Planned and Program R2A section have been broken out into the following R-2A categories: Development Foundation Contract, Development Test, Operational Test, Future Flight Test Capabilities/Investments, Ground Test and Simulation Infrastructure. All of the development efforts presented in the budget submission existed in prior years and were rolled up under previously submitted Accomplishments/Planned and Program costs in Test and Evaluation category.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23, \$63.6M was expended for civilian pay expenses in this project element, and in FY24, \$67.1M is forecasted for civilian pay expenses in this project element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Development Foundation Contract (DFC) Flight Test and Tech Refresh	77.877	81.832	117.091	-	117.091
Description: Provides a foundation for flight test operations support and developmental test aircraft fleet maintenance at Edwards Air Force Base (EDW AFB), CA; Naval Air Station Patuxent River (NAS PAX), MD; and tech refresh for F-35 development laboratory at Fort Worth, TX, for Lockheed Martin Aeronautics (LM Aero) and its subcontractors. This includes investment planning and other test planning activities required for Block 4 capability development, integration, and developmental test and evaluation. Funding is required for the Lockheed Martin Integrated Test Force contractor labor, suppliers, and material. Other support efforts are provided for airframe, air vehicle systems, air-ship integration, mission systems, weapons integration, offboard					

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673503 / Test and Evaluation (T&E)
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>mission support, autonomic logistics development, joint reprogramming enterprise, and modeling and joint simulation environment activities.</p> <p>FY 2024 Plans: Support F-35 capability enhancements. DFC provided flight test for C2D2 Block 4 capabilities including weapons testing, as well as continued annualized equipment recapitalization along with technology refresh and specific lab modernization efforts. These efforts will sustain, replace, upgrade, and modify hardware and software.</p> <p>FY 2025 Base Plans: DFC will provide flight test support for C2D2 Block 4 capabilities and weapons testing to accelerate delivery of weapons to the Services. Continues annualized equipment recapitalization of ground support equipment along with technology refresh and specific lab modernization efforts. These efforts will sustain, replace, upgrade, and modify test infrastructure hardware and software.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increase for DFC in FY2025 to account for cost inflation factors, acceleration of weapons delivery to the services, procurement of Block 4 PME for HITL labs, as well as replacement of ground support equipment and tech refresh of aging lab equipment.</p>					
<p>Title: Developmental Test (DT)</p> <p>Description: Government test site Integrated Test activities to support development of Air Vehicle C2D2 and TR-3 programs, as well as inherent maintenance systems, training systems, and combat data systems test support. Testing includes ground, logistics, and flight testing of incremental flight software releases, weapon integration, DMS/fleet sustainment, service-life extension, hardware refresh, and regression efforts to ensure total system integration meets program requirements. Test site capabilities to meet program requirements include infrastructure, ranges, engineering, administration, logistics, maintenance, controls, information technologies, classified facilities, and service unique supporting capabilities. The sites to be funded include but are not limited to NAWCAD Pax River, NAWCWD China Lake, and Edwards AFB.</p> <p>FY 2024 Plans: Continued to support Integrated Test capacity and flight test execution (manpower, weapons, flight hours, range time, and chase, target & tanker support assets) to develop and verify and test capabilities as directed by the F-35 JPO. Major program testing included continuing TR-3 regression, Block 4 weapons integration, integrated system evaluations, multi-ship operations, and mission effectiveness evaluations. Continued funding for Development Test Aircraft Modification broken out from the rest of the Development activities. This is continued</p>	37.747	37.581	65.736	-	65.736

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673503 / Test and Evaluation (T&E)
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>support from for Developmental Test (DT) aircraft modifications in order to be test-ready and operationally-representative. Funding will also procure Developmental Test (DT) Kits. Continued to support flight test capacity and flight test execution. This includes first increment testing through initial and fully operational increments. The funding was used for continuing to develop and test incrementally, for new capability releases and deficiency fixes.</p> <p>FY 2025 Base Plans: Developmental Testing activities at NAS Patuxent River ("Pax"), Edwards AFB, and NAWS China Lake continue FY24 activities under a level-of-effort test capacity as defined in updated USN Work Assignment Agreements (WAAs) and USAF Statements of Capability (SOCs). DT efforts in FY25 are expected to be prioritized for continued US Services and Cooperative Partner nation weapons integration and other operational air system capabilities, but will also include other efforts as described for FY24.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increase for DT in FY2025 to improve ability for F-35 Integrated Test Forces (ITFs) at NAS Patuxent River and Edwards AFB to complete DT activities for F-35 common capabilities, mission systems, and weapons capabilities, necessary to reach maturity required to field the warfighter.</p>					
<p>Title: Operational Test (OT)</p> <p>Description: Government test site Integrated Test activities to support development of Air Vehicle C2D2 and TR-3 programs, as well as inherent maintenance systems, training systems, and combat data systems test support. Testing includes ground, logistics, and flight-testing of incremental flight software releases, weapon integration, DMS/fleet sustainment, hardware refresh and regression efforts to ensure total system integration meets program requirements in an operationally representative environment. Test site capabilities to meet program requirements include infrastructure, ranges, engineering, administration, logistics; maintenance, controls, information technologies, classified facilitates, and US Service-unique supporting capabilities. The sites to be funded include but are not limited to Nellis AFB, Edwards AFB, and MCAS Yuma.</p> <p>FY 2024 Plans: Funding supported Integrated Test capacity and flight test execution (manpower, weapons, flight hours, range time, and chase, target & tanker support assets) to develop and verify and test capabilities as directed by the F-35 JPO. Major program testing included TR-3 integration, Block 4 weapons integration, integrated system evaluations, multi-ship operations and mission effectiveness evaluations in an operationally representative environment. Continued funding for Operational Test (OT) aircraft modifications in order to be test-ready and operationally-representative. The funding was used for continual development through incremental test of new</p>	16.986	31.059	29.752	-	29.752

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673503 / Test and Evaluation (T&E)

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>software and deficiency fixes. Funding also included the final analysis and reporting of the remaining 64 OT virtual mission trials completed in FY23, and other IOT&E closeout tasks. AV PMO is the TR-3 system owner responsible for verifying capability (per their funding in PU 2567) with data provided from DT and OT funded in this chart.</p> <p>FY 2025 Base Plans: Operational Test activities will continue from FY24 into FY25 under a level-of-effort OT capacity as defined in the Integrated Test Team (ITT) charter and as required to support the C2D2 construct's incremental capability releases. These activities may include OT squadron participation in large force fleet-representative exercises or joint force exercises to stress the capabilities in an operational environment. Funding will also be used to continue refining and improving OT data analysis tools and OT data management.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding decrease for OT in FY2025 due to reducing overall flight test execution at Nellis AFB and Edwards AFB.</p>					
<p>Title: Future Flight Test Capabilities/Investments</p> <p>Description: Test fleet modifications, test mission equipment/assets, instrumentation capability, and data center investments are required to continue to support Block 4 capability development and integrated test requirements. TR-3-related capability requires current test aircraft and replacement test aircraft configurations to be modified to new hardware, software, and flight test instrumentation (FTI) systems. Program priorities, flight test demand, data quantity/bandwidth upgrades, and capability delivery schedules require a steady update to test fleet configurations. Modifications and instrumentation design/ procurement/install are long-lead efforts requiring stable funding and contract vehicles to meet program needs.</p> <p>FY 2024 Plans: Began incremental funding for Flight Sciences Replacements jets FTI design, procurement and installation (1 per variant). Began incremental funding for Flight Science Lite jets for FTI design in support of weapons testing (1xF-35A, 1xF-35B and 2xF-35C). Continued FTI design/fabrication/installation (long-lead NRE, parts procurement, kit fabrication) for replacement test aircraft on multiple TR-2 and TR-3 USG FTI designs. Continued NRE/procurement/installation to retrofit or maintain test aircraft viability. Additionally, development, procurement, and installation of flight test data center system upgrades to support Integrated Testing across multiple F-35 stakeholder sites. FTI development, procurement, fabrication, and installation for current/ future service loaner aircraft in order to continue Integrated Testing with Service Operational Test organizations.</p>	88.891	104.005	192.622	-	192.622

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673503 / Test and Evaluation (T&E)

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>Further, continued integration and procurement efforts for required Block 4 test mission assets, includes but not limited to weapons test vehicles, unique test mission equipment, and other test execution support equipment.</p> <p>FY 2025 Base Plans: Continue incrementally funding Flight Science Replacement jets FTI design, procurement, and installation (3 per variant) for Lots 19-24, to include for procurement of long-lead parts out of the production long-lead timeframe. Complete incremental funding for Flight Science Lite jets for FTI design in support of weapons testing (1xF-35A, 1xF-35B and 2xF-35 C). Continues FTI design/fabrication/installation (long-lead NRE, parts procurement, kit fabrication) for replacement test aircraft on multiple TR-2 and TR-3 USG FTI designs. Continues NRE/procurement/installation to retrofit or maintain test aircraft viability. Development, procurement, and installation of flight test data center upgrades to support Integrated Testing across multiple F-35 stakeholder sites. FTI development, procurement, fabrication and installation or current and future service loaner aircraft to continue Integrated Testing with Service Operational Test organizations. Continue integration and procurement efforts required for Block 4 test mission assets.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increase for FTI in FY2025 is primarily due to the request for additional 6x Flight Science Aircraft in support of engine and Block 4 development testing. This will increase the capacity to complete engineering and long-lead parts for Flight Science Aircraft.</p>					
<p>Title: Ground Test and Simulation Infrastructure (GTSI)</p> <p>Description: Development of Ground Test & Simulation Infrastructure capabilities from Block 4/TR-3 and other C2D2 early-on design and development through Installed Systems Verification activities prior to Developmental Flight Test for all variants of the F-35 aircraft. Infrastructure efforts include Laboratory Developments of Improvements & Modernization (I&M) assets used for design, development and test of Block 4 capabilities, and development of Ground Test & Evaluation Capabilities for digital and non-digital installed systems verification. Laboratory and/or Venue Developments will focus on the pure development of Block 4 capabilities through a Capability Verification Infrastructure that meets required fidelities that would advance the high-quality development of the Air System capabilities. Ground Test & Simulation Infrastructure will also include capabilities for cyber testing for TR-3 assessments within three main areas: air vehicle, information systems, and supply chain.</p> <p>FY 2024 Plans: Continued Ground Test & Simulation Infrastructure improvements and modernization capabilities needed for Block 4 air system developments. Efforts required to enable efficiencies in the Capability Verification process</p>	11.292	6.826	17.426	-	17.426

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673503 / Test and Evaluation (T&E)

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
and decrease reliance on Flight Test Operations as the overwhelmingly sole means of Verification. Test Infrastructure improvements included Vendor lab capabilities as well as USG Organic Infrastructure. Develop F-35 mission threads for continued digital verification automated capabilities for early-on software development, and continue aircraft cyber improvements and testing efforts. Major Investments included improvements to Digital Capabilities and Analysis and Ground Integrated Battlespace Verification.					
<i>FY 2025 Base Plans:</i> Continue Ground Test and Simulation Infrastructure Improvements and Modifications (I&M), M&S accreditation for DT, and test operation efforts that enable T&E of F-35 Block 4 Air System Capabilities. I&M efforts will be made to both DoD Organic Infrastructure such as integrated battlespace testing improvements to the anechoic chamber and associated labs, and LM lab infrastructure needed for Block 4 air system capability development. LM I&M efforts include updates to simulation software, improvements to stimulation labs, test equipment procurement, and engineering and test operations in support of EW, radar, communications, and weapon capabilities. Budget will also cover prime contractor support for the execution of M&S accreditation activities for DT, as well as activities for Government and CSS support needed for planning and reporting on the verification and validation of M&S to enable the use of M&S as capability verification venue.					
<i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Funding increase for GTSI in FY2025 to increase support of Block 4 capability development, as well as procure hardware and engineering labor for laboratory infrastructure improvements.					
Accomplishments/Planned Programs Subtotals	232.793	261.303	422.627	-	422.627

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

The Test & Evaluation Project will maximize use of existing F-35 contracts, where possible, for the various T&E-related capabilities and investments outlined in Sections A-C above. For example, provisions for new instrumentation on new flight test aircraft are being implemented when applicable via existing Production contracts in order to allow installation of the required hardware while those airframes are still on the assembly line. This will save significant costs and effort that would be required if instrumentation installation occurred after aircraft delivery. Other modifications and/or non-recurring engineering (NRE) may be implemented via existing contracts being managed by the Air Vehicle Program Management Office as part of the Block 4 engineering and development efforts. In addition, a separate Cost-Plus-Incentive-Fee-type contract is planned to provide a long-term approach to upgrading and maintaining laboratories and also for maintaining the older existing SDD test aircraft. Viability modifications to the SDD test aircraft are being contracted via a combination of Streamlined Delivery Orders for NRE and hardware as well as a Cost Plus-type

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
3600 / 7	PE 0604840F / <i>F-35 C2D2</i>	673503 / <i>Test and Evaluation (T&E)</i>

contract, using both to expedite the right modifications as needed at the right time in order to avoid test aircraft grounding and to maximize their availability. In addition, separate Basic Ordering Agreements or Indefinite Quantity/Indefinite Delivery contracts may be used to implement a long-term approach to upgrading and maintaining laboratories and test aircraft and supporting technology maturation for future capabilities. Several new cost reduction initiatives are being studied to determine possible migration away from Lockheed-Martin support to less-expensive organic support (via either government solutions, local test-base support contracts, or a combination of both) in areas such as test aircraft maintenance, test operations support, and networks/knowledge management. Other initiatives are being pursued to move more test data collection requirements from the open-air ranges to ground test chambers, computer-based models and simulations, or other laboratory venues where possible.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force											Date: March 2024				
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2					Project (Number/Name) 673503 / Test and Evaluation (T&E)				

Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
DFC - Prime Developmental Foundation Contract	C/CPIF	LM : Fort Worth, TX	-	77.876	Nov 2022	72.188	Nov 2023	117.092	Nov 2024	-		117.092	Continuing	Continuing	-
OT - Prime Operation Test Aircraft Modification	C/CPIF	LM : Fort Worth, TX	-	3.094	Aug 2023	18.251	Aug 2024	16.183	Aug 2025	-		16.183	Continuing	Continuing	-
FI - Prime DT AC Viability	C/CPIF	LM : Fort Worth, TX	-	22.241	Dec 2022	79.310	Dec 2023	17.891	Dec 2024	-		17.891	Continuing	Continuing	-
FI - Flight Test Asset	C/CPIF	LM : Fort Worth, TX	-	48.932	Dec 2022	21.394	Dec 2023	165.663	Dec 2024	-		165.663	Continuing	Continuing	-
DT - Prime Development Test Aircraft Modification	C/CPIF	LM : Fort Worth, TX	-	7.349	Aug 2023	4.332	Aug 2024	5.482	Aug 2025	-		5.482	Continuing	Continuing	-
BFC - Prime LM Laboratory Developments	C/CPIF	LM : Fort Worth, TX	-	-		9.645	Nov 2023	0.000	Nov 2024	-		0.000	Continuing	Continuing	-
Subtotal			-	159.492		205.120		322.311		-		322.311	Continuing	Continuing	N/A

Remarks

R-3 Acronyms correspond to R-2A categories, per below breakout:
 DFC - Development Foundation Contract (DFC) Flight Test
 OT - Operational Test
 DT - Developmental Test
 FI - Future Flight Test Capabilities and Investments
 GTSI - Ground Test Simulation and Infrastructure
 Flight Test assets include DT and OT weapons procurement to support test and assets needed for flight test instrumentation

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation (EDW)	MIPR	Edwards AFB, CA : TBD	-	14.087	Dec 2022	15.643	Dec 2023	37.902	Dec 2024	-		37.902	Continuing	Continuing	-
Developmental Test & Evaluation (IDT)	MIPR	IDT : Ballston, VA	-	2.952	Dec 2022	1.506	Dec 2023	2.812	Dec 2024	-		2.812	Continuing	Continuing	-
Developmental Test & Evaluation (JHU)	MIPR	JHU : Laurel, MD	-	1.610	Dec 2022	0.815	Dec 2023	2.812	Dec 2024	-		2.812	Continuing	Continuing	-
Developmental Test & Evaluation (PAX)	WR	NAWCAD : Pax River, MD	-	18.342	Dec 2022	15.549	Dec 2023	30.410	Dec 2024	-		30.410	Continuing	Continuing	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673503 / Test and Evaluation (T&E)
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Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total		Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost				
Developmental Test & Evaluation (CHLK)	WR	NAWCWD : China Lake, CA	-	0.742	Dec 2022	1.309	Dec 2023	4.217	Dec 2024	-		4.217	Continuing	Continuing	-	
Operational Test & Evaluation (EDW)	MIPR	Edwards AFB, CA : TBD	-	0.473	Dec 2022	0.999	Nov 2023	1.037	Nov 2024	-		1.037	Continuing	Continuing	-	
Operational Test & Evaluation (Eglin)	MIPR	Eglin AFB, FL : TBD	-	1.760	Dec 2022	1.251	Jun 2024	1.299	Jun 2025	-		1.299	Continuing	Continuing	-	
Operational Test & Evaluation (PAX)	WR	NAWCAD : Pax River, MD	-	0.258	Dec 2022	0.192	Dec 2023	0.198	Dec 2024	-		0.198	Continuing	Continuing	-	
Operational Test & Evaluation (CHLK)	WR	NAWCWD : China Lake, CA	-	3.501	Dec 2022	7.919	Dec 2023	8.215	Dec 2024	-		8.215	Continuing	Continuing	-	
Operational Test & Evaluation (Nellis)	MIPR	Nellis AFB, NV : TBD	-	29.103	Dec 2022	9.765	Dec 2023	10.132	Dec 2024	-		10.132	Continuing	Continuing	-	
Operational Test & Evaluation (NSMA)	MIPR	NSMA : NSMA : TBD	-	0.473	Dec 2022	1.235	Dec 2023	1.282	Dec 2024	-		1.282	Continuing	Continuing	-	
Subtotal			-	73.301		56.183		100.316		-		100.316	Continuing	Continuing	N/A	

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract		
Project Cost Totals		-	232.793	261.303	422.627	-		422.627	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673503 / Test and Evaluation (T&E)
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

673503	
Development Foundation Contract Part III	
DT Aircraft Viability	
Flight Test Instrumentation	
Block 4 Contract Lab Development	
OFP Development & Test	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673503 / Test and Evaluation (T&E)

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
673503				
Development Foundation Contract Part III	1	2023	2	2027
DT Aircraft Viability	1	2023	1	2026
Flight Test Instrumentation	1	2023	4	2029
Block 4 Contract Lab Development	1	2023	1	2026
OFP Development & Test	1	2023	2	2026

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2				Project (Number/Name) 673504 / Propulsion (PP)			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
673504: <i>Propulsion (PP)</i>	-	50.634	266.422	267.962	0.000	267.962	206.961	217.240	197.919	201.828	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Propulsion F135 projects within the Continuous Capability Development & Delivery (C2D2) are provided for developmental efforts for propulsion systems and test engine requirements such as Block 4 Integrated Flight Test Support, Engine Flight Test Mechanics, Flight Test Engineering, Engine Hardware, Test Engine Procurements, research, component, and capability development, prototypes, various studies, costs integral to support the developmental stages for F-35 engine modernization, affordability drivers for top engine availability degraders, and improvement to support the F135 Propulsion System for the F-35 Air Vehicle. Testing and development of the three F-35 aircraft variants require engine propulsion funding to enable continued flight hours. Flight hours are budgeted and planned to meet the Block 4 Flight Test timelines and required Flight Test support. Flight Test Support efforts will transition to Organic support by CY2027. Transition of Flight Test Support requirements to organic capability includes efforts performed by contractor and government installations, Autonomic Logistics Information System / Operational Data Integrated Network (ALIS/ODIN) transition, replacement of development-only hardware, and updating Joint Technical Data (JTD) packages as required. The F-35 engine is being modernized as part of the Engine, Power, and Thermal Management System (PTMS) Modernization (EPM) subprogram. In FY24, Engine Modernization began being funded through the standard funding process. EPM Engine Modernization will continue funding propulsion system EMD in FY2025. In FY24 EPM began funding the Power and Thermal Management Upgrade, an upgrade to the F-35 Air System's (AS) Power and Thermal Management System (PTMS), Fuel Thermal Management System (FTMS) and Electrical Power System (EPS).

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23, \$63.6M was expended for civilian pay expenses in this project element, and in FY24, \$67.1M is forecasted for civilian pay expenses in this project element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Propulsion (PP)	50.634	266.422	267.962	-	267.962
Description: Propulsion F135 projects within the Continuous Capability Development & Delivery (C2D2) are provided for developmental efforts for propulsion systems and test engine requirements such as Block 4 Integrated Flight Test Support, Engine Flight Test Mechanics, Flight Test Engineering, Engine Hardware, Test Engine Procurements, research, component, and capability development, prototypes, various studies, costs integral to support the developmental stages for F-35 engine modernization, affordability drivers for top engine availability degraders, and improvement to support the F135 Propulsion System for the F-35 Air Vehicle. Testing and development of the three F-35 aircraft variants require engine propulsion funding to enable continued flight hours. Flight hours are budgeted and planned to meet the Block 4 Flight Test timelines and required					

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673504 / Propulsion (PP)
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B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>Flight Test support. Flight Test Support efforts will transition to Organic support by CY2027. Transition of Flight Test Support requirements to organic capability includes efforts performed by contractor and government installations, Autonomic Logistics Information System / Operational Data Integrated Network (ALIS/ODIN) transition, replacement of development-only hardware, and updating Joint Technical Data (JTD) packages as required. The F-35 engine is being modernized as part of the Engine, Power, and Thermal Management System (PTMS) Modernization (EPM) subprogram. In FY24, Engine Modernization began being funded through the standard funding process. EPM Engine Modernization will continue funding propulsion system EMD in FY2025. In FY24 EPM began funding the Power and Thermal Management Upgrade, an upgrade to the F-35 Air System's (AS) Power and Thermal Management System (PTMS), Fuel Thermal Management System (FTMS) and Electrical Power System (EPS).</p> <p>FY 2024 Plans: Continued Propulsion F135 Block 4 Integrated Flight Test Support to include Engine Flight Test Mechanics, Flight Test Engineering, Engine Hardware, Test Engine Procurements, research, component and capability development, prototypes, various studies, and other associated government costs integral to support the developmental stages for engine modernization and improvement to support the F135 Air Vehicle. Propulsion Flight Test Support enables the execution of F135 Air Vehicle Air System Playbook (ASP 16.1), and Technology Refresh 3 (TR3) Requirements. The Flight Test Fleet will maintain similar elevated aircraft inventory at twelve aircraft in FY2024. This includes seven at Edwards Air Force Base and five at Patuxent River Naval Air Base. Flights and Engine Flight Hours (EFH) are expected to maintain their prior year levels at 240 flights and 480 flight hours per quarter. Flight Test Support efforts will transition to Organic support by FY2027. Transition of Flight Test Support requirements to organic capability includes efforts performed by contractor and government installations, Autonomic Logistics Information System / Operational Data Integrated Network (ALIS/ODIN) transition, and Final Flight Release (FFR) engine support efforts. FY2024 Propulsion C2D2 provides funding for requirements to support the Air Vehicle modernization efforts, Engine signature predicting improvement efforts, and continuing F135 Engine Modernization/Propulsion System Upgrade developmental efforts.</p> <p>FY 2025 Base Plans: Continue Propulsion F135 Block 4 Integrated Flight Test Support to include Engine Flight Test Mechanics, Flight Test Engineering, Engine Hardware, Test Engine Procurements, research, component, and capability development, prototypes, various studies, and other associated government costs integral to support the developmental stages for engine modernization and improvement to support the F135 Air Vehicle. Propulsion Flight Test Support enables the execution of Block 4 and Technology Refresh 3 (TR3) Requirements. The Flight Test Fleet will maintain similar aircraft inventory at eight aircraft in FY2025. This includes three at</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673504 / Propulsion (PP)

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Edwards Air Force Base and five at Patuxent River Naval Air Base. Flights and Engine Flight Hours (EFH) are expected to maintain their prior year levels at over 600 flight hours in the year. Flight Test Support efforts will transition to Organic support by the end of CY2027. Transition of Flight Test Support requirements to organic capability includes efforts performed by contractor and government installations, Autonomic Logistics Information System / Operational Data Integrated Network (ALIS/ODIN) transition, replacement of development only hardware, and updating Joint Technical Data (JTD) packages as required. FY2025 Propulsion provides funding for requirements to support Engine Modernization Development efforts. PTMU will continue nonrecurring engineering effort to further understand SoS impacts and PTMS Upgrade cooling requirements and continued maturation of potential Thermal Management Systems (TMSs.)					
<i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Funding increase from FY2024 to FY2025 is due to continual requirements development relating to maturation efforts for the F135 Engine Modernization/propulsion System Upgrade developmental efforts.					
Accomplishments/Planned Programs Subtotals	50.634	266.422	267.962	-	267.962

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

The C2D2 acquisition strategy is to employ both Cost and Fixed Price Incentive contracts for the Block 4 engineering and development efforts. A new modernization contract structure will be established for all post SDD Block 4 efforts. In addition, a separate Basic Ordering Agreement or Indefinite Quantity/Indefinite Delivery contract is planned to provide a long term approach to upgrading and maintaining laboratories, test aircraft, and supporting technology maturation for future C2D2 capabilities.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673504 / Propulsion (PP)
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

673504	
Propulsion: P&W Flight Test	
Propulsion 2 DT Engine Purchase Inc 3	
Propulsion 1 Flight Test DT Engine Purchase	
Propulsion DevSecOps Emulation Lab for Full Authority Digital Engine Control (FADEC)	
Propulsion: Engine Modernization	
Propulsion Engine Signature Predictor (ESP)	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673504 / Propulsion (PP)
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
673504				
Propulsion: P&W Flight Test	1	2023	4	2026
Propulsion 2 DT Engine Purchase Inc 3	1	2023	4	2023
Propulsion 1 Flight Test DT Engine Purchase	1	2023	4	2023
Propulsion DevSecOps Emulation Lab for Full Authority Digital Engine Control (FADEC)	1	2023	4	2023
Propulsion: Engine Modernization	1	2023	4	2029
Propulsion Engine Signature Predictor (ESP)	1	2023	4	2025

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673505 / Maintenance Systems (MxS)
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
673505: Maintenance Systems (MxS)	-	47.647	42.044	33.741	0.000	33.741	46.880	45.331	34.187	70.248	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Autonomic Logistics Information System (ALIS) is the current F-35 program solution for delivering core maintenance and logistics information solutions to F-35 warfighters. ALIS will continue to deliver the core logistics and maintenance infrastructure requirements for the F-35 enterprise as ALIS evolves into Operational Data Integrated Network (ODIN). ALIS includes features such as aircraft scheduling, training delivery, record keeping, technical data delivery, supply chain management, maintenance management, pilot and maintenance debriefing, and mission planning. Current ALIS development efforts are focused on low cost and high return investments that provide a high confidence return on investment in the short term, significant warfighter impact, and/or offer synergy with ODIN development efforts.

ODIN will incrementally provide a modern, user-friendly integrated information system for the F-35 to deliver core maintenance and logistics information solutions. ODIN will be comprised of multiple elements to include modern hardware, architectures, software development methods, data environments, and platforms. Leveraging agile and modern software development practices, ODIN will serve as the primary logistics tool to support F-35 warfighter operations, health and diagnostics, mission planning, supply chain management, maintenance, and training. ODIN will substantially decrease F-35 administrator and maintainer workload, increase readiness rates for all F-35 variants, and allow software engineers to rapidly develop and deploy updates in response to changing warfighter requirements and improve data management, quality, and integrity. The ALIS to ODIN transition is intended to enable holistic fleet management, improve performance, enhance readiness, and reduce costs to the F-35 program. ODIN is comprised of both hardware and software which support the flow of Unclassified and Classified aircraft and maintenance-related data.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23, \$63.6M was expended for civilian pay expenses in this project element, and in FY24, \$67.1M is forecasted for civilian pay expenses in this project element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Operational Data Integrated Network (ODIN)	46.647	42.044	33.741	0.000	33.741
Description: ODIN will incrementally provide a modern, user-friendly integrated information system for the F-35 to deliver core maintenance and logistics information solutions. ODIN will be comprised of multiple elements to include modern hardware, architectures, software development methods, data environments, and platforms. Leveraging agile and modern software development practices, ODIN will serve as the primary logistics tool to support F-35 warfighter operations, health and diagnostics, mission planning, supply chain management,					

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673505 / Maintenance Systems (MxS)
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B. Accomplishments/Planned Programs (\$ in Millions)

maintenance, and training. ODIN will substantially decrease F-35 administrator and maintainer workload, increase readiness rates for all F-35 variants, and allow software engineers to rapidly develop and deploy updates in response to changing warfighter requirements and improve data management, quality, and integrity. The ALIS to ODIN transition is intended to enable holistic fleet management, improve performance, enhance readiness, and reduce costs to the F-35 program. ODIN is comprised of both hardware and software which support the flow of Unclassified and Classified aircraft and maintenance-related data.

FY 2024 Plans:

Continued ALIS to ODIN software containerization efforts and development of foundational infrastructure for software and data modernization to increase user capability. Continued development of the Linux platform and ODIN data architecture. Finalized current generation hardware update. Continued analysis of alternatives on next-generation hardware tech insertion supporting ODIN development and test plan as well as capability requirements that are not currently encompassed in the baseline equipment. Optimized the ODIN cloud-based infrastructure while continuing migration and modernization of the ODIN enterprise. Leveraged the establishment of modern software architecture from Unclassified development efforts to support development and release of the Classified portion of the F-35 Maintenance Systems ODIN enterprise. Began to develop and deploy improved capabilities to replace legacy applications.

FY 2025 Base Plans:

Continue ALIS to ODIN software containerization efforts and development of foundational infrastructure, software, and data enhancements to enable enterprise-wide capabilities and increase user capabilities. Continue development of the Linux platform and ODIN data architecture. Develop next-generation hardware update. Continue analysis of alternatives on future hardware tech insertion supporting ODIN development and test plans as well as capability requirements that are not currently encompassed in the baseline equipment. Continue development and optimization of the ODIN cloud-based infrastructure while continuing migration and enhancement of the ODIN enterprise. Leverage the establishment of modern software architecture from Unclassified development efforts to develop and release the Classified portion of the F-35 Maintenance Systems ODIN enterprise. Develop and deploy improved capabilities to replace legacy applications.

FY 2025 OCO Plans:

N/A

FY 2024 to FY 2025 Increase/Decrease Statement:

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673505 / Maintenance Systems (MxS)
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Decrease in funding from FY2024 to FY2025 is primarily for Software and Data activities and resulted from lower negotiated Lockheed Martin labor rates on the prime development contract. The activities have been adjusted to more closely align to planned migration activities with ODIN containerized software.					
<p>Title: Prognostics and Health Management (PHM)</p> <p>Description: Prognostics and Health Management (PHM) encompasses the Air-System set of software, technical data and capabilities to enable optimal maintenance, and resolution of aircraft failures and impending failures. On-aircraft software identifies failures, enables reporting of status to the pilot, and records data for life cycle management and sustaining engineering. The data processed by ALIS/ODIN supports maintenance debriefs, life cycle management via Assess Material Condition (AMC), and failure resolution via Health Reporting Codes (HRCs) and Anomaly and Failure Resolution System (AFRS). Maintenance performance (inclusive of reliability and maintainability) is enhanced via the collection and reporting of the Failure Reporting and Corrective Action System (FRACAS). Applied advanced analytics on the aggregate PHM is used for airframe lifing and enterprise use, and improves responsiveness to operational needs.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Base Plans: N/A</p> <p>FY 2025 OCO Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A</p>	1.000	0.000	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals	47.647	42.044	33.741	0.000	33.741

C. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

D. Acquisition Strategy
N/A

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673505 / Maintenance Systems (MxS)
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MxS Prime LM ODIN	C/CPFF	LM : Fort Worth, TX	-	22.029	Nov 2022	23.200	Nov 2023	13.862	Nov 2024	-		13.862	Continuing	Continuing	-
MxS Prime PW ODIN	C/CPFF	PW : East Hartford, CT	-	4.932	Nov 2022	3.800	Nov 2023	3.872	Nov 2024	-		3.872	Continuing	Continuing	-
MxS Prime PHM	C/CPFF	LM : Fort Worth, TX	-	1.000	Nov 2022	-		-		-		-	Continuing	Continuing	-
Subtotal			-	27.961		27.000		17.734		-		17.734	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MxS ODIN Development Support	Various	Various : TBD	-	19.686	Nov 2022	10.644	Nov 2023	2.050	Nov 2024	-		2.050	Continuing	Continuing	-
MxS ODIN Development Support - DTIC	Various	DTIC : Fort Belvoir, VA	-	-		3.000	Nov 2023	3.348	Nov 2024	-		3.348	Continuing	Continuing	-
MxS ODIN Development Support - NIWC	Various	NIWC : Charleston, SC	-	-		1.400	Nov 2023	1.290	Nov 2024	-		1.290	Continuing	Continuing	-
MxS ODIN Development Support Platform Environment	Various	Various : TBD	-	-		-		7.100	Nov 2024	-		7.100	Continuing	Continuing	-
MxS ODIN Development Support - GFE	Various	Various : TBD	-	-		-		2.219	Nov 2024	-		2.219	Continuing	Continuing	-
Subtotal			-	19.686		15.044		16.007		-		16.007	Continuing	Continuing	N/A

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract		
Project Cost Totals		-	47.647	42.044	33.741	-	-	33.741	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673505 / Maintenance Systems (MxS)
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	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
673505																												
Operational Data Integrated Network (ODIN): Hardware Development																												
Operational Data Integrated Network (ODIN): Hardware Development - Next Gen																												
Operational Data Integrated Network (ODIN): Software Architecture Development																												
Operational Data Integrated Network (ODIN): Software Continuous Development (Prototyping, Dev, Int/Test, Fielding)																												
Operational Data Integrated Network (ODIN): ALIS Containerization (incl. Prototyping, Dev, Int/Test, Fielding)																												
Operational Data Integrated Network (ODIN): Platform Development																												
Operational Data Integrated Network (ODIN): Platform Continuous Development (Prototyping, Dev, Int/Test, Fielding)																												
Operational Data Integrated Network (ODIN): Integrated Data Environment Development																												
Operational Data Integrated Network (ODIN): Data Architecture Continuous Development(Prototyping, Dev, Int/Test, Fielding)																												
Operational Data Integrated Network (ODIN): Legacy Modernization and Migration																												
Operational Data Integrated Network (ODIN): COTS/GOTS Application																												

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673505 / Maintenance Systems (MxS)
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	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Configuration, Software Development, and Integration																												
Prognostics and Health Management (PHM): PHM Algorithm Development																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673505 / Maintenance Systems (MxS)

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
673505				
Operational Data Integrated Network (ODIN): Hardware Development	1	2023	4	2024
Operational Data Integrated Network (ODIN): Hardware Development - Next Gen	1	2025	4	2029
Operational Data Integrated Network (ODIN): Software Architecture Development	1	2023	4	2024
Operational Data Integrated Network (ODIN): Software Continuous Development (Prototyping,Dev, Int/Test, Fielding)	1	2023	4	2029
Operational Data Integrated Network (ODIN): ALIS Containerization (incl. Prototyping, Dev,Int/Test, Fielding)	1	2023	1	2026
Operational Data Integrated Network (ODIN): Platform Development	1	2023	1	2026
Operational Data Integrated Network (ODIN): Platform Continuous Development (Prototyping,Dev, Int/Test, Fielding)	4	2024	4	2029
Operational Data Integrated Network (ODIN): Integrated Data Environment Development	1	2023	4	2026
Operational Data Integrated Network (ODIN): Data Architecture Continuous Development(Prototyping, Dev, Int/Test, Fielding)	1	2023	4	2029
Operational Data Integrated Network (ODIN): Legacy Modernization and Migration	1	2023	1	2025
Operational Data Integrated Network (ODIN): COTS/GOTS Application Configuration,Software Development, and Integration	4	2023	1	2026
Prognostics and Health Management (PHM): PHM Algorithm Development	2	2023	4	2023

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2				Project (Number/Name) 673506 / Combat Data Systems (CDS)			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
673506: <i>Combat Data Systems (CDS)</i>	-	49.844	39.496	29.955	0.000	29.955	36.407	39.513	40.945	41.754	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Investment and modernization activities required for Block 4 development, integration, test and evaluation of Mission Data Tools, Verification & Validation Systems, and Mission Planning Software/Hardware. Funding related to key deliveries to Electronic Warfare Squadrons and F-35 Operational Squadrons and enables government and contractor labor for mission planning support environment and joint reprogramming enterprise. Other costs support Technology Investment for key Modernization / Innovation activities and cloud-based DevSecOps infrastructure.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23, \$63.6M was expended for civilian pay expenses in this project element, and in FY24, \$67.1M is forecasted for civilian pay expenses in this project element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Joint Reprogramming Environment (JRE)	36.588	29.510	19.997	-	19.997
Description: JRE is investment and modernization activities required for Block 4 development, integration, test and evaluation of Mission Data Tools, Verification & Validation Systems, and Mission Planning Software/Hardware. Funding related to key deliveries to Electronic Warfare Squadrons and F-35 Operational Squadrons and enables government and contractor labor for joint reprogramming enterprise. Other costs support Technology Investment for key Modernization/Innovation activities and Cloud based DevSecOps infrastructure.					
FY 2024 Plans: Complete efforts for the Agile development of Common Reprogramming Tools (CRT) to provide Electronic Warfare Squadrons with essential software tools that reduce Mission Data File (MDF) development time and human error and increase combat effectiveness. Continue software coding and testing to support development / deployment of the software tools. Continue to upgrade Reprogramming Verification & Validation Systems (RVVS) to meet the Block 4 capability requirements and meet next generation threats. Continue ongoing efforts to support aircraft in relation to Continuous Capability Development and Delivery (C2D2), and Network Boundary Consolidation. Continue development support for defining, managing and acquiring the F-35 Reprogramming capability enhancements identified in approved requirements documents for Block 4 and modernization efforts					

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673506 / Combat Data Systems (CDS)
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B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>and support efforts for joint reprogramming enterprise activities. Continue efforts on the Advanced Development, Integration & Test contract to integrate Block 4 software data loads at reprogramming laboratories.</p> <p>FY 2025 Base Plans: Enhancement efforts for the Agile development of CRT to provide Electronic Warfare Squadrons with essential software tools that reduce both MDF development time & human error while increasing combat effectiveness. Continue software development efforts that deploy software tools to increase capacity within the reprogramming laboratories. Continue to upgrade RVVS to meet the Block 4 capability requirements and meet next generation threats. Continue ongoing efforts to support aircraft in relation to C2D2. Continue development support for defining, managing and acquiring the F-35 Reprogramming capability enhancements identified in approved requirements documents for Block 4 and modernization efforts and support efforts for joint reprogramming enterprise activities. Continue efforts to integrate Block 4 software data loads at reprogramming laboratories. Continue efforts to improving the velocity of MDF development, improving the tools available to the reprogramming laboratories to process and reprogramming operational data, and to support rapid reprogramming activities.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding decreased due to completion of efforts associated with Government Systems Engineering and Testing, specifically the Partner Analysis Laboratory.</p>					
<p>Title: Mission Planning Support Environment (MPSE)</p> <p>Description: MPSE is investment and modernization activities required for Block 4 development, integration, test and evaluation of Mission Data Tools and Mission Planning Software/Hardware. Funding related to key deliveries to Electronic Warfare Squadrons and F-35 Operational Squadrons and enables government and contractor labor for mission planning support environment. Other costs support Technology Investment for key Modernization/Innovation activities and Cloud based DevSecOps infrastructure.</p> <p>FY 2024 Plans: Continue development support for F-35 Mission Planning capability enhancements identified in approved requirements documents for Block 4 and modernization efforts within the mission planning support hardware and software. Continue development support of the MPSE software suite that is customized for each and every air vehicle Operational Flight Program / Software Data Load (OFP/SDL) release to support the features and enhancements of that release. Continue development of the F-35 Next Generation Mission Planning. Continue efforts to transition F-35 mission planning software development to Agile and DevSecOps methodologies to reduce costs and increase speed of delivering capabilities to the warfighter. Continue ongoing efforts to</p>	13.256	9.986	9.958	-	9.958

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673506 / Combat Data Systems (CDS)
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B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
transition F-35 mission planning software development workload from contractor to the Government, securing organic software development capability and reducing costs. FY 2025 Base Plans: Continue development support for F-35 Mission Planning capability enhancements identified in approved requirements documents for Block 4 and modernization efforts within the mission planning support hardware and software. Improve the common, tailorable MPSE software suite that supports all developmental and fielded OFF/ SDL releases, as well as introducing a virtualized environment that reduces development build times and administrative burdens for squadrons. Further enhance F-35 Next Generation Mission Planning program, focusing on development and certification of Ground Data Receptacle replacement, meeting latest cybersecurity directives. Field first iteration of cloud-developed NextGen Open Mission Systems (NOMS) mission planning software, leveraging DevSecOps development pipeline; begin development of classified components on IL 6+ JPO Cloud environment. Continue efforts to improve data transfer layer for improved operational data movement. Build upon MPSE efforts to partner with government organizations for software development and contract directly with equipment suppliers, continuing to reduce overhead costs and management burdens. FY 2024 to FY 2025 Increase/Decrease Statement: Funding decreased due to completion of efforts associated with Government Systems Engineering and Testing, specifically the Partner Analysis Laboratory.					
Accomplishments/Planned Programs Subtotals	49.844	39.496	29.955	-	29.955

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

Combat Data Systems Program Management Office (CDS PMO) continues to develop JRE and MPSE requirements by leveraging existing F-35 Joint Program Office contracts, use of Other Government Contracts and organic Government software support, and by developing and competing new contract actions for unique CDS PMO requirements.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673506 / Combat Data Systems (CDS)
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CDS Prime JRE Development - CRT Increment 1	C/CPFF	LM : Fort Worth, TX	-	13.360	Dec 2022	7.102	Dec 2023	5.868	Dec 2024	-		5.868	Continuing	Continuing	-
CDS Prime JRE Development - RVVS	C/CPIF	LM : Fort Worth, TX	-	14.282	Dec 2022	10.340	Dec 2023	6.184	Dec 2024	-		6.184	Continuing	Continuing	-
CDS Prime JRE Development - TR-3	C/CPAF	LM : Fort Worth, TX	-	0.742	Mar 2023	-		-		-		-	Continuing	Continuing	-
CDS Prime JRE Development - Block 4 Contract (BFC - Integration, formerly SEIT, P2.3)	C/CPAF	LM : Fort Worth, TX	-	2.888	Jul 2023	6.898	Jul 2024	3.644	Jul 2025	-		3.644	Continuing	Continuing	-
CDS Prime JRE Development - FRL	Various	Various : TBD	-	0.438	Jan 2023	-		-		-		-	Continuing	Continuing	-
CDS Prime JRE Development - Capability Development	MIPR	LM : Eglin AFB, FL	-	6.840	Dec 2022	2.780	Dec 2023	2.674	Dec 2024	-		2.674	Continuing	Continuing	-
CDS Prime MPSE Development - F-35 Next Generation Mission Planning	C/CPIF	LM : Fort Worth, TX	-	2.922	Mar 2023	3.922	Mar 2024	3.744	Mar 2025	-		3.744	Continuing	Continuing	-
CDS Prime MPSE Development - Capability Development	Various	Various : TBD	-	3.908	Dec 2022	5.014	Dec 2023	5.100	Dec 2024	-		5.100	Continuing	Continuing	-
Subtotal			-	45.380		36.056		27.214		-		27.214	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CDS JRE Development Support	Various	Various : TBD	-	1.942	Dec 2022	2.390	Dec 2023	1.627	Dec 2024	-		1.627	Continuing	Continuing	-
CDS MPSE Development Support	Various	Various : TBD	-	2.522	Dec 2022	1.050	Dec 2023	1.114	Dec 2024	-		1.114	Continuing	Continuing	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673506 / Combat Data Systems (CDS)
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Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	4.464		3.440		2.741		-		2.741	Continuing	Continuing	N/A
Project Cost Totals			-	49.844		39.496		29.955		-		29.955	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673506 / Combat Data Systems (CDS)
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

673506	
Joint Reprogramming Environment (JRE): Technology Refresh 3 (TR3) U.S. Reprogramming Lab Upgrade	
Joint Reprogramming Environment (JRE): Reprogramming Verification & Validation Systems(RVVS): Stimulation system	
Joint Reprogramming Environment (JRE): Block 4 Integration,Hardware,Training	
Joint Reprogramming Environment (JRE): Common Reprogramming Tool (CRT) Minimal Viable Product (MVP)	
Joint Reprogramming Environment (JRE): Common Reprogramming Tool (CRT) Minimal Viable Capability Release (MVCR)	
Mission Planning Support Environment (MPSE): TR-3/Enablers for TR-3 - MPSE TR2 Configuration at Operational Squadron sites	
Mission Planning Support Environment (MPSE): TR-3/Enablers for TR-3 - MPSE TR3 Configuration at Operational Squadron sites	
Mission Planning Support Environment (MPSE): F-35 Next Gen Mission Planning - MPSE Re-architecture - NOMS Software, Hardware, Cross-Domain Solution	
Mission Planning Support Environment (MPSE): DevSecOps - NOMS Cloud Development (Multiple)	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673506 / Combat Data Systems (CDS)
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
673506				
Joint Reprogramming Environment (JRE): Technology Refresh 3 (TR3) U.S. Reprogramming Lab Upgrade	1	2023	1	2024
Joint Reprogramming Environment (JRE): Reprogramming Verification & Validation Systems(RVVS): Stimulation system	1	2023	1	2028
Joint Reprogramming Environment (JRE): Block 4 Integration,Hardware,Training	3	2023	2	2028
Joint Reprogramming Environment (JRE): Common Reprogramming Tool (CRT) Minimal Viable Product (MVP)	1	2023	4	2024
Joint Reprogramming Environment (JRE): Common Reprogramming Tool (CRT) Minimal Viable Capability Release (MVCR)	1	2025	4	2029
Mission Planning Support Environment (MPSE): TR-3/Enablers for TR-3 - MPSE TR2 Configuration at Operational Squadron sites	3	2023	4	2029
Mission Planning Support Environment (MPSE): TR-3/Enablers for TR-3 - MPSE TR3 Configuration at Operational Squadron sites	1	2023	4	2029
Mission Planning Support Environment (MPSE): F-35 Next Gen Mission Planning - MPSE Re-architecture - NOMS Software, Hardware, Cross-Domain Solution	1	2023	1	2028
Mission Planning Support Environment (MPSE): DevSecOps - NOMS Cloud Development (Multiple)	1	2023	3	2029

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673507 / Training Systems & Simulation
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
673507: Training Systems & Simulation	-	85.490	61.472	54.987	0.000	54.987	62.560	68.360	70.835	72.234	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The F-35 Training Systems & Simulation Program Management Office (TSS PMO) development portfolio is aligned with the program's Continuous Capability Development & Delivery (C2D2) efforts and is organized in three primary lines of effort; Training System Capability Development (TSCD), Training Systems Investments (TSI) Roadmap, and Joint Simulation Environment (JSE) Development.

Training System Capability Development (TSCD): Efforts will continue with a primary focus on alignment of Training System capabilities with other elements of the Air System. Specific efforts will include development of Block 4 capabilities to equivalent maturity of those in the Air Vehicle enabling release of one capability upgrade per year to the fleet, continued development of the Production Runtime Server (PRTS) - Pilot Training Device TR-3 equivalent - to enable Block 4 capabilities, continued development of Live-Virtual-Constructive (LVC) capabilities including Distributed Mission Training (DMT), and appropriate lab infrastructure to enable Training System development.

Training Systems Investments (TSI) Roadmap: Development efforts will continue to focus on modernization of activities outlined in the TSS PMO roadmaps that will target the requirement of bringing higher fidelity training to the warfighter. Specific development and testing efforts focus on software architecture modernization, hardware architecture modernization, and Synthetic Threat Enhancement.

Joint Simulation Environment (JSE): Development and testing efforts will continue with a focus on remaining F-35 In-A-Box (FIAB) software integration, complex threat/sensor model integration to establish operationally representative simulation environment required for operational test trial validity, and the completion of Verification, Validation and Accreditation (VV&A) activities for F-35 Block 4 modernization. Efforts will include FIAB development, model fidelity and capability upgrades for existing threats/sensors/weapons, development of new threat/sensor/weapon models, and environment upgrades to enable effective verification of Block 4 capabilities. Efforts will continue toward expansion of JSE capability to Edwards AFB and Nellis AFB.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23, \$63.6M was expended for civilian pay expenses in this project element, and in FY24, \$67.1M is forecasted for civilian pay expenses in this project element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Training Systems Capability Development (TSCD)	49.559	43.248	37.567	-	37.567

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673507 / Training Systems & Simulation
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B. Accomplishments/Planned Programs (\$ in Millions)

Description: Efforts will continue with a primary focus on alignment of Training System capabilities with other elements of the Air System. Specific efforts will include development of Block 4 capabilities to equivalent maturity of those in the Air Vehicle enabling release of one capability upgrade per year to the fleet, continued development of the Production Runtime Server (PRTS) - Pilot Training Device TR-3 equivalent - to enable Block 4 capabilities, continued development of Live-Virtual-Constructive (LVC) capabilities including Distributed Mission Training (DMT), and appropriate lab infrastructure to enable Training System Development.

FY 2024 Plans:
Efforts continued to support development, integration and test of Block 4 capabilities in the Training System with a focus on equivalent capability maturity between the Training System and other elements of the Air System and preparing relevant capability upgrades (Pilot Training, Maintainer Training, Instructional Products) for release to the fleet in FY2024. Additionally, the Production Runtime Server (PRTS) continued critical development, integration and test activities required to enable TR-3 training capabilities. The Distributed Mission Trainer (DMT) Program continued with development activities to ensure DMT can support the Capability Increments (CI) 1-3 capabilities to be leveraged via US networks and in-line with overall Air System Capability to include certified and exportable Cross Domain Solutions (CDS) to enable fully integrated DMT across the F-35 Enterprise. Within the Live-Virtual-Constructive (LVC) portfolio, requirements derivation and planning activities for Enhanced Embedded Training and TCTS II integration continued to evolve to support the US Service's LVC integrated training environment. Training System lab infrastructure assets configured to enable current and future Training System development activities across the portfolio. Effects Based Simulation (EBS) continued design, development, and integration activities to support requirements analysis and pilot training tasks. EBS was formerly carried as an effort in the Joint Simulation Environment (JSE) R-2A category, but was aligned to the TSCD R-2A category beginning in FY23.

FY 2025 Base Plans:
Efforts will continue to support development, integration and test of Block 4 capabilities in the Training System with a focus on equivalent capability maturity between the Training System and other elements of the Air System and preparing relevant capability upgrades (Pilot Training, Maintainer Training, Instructional Products) for release to the fleet in FY2025. Additionally, the PRTS will continue critical development, integration and test activities required to enable TR-3 training capabilities. The DMT Program will continue with development activities to ensure DMT can support the CI1-3 capabilities to be leveraged via US networks and inline with overall Air System Capability to include certified and exportable CDS to enable fully integrated DMT across the F-35 Enterprise. Within the LVC portfolio, requirements derivation and planning activities for Enhanced Embedded Training and TCTS II integration will continue to evolve to support the US Service's LVC integrated

FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673507 / Training Systems & Simulation
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>training environment. Training System lab infrastructure assets will be configured to enable current and future Training System development activities across the portfolio. EBS will continue design, development, and integration activities to support requirements analysis and pilot training tasks.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding decreased due to delays in the components required for the Training System to shift from TR-2 to TR-3.</p>					
<p>Title: Training Systems Investments (TSI) Roadmap</p> <p>Description: Training Systems Investments (TSI) Roadmap: Development efforts will continue to focus on modernization of activities outlined in the TSS PMO roadmaps that will target the requirement of bringing higher fidelity training to the warfighter. Specific development and testing efforts focus on software architecture modernization, hardware architecture modernization, and Synthetic Threat Enhancement.</p> <p>FY 2024 Plans: Efforts continued to support analysis, design, development, integration and test of Block 4 capabilities in the Training System with a focus on equivalent capability maturity between the Training System and other elements of the Air System and preparing relevant capability upgrades (Pilot Training, Maintainer Training, Instructional Products) for release to the fleet in FY24. Additionally, F-35 Lightning Integrated Training Environment (FLITE) continued critical development, integration and test activities with the first delivery expected in FY26. The DMT Program continued with development activities to ensure DMT can support the C11-3 capabilities to be leveraged via US networks and in-line with overall Air System Capability to include certified and exportable CDS to enable fully integrated DMT across the F-35 Enterprise. DMT will ensure the connection of F-35 Pilot Training Devices (PTDs) to customer provided and accredited Wide Area Networks (WAN) to facilitate connecting multiple sites and enabling a virtual training environment in a common synthetic environment for the US Services. Within the LVC portfolio, requirements derivation and planning activities for Enhanced Embedded Training and TCTS II integration continued to evolve to support the US LVC integrated training environment.</p> <p>FY 2025 Base Plans: Efforts will continue to support analysis, design, development, integration and test of Block 4 capabilities in the Training System with a focus on equivalent capability maturity between the Training System and other elements of the Air System and preparing relevant capability upgrades (Pilot Training, Maintainer Training, Instructional Products) for release to the fleet in FY25. Additionally, FLITE will continue critical development, integration and test activities with the first delivery expected in FY26. The DMT Program will continue with development activities to ensure DMT can support the C11-3 capabilities to be leveraged via US networks and in-line with overall Air System Capability to include certified and exportable CDS to enable fully integrated DMT across the F-35</p>	6.495	4.568	3.764	-	3.764

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673507 / Training Systems & Simulation

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>Enterprise. DMT will ensure the connection of F-35 PTDs to customer provided and accredited WAN to facilitate connecting multiple sites and enabling a virtual training environment in a common synthetic environment for the US Services. Within the LVC portfolio, requirements derivation and planning activities for Enhanced Embedded Training and TCTS II integration will continue to evolve to support the US LVC integrated training environment.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding decreased due to delays in the integration efforts of Joint Simulation Environment components, specifically Next Generation Threat System (NGTS), into the exportable Program of Record (PoR) Pilot Training Device (PTD).</p>					
<p>Title: Joint Simulation Environment (JSE) Development</p> <p>Description: Development and testing efforts will continue with a focus on remaining F-35 In-A-Box (FIAB) software integration, complex threat/sensor model integration to establish operationally representative simulation environment required for operational test trial validity, and the completion of Verification, Validation and Accreditation (VV&A) activities for F-35 Block 4 modernization. Efforts will include FIAB development, model fidelity and capability upgrades for existing threats/sensors/weapons, development of new threat/sensor/weapon models, and environment upgrades to enable effective verification of Block 4 capabilities. Efforts will continue toward expansion of JSE capability to Edwards AFB and Nellis AFB.</p> <p>FY 2024 Plans: Efforts included modernization of FIAB software development and integration, model fidelity and capability upgrades for existing threats/sensors/weapon models, development of new threat/sensor/weapon models, and environment upgrades to enable effective verification of Block 4 capabilities. Planning efforts continued toward expansion of JSE capability to Edwards AFB and Nellis AFB.</p> <p>FY 2025 Base Plans: Efforts will include modernization of FIAB software development and integration, model fidelity and capability upgrades for existing threats/sensors/weapon models, development of new threat/sensor/weapon models, and environment upgrades to enable effective verification of Block 4 capabilities. Planning efforts will continue toward expansion of JSE capability to Edwards AFB and Nellis AFB.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A</p>	29.436	13.656	13.656	-	13.656
Accomplishments/Planned Programs Subtotals	85.490	61.472	54.987	-	54.987

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673507 / Training Systems & Simulation
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C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

The majority of Training System capability development requirements (CI1-3 development, PRTS development, Lab Infrastructure) will be executed via training specific CLINs in Enterprise-level development contracts (Block 4 - Phase 2.3, Development Foundation). Training System Investment requirements will be executed via a combination of training specific CLINs in Enterprise-level contracts, TSS PMO specific contract actions and Other Transaction Authority (OTA) contracts. JSE development requirements will be executed via a combination of Enterprise-level contract actions and MIPR transactions to support OGC activities.

In concert with continued maturation of the F-35 organizational pivot, the TSS PMO acquisition strategy will transition toward TSS PMO controlled contract actions that will enable more effective oversight of PMO cost-schedule-performance execution.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673507 / Training Systems & Simulation
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
TSS Prime Training System Alignment (TSCD)	C/CPIF	Lockheed Martin : Ft. Worth, TX	-	21.041	Nov 2022	32.248	Nov 2023	16.992	Nov 2024	-		16.992	Continuing	Continuing	156.494
TSS Prime PTD TR-3 Development (TSCD)	C/CPIF	Lockheed Martin : Ft. Worth, TX	-	16.138	Nov 2022	4.500	Nov 2023	11.100	Nov 2024	-		11.100	Continuing	Continuing	87.945
TSS Prime Training Lab Infrastructure (TSCD)	C/CPFF	Lockheed Martin : Ft. Worth, TX	-	8.930	Nov 2022	5.000	Nov 2023	7.250	Nov 2024	-		7.250	Continuing	Continuing	73.316
TSS Live-Virtual-Constructive (LVC) - DMT (TSCD)	C/CPFF	Lockheed Martin : Ft. Worth, TX	-	2.250	Nov 2022	0.000	Nov 2023	1.000	Nov 2024	-		1.000	Continuing	Continuing	35.389
TSS Effects Based Simulation Development (TSCD)	C/CPFF	J.F. Taylor Inc. : Lexington Park, MD	-	1.200	Nov 2022	1.500	Nov 2023	1.225	Nov 2024	-		1.225	Continuing	Continuing	15.258
TSS Hardware Re-architecture (TSI)	Various	Not specified. : TBD	-	1.590	Nov 2022	3.000	Nov 2023	1.750	Nov 2024	-		1.750	Continuing	Continuing	20.223
TSS Software Re-architecture (TSI)	C/CPIF	Lockheed Martin : Ft. Worth, TX	-	4.905	Nov 2022	1.568	Nov 2023	2.014	Nov 2024	-		2.014	Continuing	Continuing	46.379
TSS Synthetic Threat Enhancement (TSI)	C/CPFF	Lockheed Martin : Ft. Worth, TX	-	0.000	Nov 2022	0.000	Nov 2023	0.000	Nov 2024	-		0.000	Continuing	Continuing	16.664
TSS JSE Prime FIAB Development	C/CPIF	Lockheed Martin : Ft. Worth, TX	-	4.865	Nov 2022	11.958	Nov 2023	4.156	Nov 2024	-		4.156	Continuing	Continuing	55.394
TSS JSE VWC Development	Various	Various : TBD	-	-		-		-		-		-	Continuing	Continuing	7.592
Subtotal			-	60.919		59.774		45.487		-		45.487	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
TSS JSE Pax Development Support	MIPR	NAWCAD : NAS Patuxent River, MD	-	18.873	Nov 2022	1.325	Nov 2023	7.500	Nov 2024	-		7.500	Continuing	Continuing	50.892
TSS JSE Other Development Support	Various	Various : TBD	-	5.698	Nov 2022	0.373	Nov 2023	2.000	Nov 2024	-		2.000	Continuing	Continuing	5.063

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673507 / Training Systems & Simulation
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

673507	
Training System Capability Development	
Training System Lab Infrastructure	
Production Run-Time Server (PRTS) TR-3 Development	
Effects Based Simulation (EBS) Capability Development	
Distributed Mission Training (DMT)	
F-35 Lightning Integrated Training Environment (FLITE)	
Weapon Service Development	
Common Training Services	
Synthetic Threat Enhancement	
Joint Simulation Environment, Capability Development & Air System Alignment	
JSE IOT&E Execution	
JSE Block 4 Capability Development	
F-35 In-A-Box (FIAB) Block 4 Capability Development	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673507 / Training Systems & Simulation
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
673507				
Training System Capability Development	1	2023	4	2029
Training System Lab Infrastructure	1	2023	4	2029
Production Run-Time Server (PRTS) TR-3 Development	1	2023	4	2025
Effects Based Simulation (EBS) Capability Development	1	2023	4	2029
Distributed Mission Training (DMT)	1	2023	4	2029
F-35 Lightning Integrated Training Environment (FLITE)	1	2023	2	2025
Weapon Service Development	1	2023	2	2025
Common Training Services	1	2023	4	2025
Synthetic Threat Enhancement	1	2024	2	2026
Joint Simulation Environment, Capability Development & Air System Alignment	1	2023	4	2029
JSE IOT&E Execution	1	2023	4	2023
JSE Block 4 Capability Development	2	2023	4	2029
F-35 In-A-Box (FIAB) Block 4 Capability Development	2	2023	4	2029

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2				Project (Number/Name) 673508 / Infrastructure & Support Costs			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
673508: Infrastructure & Support Costs	-	85.165	73.600	84.758	0.000	84.758	88.073	90.127	93.555	95.308	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The F-35 Joint Program Office equips U.S. and allied forces with operational F-35 weapon systems in support of military and national security operations. The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee acquisition programs throughout their life cycle. The acquisition workforce funded in this program element will support development phases of acquisition programs to include material solution analysis, technology development, engineering and manufacturing development. This funding does not include costs for base operating support civilian personnel. This program element supports both civilian pay and non-pay support requirements. Additional infrastructure and program management support costs include travel, supplies, contractor support, off-base leases, program office IT, cybersecurity, model-based systems engineering, and risk reduction studies directly related to C2D2 development efforts.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23, \$63.6M was expended for civilian pay expenses in this project element, and in FY24, \$67.1M is forecasted for civilian pay expenses in this project element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: F-35 JPO AFLCMC Civilian Pay	63.632	55.500	66.658	-	66.658
Description: The acquisition and product support workforce provides cutting edge weapon systems, sustainment capabilities, and is charged with providing management, tools, and technical and business capabilities needed to oversee F-35 acquisition programs throughout its life cycle.					
FY 2024 Plans: Continue to fund the F-35 Joint Program Office acquisition and product support workforce.					
FY 2025 Base Plans: Continue to fund the F-35 Joint Program Office acquisition and product support workforce.					
FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to actual FY2024 Average Work Year Cost (AWYC) adjustments and/or inflation.					
Title: Core Program Support/Contract Support Services (CSS) Support	21.533	18.100	18.100	-	18.100

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673508 / Infrastructure & Support Costs
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B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>Description: Includes off-base leases, Advisory and Assistance Services (A&AS), travel, supplies, Navy Working Capital fund subject matter expert support, program office IT, cybersecurity, model-based systems engineering, and risk reduction studies directly related to C2D2 development efforts.</p> <p>FY 2024 Plans: Continue to support program office efforts, including Arlington, VA program unique off-base lease costs, CSS support, travel, supplies, Navy working capital technical SME labor, program office IT, cybersecurity, model-based systems engineering, and risk reduction studies directly related to C2D2 development efforts.</p> <p>FY 2025 Base Plans: Continue to support program office efforts, including Arlington, VA program unique off-base lease costs, CSS support, travel, supplies, working capital technical SME labor, program office IT, cybersecurity, model-based systems engineering, and risk reduction studies directly related to C2D2 development efforts.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A</p>					
Accomplishments/Planned Programs Subtotals	85.165	73.600	84.758	-	84.758

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673508 / Infrastructure & Support Costs
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Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Core Program Support Cyber Risk Reduction	Various	Various : TBD	-	1.200	Dec 2022	1.200	Dec 2023	1.200	Dec 2024	-		1.200	Continuing	Continuing	-
Core Program Support Model-Based Systems Engineering	Various	Various : TBD	-	0.500	Dec 2022	0.500	Feb 2024	0.500	Feb 2025	-		0.500	Continuing	Continuing	-
Core Program Support Air Worthiness Support and Cyber Safe Support	C/FFP	DTIC : TBD	-	-		-		-		-		-	Continuing	Continuing	-
Subtotal			-	1.700		1.700		1.700		-		1.700	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
F-35 JPO AFLCMC Civilian Pay	MIPR	Wright Patterson AFB, OH : TBD	-	63.632	Oct 2022	55.500	Oct 2023	66.658	Oct 2024	-		66.658	Continuing	Continuing	-
CSS Support/Civ Support	Various	Various : TBD	-	7.570	Dec 2022	5.300	Dec 2023	5.300	Dec 2024	-		5.300	Continuing	Continuing	-
Core Program Support Off-Base Leases	MIPR	WHS : NCR	-	10.863	Oct 2022	9.500	Oct 2023	9.500	Oct 2024	-		9.500	Continuing	Continuing	-
Core Program Support Travel	Various	Various : TBD	-	0.900	Oct 2022	1.200	Oct 2023	1.200	Oct 2024	-		1.200	Continuing	Continuing	-
Core Program Support GPC	Various	GPC : Arlington, VA	-	0.500	Dec 2022	0.400	Oct 2023	0.400	Oct 2024	-		0.400	Continuing	Continuing	-
Subtotal			-	83.465		71.900		83.058		-		83.058	Continuing	Continuing	N/A

Project Cost Totals	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
	-	85.165	73.600	84.758	-	84.758	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673508 / Infrastructure & Support Costs
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

673508	
Continued JPO Infrastructure and Support Costs	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673508 / Infrastructure & Support Costs

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
673508				
Continued JPO Infrastructure and Support Costs	1	2023	4	2029

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2				Project (Number/Name) 673509 / DevSecOps			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
673509: DevSecOps	-	15.326	22.886	23.540	0.000	23.540	24.637	4.414	4.573	4.663	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The F-35 Software Development, Security & Operations (DevSecOps) Cloud platform environment allows for US Government and contracted software development teams to produce, test and deploy capabilities for F-35 supported Project Management Offices (PMO) and Directorates. This includes providing support to the Combat Data Systems (CDS), Air Vehicle (AV), Maintenance Systems (MxSYS), Propulsion, Training Systems and Simulation (TSS) PMOs, and Directorate of Engineering. The mission of DevSecOps is to provide a centralized F-35 Data repository, a consolidated F-35 software development environment, and support for system development lifecycle (SDLC) of the F-35 platform, allowing for rapid release cycles to keep the F-35 ahead of its adversaries. Investment in, and modernization of, DevSecOps include efforts to support F-35 Software modernization efforts, develop organic government software capabilities, support SDLC and flight-testing capabilities, enhance the security posture of the software development pipeline, and support goals of reducing long-term on-premise infrastructure environments cost, ultimately resulting in reducing fleet delivery timelines.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23, \$63.6M was expended for civilian pay expenses in this project element, and in FY24, \$67.1M is forecasted for civilian pay expenses in this project element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: DevSecOps Support	15.326	22.886	23.540	-	23.540
Description: The F-35 Software Development, Security & Operations (DevSecOps) Cloud platform environment allows for US Government and contracted software development teams to produce, test and deploy capabilities for F-35 supported Project Management Offices (PMO) and Directorates. This includes providing support to the Combat Data Systems (CDS), Air Vehicle (AV), Maintenance Systems (MxSYS), Propulsion, Training Systems and Simulation (TSS) PMOs, and Directorate of Engineering. The mission of DevSecOps is to provide a centralized F-35 Data repository, a consolidated F-35 software development environment, and support for system development lifecycle (SDLC) of the F-35 platform, allowing for rapid release cycles to keep the F-35 ahead of its adversaries. Investment in, and modernization of, DevSecOps include efforts to support F-35 Software modernization efforts, develop organic government software capabilities, support SDLC and flight-testing capabilities, enhance the security posture of the software development pipeline, and support goals of reducing long-term on-premise infrastructure environments cost, ultimately resulting in reducing fleet delivery timelines.					

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673509 / DevSecOps
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B. Accomplishments/Planned Programs (\$ in Millions)

FY 2024 Plans:
Continued development and support for DevSecOps infrastructure, platform, software development pipeline, and joint F-35 organizational connections. Continued to develop a transition plan to stand-up a team consisting of Industry and Government personnel in support of software modernization and DevSecOps Cloud transition. Established initial capabilities and expanded existing software development efforts with the goal of transitioning dispersed and separated software development environments into model based systems engineering and fully collaborative requirements to development environment. Capabilities include software development environment for Maintenance Systems Operational Data Integrated Network (ODIN), Autonomic Logistics Information System (ALIS) to ODIN transition, Combat Data System's Mission Planning, Propulsion's Offboard Management System, and Air Vehicle Mission System domains. Additional goals of delivering flight-worthy rapid prototyping of capability, virtual test capability, and transitioning workloads to lower cost software sustainment efforts. New requirements from PMOs are expected. The team prepared the environment for on-boarding, as well as transitioning the PMOs from separate pillars to a centralized JPO-managed cloud environment. Major cost drivers included requirements, collaboration, and authentication tools - supporting Single Sign On, Multi-Factor Authentication and development tools. For software tooling efforts, working towards an eventual consolidation of tools across the PMOs (i.e. application rationalization) with an end goal of standardized compiler tool sets and Cybersecurity compliance. Accordingly, talent/consumption (hardware and software to run the environment) contracts must be renewed and expanded. Cybersecurity requirements must also be met, meaning additional resources for security processes, monitoring, scanning, vulnerability identification plus mitigation, and meeting all requirements for DoD compliance to obtain ongoing Authority to Operate (ATO) and continuous Authority to Operate (cATO).

FY 2025 Base Plans:
Continue development and support for DevSecOps infrastructure, platform, software development pipeline, and joint F-35 organizational connections. Continue to develop a transition plan to stand-up a team consisting of Industry and Government software development in support of software modernization and DevSecOps Cloud transition. Establish initial capabilities and expand existing software development efforts with the goal of transitioning dispersed and separated software development environments into model based systems engineering and a fully collaborative requirements to development environment. Capabilities include software development environment for Maintenance Systems ODIN, ALIS to ODIN migration, Combat Data System's Mission Planning, Propulsion's Offboard Management System, and Air Vehicle Mission System domains. Additional goals of delivering flight-worthy rapid prototyping of capability, virtual test capability, and transitioning workloads to lower cost software sustainment efforts. New requirements from PMOs are expected. Prepare

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673509 / DevSecOps

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>environment for on-boarding, as well as transitioning the PMOs from separate pillars to a centralized JPO-managed cloud environment. Includes software licensing for PMO tool sets and associated applications. Major cost drivers include requirements tool, and collaboration tools, authentication tools - supporting Single Sign On, Multi-Factor Authentication and development tools. For software tooling efforts, working towards an eventual consolidation of tools across the PMOs (i.e. application rationalization) with an end goal of a standardized compiler tool sets and Cybersecurity compliance. Accordingly, talent/consumption (hardware and software to run the environment) contracts must be renewed and expanded. Cybersecurity requirements must also be met, meaning additional resources for security processes, monitoring, scanning, vulnerability identification plus mitigation, and meeting all requirements for DoD compliance to obtain ongoing ATO and cATO.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to an update to the Cloud estimate based on component and service data actuals to support DevSecOps development and integration to a centralized Cloud environment.</p>					
Accomplishments/Planned Programs Subtotals	15.326	22.886	23.540	-	23.540

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

The DevSecOps Phase 1 demonstrates prototype designs, integration of Defense Industry Base partners and PMOs, appropriate set of technology stacks to be integrated, identifying ROI and buying down technical risk. Technology maturation: putting in place the necessary contracts for talent, licenses and Cloud consumption to support software pipeline delivery for F-35. Development; building, testing and deploying Cloud ecosystems Impact Level (IL) 2 - 6+ and software development pipeline utilizing contracted and government support. Operation and Support; maintain Cloud ecosystem utilizing industry research, resources, talent and technology modernization methodologies with the focus on reducing long-term costs for the program.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673509 / DevSecOps
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Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Dev Ops Development Support - Talent	C/FFP	Various : TBD	-	7.260	Dec 2022	12.034	Jan 2024	12.107	Jan 2025	-		12.107	Continuing	Continuing	-
Dev Ops Development Support - Licenses	C/FFP	August Schell Enterprises : TBD	-	4.045	Oct 2022	5.452	Jun 2024	4.400	Jun 2025	-		4.400	Continuing	Continuing	-
Dev Ops Development Support - Cloud Support	C/FFP	Amazon Web Services : TBD	-	4.021	Oct 2022	2.700	Dec 2023	4.400	Dec 2024	-		4.400	Continuing	Continuing	-
Dev Ops Development Support - Industry Stand-up	C/FFP	TBD : TBD	-	0.000	Mar 2023	2.700	Mar 2024	2.633	Mar 2025	-		2.633	Continuing	Continuing	-
Subtotal			-	15.326		22.886		23.540		-		23.540	Continuing	Continuing	N/A

Remarks
DevSecOps Ecosystem Standup used for centralized software development in JPO-managed cloud.

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	15.326	22.886	23.540	-	23.540	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673509 / DevSecOps
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Project Milestones																												
Contract Award: DevSecOps Infrastructure/ Platform/Tools																												
Contract Award: DevSecOps FENCES																												
Contract Award: DevSecOps Cloud																												
Contract Award: DevSecOps Industry Standup																												
System Development																												
AWS Impact Level 2 Research, Development and Test																												
AWS Impact Level 5 Buildout																												
AWS Impact Level 5 Research, Development and Test																												
AWS Impact Level 6 Buildout																												
AWS Impact Level 6 Research, Development and Test																												
AWS Impact Level 6+ (SAP) Buildout																												
AWS Impact Level 6+ (SAP) Research, Development and Test																												
Data Transfer as a Service Buildout																												
Data Transfer as a Service Research, Development and Test																												
Cloud Gateway (Collateral) LM Connection																												
Cloud Gateway (Collateral) Research, Development and Test																												
Cloud Gateway (SAP) LM Connection																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673509 / DevSecOps
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	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Cloud Gateway (SAP) Research, Development and Test																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673509 / DevSecOps

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Project Milestones				
Contract Award: DevSecOps Infrastructure/Platform/Tools	1	2023	4	2029
Contract Award: DevSecOps FENCES	1	2023	4	2029
Contract Award: DevSecOps Cloud	1	2023	4	2029
Contract Award: DevSecOps Industry Standup	3	2024	4	2029
System Development				
AWS Impact Level 2 Research, Development and Test	1	2023	3	2023
AWS Impact Level 5 Buildout	1	2023	1	2023
AWS Impact Level 5 Research, Development and Test	1	2023	4	2029
AWS Impact Level 6 Buildout	1	2024	3	2025
AWS Impact Level 6 Research, Development and Test	3	2024	4	2029
AWS Impact Level 6+ (SAP) Buildout	1	2023	2	2024
AWS Impact Level 6+ (SAP) Research, Development and Test	3	2023	4	2029
Data Transfer as a Service Buildout	1	2023	4	2023
Data Transfer as a Service Research, Development and Test	1	2023	4	2029
Cloud Gateway (Collateral) LM Connection	1	2025	3	2025
Cloud Gateway (Collateral) Research, Development and Test	2	2025	4	2029
Cloud Gateway (SAP) LM Connection	1	2023	1	2024
Cloud Gateway (SAP) Research, Development and Test	4	2023	4	2029

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2				Project (Number/Name) 673510 / Utility and Subsystem Support to Mission Systems			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
673510: <i>Utility and Subsystem Support to Mission Systems</i>	-	0.000	16.263	27.251	0.000	27.251	27.354	16.386	10.936	11.151	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Current Mission System planning estimates due to Block 4 capabilities and beyond indicate that additional cooling is required for aircraft beginning in Lot 22 (FY28). This upgrade/modification consists of an upgrade to the current Honeywell PTMS that includes larger heat exchangers, shifting some systems from the cold liquid loop to the hot liquid loop, increasing system pressure, increasing pump speeds and raising compressor discharge temperatures. This modification upgrades components that are relatively low cost and already at a high technical readiness level. All PTMS changes for this level of cooling would be accomplished within the existing PTMS bay and there are not expected to be any necessary changes to the capacity of the cold liquid loop or the hot liquid loop. This work includes nonrecurring engineering for the development, test, and certification of the upgraded PTMS system to ensure suitable cooling is available for future capacities. The Government has assessed that EMD phase would take 5-6 years.

Due to the massive leap in cooling and power needed to support post 2029 mission system upgrades on the F-35 the existing PTMS will need to either be massively upgraded or replaced. During multiple iterations of market research, it is clear that industry is capable of manufacturing a TMS that meets the F-35's cooling and power demands. However, it is unclear which system will be best. Therefore during the initial part of the program, the multiple potential solutions will be matured and then the prime integrator will down select to the system that best meets the Government's cost, schedule, and performance needs.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23, \$63.6M was expended for civilian pay expenses in this project element, and in FY24, \$67.1M is forecasted for civilian pay expenses in this project element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: PTMS Upgrade	0.000	16.263	27.251	-	27.251
Description: Current Mission System planning estimates due to Block 4 capabilities and beyond indicate that additional cooling is required for aircraft beginning in Lot 22 (FY28). This upgrade/ modification consists of an upgrade to the current Honeywell PTMS that includes larger heat exchangers, shifting some systems from the cold liquid loop to the hot liquid loop, increasing system pressure, increasing pump speeds and raising compressor discharge temperatures. This modification upgrades components that are relatively low cost and already at a high technical readiness level. All PTMS changes for this level of cooling would be accomplished					

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673510 / Utility and Subsystem Support to Mission Systems

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>within the existing PTMS bay and there are not expected to be any necessary changes to the capacity of the cold liquid loop or the hot liquid loop. This work includes nonrecurring engineering for the development, test, and certification of the upgraded PTMS system to ensure suitable cooling is available for future capacities. The Government has assessed that EMD phase would take 5-6 years.</p> <p>Due to the massive leap in cooling and power needed to support post 2029 mission system upgrades on the F-35 the existing PTMS will need to either be massively upgraded or replaced. During multiple iterations of market research, it is clear that industry is capable of manufacturing a TMS that meets the F-35's cooling and power demands. However, it is unclear which system will be best. Therefore during the initial part of the program, the multiple potential solutions will be matured and then the prime integrator will down select to the system that best meets the Government's cost, schedule, and performance needs.</p> <p>FY 2024 Plans: The PTMS Upgrade program will begin nonrecurring engineering effort to increase PTMS Upgrade cooling requirements. This work includes the necessary labor and nonrecurring engineering to support development of the cooling PTMS system and a detailed schedule of EMD to include the necessary operational testing and flight tests.</p> <p>FY 2025 Base Plans: Continue nonrecurring engineering effort to increase PTMS Upgrade cooling requirements and continued maturation of potential Thermal Management Systems (TMSs). This work includes the necessary labor and nonrecurring engineering to support development of the cooling PTMS system and a detailed schedule of EMD to include the necessary operational testing and flight tests.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Increase from FY2024 to FY2025 is due to the PTMS Upgrade requirements needed to meet Mission Systems Capabilities.</p>					
Accomplishments/Planned Programs Subtotals	0.000	16.263	27.251	-	27.251

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673510 / Utility and Subsystem Support to Mission Systems

	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<i>PTMS Upgrade</i>																												
SoS Engineering PTMS Upgrade																												
PDR																												
EMD Contract Award																												
PTMS Upgrade EMD																												
CDR																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 673510 / <i>Utility and Subsystem Support to Mission Systems</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>PTMS Upgrade</i>				
SoS Engineering PTMS Upgrade	2	2024	1	2027
PDR	1	2027	1	2027
EMD Contract Award	2	2027	2	2027
PTMS Upgrade EMD	2	2027	4	2029
CDR	4	2028	4	2028

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 674871 / Information Operations Technology
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
674871: Information Operations Technology	-	0.000	0.342	0.343	0.000	0.343	0.000	0.000	0.000	0.000	0.000	0.685
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Procure Microsoft 365 Enterprise Licensing Upgrades for Improved Zero Trust (ZT) Capabilities.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23, \$63.6M was expended for civilian pay expenses in this project element, and in FY24, \$67.1M is forecasted for civilian pay expenses in this project element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Information Operations Technology	0.000	0.342	0.343	-	0.343
Description: Procure Microsoft 365 Enterprise Licensing Upgrades for Improved Zero Trust (ZT) Capabilities.					
FY 2024 Plans: Procure Microsoft 365 Enterprise Licensing Upgrades for Improved Zero Trust (ZT) Capabilities.					
FY 2025 Base Plans: Procure Microsoft 365 Enterprise Licensing Upgrades for Improved Zero Trust (ZT) Capabilities.					
FY 2024 to FY 2025 Increase/Decrease Statement: The increase from FY2024 to FY2025 is due to economic rate adjustments.					
Accomplishments/Planned Programs Subtotals	0.000	0.342	0.343	-	0.343

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force			Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 674871 / Information Operations Technology	

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Information Operations Technology	
Enterprise Software Agreement (ESA)	[REDACTED]

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 674871 / Information Operations Technology

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Information Operations Technology				
Enterprise Software Agreement (ESA)	1	2024	4	2025

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2				Project (Number/Name) 675346 / F-35			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
675346: F-35	-	0.000	1.038	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.038
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY2022, PE 0604840F Project 675346 was reduced to zero due to breakout of new Projects per Congressional mandate. In FY2024, civilian pay funding will be moved from Project 675346 to the Infrastructure & Support Costs Project 673508.

A. Mission Description and Budget Item Justification

F-35 Continuous Capability Development and Delivery (C2D2) provides continuing incremental upgrades of the three F-35 variants and associated ground equipment. Upgrades are essential capabilities for Air Interdiction and Strategic Attack, Close Air Support, Suppression and Destruction of Enemy Air Defenses, Offensive and Defensive Counter Air and expanded Surface Warfare. The C2D2 acquisition strategy is based upon incremental deliveries of capabilities. The strategy includes periodic deliveries with a focus on hardware, tech refresh and software. C2D2 capability planning includes an efficient transition from F-35 SDD to C2D2. As SDD development activities ramp down C2D2 will assume responsibility for improvements and modernization efforts.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23, \$63.6M was expended for civilian pay expenses in this project element, and in FY24, \$67.1M is forecasted for civilian pay expenses in this project element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Clerical Error for Infrastructure and Support Costs	0.000	1.038	0.000	-	0.000
Description: In FY2024, a clerical error added civilian pay funding to Project 675346. A tech adjustment will be made to move the funding to the Infrastructure & Support Costs Project 673508.					
FY 2024 Plans: In FY2024, civilian pay funding will be moved from Project 675346 to the Infrastructure & Support Costs Project 673508.					
FY 2025 Base Plans: N/A					
FY 2024 to FY 2025 Increase/Decrease Statement:					

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 675346 / F-35
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
In FY2024, civilian pay funding will be moved from Project 675346 to the Infrastructure & Support Costs Project 673508.					
Accomplishments/Planned Programs Subtotals	0.000	1.038	0.000	-	0.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

This is a joint program with no executive service. Service Acquisition Executive (SAE) authority alternates between the Department of the Navy and the Department of the Air Force and currently resides with the Navy. The United Kingdom, Italy, Netherlands, Canada, Australia, Denmark, and Norway are participants in the SDD phase of JSF.

D. Acquisition Strategy

The C2D2 acquisition strategy is to employ both Cost and Fixed Price Incentive contracts for the Block 4 engineering and development efforts. A new modernization contract structure will be established for all post SDD Block 4 efforts. In addition, a separate Basic Ordering Agreement or Indefinite Quantity/Indefinite Delivery contract is planned to provide a long term approach to upgrading and maintaining laboratories and test aircraft and supporting technology maturation for future C2D2 capabilities.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force													Date: March 2024		
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2				Project (Number/Name) 675346 / F-35					
Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Clerical Error for Infrastructure and Support Costs	Various	Various : Various	-	-		1.038		-		-		-	0.000	1.038	-
Subtotal			-	-		1.038		-		-		-	0.000	1.038	N/A
			Prior Years	FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		1.038		-		-		-	0.000	1.038	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 675346 / F-35
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

675346	
Funds allocated to this BPAC in error. Placeholder event.	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0604840F / F-35 C2D2	Project (Number/Name) 675346 / F-35
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
675346				
Funds allocated to this BPAC in error. Placeholder event.	1	2024	4	2024

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0605018F / <i>AF Integrated Personnel and Pay System (AF-IPPS)</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	0.000	41.872	40.203	49.739	0.000	49.739	19.899	1.404	0.000	0.000	0.000	153.117
676003: <i>HRM Structural Development</i>	0.000	41.872	40.203	49.739	0.000	49.739	19.899	1.404	0.000	0.000	0.000	153.117
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Program MDAP/MAIS Code: N86

A. Mission Description and Budget Item Justification

The Air Force Integrated Personnel and Pay System (AFIPPS) is a web-enabled, Enterprise Resource Planning (ERP) solution that integrates existing personnel and pay processes into one self-service system. AFIPPS supports how the Department of the Air Force (DAF) owns and operates the Human Resource Management domain and is a component of the AF/A1 digital transformation journey, currently underway. AFIPPS continues the transformation by providing an accurate and single authoritative source of personnel data to ensure timely delivery of pay, entitlements, allowances, and benefits to all Active Duty Air and Space Forces, Air National Guard (ANG), and Reserve (USAFR) components. AFIPPS represents the DAF's commitment to modernize business practices and provide enhanced support to service members and their families by integrating personnel and pay systems. AFIPPS will eliminate DAF reliance on the unsustainable Defense Finance and Accounting System (DFAS) and the Defense Joint Military Pay System (DJMS) for payroll processing and ensures improved auditability of service member pay.

The AFIPPS program directly increases readiness for total force service members, human resources and financial management specialists, and DAF Commanders. AFIPPS will improve the DAF community's experience by allowing members to self-initiate pay/personnel actions, decreasing pay errors, and providing accurate personnel/pay data for leadership decision-making. AFIPPS modernizes the existing Military Personnel Data System (MilPDS) and adds pay and leave capability. In Jan 2021, the DAF leveraged a MilPDS self-service capability deployment to verify the baseline system had the infrastructure for the new pay and leave capability in place. The self-service capability allowed DAF Airmen and Guardians to initiate self-registration, validate member data and verify operational performance. As part of the Feb 2024 approved Acquisition Decision Memorandum (ADM), AFIPPS will revise the original deployment strategy from a single Go-Live deployment in January 2025 to a HR Deployment in Jan 2025 that will subsume MilPDS, a Limited Deployment to the USSF in Jul 2025 to continue HR activities with the inclusion of payroll capabilities, and a Full Deployment to all DAF military personnel in Jan 2026 for continued HR activities with payroll capabilities.

This requirement supports performance of a full financial audit as required by title 10 U.S.C Chapter 9A, Sec 240-D.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability; The use of such programs funds would be in addition to the civilian pay expenses budgeted in program elements 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 0.00M was expended for civilian pay expenses in this program element, and in FY24 0.00M is forecasted for civilian pay expenses in this program element.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0605018F / <i>AF Integrated Personnel and Pay System (AF-IPPS)</i>
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This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	37.901	40.203	49.651	0.000	49.651
Current President's Budget	41.872	40.203	49.739	0.000	49.739
Total Adjustments	3.971	0.000	0.088	0.000	0.088
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	4.924	0.000			
• SBIR/STTR Transfer	-0.953	0.000			
• Other Adjustments	0.000	0.000	0.088	0.000	0.088

Change Summary Explanation

This document does not show the requested FY23 ATR for \$19.4M. The FY23 ATR and FY25 funding request are needed to meet the program deployment schedule.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Title: AFIPPS - System Integrator Development & Contractor Test</p> <p>Description: Acquire and develop the activities that support the acquisition of a personnel/pay capability for DAF personnel across all components (i.e., Active Duty Air and Space Forces, ANG, and USAFR). Development initiatives can be divided into two objectives: Transactional System development and Reporting System development. The Transactional System references the AFIPPS capability to calculate and transact service member pay. The Reporting System enables service members and functional system users to pull reports and conduct analysis activities. The majority of Transactional System and Reporting System development activities are complete and undergoing government Developmental Test & Evaluation (DT&E). These activities primarily drive the AFIPPS critical path. Throughout DT&E, the system integrator will implement and integrate new statutory and regulatory requirements, interface redesigns, defect resolutions identified by users, and to continue to improve payroll accuracy.</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - Continue Payroll Reconciliation Testing (PRT) to validate AFIPPS correctly calculates payroll and improve payroll accuracy. - Develop, test and integrate defect resolutions identified in the government Qualification Test and Evaluation (QT&E). 	39.294	38.542	42.534

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0605018F / <i>AF Integrated Personnel and Pay System (AF-IPPS)</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> - Develop, test and integrate statutory- and regulatory-directed pay requirements. - Develop, test and integrate interface partner data exchange redesigns to support a USSF Limited Deployment and Department Air Force (DAF) Full Deployment. - Conduct personnel and pay data cleansing efforts to include root-cause analysis, data conversion defect resolutions, data validation, and business process changes. - Continue cybersecurity vulnerability scans on code and update code as required. - Conduct change management activities in support of the USSF Limited Deployment and DAF Full Deployment releases. - Conduct training for USSF base-level trainers in support of operational testing and the USSF Limited Deployment release. - Update contract and acquisition documentation to support the Limited Deployment Authority to Proceed (ATP) approval. - Continue AF information technology efforts and studies (e.g., Common Services/Computing Environment, FIAR/FISCAM audit support, Platform as a Service (PaaS)/Software as a Service (SaaS) architectures, etc.) to ensure AFIPPS is fully integrated into AF & DoD enterprise networks, databases, and information systems. - Continue to maintain the required AFIPPS computing environments (e.g., development, test and production) with DISA. <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> - Will continue Payroll Reconciliation Testing to validate AFIPPS correctly calculates payroll and improve payroll accuracy. - Will continue to conduct personnel and pay data cleansing efforts to include root-cause analysis, data conversion defect resolutions, data validation, and business process changes. - Will continue and complete development, test and integration of defect resolutions identified in the government Qualification Test and Evaluation (QT&E). - Will conduct and complete operating location training to Operational Utility Evaluation participants. - Will develop, test and integrate defect resolutions identified by users in the Operational Utility Evaluation. - Will continue to conduct change management activities in support of the USSF Limited Deployment and DAF Full Deployment releases. - Will conduct and complete pre-deployment updates of data conversions and system configurations to the production environment prior to the USSF Limited Deployment release. - Will continue and complete training for USSF base-level trainers in support of the USSF Limited Deployment release. - Will execute a Limited Deployment of payroll to all USSF members. - Will develop, test and integrate an interface with the Defense Enterprise Accounting and Management System (DEAMS). - Will conduct and complete operating location training to Initial Operational Test and Evaluation (IOT&E) participants. - Will develop, test and integrate defect resolutions identified by users in the Initial Operational Test and Evaluation (IOT&E). - Will continue to develop, test and integrate statutory- and regulatory-directed pay requirements. - Will conduct training for AF base-level trainers in support of operational testing and the DAF Full Deployment release. - Will continue cybersecurity vulnerability scans on code and update code as required. 				

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0605018F / <i>AF Integrated Personnel and Pay System (AF-IPPS)</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>- Will update contract and acquisition documentation to support the combined Full Deployment Authority to Proceed (ATP) approval.</p> <p>- Will continue AF information technology efforts and studies (e.g., Common Services/Computing Environment, FIAR/FISCAM audit support, Platform as a Service (PaaS)/Software as a Service (SaaS) architectures, etc.) to ensure AFIPPS is fully integrated into AF & DoD enterprise networks, databases, and information systems.</p> <p>- Will continue to maintain the required AFIPPS computing environments (e.g., development, test and production) with DISA.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: FY25 funding increased due to production migration activities to include: fielding to USSF; the development and integration of statutory and regulatory directed requirements from MilPDS; integration of 127 additional DISA-hosted servers subsumed from MilPDS; increased engineering, cybersecurity, Financial Improvement and Audit Readiness (FIAR) support; post-USSF deployment engineering support; and continuous operational integration capability requirements.</p>				
<p>Title: AFIPPS - Government-Test and Evaluation</p> <p>Description: The AFIPPS Test and Evaluation Strategy encompasses Developmental Test & Evaluation (DT&E), Operational Test and Evaluation (OT&E), and a Cybersecurity Evaluation (CSE). DT&E comprises two test series: Component Verification and Integration (CV&I) and Qualification Test and Evaluation (QT&E).</p> <p>The DAF restructured deployment strategy and schedule as well as the OT&E Strategy based on the need to reduce system performance risks, which includes pay errors for military members. The DAF will conduct an Operational Utility Evaluation (OUE) ahead of a July 2025 USSF Limited Deployment. Initial Operational Test and Evaluation (IOT&E) will take place in support of a Full Deployment to all Department of the Air Force military personnel in January 2026. This thrust includes all OT&E activities.</p> <p>The CSE activities accomplished within this thrust are performed primarily by Government Stakeholders.</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - Conduct Performance Evaluation Testing. - Conduct and complete System Operability Evaluation testing. - Conduct and complete government testing of new and redesigned capabilities and interfaces. - Conduct and complete a Cooperative Vulnerability Identification (CVI) cybersecurity event. - Conduct and complete Adversarial Cybersecurity Developmental Evaluation and Testing (ACD), in which a team of cybersecurity specialists perform evaluations of the system's cyber survivability and operational resilience in a mission context using realistic threat exploitation techniques, within a representative operating environment. - Conduct and complete a Mission Risk Assessment Process for Cyber (MRAP-C), in which an integrated team composed of the Program Management Office and development, operational and cybersecurity test agency experts identify potential cyber risks. 		2.578	1.661	7.205

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0605018F / <i>AF Integrated Personnel and Pay System (AF-IPPS)</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> - Conduct analysis of Payroll Reconciliation Test results to validate AFIPPS correctly calculates payroll. - Conduct a User Evaluation Test (UET) and analyze results to validate system readiness for Operational Assessment. - Conduct end-to-end Treasury interface tests. - Provide support for the Joint Interoperability Test Command (JTIC) led interoperability certification assessment tests. <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> - Will conduct and complete Performance Evaluation Testing. - Will continue to conduct analysis of Payroll Reconciliation Test results to validate AFIPPS correctly calculates payroll. - Will conduct and complete end-to-end Treasury interface tests. - Will conduct and complete a User Evaluation Test (UET) (QT&E) and analyze results to validate system readiness for Operational Utility Evaluation. - Will continue support for the Joint Interoperability Test Command (JTIC) led interoperability certification assessment tests. - Will conduct an Operational Test Readiness Review in preparation for transition to an Operational Utility Evaluation. - Will support execution of an AFOTEC-led Operational Utility Evaluation. - Will conduct an Operational Test Readiness Review in preparation for transition to Initial Operational Test and Evaluation. - Will support execution of an AFOTEC-led Initial Operational Test and Evaluation. - Will conduct and complete Cooperative Vulnerability and Penetration Assessments (CVPA) in support of the USSF Limited Deployment and the DAF Full Deployment, in which a team of cybersecurity specialists conduct an overt and cooperative examination of the system to identify all significant cyber vulnerabilities and the level of capability required to exploit those vulnerabilities. - Will conduct and complete Adversarial Assessment (AA), in which a team of cybersecurity specialists evaluate the ability to protect the system/data, detect threat activity, react to threat activity, and restore mission capability degraded or lost due to threat activity and assess the effect on the system's missions through direct measurement or by a well-defined methodology using expert input. <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to increased engineering and test support personnel for the completion of government-led Qualification Test and Evaluation and the rephasing operational testing personnel and events from FY24 to FY25.</p>			
Accomplishments/Planned Programs Subtotals	41.872	40.203	49.739

D. Other Program Funding Summary (\$ in Millions) N/A	
Remarks	

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0605018F / <i>AF Integrated Personnel and Pay System (AF-IPPS)</i>	
E. Acquisition Strategy AFIPPS is being acquired as a Defense Business System that utilizes the Business Capability Acquisition Cycle. The program is in Phase 4 - Acquisition, Testing, and Deployment and is working towards its first Limited Deployment ATP for a Limited Deployment to USSF in July 2025. The acquisition strategy employs a single System Integrator and agile methodologies to develop, test and deploy pay and leave capabilities via an Oracle ERP E-Business Suite (EBS). The program will first subsume the current DAF human resources Oracle EBS, Military Personnel Data System (MilPDS), to enable an integrated pay and leave capability in a single program. The primary system integrator contract includes pay system development, test, and deployment. The development activities are fully coordinated and integrated with the on-going operation and sustainment of MilPDS. First, the program leveraged a MilPDS self-service capability deployment to ensure infrastructure for pay and leave capability is in place. The self-service capability deployed in Jan 2021, allowing the AF community to initiate self-registration, validate member data, and verify operational performance. Next, pay/leave capability was organized into stories then incorporated into work packages to be developed in three-week sprints. Each work package was developed and tested by the integrated user/developer team on multiple pre-production environments. After completing initial development, the DAF began to execute an extensive Test and Evaluation Strategy encompassing Development Test & Evaluation (DT&E), Cybersecurity Evaluation (CSE), and which will conclude with Operational Test & Evaluation (OT&E). Due to system performance risks associated with a single-release pay and leave to all Department of the Air Force (DAF) military members, the DAF restructured the program to execute a service-level Limited Deployment to the USSF in 4QFY25 and to perform a Full Deployment to all DAF military members in 2QFY26. Prior to each deployment, the DAF will conduct OT&E. The OT&E strategy still implements a two-phased approach, but replaces the Operational Assessment (OA) with an Operational Utility Evaluation (OUE) in support of the USSF Limited Deployment Authority to Proceed decision. Phase 1 comprises an OUE to determine operational effectiveness and suitability prior to the Limited Deployment Authority to Proceed (ATP) decision. AFIPPS pay/leave capability will then be delivered in July 2025 in a release to all Space Force Guardians. Phase 2 will comprise an IOT&E event to further validate system efficacy and readiness to support pay/leave for the USAF Active Duty, Air National Guard (ANG), Reserves and Cadets. Upon completion of IOT&E and a successful Full Deployment ATP decision, the AFIPPS pay/leave capability will be released to all Airmen. After successfully completing all test initiatives and a year-long sustainment, the DAF will transition AFIPPS to the Capability Support Phase.		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605018F / AF Integrated Personnel and Pay System (AF-IPPS)	Project (Number/Name) 676003 / HRM Structural Development
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AFIPPS Prime Software Developmental Efforts	C/CPIF	ACCENTURE FEDERAL SVCS : ARLINGTON, VA	0.000	25.299	Oct 2022	15.293	Oct 2023	12.904	Oct 2024	-		12.904	Continuing	Continuing	90.482
AFIPPS Application Hosting Environment	MIPR	DISA EIS : Pensacola, FL	0.000	5.163	Oct 2022	6.030	Oct 2023	7.324	Oct 2024	-		7.324	Continuing	Continuing	-
AFIPPS Enterprise Systems Integration/ Deployment	Various	Various : Various	0.000	0.000		4.701	Apr 2024	1.037	Apr 2025	-		1.037	Continuing	Continuing	-
AFIPPS COTS Licenses	Various	Various : Various	0.000	1.476	Apr 2023	1.020	Apr 2024	1.185	Apr 2025	-		1.185	Continuing	Continuing	-
AFIPPS Financial Improvement and Audit Readiness (FIAR)	C/FP	Various : Various	0.000	0.000	Aug 2023	0.257	Aug 2024	1.572	Aug 2025	-		1.572	Continuing	Continuing	1.080
AFIPPS Direct Mission Support (Other)	Various	Various : Various	0.000	1.562	Mar 2023	3.862	Oct 2023	2.379	Oct 2024	-		2.379	Continuing	Continuing	25.000
Subtotal			0.000	33.500		31.163		26.401		-		26.401	Continuing	Continuing	N/A

Remarks
Target Value of Contract for all applicable Product Development cost categories increased to reflect target values through the 2QFY26 Full Deployment.

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AFIPPS Developmental Test & Evaluation (DT&E)	Various	Various : Various	0.000	2.526	Oct 2022	0.571	Oct 2023	1.552	Oct 2024	-		1.552	Continuing	Continuing	-
AFIPPS Operational Test & Evaluation (OT&E)	Various	Various : Various	0.000	0.052	Oct 2022	0.258	Oct 2023	0.645	Oct 2024	-		0.645	Continuing	Continuing	-
AFIPPS Operational Test & Evaluation II (OT&E)	C/CPAF	AST, LLC : Wichita Falls, TX	0.000	0.000		0.832	Oct 2023	5.008	Oct 2024	-		5.008	Continuing	Continuing	-
Subtotal			0.000	2.578		1.661		7.205		-		7.205	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605018F / AF Integrated Personnel and Pay System (AF-IPPS)	Project (Number/Name) 676003 / HRM Structural Development
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Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
AFIPPS Engineering, Professional, and Administrative Support Services (EPASS)	C/CPAF	Oasis Systems, LLC : Lexington, MA	0.000	0.555	Oct 2022	0.000	Oct 2023	0.000	Oct 2024	-		0.000	Continuing	Continuing	14.260
AFIPPS Engineering, Professional, and Administrative Support Services (EPASS II)	C/CPAF	Torch Tech, Inc : Huntsville, AL	0.000	3.440	Mar 2023	2.382	Oct 2023	7.253	Oct 2024	-		7.253	Continuing	Continuing	25.000
AFIPPS Other Program Support Cost	Various	Various : Various	0.000	1.799	Nov 2022	4.997	Nov 2023	8.880	Nov 2024	-		8.880	Continuing	Continuing	-
Subtotal			0.000	5.794		7.379		16.133		-		16.133	Continuing	Continuing	N/A

Remarks
Target Value of Contract for EPASS increased to reflect target values through the 2QFY26 Full Deployment. For traceability, the FY25 funding increased due to required testing personnel and events during QT&E and OT&E.

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	41.872	40.203	49.739	-	49.739	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605018F / AF Integrated Personnel and Pay System (AF-IPPS)	Project (Number/Name) 676003 / HRM Structural Development

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Integrated Personnel and Pay System</i>	
Additional Development Activities (Transactional/Reporting)	
System Integrator Developmental Test (CV&I)	
Government Integrated Test and Evaluation Activities (DT&E, OT&E)	
Cybersecurity Evaluation (CSE)	
Limited Deployment Authority to Proceed for USSF	■
Limited Deployment to USSF	■
Full Deployment Authority to Proceed	■
Full Deployment	■
Engineering Support to Deployment and Evaluation	
Capability Support Authority to Proceed	■
DevSecOps Transition Support for Sustainment and Cloud Migration	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605018F / <i>AF Integrated Personnel and Pay System (AF-IPPS)</i>	Project (Number/Name) 676003 / <i>HRM Structural Development</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Integrated Personnel and Pay System</i>				
Additional Development Activities (Transactional/Reporting)	1	2023	2	2026
System Integrator Developmental Test (CV&I)	1	2023	4	2024
Government Integrated Test and Evaluation Activities (DT&E, OT&E)	1	2023	1	2026
Cybersecurity Evaluation (CSE)	1	2023	4	2025
Limited Deployment Authority to Proceed for USSF	3	2025	3	2025
Limited Deployment to USSF	4	2025	4	2025
Full Deployment Authority to Proceed	1	2026	1	2026
Full Deployment	2	2026	2	2026
Engineering Support to Deployment and Evaluation	2	2026	1	2027
Capability Support Authority to Proceed	2	2027	2	2027
DevSecOps Transition Support for Sustainment and Cloud Migration	3	2026	4	2027

Note

Component Verification and Integration (CV&I)
 Developmental Test & Evaluation (DT&E)
 Operational Test & Evaluation (OT&E)
 Development, Security and Operations (DevSecOps)

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0605024F / <i>Anti-Tamper Technology Executive Agency</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	49.908	49.613	65.792	0.000	65.792	66.187	68.714	71.430	73.221	Continuing	Continuing
675066: <i>Anti-Tamper Technology Executive Agent</i>	-	49.908	49.613	65.792	0.000	65.792	66.187	68.714	71.430	73.221	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Program MDAP/MAIS Code:
Project MDAP/MAIS Code(s): N42

A. Mission Description and Budget Item Justification

The Anti-Tamper (AT) Technology Executive Agency budget funds activities related to the DoD Executive Agent for AT (ATEA) responsibilities required by DoD Directive 5200.47E, "Anti-Tamper (AT)." These responsibilities are unique to the DoD ATEA and the Air Force Component Office of Primary Responsibility (OPR) for AT. The DoD ATEA is responsible for developing and enforcing AT policy and guidance, assessing AT technologies (hardware and software), maintaining and developing new AT technology products and assessment capabilities, maintaining and maturing AT laboratory equipment and infrastructure, establishing and maintaining a library of AT technologies, providing security guidance and support mechanisms, providing outreach and education to the DoD AT community, providing intelligence support, and evaluating AT implementations across all DoD acquisition programs, foreign military sales (FMS), and direct commercial sales (DCS). The AF OPR for AT evaluates AT on applicable AF acquisition programs, FMS, and DCS as well as manages AF AT technology development.

AT directly enables CPI resilience. AT protects critical program information (CPI), in U.S. weapon systems that are no longer under U.S. control (e.g., lost/left on the battlefield or sold to a foreign government) from hands-on, reverse engineering (RE) attacks. AT protections enable the U.S. to preserve its technological advantage and the combat capabilities of critical weapons systems while supporting the warfighters' mission requirements. Furthermore, AT adds longevity to DoD weapon systems by deterring or delaying RE attacks, and thus reducing an adversaries' ability to obtain the CPI and/or develop weapon countermeasures against the system. All DoD acquisition programs, FMS, and DCS with CPI require a validated AT Plan.

The AT program includes resources required for subject matter experts (SMEs) to evaluate AT Plans and conduct AT validation on all DoD Weapon Systems. Additionally, the AT program provides resources for SMEs to perform AT assessments of both commercial off the shelf (COTS), contractor funded government only use (CFGO) and government off the shelf (GOTS) products. As the COTS, CFGO and GOTS technologies advance, the AT program includes the resources required to mature AT hardware/software assessment capabilities. These capabilities include the acquisition of specialized equipment, maintenance and/or renovations to support the integration of this equipment, and modifications to new and/or existing laboratory facilities to meet equipment and security requirements.

The DoD ATEA coordinates technology development among the DoD Services/Agencies, National Laboratories, and Industry. These technology development efforts fund development of new AT technology, as well as enhance existing AT technology efforts to increase the technology readiness level (TRL) and facilitate transition for programs to implement. The AT technology development and enhancement efforts include: advanced AT sensor hardware, secure processing, crypto-analysis, tamper penalties, modifying and developing technology to address vulnerability and susceptibility of fielded parts, and other AT enablers.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0605024F / <i>Anti-Tamper Technology Executive Agency</i>
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The Air Force AT OPR conducts AT technology and product development to meet Air Force service needs to mature promising AT technologies to transition to Air Force weapons systems. Technology and product development priorities are given to those technologies/products that most benefit AF acquisition programs while aligning to the overall DoD ATEA technology and product development strategy. These activities are coordinated through the ATEA as a part of the ATEA technology and product development roadmap and to coordinate with Navy and Army AT technology development efforts.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 \$2.7M was expended for civilian pay expenses in this program element and in FY24 \$3.8M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	50.066	49.613	54.326	0.000	54.326
Current President's Budget	49.908	49.613	65.792	0.000	65.792
Total Adjustments	-0.158	0.000	11.466	0.000	11.466
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.158	0.000			
• Other Adjustments	0.000	0.000	11.466	0.000	11.466

Change Summary Explanation

The FY 2025 President's Budget submittal was increased, over FY24's submission, by \$11.466M due to approved POM request for increased requirements in Evaluations, Assessments, and AT Technology Enablers.

The FY 2024 President's Budget number was reduced by \$0.158M for SIBR transfer.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: DoD Anti-Tamper Technology Executive Agent (DoD ATEA)	33.840	38.236	49.190

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0605024F / <i>Anti-Tamper Technology Executive Agency</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>Description: AT technology and product development/coordination, roadmaps, MBSE, and evaluations, hardware/software vulnerability assessments, capability development, laboratory equipment and infrastructure improvements; outreach and education to the AT Community, AT implementation validation and evaluation, as well as AT policy development.</p> <p>FY 2024 Plans: - Continue to validate and evaluate AT implementations on all DoD Acquisition programs; initiate product development activities to include (but not limited to): studies, requirements generation, MBSE, technology roadmaps, integration support, and support OSD Weapon System AT requirements; conduct vulnerability assessments, develop advanced assessment capabilities, improve laboratory equipment and infrastructure, and provide intelligence support. Develop AT policy and continue to train the acquisition workforce on AT policy and technology.</p> <p>FY 2025 Plans: - Continue to validate and evaluate AT implementations on all DoD Acquisition programs; initiate product development activities to include (but not limited to): studies, requirements generation, MBSE, technology roadmaps, integration support, early contract initiation for product development, and support OSD Weapon System AT requirements; conduct vulnerability assessments, develop advanced assessment capabilities, improve laboratory equipment and infrastructure, and provide intelligence support. Develop AT policy and continue to train the acquisition workforce on AT policy and technology.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increase due to approval of additional Evaluations, Assessments and development related activities by SECAF.</p>				
<p>Title: DoD ATEA Program Management Support</p> <p>Description: Includes civilian pay, A&AS, outreach and education, travel, supplies, and AFLCMC/XA-AT support.</p> <p>FY 2024 Plans: Support program office efforts, including civilian pay, A&AS, intelligence support, outreach and education, travel, and supplies.</p> <p>FY 2025 Plans: Support program office efforts, including civilian pay, A&AS, intelligence support, outreach and education, travel, and supplies.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increase from FY24 to FY25 due to shifting of FY within year of execution to better align with OSD goals. FY23 and FY25 are consistent in level of workload required.</p>		9.949	5.084	10.209
<p>Title: Air Force Anti-Tamper Technology and Product Development</p>		6.119	6.293	6.393

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0605024F / <i>Anti-Tamper Technology Executive Agency</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Description: Conduct Anti-Tamper technology and product development to meet Air Force (AF) service needs to mature promising AT technologies to transition to AF weapon systems. Fund and manage new technology development efforts, to include studies and requirements generation, all targeted to protect AF CPI. These new AT technology requirements will be obtained from AF programs and these new AT technologies will then transition to Air Force and DoD programs.</p> <p>The AT technology and product development and enhancement efforts include (but not limited to): advanced AT sensor hardware, secure processing, crypto-analysis, tamper penalties, and other AT enablers.</p> <p>FY 2024 Plans: Conduct Anti-Tamper technology development to meet Air Force service needs to mature promising AT technologies to transition to Air Force weapons systems.</p> <p>FY 2025 Plans: Conducts Anti-Tamper technology development to meet Air Force service needs to mature promising AT technologies to transition to Air Force weapons systems.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to increase in requirements.</p>			
Accomplishments/Planned Programs Subtotals	49.908	49.613	65.792

D. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

E. Acquisition Strategy

The DoD ATEA acquisition strategy is to coordinate DoD AT technology and product developments, including associated studies and requirements generation activities across the Services which fund development and assessments of new AT technology, as well as enhance existing AT technology efforts by increasing TRL. The output of the studies and requirements generation will also poise the ATEA for ATEA-funded product and technology development. The ATEA will coordinate the Technology and Product Development Roadmap with major Prime vendors. Evaluating their technology is of major importance. The ATEA will also coordinate with the Service AT personnel to foster communication and understand what programs Services are developing for their AT implementation. Emerging research areas such as materials, cryptography and electronic circuits have the potential to bring new AT capabilities with increased processing power, reduced power draw, and smaller form factor. The goal of the research and ultimate technology and product development is to mature promising technologies to the point they can be transitioned to a program office or industry for integration and implementation in DoD weapon systems. Priorities will be given to those technologies that most benefit the DoD AT community.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity
3600: *Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development*

R-1 Program Element (Number/Name)
PE 0605024F / *Anti-Tamper Technology Executive Agency*

The Air Force AT Office will fund and manage new technology and product efforts to protect Air Force and DoD CPI. These new AT technology requirements will be obtained from AF and DoD programs and these new AT technologies will then transition to Air Force and DoD programs.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force												Date: March 2024			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)					Project (Number/Name)						
3600 / 7				PE 0605024F / Anti-Tamper Technology Executive Agency					675066 / Anti-Tamper Technology Executive Agent						
Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Air Force AT Technology and Product Development	Various	Not specified. : Dayton, OH	-	6.119	Oct 2022	6.293	Oct 2023	6.393	Oct 2024	-		6.393	Continuing	Continuing	-
Subtotal			-	6.119		6.293		6.393		-		6.393	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
DoD Anti-Tamper Technology Executive Agent (DoD ATEA)	Various	Not specified. : Dayton, OH	-	12.588	Oct 2022	12.994	Oct 2023	13.560	Oct 2024	-		13.560	Continuing	Continuing	-
DoD ATEA Technology Executive Agent	Various	Not specified. : Huntsville, AL	-	6.695	Oct 2022	9.391	Oct 2023	11.060	Oct 2024	-		11.060	Continuing	Continuing	-
DoD AT Executive Agent Technology	Various	Not specified. : Crane, IN	-	8.633	Oct 2022	7.551	Oct 2023	12.396	Oct 2024	-		12.396	Continuing	Continuing	-
DoD Anti-Tamper Executive Agent	Various	Not specified. : Albuquerque, NM	-	5.924	Oct 2022	8.300	Oct 2023	12.174	Oct 2024	-		12.174	Continuing	Continuing	-
Subtotal			-	33.840		38.236		49.190		-		49.190	Continuing	Continuing	N/A
Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
DoD ATEA Program Management Support	Various	Not specified. : Dayton, OH	-	9.949	Oct 2022	5.084	Oct 2023	10.209	Oct 2024	-		10.209	Continuing	Continuing	-
Subtotal			-	9.949		5.084		10.209		-		10.209	Continuing	Continuing	N/A
Project Cost Totals			-	49.908		49.613		65.792		-		65.792	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force							Date: March 2024			
Appropriation/Budget Activity 3600 / 7			R-1 Program Element (Number/Name) PE 0605024F / <i>Anti-Tamper Technology Executive Agency</i>			Project (Number/Name) 675066 / <i>Anti-Tamper Technology Executive Agent</i>				
	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract	

Remarks
 Additional funding breakout and award dates are classified per the Anti-Tamper Security Classification Guide. Please contact the ATEA if additional information is required.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605024F / <i>Anti-Tamper Technology Executive Agency</i>	Project (Number/Name) 675066 / <i>Anti-Tamper Technology Executive Agent</i>

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

ATEA	
DoD ATEA Field Program Office Support	
DoD ATEA Activities	
Air Force AT Tech Development	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605024F / <i>Anti-Tamper Technology Executive Agency</i>	Project (Number/Name) 675066 / <i>Anti-Tamper Technology Executive Agent</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
ATEA				
DoD ATEA Field Program Office Support	1	2023	4	2029
DoD ATEA Activities	1	2023	4	2029
Air Force AT Tech Development	1	2023	4	2029

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development	R-1 Program Element (Number/Name) PE 0605117F I Foreign Materiel Acquisition and Exploitation
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	117.838	93.881	94.188	0.000	94.188	96.174	82.015	84.920	86.585	Continuing	Continuing
675897: Foreign Materiel Acquisition and Exploitation	-	117.838	93.881	94.188	0.000	94.188	96.174	82.015	84.920	86.585	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Foreign Materiel Acquisition and Exploitation (FMA&E) program element supports the military services' and defense agencies' Foreign Material Program activities.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In PY \$0.473M was expended for civilian pay expenses in this program element, and in CY \$0.487M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)

	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025 Base</u>	<u>FY 2025 OCO</u>	<u>FY 2025 Total</u>
Previous President's Budget	117.838	93.881	84.783	0.000	84.783
Current President's Budget	117.838	93.881	94.188	0.000	94.188
Total Adjustments	0.000	0.000	9.405	0.000	9.405
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	9.405	0.000	9.405

Change Summary Explanation

See classified document.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0605117F / <i>Foreign Materiel Acquisition and Exploitation</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Title: Foreign Materiel Acquisition and Exploitation</p> <p>Description: Classified details can be found in OSD Comptroller's classified Defense Wide Justification Book Volume 6.</p> <p>FY 2024 Plans: Classified</p> <p>N/A</p> <p>FY 2025 Plans: Classified</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: See classified document.</p>	117.838	93.881	94.188
Accomplishments/Planned Programs Subtotals	117.838	93.881	94.188

D. Other Program Funding Summary (\$ in Millions)
N/A

Remarks
N/A

E. Acquisition Strategy
Classified details can be found in OSD Comptroller's classified Defense-Wide Justification Book Volume 6.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605117F / Foreign Materiel Acquisition and Exploitation	Project (Number/Name) 675897 / Foreign Materiel Acquisition and Exploitation
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Classified details can be found in OSD Comptroller's classified Defense-Wide Justification Book Volume 6.	Various	Various : TBD	-	117.365	Oct 2022	93.394	Dec 2023	93.688	Dec 2024	-		93.688	Continuing	Continuing	-
Subtotal			-	117.365		93.394		93.688		-		93.688	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SAF/CDM Salary and Travel	Allot	SAF/CDMA : Fairfax, VA	-	0.473	Oct 2022	0.487	Oct 2023	0.500	Oct 2024	0.000		0.500	Continuing	Continuing	-
Subtotal			-	0.473		0.487		0.500		0.000		0.500	Continuing	Continuing	N/A

			Prior Years	FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	117.838		93.881		94.188		0.000		94.188	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605117F / <i>Foreign Materiel Acquisition and Exploitation</i>	Project (Number/Name) 675897 / <i>Foreign Materiel Acquisition and Exploitation</i>

	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Foreign Material Acquisition & Exploitation																																				
FY23 FMP Plan executed and updated as required	██████████																																			
Additional acquisition opportunities reviewed quarterly; FY23 execution reprioritized	██████████																																			
Additional exploitation opportunities reviewed quarterly; FY23 execution reprioritized	██████████																																			
FY24 requirements and funding requests submitted by Services/Agencies			██████																																	
FY24 requirements and funding requests validated and prioritized			██																																	
FY24 FMP Plan approved and published			██																																	
FY24 FMP Plan executed and updated as required					██████████																															
Additional acquisition opportunities reviewed quarterly; FY24 execution reprioritized					██████████																															
Additional exploitation opportunities reviewed quarterly; FY24 execution reprioritized					██████████																															
FY25 requirements and funding requests submitted by Services/Agencies							██████																													
FY25 requirements and funding requests validated and prioritized							██																													
FY25 FMP Plan approved and published							██																													
FY25 FMP Plan executed and updated as required									██████████																											
Additional acquisition opportunities reviewed quarterly; FY25 execution reprioritized									██████████																											

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605117F / Foreign Materiel Acquisition and Exploitation	Project (Number/Name) 675897 / Foreign Materiel Acquisition and Exploitation
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	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Additional exploitation opportunities reviewed quarterly; FY25 execution reprioritized																												
FY26 requirements and funding requests submitted by Services/Agencies																												
FY26 requirements and funding requests validated and prioritized																												
FY26 FMP Plan approved and published																												
FY26 FMP Plan executed and updated as required																												
Additional acquisition opportunities reviewed quarterly; FY26 execution reprioritized																												
Additional exploitation opportunities reviewed quarterly; FY26 execution reprioritized																												
FY27 requirements and funding requests validated submitted by Services/Agencies																												
FY27 requirements and funding requests validated and prioritized																												
FY27 FMP Plan approved and published																												
FY27 Plan executed and updated as required																												
Additional acquisition opportunities reviewed quarterly; FY27 execution reprioritized																												
Additional exploitation opportunities reviewed quarterly; FY27 execution reprioritized																												
FY28 requirements and funding requests submitted by Services/Agencies																												
FY28 requirements and funding requests validated and prioritized																												
FY28 FMP Plan approved and published																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605117F / <i>Foreign Materiel Acquisition and Exploitation</i>	Project (Number/Name) 675897 / <i>Foreign Materiel Acquisition and Exploitation</i>
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	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
FY28 FMP Plan is executed and updated as required																												
Additional acquisition opportunities reviewed quarterly; FY28 execution reprioritized																												
Additional exploitation opportunities reviewed quarterly; FY28 execution reprioritized																												
FY29 requirements and funding requests submitted by Services/Agencies																												
FY29 requirements and funding request validated and prioritized																												
FY29 FMP Plan approved and published																												
FY29 FMP Plan is executed and updated as required																												
Additional acquisition opportunities reviewed quarterly; FY29 execution reprioritized																												
Additional exploitation opportunities reviewed quarterly; FY29 execution reprioritized																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605117F / <i>Foreign Materiel Acquisition and Exploitation</i>	Project (Number/Name) 675897 / <i>Foreign Materiel Acquisition and Exploitation</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Foreign Materiel Acquisition & Exploitation</i>				
FY23 FMP Plan executed and updated as required	1	2023	1	2024
Additional acquisition opportunities reviewed quarterly; FY23 execution reprioritized	1	2023	1	2024
Additional exploitation opportunities reviewed quarterly; FY23 execution reprioritized	1	2023	1	2024
FY24 requirements and funding requests submitted by Services/Agencies	3	2023	4	2023
FY24 requirements and funding requests validated and prioritized	4	2023	4	2023
FY24 FMP Plan approved and published	4	2023	4	2023
FY24 FMP Plan executed and updated as required	1	2024	1	2025
Additional acquisition opportunities reviewed quarterly; FY24 execution reprioritized	1	2024	1	2025
Additional exploitation opportunities reviewed quarterly; FY24 execution reprioritized	1	2024	1	2025
FY25 requirements and funding requests submitted by Services/Agencies	3	2024	4	2024
FY25 requirements and funding requests validated and prioritized	4	2024	4	2024
FY25 FMP Plan approved and published	4	2024	4	2024
FY25 FMP Plan executed and updated as required	1	2025	4	2025
Additional acquisition opportunities reviewed quarterly; FY25 execution reprioritized	1	2025	4	2025
Additional exploitation opportunities reviewed quarterly; FY25 execution reprioritized	1	2025	4	2025
FY26 requirements and funding requests submitted by Services/Agencies	3	2025	4	2025
FY26 requirements and funding requests validated and prioritized	4	2025	4	2025
FY26 FMP Plan approved and published	4	2025	4	2025
FY26 FMP Plan executed and updated as required	1	2026	4	2026
Additional acquisition opportunities reviewed quarterly; FY26 execution reprioritized	1	2026	4	2026
Additional exploitation opportunities reviewed quarterly; FY26 execution reprioritized	1	2026	4	2026

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605117F / <i>Foreign Materiel Acquisition and Exploitation</i>	Project (Number/Name) 675897 / <i>Foreign Materiel Acquisition and Exploitation</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
FY27 requirements and funding requests validated submitted by Services/Agencies	3	2026	4	2026
FY27 requirements and funding requests validated and prioritized	4	2026	4	2026
FY27 FMP Plan approved and published	4	2026	4	2026
FY27 Plan executed and updated as required	1	2027	4	2027
Additional acquisition opportunities reviewed quarterly; FY27 execution reprioritized	1	2027	4	2027
Additional exploitation opportunities reviewed quarterly; FY27 execution reprioritized	1	2027	4	2027
FY28 requirements and funding requests submitted by Services/Agencies	3	2027	4	2027
FY28 requirements and funding requests validated and prioritized	4	2027	4	2027
FY28 FMP Plan approved and published	4	2027	4	2027
FY28 FMP Plan is executed and updated as required	1	2028	4	2028
Additional acquisition opportunities reviewed quarterly; FY28 execution reprioritized	1	2028	4	2028
Additional exploitation opportunities reviewed quarterly; FY28 execution reprioritized	1	2028	4	2028
FY29 requirements and funding requests submitted by Services/Agencies	3	2028	4	2028
FY29 requirements and funding request validated and prioritized	4	2028	4	2028
FY29 FMP Plan approved and published	4	2028	4	2028
FY29 FMP Plan is executed and updated as required	1	2029	4	2029
Additional acquisition opportunities reviewed quarterly; FY29 execution reprioritized	1	2029	4	2029
Additional exploitation opportunities reviewed quarterly; FY29 execution reprioritized	1	2029	4	2029

Note

The schedule on the previous page, representing the Foreign Material Program acquisition and exploitation processes, repeats for each fiscal year. Out of cycle Ad-Hoc foreign material acquisition and exploitation reviews are held when required throughout each fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0605229F / HH-60W
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	0.000	0.000	52.314	0.000	52.314	33.278	99.504	86.096	87.795	Continuing	Continuing
670001: <i>HH-60W Modernization Development</i>	-	0.000	0.000	52.314	0.000	52.314	33.278	99.504	86.096	87.795	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note
 This program, BA 7, PE 0605229F, project 670001, HH-60W MUOS Capability, is a new start.

In FY 2025, PE 0605229F, HH-60W, Project 654364, Combat Rescue Helicopter, Budget Activity 5, System Development & Demonstration (SDD) efforts will transfer to PE 0605229F, HH-60W, Project 670001, HH-60W Modernization Development, Budget Activity 7, Operational Systems Development to transition the HH-60W program from production to post-production capability upgrades and sustainment.

A. Mission Description and Budget Item Justification

The HH-60W Jolly Green is the US Air Force's Combat Rescue Helicopter (CRH). In FY 2023, a new operational USAF CRH had successfully completed a rescue operation in the AFROCOM theater. CRH, now in Full Rate Production (FRP) provides the modernization and upgrade to the legacy HH-60G Pave Hawk helicopter. CRH modernization funding is crucial to ensure the CRH fleet can support the new theater and revitalize support for not only the crew but the rescues they save. RDT&E efforts include but are not limited to Mobile User Objective System, Degraded Visual Environment, Global Positioning System Anti-Jam System, and the Delivery Order 1 Agile Software Program.

Mobile User Objective System (MUOS) provides narrow band military BLOS communication capability with improved availability for voice, data and video communications and is the DoD directed replacement to UHF SATCOM. With MUOS, The CRH will be compatible with future satellite communication standards. MUOS adds data capability while maintaining existing voice functions, a key enabler to distributed operations. Inability to communicate BLOS disrupts coordinating Personnel Recovery and Combat Search and Rescue missions. Due to the expeditionary nature of combat rescue missions, satellite communication is often the sole means of maintaining connection to command-and-control infrastructure.

Degraded Visual Environment (DVE) mishaps accounts for 31% of all HH-60G mishaps since 2001. A DVE system will significantly reduce operational risk in all CRH regimes of flight, especially en-route navigation and terminal area operations in unprepared operational locations where the combat rescue mission is performed. A DVE material and technical solution to the DOD's #1 flight rotary wing flight risk, reduces operator workload, increases ability to operate in limited visibility conditions, and reduces mishaps saving lives and equipment.

Legacy CRH Global Positioning System (GPS) equipment is vulnerable to exploitation. Planned GPS Anti-Jamming (GPS-AJ) modifications will enable CSAR operations in contested environments and areas with high jamming risk, especially where no other means of navigation exists, greatly reducing risk and significantly increasing

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0605229F / HH-60W
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combat capability in multiple theaters. Hardware modifications include the addition of more jam resistant controlled reception pattern antennas (CRPA) in addition to existing CRH Fixed Reception Pattern Antennas along with upgraded antenna electronics units (AEU) and associated software.

Delivery Order (DO) 1 Agile Software Program will be the vehicle to perform software capability and fixes to the CRH fleet. Currently, the CRH fleet does not have a reoccurring process to enable yearly development, test and fielding of Deficiency Reports (DRs) to the operational fleet. DO 1 will not only give the warfighter the ability to rapidly fix these aging issues, but to also implement new software capability at the direction of the MAJCOM. This Program shall be reoccurring to accomplish 5 years of agile support to the fleet. Requirement: ACC designated this critical enable to accomplish any other mandates or specific requirements.

The CRH program funding also supports innovation activities to include testing, integrated master plans, studies, analyses, requirements definition, and quick-reaction capability prototypes/demonstrations to accelerate planning for technology transition, technology insertion and future acquisition programs. Planned work includes program testing and development, effects testing, development of baseline integrated master plans and mission planning system analysis.

This requirement supports performance of a full financial audit as required by title 10 U.S.C. Chapter 9A, Sec 240-D.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, and 0606398F. In FY 2023, \$0.000 million was expended for civilian pay expenses in this program element, and in FY 2024, \$0.000 million is forecast for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	52.314	0.000	52.314
Total Adjustments	0.000	0.000	52.314	0.000	52.314
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	52.314	0.000	52.314

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0605229F / HH-60W
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Change Summary Explanation

FY 2025 funding request increased due to a transfer of efforts from Budget Activity (BA) 5, Systems Development & Demonstration, Program Element (PE) 0605229F, HH-60W, Project 654364, Combat Rescue Helicopter to Budget Activity 7, Operational Systems Development, PE 0605229F, HH-60W, Project 670001, HH-60W Modernization Development. Effort previously funded in BA 5, Program Element 0605229F, HH-60W Project 654364, Combat Rescue Helicopter for \$48.268 million. Funding increased by \$4.046 million from \$48.268 million to \$52.314 million due to post-production capability development and upgrades.

C. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
<p>Title: HH-60W MUOS Capability</p> <p>Description: Integration and test for MUOS-capable radios on Block 45 aircraft in the COMM 3 position with Beyond Line-of-Sight (BLOS) Integrated Waveform (IW) and LOS SATURN capability with HAVE QUICK II backward compatibility.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: Development and integration efforts for MUOS-capable radios on Block 45 aircraft in the COMM 3 position.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to ramp up of initial development and integration efforts.</p>	0.000	0.000	4.550
<p>Title: HH-60W Global Positioning System Anti-Jam (GPS-AJ)</p> <p>Description: Planned GPS Anti-Jamming (GPS-AJ) modifications will enable CSAR operations in contested environments and areas with high jamming risk. Hardware modifications include the addition of more jam resistant controlled reception pattern antennas (CRPA) in addition to existing HH-60W Fixed Reception Pattern Antennas along with upgraded antenna electronics units (AEU) and associated software. This effort was previously included in Budget Activity 5, Project 654364, Combat Rescue Helicopter, Major Thrust Capability Upgrades & Modernization. It is being established as a major thrust to ensure transparency.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: Research and development activities for GPS-AJ hardware components and software.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement:</p>	0.000	0.000	5.511

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0605229F / HH-60W		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
Funding increased due to transfer of efforts from Budget Activity 5, PE 0605229F, HH-60W, Project 654364, Combat Rescue Helicopter efforts to Budget Activity 7, PE 060229F, HH-60W, Project 670001, HH-60W Modernization Development.				
<p>Title: HH-60W Degraded Visual Environment System (DVES)</p> <p>Description: DVE is a critical requirement to lower cost of life for the crew and rescues aboard the CRH. This project will research, test and integrate the best aligned hardware onto the CRH. This effort was previously included in Budget Activity 5, Project 654364, Combat Rescue Helicopter, Major Thrust Capability Upgrades & Modernization. It is being established as a major thrust to ensure transparency.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: Research, develop and integrate the aligned hardware for the CRH requirement.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased because in FY2025, PE 0605229F, HH-60W, Project 654364, Combat Rescue Helicopter efforts were transferred to PE 060229F, HH-60W, Project 670001, HH-60W Modernization Development.</p>		0.000	0.000	8.220
<p>Title: HH-60W Delivery Order (DO) 1 Agile Software Program</p> <p>Description: The vehicle to perform software capability and fixes to the CRH fleet. Development, test and fielding of Deficiency Reports (DRs) to the operational fleet. DO1 is reoccurring to accomplish 5 years of agile support to the fleet. This effort was previously included in Budget Activity 5, Project 654364, Combat Rescue Helicopter, Major Thrust Capability Upgrades & Modernization. It is being established as a major thrust to ensure transparency.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: Perform software capability updates to the fleet, development and testing.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to transfer of efforts from Budget Activity 5, PE 0605229F, HH-60W, Project 654364, Combat Rescue Helicopter efforts to Budget Activity 7, PE 060229F, HH-60W, Project 670001, HH-60W Modernization Development.</p>		0.000	0.000	17.967
<p>Title: HH-60W and Capability Development</p>		0.000	0.000	9.080

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0605229F / HH-60W
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Description: Develop associated training system and support elements that leverage fielded, non-developmental technologies to recapitalize the HH-60G fleet and other support for Capability Upgrades.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: Development efforts to include but not limited to Failure Modes Effects Testing (FMET) and Baseline Integrated Master Plan (BLIMP).</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to transfer of efforts from Budget Activity 5, PE 0605229F, HH-60W, Project 654364, Combat Rescue Helicopter efforts to Budget Activity 7, PE 060229F, HH-60W, Project 670001, HH-60W Modernization Development.</p>			
<p>Title: HH-60W Government Test and Evaluation-Modernization Development</p> <p>Description: Development and operational test for CRH Capability Upgrades. Testing performed by multiple government organizations including the 413th FTS, 704th Test Group, 96th Test Wing</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: Perform development and operational testing for MUOS, DVE and GPS-AJ.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to transfer of efforts from Budget Activity 5, PE 0605229F, HH-60W, Project 654364, Combat Rescue Helicopter efforts to Budget Activity 7, PE 060229F, HH-60W, Project 670001, HH-60W Modernization Development.</p>	0.000	0.000	6.986
Accomplishments/Planned Programs Subtotals	0.000	0.000	52.314

D. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> Base	<u>FY 2025</u> OCO	<u>FY 2025</u> Total	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• RDTE 05 0605229F: <i>HH-60W</i>	27.722	48.268	0.000	-	0.000	-	-	-	-	0.000	75.990
• MILCON '0207229F: <i>Combat Rescue Helicopter</i>	24.395	0.000	0.000	-	0.000	-	-	-	-	0.000	24.395

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0605229F / HH-60W
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D. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APAF 04 H060WH: <i>Combat Rescue Helicopter</i>	1,205.995	282.533	162.685	-	162.685	54.671	-	-	-	0.000	1,705.884
• APAF 06 H060WH <i>BA06: CRH BA06</i>	119.768	0.000	1.859	-	1.859	2.338	2.397	2.434	2.483	0.000	131.279
• APAF 05 H060WM: <i>HH60W Modifications</i>	3.083	0.000	28.911	-	28.911	68.453	74.007	76.805	78.667	746.417	1,076.343

Remarks

E. Acquisition Strategy

The HH-60W Capability Upgrades program will deliver iterative incremental capability upgrades to the CRH technical baseline based on ACC approved requirements and funding, and collective ACC/Program office R&PC candidate packaging and delivery. Discrete capability releases will involve hardware and software development (which may include integration of pre-existing material solutions), development of product support packages to ensure field supportability, verification of system performance prior to Government acceptance via lab, SIL, and flight testing, fleet retrofit via production cut-ins (when possible) or mod lines to include maintenance of common configuration, and updates to associated training systems to include the WST, OFT, AVDTT, AST, associated spares and support elements/equipment, as well as Type 1 training and course-ware required to perform flight, aircrew, and maintenance training.

The first of the capability modifications are expected to initiate in FY2024 via the current Capability Upgrades Indefinite Delivery, Indefinite Quantity (IDIQ) contract with EMD efforts expected to extend through FY2028. Low-rate initial production and retrofit activities are baselined to occur via the Capability Upgrades IDIQ contract post EMD completion followed execution of separate competitive contracting efforts to address full rate production and fleet retrofit expected to being in FY27-FY28 timeframe. Contracting types will be a mix of Cost Plus Fixed Fee (CPFF), Fixed Price Incentive Fee (FPIF), and Firm Fixed Price (FFP) based on the maturity of capabilities planned for integration and the complexity of said integration activities.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605229F / HH-60W	Project (Number/Name) 670001 / HH-60W Modernization Development
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CRH MUOS Capability	C/FPIF	Sikorsky Aircraft Corp. : Stratford, CT	-	-		-		4.550	Jun 2025	-		4.550	Continuing	Continuing	-
CRH Global Positioning System Anti-Jam (GPS-AJ)	C/FPIF	Sikorsky Aircraft Corp. : Stratford, CT	-	-		-		5.511	Jun 2025	-		5.511	Continuing	Continuing	-
CRH Degraded Visual Environment System (DVES)	C/FPIF	Sikorsky Aircraft Corp. : Stratford, CT	-	-		-		8.220	May 2025	-		8.220	Continuing	Continuing	-
CRH Delivery Order (DO) 1 Agile Software Program	C/FPIF	Sikorsky Aircraft Corp. : Stratford, CT	-	-		-		17.967	Mar 2025	-		17.967	Continuing	Continuing	-
Failure Mode Effects Test (FMET)	C/FPIF	Sikorsky Aircraft Corp. : Stratford, CT	-	-		-		2.765	Apr 2025	-		2.765	Continuing	Continuing	-
Baseline Integrated Master Plan (BLIMP)	C/FPIF	Sikorsky Aircraft Corp. : Stratford, CT	-	-		-		0.900	Mar 2025	-		0.900	Continuing	Continuing	-
Subtotal			-	-		-		39.913		-		39.913	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
HH-60W product support related to aircraft development, integration, test articles, trainers and contractor test, including SBIR Tax.	Various	Various : TBD	-	-		-		1.915	Jan 2025	-		1.915	Continuing	Continuing	-
Direct Cite Civ Pay	RO	AFLCMC : WPAFB, OH	-	-		-		3.500	Sep 2025	-		3.500	Continuing	Continuing	-
Subtotal			-	-		-		5.415		-		5.415	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605229F / HH-60W	Project (Number/Name) 670001 / HH-60W Modernization Development
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Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
HH-60W planning and testing to support developmental and operational test, live fire test and other weapon system testing and support	PO	413th Test Squadron : Eglin AFB, FL	-	-		-		6.986	Jan 2025	-		6.986	Continuing	Continuing	-
Subtotal			-	-		-		6.986		-		6.986	Continuing	Continuing	N/A
Project Cost Totals			-	-		-		52.314		-		52.314	Continuing	Continuing	N/A

Remarks
 In FY 2025, Budget Activity 5, PE 0605229F, HH-60W, Project 654364, Combat Rescue Helicopter efforts transferred to Budget Activity 7, PE 060229F, HH-60W, Project 670001, HH-60W Modernization Development.

FINANCIAL PERFORMANCE: HH-60W is evaluated against traditional Research and Development (R&D) program expenditure benchmarks. Unlike many traditional R&D programs, however, the HH-60W Engineering and Manufacturing Development (EMD) Phase contract is a Fixed Price Incentive Fee (FPIF) contract with progress payments. Ten (10%) percent of incurred costs are withheld until the end of the contract, when they are liquidated. Mandatory funding obligations and progress payment withholds will cause the program to lag traditional expenditure benchmarks, painting an inaccurate portrait of overall program health.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605229F / HH-60W	Project (Number/Name) 670001 / HH-60W Modernization Development

	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

CRH Capability Upgrades Development																												
CRH MUOS Capability																												
CRH Global Positioning System Anti-Jam (GPS-AJ)																												
CRH Degraded Visual Environment System (DVES)																												
CRH Delivery Order (DO) 1 Agile Software Program																												
Failure Modes Effects Test (FMET)																												
Baseline Integrated Master Plan (BLIMP)																												
CRH Test and Evaluation																												
Air Force Test and Evaluation for Capability Upgrades																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605229F / HH-60W	Project (Number/Name) 670001 / HH-60W Modernization Development

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
CRH Capability Upgrades Development				
CRH MUOS Capability	3	2025	2	2028
CRH Global Positioning System Anti-Jam (GPS-AJ)	3	2025	2	2028
CRH Degraded Visual Environment System (DVES)	3	2025	2	2028
CRH Delivery Order (DO) 1 Agile Software Program	2	2025	1	2028
Failure Modes Effects Test (FMET)	3	2025	2	2027
Baseline Integrated Master Plan (BLIMP)	2	2025	1	2028
CRH Test and Evaluation				
Air Force Test and Evaluation for Capability Upgrades	2	2025	4	2029

Note

In FY2025, PE 0605229F, HH-60W, Project 654364, Combat Rescue Helicopter efforts were transferred to PE 060229F, HH-60W, Project 670001, HH-60W Modernization Development. Threat Capability is scheduled to begin in FY27.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0605278F / <i>HC/MC-130 Recap RDT&E</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	0.000	47.174	36.536	24.934	0.000	24.934	46.117	45.675	37.044	37.578	27.390	302.448
675006: <i>HC/MC-130 Recap</i>	0.000	1.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.055
675278: <i>HC-130J Modernization</i>	0.000	0.000	0.926	0.748	0.000	0.748	0.894	0.765	0.792	0.808	24.777	29.710
675910: <i>Communication Modernization</i>	0.000	46.119	35.610	24.186	0.000	24.186	45.223	44.910	36.252	36.770	2.613	271.683

Program MDAP/MAIS Code: 257

Note

This program, BA 7, PE 0605278F, project 675910, Resilient Positioning, Navigation, and Timing (R-PNT), is a new start.

A. Mission Description and Budget Item Justification

HC/MC-130 Recapitalization provides a Medium-lift tanker aircraft to replace the aging USAF fleet of combat rescue HC-130P/N and special operations MC-130E/H/P/W and AC-130H/U/W aircraft for Combat Search and Rescue (CSAR) and Air Force Special Operation Forces, which are experiencing airworthiness, maintainability, and operations limitations. HC/MC-130 Recap incorporates production line modifications to the C-130J production aircraft to convert them to an HC/MC model, providing a common baseline configuration aircraft. The program also funds post-production modifications to add special mission systems required for behind- enemy-line operations required of CSAR and Special Operations aircraft. The HC-130J aircraft provides combat search and rescue infiltration and exfiltration including aerial refueling of aircraft in combat search and rescue operations as well as acting as an airborne command post during rescue operations. The MC-130J can provide specialized mobility capability to position, supply, re-supply and recover specialized ground tactical units. The AC-130J is an MC-130J that has been highly modified to provide close air support and armed reconnaissance.

The Research, Development, Testing and Evaluation (RDT&E) portion of the Recap program funds engineering support and studies to conduct rapid development activities, and develops upgrades to deliver specific increments of capability in common configurations across the fielded fleet, which includes AC/HC/MC-130J. The RDT&E activities in PE 0605278F currently include, but are not limited to, Block 7.0/8.1, and Communications Modernization Phase I and Phase II. Block 7.0/8.1 leverages the baseline C-130J (PEC 0401132F) Block 7.0/8.1 upgrade, but funds unique AC/HC/MC-130J configuration integration requirements. The Block 7.0/8.1 project will deliver Communication, Navigation and Surveillance/Air Traffic Management (CNS/ATM) capabilities required for compliance with evolving international airspace standards. It also incorporates a new Flight Management System (FMS) that allows AC/HC/MC-130J aircraft to maintain hardware and software commonality with the C-130J Enterprise. The remaining capabilities 7.0/8.1 provides are Link-16, Civil GPS Navigation and Data Link, Identification Friend or Foe (IFF) Transponder Mode-5, and Automatic Dependent Surveillance-Broadcast Out (ADS-B Out). The USAF has also initiated the Communications Modernization program to comply with Mobile User Objective System (MUOS) and VINSON/ANDVT Cryptographic Modernization (VACM) mandates, as well as deliver Second-generation Anti-jam Tactical UHF Radio for NATO (SATURN), Single Channel Ground and Airborne Radio System (SINCGARS), Airborne Mission Network (AbMN) integration, and HF Modernization capabilities to resolve DMS issues.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0605278F / <i>HC/MC-130 Recap RDT&E</i>	
<p>The Air Force decoupled IFF Mode 5 and ADS-B from the Block 7.0/8.1 program to accelerate fielding to address DoD mandates. Additionally, in 2018 the USAF significantly revamped its HC-130J Block 7.0/8.1. upgrade strategy, de-scoping the MC-130J from the current Block 7.0/8.1 program to allow the MC-130J to prioritize other (SOCOM- funded) modifications while allowing Air Combat Command (ACC) to move forward with Block 7.0/8.1 on the HC-130J. The majority of the AC/MC-130J Block 7.0/8.1 requirements, including meeting the DoD MUOS and VACM mandates, will be addressed through the Communications Modernization program. The remaining capabilities will be addressed at a future date.</p> <p>HC/MC-130J Recap funding also supports innovation activities to include studies, analyses, requirements definition, and quick-reaction capability prototypes/ demonstrations to accelerate planning for technology transition, technology insertion and future acquisition programs. It also covers integration and certification for Diminishing Manufacturing Sources Materiel Solutions (DMSMS) and other development activities under the Continuous Improvement Program (CIP) as needed to keep the AC/HC/MC programs effective against emerging threats. This development funding covers associated aircraft costs for testing purposes to include but not limited field level maintenance such as day-to-day launch, recovery, inspection, servicing, and removal and replacement of LRUs within the capabilities and qualifications of its maintenance team, support equipment needed to support flight test, maintenance repair team support during the transfer ferry sortie if the aircraft diverts and all test related aircraft flying hour costs.</p> <p>The program may also include any Contractor Manpower Equivalent (CME)/A&AS support deemed necessary to support the program objectives. The HC/MC-130 Recap RDT&E permits the initiation and employment of rapid acquisition authorities to respond to emerging threats and requirements as needed.</p> <p>This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, and 0606398F. In FY 2023 \$2.775 million was expended for civilian pay expenses in this program element, and in FY 2024 \$2.735 million is forecast for civilian pay expenses in this program element.</p> <p>This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.</p>		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0605278F / HC/MC-130 Recap RDT&E
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	52.940	36.536	24.889	0.000	24.889
Current President's Budget	47.174	36.536	24.934	0.000	24.934
Total Adjustments	-5.766	0.000	0.045	0.000	0.045
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-4.000	0.000			
• SBIR/STTR Transfer	-1.766	0.000			
• Other Adjustments	0.000	0.000	0.045	0.000	0.045

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 675910: *Communication Modernization*

Congressional Add: *Next Generation Space Array*

	FY 2023	FY 2024
	4.833	0.000
Congressional Add Subtotals for Project: 675910	4.833	0.000
Congressional Add Totals for all Projects	4.833	0.000

Change Summary Explanation

FY 2023 funding request was reduced for a total \$5.776 million due to a \$4.000 million Below Threshold Reprogramming to support higher Air Force priorities and \$1.766 million for Small Business Innovation Research (SBIR).

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0605278F / HC/MC-130 Recap RDT&E				Project (Number/Name) 675006 / HC/MC-130 Recap			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
675006: HC/MC-130 Recap	0.000	1.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.055
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2024, PE 65278F, Project 650006, HC/MC-130 Recap, Major Thrusts: Government Test Support , HC Block 7.0/8.1 Development and Continuous Improvement Program (CIP) efforts transferred to Project 675278, HC-130J Modernization, Major Thrusts: Government Test Support, HC-130J Modernization Development, and CIP, respectively, to ensure transparency and proper execution.

A. Mission Description and Budget Item Justification

HC/MC-130 Recapitalization will replace the aging USAF fleet of combat rescue HC-130P/N and special operations MC-130E/H/P/W and AC-130H/U/W aircraft for Combat Search and Rescue (CSAR) and Air Force Special Operation Forces, which are experiencing airworthiness, maintainability, and operations limitations.

The RDT&E portion of the Recap program funds three major thrusts to include but not limited to Continuous Improvement Program and Civ Pay.

HC/MC-130J Recap funding also supports innovation activities to include studies, analyses, requirements definition, and quick-reaction capability prototypes/ demonstrations to accelerate planning for technology transition, technology insertion and future acquisition programs. It also covers integration and certification for Diminishing Manufacturing Sources Materiel Solutions [DMSMS] and other development activities under the Continuous Improvement Program [CIP] as needed to keep the AC/HC/MC programs effective against emerging threats. This development funding covers associated aircraft costs for testing purposes to include, but not limited to field level maintenance such as day-to-day launch, recovery, inspection, servicing, and removal and replacement of LRUs within the capabilities and qualifications of its maintenance team, support equipment needed to support flight test, maintenance repair team support during the transfer ferry sortie if the aircraft diverts and all test related aircraft flying hour costs, RDT&E permits the initiation and employment of rapid acquisition authorities to respond to emerging threats and requirements, as needed.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, and 0606398F. In FY 2023 \$0.000 million was expended for civilian pay expenses in this program element, and in FY 2024 \$0.000 million is forecast for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Recap: Continuous Improvement Program [CIP]	0.544	0.000	0.000	0.000	0.000
Description: Recurring Software and hardware enhancements to address evolving requirements for Special Operations Forces and Personnel Recovery missions. These enhancements will be incorporated in both					

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605278F / HC/MC-130 Recap RDT&E	Project (Number/Name) 675006 / HC/MC-130 Recap

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
production and fielded aircraft. These enhancements will include, but are not limited to, parallel operational flight program [OFP] updates. FY 2024 Plans: N/A FY 2025 Base Plans: N/A FY 2025 OCO Plans: N/A FY 2024 to FY 2025 Increase/Decrease Statement: N/A					
Title: Recap: HC Block 7.0/8.1 Development Description: Combined software/hardware upgrade for Block 7.0/8.1. Block 7.0/8.1 includes, but is not limited to: Link 16, a new Flight Management System [FMS], Civil Global Positioning System [GPS], Navigation, a Special Mission Processor Interface [SMP-I], Identification Friend or Foe [IFF] Mode 5, Civil Data Link, Automatic Dependent Surveillance-Broadcast Out [ADS-B-Out] and the CSO 2.5. FY 2024 Plans: N/A FY 2025 Base Plans: N/A FY 2025 OCO Plans: N/A FY 2024 to FY 2025 Increase/Decrease Statement: N/A	0.510	0.000	0.000	0.000	0.000
Title: Recap: Government Test Support Description: Includes, but is not limited to, test and evaluation planning, conduct and support to included MITRE/NSERC for developmental and operational testing for Phase II. This development activity also includes, but is not limited to, associated aircraft costs for testing purposes to include but not limited field level maintenance such as day-to-day launch, recovery, inspection, servicing, and removal and replacement of LRUs	0.001	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605278F / HC/MC-130 Recap RDT&E	Project (Number/Name) 675006 / HC/MC-130 Recap

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
within the capabilities and qualifications of its maintenance team, support equipment needed to support flight test, maintenance repair team support during the transfer ferry sortie if the aircraft diverts and all test related aircraft flying hour costs.					
FY 2024 Plans: N/A					
FY 2025 Base Plans: N/A					
FY 2025 OCO Plans: N/A					
FY 2024 to FY 2025 Increase/Decrease Statement: N/A					
Accomplishments/Planned Programs Subtotals	1.055	0.000	0.000	0.000	0.000

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• APAF 05 HCMC00: HC/MC-130 Modifications	111.285	101.055	213.284	-	213.284	367.274	261.148	169.774	169.902	0.000	1,393.722
• APAF 07 HCMC00: HC/MC-130 PPS	20.000	0.000	18.604	-	18.604	20.768	21.010	21.238	21.461	0.000	123.081
• APAF 07 C130JM: MC-130J PPS	0.000	10.117	0.000	-	0.000	0.000	0.000	0.000	-	0.000	10.117

Remarks

D. Acquisition Strategy
 Lockheed Martin is the primary contractor for Research and Development work in support of the HC/MC-130J Recap program. Block 7.0/8.1 strategy takes the common core Block 7.0/8.1 developed in the C-130J program and integrates it into the HC-130J. Block 7.0/8.1 will also integrate with HC- unique mods. The C-130J ADS-B Out program includes all C-130J variants.

Lockheed Martin is the primary contractor for Research and Development work in support of the HC-130J Modernization Development program. The HC-130J Modernization program will integrate capabilities needed to keep HC-130Js effective against emerging threats.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
3600 / 7	PE 0605278F / <i>HC/MC-130 Recap RDT&E</i>	675006 / <i>HC/MC-130 Recap</i>

Development work done to date on the HC-130J Recap program has been on Cost Plus Award Fee (CPAF) and Cost Plus Incentive Fee (CPIF) type contracts.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605278F / HC/MC-130 Recap RDT&E	Project (Number/Name) 675006 / HC/MC-130 Recap
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

HC/MC-130 Recap Development	
Recap: Continuous Improvement Program	
Recap: HC-130 Block 7.0/8.01	
Recap: Government Test Support	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605278F / HC/MC-130 Recap RDT&E	Project (Number/Name) 675006 / HC/MC-130 Recap
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>HC/MC-130 Recap Development</i>				
Recap: Continuous Improvement Program	1	2023	4	2024
Recap: HC-130 Block 7.0/8.01	1	2023	4	2024
Recap: Government Test Support	3	2023	4	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0605278F / HC/MC-130 Recap RDT&E				Project (Number/Name) 675278 / HC-130J Modernization			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
675278: HC-130J Modernization	0.000	0.000	0.926	0.748	0.000	0.748	0.894	0.765	0.792	0.808	24.777	29.710
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2024, PE 65278F, Project 650006, HC/MC-130 Recap, Major Thrusts: Government Test Support , HC Block 7.0/8.1 Development and Continuous Improvement Program (CIP) efforts transferred to Project 675278, HC-130J Modernization, Major Thrusts: Government Test Support, HC-130J Modernization Development, and CIP, respectively, to ensure transparency and proper execution.

A. Mission Description and Budget Item Justification

HC/MC-130 Recapitalization replaces the aging USAF fleet of combat rescue HC-130P/N and special operations MC-130E/H/P/W and AC-130H/U/W aircraft for Combat Search and Rescue (CSAR) and Air Force Special Operation Forces, which are experiencing airworthiness, maintainability, and operational imitations. The RDT&E portions of the Recap program are the primary effort to modernize CSAR capabilities on the HC-130J platform to keep the aircraft viable against emerging threats. The HC-130J Modernization Programs fund the program lifecycle from development to installation in three major thrust areas to include but not limited to Continuous Improvement Program (CIP), Development, and Government Test. RDT&E permits the initiation and employment of rapid acquisition authorities to respond to emerging threats and requirements as needed.

CIP includes recurring software and hardware enhancements to address evolving requirements for Special Operations Forces and Personnel Recovery missions. These enhancements will be incorporated in both production and fielded aircraft. These enhancements will include, but are not limited to, parallel operational flight program [OFP] updates, integration and certification for Diminishing Manufacturing Sources Materiel Solutions [DMSMS], and other development activities as needed to keep the HC-130J programs effective against emerging threats. This funding also supports innovation activities to include studies, analyses, requirements definition, and quick-reaction capability prototypes/demonstrations to accelerate planning for technology transition, technology insertion and future acquisition programs.

The HC-130J Modernization Development program funds engineering support and development activities necessary to deliver specific capabilities; these activities include but are not limited to Block 7.0/8.1 and Defensive System Suite upgrades. The HC-130J Block 7.0/8.1 upgrade follows the same "Block Upgrade" strategy being used in the C-130J program [PEC 0401132F]. The Air Force decoupled IFF Mode 5 and ADS-B from the Block 7.0/8.1 program to accelerate fielding to address DoD mandates. Link 16 was originally part of this strategy but was deferred due to funding shortages; Link 16 will be developed as a future spiral capability should additional funds become available. These upgrades will include, but are not limited to, two (2) Capability Management Upgrades to address discrepancies in the Block 7.0/8.1 program and the Communication/Navigation/Identification - System Processors [CNI-SP], address Link-16 integration; and are planned to be accomplished in conjunction with the Star XIII mission computer software upgrade effort. This program would include HC-130J platform certification for the Link-16 terminal and support upgrades to resolve deficiency reports and meet mission requirements/mandates to maintain the fleet.

The HC-130J Defensive System Suites upgrade integrates and/or upgrades survivability systems into the HC-130J architecture, to include studies, analysis, testing, and integration of candidate systems.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605278F / HC/MC-130 Recap RDT&E	Project (Number/Name) 675278 / HC-130J Modernization
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HC-130J Modernization Government Test thrust area funding supports associated aircraft costs for testing purposes to include, but not limited to, field level maintenance such as day-to-day launch, recovery, inspection, servicing, and removal and replacement of LRUs within the capabilities and qualifications of its maintenance team, support equipment needed to support flight test, maintenance repair team support during the transfer ferry sortie if the aircraft diverts and all test related aircraft flying hour costs.

This program element may include necessary Contractor Manpower Equivalent (CME)/A&AS support and civilian pay expenses required to manage, execute, and deliver HC-130J modernization weapon system capabilities. Currently, HC-130J Block 7.0/8.1 program has allocated Direct Cite Authority positions. These allocated positions will continue through the FYDP to support ACC program planning and may be reallocated to future programs as they are established.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, and 0606398F. In FY 2023 \$0.000 million was expended for civilian pay expenses in this program element, and in FY 2024 \$0.000 million is forecast for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>Title: Continuous Improvement Program (CIP)</p> <p>Description: Recurring Software and hardware enhancements to address evolving requirements for Special Operations Forces and Personnel Recovery missions. These enhancements will be incorporated in both production and fielded aircraft. These enhancements will include, but are not limited to, parallel operational flight program [OFP] updates. Also, supports innovation activities to include studies, analyses, requirements definition, and quick-reaction capability prototypes/ demonstrations to accelerate planning for technology transition, technology insertion, digital engineering concepts and employment, and future acquisition programs. It also covers integration and certification for Diminishing Manufacturing Sources Materiel Solutions (DMSMS) and other development activities as needed to keep the AC/HC/MC programs effective against emerging threats.</p> <p>FY 2024 Plans: CIP efforts for HC-130J Mod. Also, award studies and assessments based on availability of funding in support of HC-130J Modernization.</p> <p>FY 2025 Base Plans: Plans include, but are not limited to, software and hardware enhancements required for the HC-130J to remain effective against emerging threats.</p> <p>FY 2025 OCO Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement:</p>	0.000	0.001	0.001	0.000	0.001

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605278F / HC/MC-130 Recap RDT&E	Project (Number/Name) 675278 / HC-130J Modernization
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
N/A					
Title: HC-130J Modernization	0.000	0.925	0.747	0.000	0.747
Description: The HC-130J Modernization Development program funds engineering support and development activities in support of Block 7.0/8.1 and Defensive System suite programs.					
FY 2024 Plans: Initiate development activities for recurring Software and hardware enhancements to address evolving requirements for Special Operations Forces and Personnel Recovery missions.					
FY 2025 Base Plans: Continuing efforts in support of HC-J modernization.					
FY 2025 OCO Plans: N/A					
FY 2024 to FY 2025 Increase/Decrease Statement: Funding decreased due to ramp down of development activities within HC Modernization.					
Accomplishments/Planned Programs Subtotals					
	0.000	0.926	0.748	0.000	0.748

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025 Base</u>	<u>FY 2025 OCO</u>	<u>FY 2025 Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• APAF 05 HCMC00: HC/ MC-130 Modifications	111.285	101.055	213.284	-	213.284	367.274	261.148	169.774	169.902	0.000	1,393.722
• APAF 07 HCMC00: HC/MC-130 PPS	20.000	0.000	18.604	-	18.604	20.768	21.010	21.238	21.461	0.000	123.081
• APAF 07 C130JM: MC-130 PPS	0.000	10.117	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	10.117

Remarks

D. Acquisition Strategy
Project 675278, HC-130J Modernization Program funds all life cycle efforts from development to installation. The HC-130J Modernization acquisition strategy is developed on an as needed basis dependent on each activity and capability to include but not limited to three major thrusts: Continuous Improvement Program (CIP),

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
3600 / 7	PE 0605278F / <i>HC/MC-130 Recap RDT&E</i>	675278 / <i>HC-130J Modernization</i>

Government Support Test, and HC-130J Modernization. HC-130J Modernization includes engineering support and development activities necessary to deliver specific capabilities. Lockheed Martin is the primary contractor for Research and Development work in support of Block 7.0/8.1 and Defensive System Suite upgrades. Block 7.0/8/1 strategy takes the common core Block 7.0/8.1 developed in the PE 0401132F, C-130J Program and integrates it into the HC-130J Modernization Development. The Block 7.0/8.1 will also integrate with HC-unique mods.

HC-130J Modernization development efforts to date have been on Cost Plus Award Fee (CPAF) and Cost Plus Incentive Fee (CPIF) type contracts.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605278F / HC/MC-130 Recap RDT&E	Project (Number/Name) 675278 / HC-130J Modernization
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

HC-130J Modernization	
HC-130J Modernization Program Development	
CIP	
Government Testing support	

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605278F / HC/MC-130 Recap RDT&E	Project (Number/Name) 675278 / HC-130J Modernization
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>HC-130J Modernization</i>				
HC-130J Modernization Program Development	2	2024	4	2029
CIP	2	2024	4	2029
Government Testing support	2	2024	4	2029

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605278F / HC/MC-130 Recap RDT&E	Project (Number/Name) 675910 / Communication Modernization
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
675910: <i>Communication Modernization</i>	0.000	46.119	35.610	24.186	0.000	24.186	45.223	44.910	36.252	36.770	2.613	271.683
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This program, BA 7, PE 0605278F, project 675910, Resilient Positioning, Navigation, and Timing (R-PNT), is a new start.

This program, BA 7, PE 0605278F, project 675910, Communication Modernization, Resilient Positioning, Navigation, and Timing (R-PNT), is a New Start.

In FY 2025, Project 675910, Communication Modernization changed from Block 8.X.

A. Mission Description and Budget Item Justification

The Communication Modernization Project will allow the AC/HC/MC-130Js to meet the Secretary of the Air Force's Crypto Mandate requirements. The Air Force has initiated the Communications Modernization program to comply with Mobile User Objective System [MUOS] and VINSON/ANDVT Cryptographic Modernization [VACM] mandates, as well as deliver Second-generation Anti-jam Tactical UHF Radio for NATO [SATURN], Single Channel Ground and Airborne Radio System [SINGARS], and HF Modernization capabilities to resolve DMS issues.

The Air Force intends to execute critical portions of AC/MC-130J 7.0/8.1 program as part of the Communications Modernization program. The remaining AC/MC-130J 7.0/8.1 capabilities (i.e., those not needed to execute Communications Modernization) will be installed on the AC and MC-130J under a future RDT&E program within this project, projected to begin in FY 2025.

Communication Modernization funding supports innovation activities to include but not limited to studies, analyses, requirements definition, and quick-reaction capability prototypes/demonstrations to accelerate planning for technology transition, technology insertion and future acquisition programs. Project 675910, Communication Modernization may include initiation and employment of rapid acquisition authorities to respond to emerging threats and requirements as need.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, and 0606398F. In FY 2023 \$2.775 million was expended for civilian pay expenses in this program element, and in FY 2024 \$2.735 million is forecast for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Communications Modernization Phase I	37.276	1.632	1.468	0.000	1.468

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605278F / HC/MC-130 Recap RDT&E	Project (Number/Name) 675910 / Communication Modernization

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>Description: Includes, but is not limited to compliance with Mobile User Objective System (MUOS) and VINSON/ANDVT Cryptographic Modernization (VACM) mandates, which will allow for continuous secure voice, data, video, network-centric, and satellite communications in real-time as the satellite constellation transitions and cryptographic algorithms are modernized.</p> <p>FY 2024 Plans: Continuation of EMD activities and Trial Kit Install.</p> <p>FY 2025 Base Plans: Continuation of Phase I EMD activities.</p> <p>FY 2025 OCO Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Comms Mod Phase I EMD activities will continue with new acquisitions similar in size to FY 2023.</p>					
<p>Title: Communications Modernization Phase II</p> <p>Description: Includes, but is not limited to, Second-generation Anti-jam Tactical UHF Radio for NATO (SATURN), Single Channel Ground and Airborne Radio System SINCGARS, and HF Modernization capabilities to resolve DMS issues, which will allow for continuous UHF, VHF, and HF communications in real-time. Due to technical inter-dependencies of the Communications Modernization program on some sub-systems delivered in the Block 7.0/8.1 program, AC/MC-130J 7.0/8.1 requirements will be addressed through both the Communications Modernization program and a future AC/MC-130J 7.0/8.x program.</p> <p>FY 2024 Plans: Plan to award the EMD contract and initiate of Phase II EMD activities.</p> <p>FY 2025 Base Plans: Continuation of Phase II EMD activities.</p> <p>FY 2025 OCO Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding decreased due to reduced contract activities and award of EMD contract.</p>	1.298	31.700	20.949	0.000	20.949
<p>Title: Government Test Support - Phase I</p>	1.927	2.276	1.424	-	1.424

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605278F / HC/MC-130 Recap RDT&E	Project (Number/Name) 675910 / Communication Modernization
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>Description: Test and evaluation planning, support to MITRE/NSERC for developmental and operational testing for Phase I. This development activity also supports associated aircraft costs for testing purposes to include but not limited field level maintenance, and day-to-day launch, recovery, inspection, servicing, and removal and replacement of LRUs, support equipment needed to support flight test, maintenance repair team support during the transfer ferry sortie if the aircraft diverts and all test related aircraft flying hour costs.</p> <p>FY 2024 Plans: Continuation of Phase I EMD activities for Communications Modernization.</p> <p>FY 2025 Base Plans: Continued Phase I EMD activities for Communications Modernization.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding decreased due to ramp down of Comm Mod Phase I EMD activities.</p>					
<p>Title: Government Test Support - Phase II</p> <p>Description: Includes test and evaluation planning, conduct and support to included MITRE/NSERC for developmental and operational testing for Phase II. This development activity also includes, but is not limited to, associated aircraft costs for testing purposes to include but not limited field level maintenance such as day-to-day launch, recovery, inspection, servicing, and removal and replacement of LRUs within the capabilities and qualifications of its maintenance team, support equipment needed to support flight test, maintenance repair team support during the transfer ferry sortie if the aircraft diverts and all test related aircraft flying hour costs.</p> <p>FY 2024 Plans: Continue Phase II EMD activities for Communications Modernization.</p> <p>FY 2025 Base Plans: Continuation of Phase II EMD activities for Communications Modernization.</p> <p>FY 2025 OCO Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to ramp up of Comms Mod Phase II activities.</p>	0.001	0.001	0.343	0.000	0.343
<p>Title: Continuous Improvement (CIP)</p>	0.784	0.001	0.001	0.000	0.001

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605278F / HC/MC-130 Recap RDT&E	Project (Number/Name) 675910 / Communication Modernization

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>Description: Recurring Software and hardware enhancements to address evolving requirements. These enhancements will be incorporated in both production and fielded aircraft. These enhancements will include, but are not limited to parallel operational flight program [OFP] updates. Also, supports innovation activities to include studies, analyses, requirements definition, and quick-reaction capability prototypes/ demonstrations to accelerate planning for technology transition, technology insertion, digital engineering concepts and employment, and future acquisition programs. It also covers integration and certification for Diminishing Manufacturing Sources Materiel Solutions (DMSMS) and other development activities as needed to keep the AC/HC/MC programs effective against emerging threats.</p> <p>FY 2024 Plans: Phase I studies. Also, award studies and assessments based on availability of funding to support AC/HC/MC requirements.</p> <p>FY 2025 Base Plans: Continue to support studies.</p> <p>FY 2025 OCO Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A</p>					
<p>Title: Resilient Positioning, Navigation, and Timing (R-PNT)</p> <p>Description: Development, integration, and fielding of a Resilient Positioning, Navigation, and Timing (RPNT) capability in accordance with Capability Development Guidance Memorandum (CDGM) 09-22-03. This architecture will serve as the foundation to address emerging and continuously evolving electronic and cyber threats to PNT.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Base Plans: Begin planning activities for initial studies/investigation of possible integration paths for R-PNT on AC/MC-130J aircraft.</p> <p>FY 2025 OCO Plans:</p>	0.000	0.000	0.001	0.000	0.001

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605278F / HC/MC-130 Recap RDT&E	Project (Number/Name) 675910 / Communication Modernization
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
N/A					
FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to start of R-PNT on AC/MC-130J aircraft.					
Accomplishments/Planned Programs Subtotals	41.286	35.610	24.186	0.000	24.186

	FY 2023	FY 2024
Congressional Add: Next Generation Space Array	4.833	0.000
FY 2023 Accomplishments: Funding increase of \$4.946 million for \$5.000 million FY 2023 Congressional Add and a decrease for \$0.054 million for Federally Funded Research Development Centers. This supports network enabled weapons systems to respond to emerging threats and requirements.		
Accomplishments: Award of NAVY MIPR in the amount of \$1.6M and Beyond Line of Sight (BLOS) Demo amount \$0.483M. We are expecting additional award of \$2.750M late May 2024.		
FY 2024 Plans: N/A		
Congressional Adds Subtotals	4.833	0.000

C. Other Program Funding Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• APAF 05 HCMC00: HC/MC-130 Modifications	111.285	101.055	213.284	-	213.284	367.274	261.148	169.774	169.902	0.000	1,393.722
• APAF 07 HCMC00: HC/MC-130 PPS	20.000	0.000	18.604	-	18.604	20.768	21.010	21.238	21.461	0.000	123.081
• APAF 07 C130JM: MC-130J PPS	0.000	10.117	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	10.117

Remarks

D. Acquisition Strategy
The Communications Modernization Program was split into two phases to accelerate the required capabilities for the 2024 crypto mandates. Development work done to date was accomplished utilizing a Cost Plus Incentive Fee (CPIF) contract.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
3600 / 7	PE 0605278F / <i>HC/MC-130 Recap RDT&E</i>	675910 / <i>Communication Modernization</i>

The Communications Modernization Phase I program complies with Mobile User Objective System [MUOS] and VINSON/ANDVT Cryptographic Modernization [VACM] mandates, which will allow for continuous secure voice, data, video, network-centric, and satellite communications in real-time as the satellite constellation transitions and cryptographic algorithms are modernized.

The Communications Modernization Phase II program addresses critical Second-generation Anti-jam Tactical UHF Radio for NATO [SATURN], Single Channel Ground and Airborne Radio System [SINCGARS], and HF Modernization capabilities to resolve DMS issues, which will allow for continuous UHF, VHF, and HF communications in real-time.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605278F / HC/MC-130 Recap RDT&E	Project (Number/Name) 675910 / Communication Modernization
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Communications Modernization Phase I	SS/CPAF	Lockheed Martin : Marietta, GA	0.000	35.389	Mar 2024	0.001	Mar 2024	1.468	Mar 2025	-		1.468	0.000	36.858	-
Communications Modernization Phase II	SS/CPAF	Lockheed Martin : Marietta, GA	0.000	0.001	Jul 2024	30.596	Jul 2024	17.033	Mar 2025	-		17.033	0.000	47.630	-
Next Generation Space Array	Various	Various : TBD	0.000	4.833	Mar 2024	-		-		-		-	0.000	4.833	-
Resilient Positioning, Navigation, and Timing (R-PNT)	TBD	TBD : TBD	0.000	-		-		0.001	Jul 2025	-		0.001	0.000	0.001	-
Subtotal			0.000	40.223		30.597		18.502		-		18.502	0.000	89.322	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Direct Cite Civ Pay	TBD	Not specified. : TBD	0.000	2.775		2.735		3.916		-		3.916	0.000	9.426	-
Government Support Test	RO	46th Test Wing; TBD : TBD	0.000	1.927	Mar 2023	2.276	Oct 2023	1.424	Oct 2024	-		1.424	0.000	5.627	-
Government Support Test Phase II	RO	46th Test Wing; TBD : TBD	0.000	0.001	Mar 2024	0.001	Jul 2024	0.343	Mar 2025	-		0.343	0.000	0.345	-
Subtotal			0.000	4.703		5.012		5.683		-		5.683	0.000	15.398	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Continuous Improvement Program (CIP)	C/Various	Various : TBD	0.000	1.193	Aug 2023	0.001	Jan 2024	0.001	Jan 2025	-		0.001	0.000	1.195	-
Subtotal			0.000	1.193		0.001		0.001		-		0.001	0.000	1.195	N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605278F / HC/MC-130 Recap RDT&E	Project (Number/Name) 675910 / Communication Modernization
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Communication Modification	
Communications Modernization Phase I	
Communications Modernization Phase II	
Government Test Support Phase I	
Government Test Support Phase II	
Continuous Improvement Program (CIP)	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0605278F / HC/MC-130 Recap RDT&E	Project (Number/Name) 675910 / Communication Modernization

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Communication Modification				
Communications Modernization Phase I	2	2023	4	2026
Communications Modernization Phase II	4	2024	2	2029
Government Test Support Phase I	1	2023	4	2026
Government Test Support Phase II	4	2024	2	2029
Continuous Improvement Program (CIP)	1	2023	4	2029

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0606018F / <i>NC3 Integration</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	24.317	22.910	21.864	0.000	21.864	25.044	25.024	25.900	26.411	0.000	171.470
674877: <i>NC3 Integration, Assessment, and Improvement</i>	-	24.317	22.910	21.864	0.000	21.864	25.044	25.024	25.900	26.411	0.000	171.470
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

Nuclear Command, Control, and Communications (NC3) is critical to our Nation's nuclear deterrence. Nuclear Deterrence Operations (NDO) is an Air Force Core Function. Within this core function, Nuclear Command and Control (NC2) is the exercise of authority and direction by the President, as Commander in Chief, through established command lines, over nuclear weapon operations of military forces. The President's authority and direction are exercised through the Nuclear Command and Control System (NCCS). The NCCS is the designated combination of flexible and enduring elements including facilities, equipment, communications, procedures, personnel, and the structure in which these elements are integrated, all of which are essential for planning, directing, and controlling nuclear weapon operations. These functions are accomplished through the NC3 system of systems.

The NC3 system of systems provides connectivity from the President or Secretary of Defense through the National Military Command System (NMCS) to nuclear execution forces worldwide. To enhance NC3 mission success, the Air Force (AF) formalized AF NC3 elements as a specified AF Weapon System (WS), AN/USQ-225. Activities funded in this Program integrate legacy systems, ongoing NC3 programs, and future capabilities for the overall AF NC3 WS.

The AF Nuclear Weapon Center NC3 Integration Directorate (AFNWC/NC) ensures current, new, and future NC3 capabilities are fully integrated as part of the Air Force's overall effort to sustain, modernize, and recapitalize the nuclear enterprise. AFNWC/NC is responsible for integrating NC3 materiel management across Air Force Materiel Command (AFMC) to include authority and responsibility for weapon system architecture, weapon system configuration management, weapon system state-of-health reporting, risk management, supply chain management, overall integration, system test, verification, and certification. AFNWC/NC is responsible for analyzing, defining, building, and sustaining current and future AF NC3 WS system of systems configuration baselines, and marshaling necessary Supporting Centers in AFMC and other units/agencies in the Air Force and the Department of Defense (DoD) to support and/or accomplish these tasks. AFNWC/NC collaborates with AFMC Supporting Centers to champion the full spectrum of doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy (DOTMLPF-P) efforts, in support of U.S. Strategic Command as the Enterprise Lead for NC3, the Under Secretary of Defense for Acquisition and Sustainment as the NC3 Enterprise Capability Portfolio Manager, and Air Force Global Strike Command (AFGSC) as the Lead Command championing NDO requirements for all Combatant Commands.

This program funds activities for integrating AF NC3 WS materiel, authority and responsibility for model-based systems engineering (modeling, simulation and visualization) of the NC3 WS, digital engineering, configuration management, change management, risk management, weapon system state-of-health and mission worthiness assessments and reporting, supply chain supportability and risk management, and overall AF NC3 WS integration, development, system test, experimentation, modeling and simulation of capability gaps with potential solution alternative trade space assessments, verification, fielding, and certification. This

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0606018F / NC3 Integration
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program also supports capability gap analyses, predictive analysis of impacts to the weapon system, modernization and integration activities in support of AFGSC's Capability Development Process (ACDP), Joint All Domain Command and Control (JADC2) and Advanced Battle Management System (ABMS) initiatives.

The FY2025 funding request was reduced by \$0.605 million to account for the availability of prior year execution balances.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In In FY 2024 0.000M was expended for civilian pay expenses in this program element, and in FY 2025 0.000M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025 Base</u>	<u>FY 2025 OCO</u>	<u>FY 2025 Total</u>
Previous President's Budget	22.743	22.910	24.921	0.000	24.921
Current President's Budget	24.317	22.910	21.864	0.000	21.864
Total Adjustments	1.574	0.000	-3.057	0.000	-3.057
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	2.100	0.000			
• SBIR/STTR Transfer	-0.526	0.000			
• Other Adjustments	0.000	0.000	-3.057	0.000	-3.057

Change Summary Explanation

FY 2023: (+2.100M) SACCS BTR MMIII to NC3 and -.526M for Small Business Innovative Research (SBIR)

FY 2025: The FY 2025 funding request was reduced by 0.605 million to account for the availability of prior year execution balances and other service adjustments

C. Accomplishments/Planned Programs (\$ in Millions)	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>
Title: NC3 Integration, Assessment, and Improvement	24.317	22.910	21.864
Description: Efforts include, but are not limited to: - Modeling, simulation, and visualization of the AF NC3 WS current and future capabilities			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0606018F / <i>NC3 Integration</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> - Conducting capability gap, predictive analysis of weapon system impacts and trade-space analyses via digital engineering methodologies - Establishing NC3 capability recapitalization and modernization plans - Developing and conducting the AF NC3 WS health & mission worthiness assessments, as well as, expanding existing High Frequency (HF) and other frequency testbeds utilizing a phased approach - Conducting NC3 system component verification - Implementing and employing program and material management controls for the AF NC3 WS including configuration management, change management, risk management, supply chain supportability and risk management, maintenance data collection and reporting capabilities and AF NC3 WS health monitoring solutions - Issue tracking and resolution, assessments and analysis, and governance - Providing data-driven system of system solutions, and shaping NC3 component program acquisition strategies for AF NC3 WS sustainment and performance capability improvements - Initiating and implementing new capability programs/systems and changes to existing programs to align with AF NC3 WS requirements, test and certification, and future capabilities - Interfacing with JADC2 & ABMS leadership to ensure NC3 modernization efforts are synchronized with larger AF modernization efforts and identifying risk areas where advanced tech demonstrations may be required <p><i>FY 2024 Plans:</i> NC3 weapon system integration efforts including, but not limited to:</p> <ul style="list-style-type: none"> - Continue to implement test and evaluation certification program for NC3 WS - Continue to expand existing communication spectrum and cyber assessment test bed utilizing a phased approach - Continue to perform NC3 physics, communication and networking analysis - Continue to develop and evolve technical framework of the NC3 WS to meet mission threats of 2030 and beyond - Continue to conduct WS analysis, develop WS capability model, plan WS updates, and implement WS updates - Continue to evaluate options for system-of-system performance improvements within constraints of NC3 WS strategic vision and roadmap - Continue to expand capabilities related to analysis, modeling, simulation, visualization and prototyping of emerging NC3 technologies. - Continue to develop and implement AF NC3 WS program and materiel management control processes including risk management, configuration management, change management, supply chain management, maintenance data collection and reporting and NC3 WS health assessment application, integrated scheduling, change management, and budgeting and cost controls, etc. - Continue to expand capabilities supporting NC3 weapon system mission worthiness, cyber and intel health and risk assessments, reporting and issue resolution. 			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0606018F / <i>NC3 Integration</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> - Continue to map out the NC3 WS supply chain and develop supply chain monitoring capability, supply chain supportability, and supply chain risk management - Continue to expand development of digital models across the NC program portfolio to measure and report capability impacts. - Continue to initiate digital acquisition processes and methodologies across selected NC programs. - Continue to develop and coordinate Operational Performance Criteria Document (OPCD) to support weapon system configuration element specs, test and evaluation, and assessment of weapon capabilities and limitations - Continue to establish authoritative intelligence community analysis for high-altitude electromagnetic pulse (HEMP) - Continue to improve integration and interoperability of the NC3 WS - Continue to conduct WS risk, issue, and opportunity analysis, and mitigation/corrective action/pursuit plan development <p>FY 2025 Plans: NC3 weapon system integration efforts including, but not limited to:</p> <ul style="list-style-type: none"> - Continue to implement test and evaluation certification program for NC3 WS - Continue to expand existing communication spectrum and cyber assessment test bed utilizing a phased approach - Continue to perform NC3 physics, communication and networking analysis - Continue to develop and evolve technical framework of the NC3 WS to meet mission threats of 2030 and beyond - Continue to conduct WS analysis, develop WS capability model, plan WS updates, and implement WS updates - Continue to evaluate options for system-of-system performance improvements within constraints of NC3 WS strategic vision and roadmap - Continue to expand capabilities related to analysis, modeling, simulation, visualization and prototyping of emerging NC3 technologies. - Continue to develop and implement AF NC3 WS program and materiel management control processes including risk management, configuration management, change management, supply chain management, maintenance data collection and reporting and NC3 WS health assessment application, integrated scheduling, change management, and budgeting and cost controls, etc. - Continue to expand capabilities supporting NC3 weapon system mission worthiness, cyber and intel health and risk assessments, reporting and issue resolution. - Continue to map out the NC3 WS supply chain and develop supply chain monitoring capability, supply chain supportability, and supply chain risk management - Continue to expand development of digital models across the NC program portfolio to measure and report capability impacts. - Continue to expand digital acquisition processes and methodologies across the NC portfolio of programs - Continue to develop and coordinate Operational Performance Criteria Document (OPCD) to support weapon system configuration element specs, test and evaluation, and assessment of weapon capabilities and limitations - Continue to establish authoritative intelligence community analysis for high-altitude electromagnetic pulse (HEMP) 			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0606018F / <i>NC3 Integration</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> - Continue to improve integration and interoperability of the NC3 WS - Continue to conduct WS risk, issue, and opportunity analysis, and mitigation/corrective action/pursuit plan development <p><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> The FY 2025 funding request was reduced to account for minor reduction in efforts.</p>			
Accomplishments/Planned Programs Subtotals	24.317	22.910	21.864

D. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

E. Acquisition Strategy

The NC3 Integration acquisition strategy applies WS acquisition lifecycle principles across the system of systems AF NC3 WS. Key elements include configuration management, change management, supply chain supportability and risk management, maintenance data collection and reporting, risk management, experimentation, integration, test, verification, and certification, as well as modeling, simulation, visualization, gap and trade-space analyses for capabilities in sustainment, development, and for future capabilities. To conduct these essential activities a combination of competitively awarded contracts, classified contracts, and/or sole source contracts, will be used to augment AF organic capabilities with technical skill sets from Federally Funded Research and Development Centers (FFRDCs), research laboratories, University Affiliated Research Centers (UARCs), and industry Advisory and Assistance Services (A&AS) providers.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force												Date: March 2024				
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)								
3600 / 7				PE 0606018F / NC3 Integration				674877 / NC3 Integration, Assessment, and Improvement								
Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
DMS FFRDC/UARC/A&AS	Various	Various : Various	-	21.634	Oct 2022	20.138	Oct 2023	19.005	Oct 2024	-		19.005	Continuing	Continuing	-	
Subtotal			-	21.634		20.138		19.005		-		19.005	Continuing	Continuing	N/A	
Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Integration Studies /Test Support	Various	Various : Various	-	0.045	Oct 2022	0.050	Oct 2023	0.055	Oct 2024	-		0.055	Continuing	Continuing	-	
Subtotal			-	0.045		0.050		0.055		-		0.055	Continuing	Continuing	N/A	
Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
PMA (Eng/Acq Spt/Travel/Supplies)	Various	Various : Various	-	2.638	Oct 2022	2.722	Oct 2023	2.804	Oct 2024	-		2.804	Continuing	Continuing	-	
Subtotal			-	2.638		2.722		2.804		-		2.804	Continuing	Continuing	N/A	
Project Cost Totals			-	24.317		22.910		21.864		-		21.864	Continuing	Continuing	N/A	
Remarks																

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0606018F / NC3 Integration	Project (Number/Name) 674877 / NC3 Integration, Assessment, and Improvement

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

NC3 WS Integration	
AF NC3 WS Mission Worthiness Assessment	
NC3 mission worthiness, cyber and intel health and risk assessments and analysis	
Enhance Implementation and Target Architecture through Development of NC3 Technologies	
Implement AF NC3 WS Program and Materiel Management Control Process	
AF NC3 WS Risk Management Program, Monthly Working Group, and Quarterly Board	
AF NC3 Maintenance Data Reporting	
NC3 Supply Chain Risk Analysis	
NC3 Supply Chain Normalization and Supply Health Reporting	
AF NC3 WS NC3 Configuration Boards Bi-monthly	
Implement NC3 Enterprise Collaboration Tech Analysis Repository	
NC3 Capability Improvement Program (NCIP) Biannually	
AF NC3 WS Review Biannually	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0606018F / NC3 Integration	Project (Number/Name) 674877 / NC3 Integration, Assessment, and Improvement

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
NC3 WS Integration				
AF NC3 WS Mission Worthiness Assessment	1	2023	4	2029
NC3 mission worthiness, cyber and intel health and risk assessments and analysis	1	2023	4	2029
Enhance Implementation and Target Architecture through Development of NC3 Technologies	1	2023	4	2029
Implement AF NC3 WS Program and Materiel Management Control Process	1	2023	4	2029
AF NC3 WS Risk Management Program, Monthly Working Group, and Quarterly Board	1	2023	4	2029
AF NC3 Maintenance Data Reporting	1	2023	4	2029
NC3 Supply Chain Risk Analysis	1	2023	4	2029
NC3 Supply Chain Normalization and Supply Health Reporting	1	2023	4	2029
AF NC3 WS NC3 Configuration Boards Bi-monthly	1	2023	4	2029
Implement NC3 Enterprise Collaboration Tech Analysis Repository	1	2023	4	2029
NC3 Capability Improvement Program (NCIP) Biannually	1	2023	4	2029
AF NC3 WS Review Biannually	1	2023	4	2029

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	701.934	950.815	1,045.570	0.000	1,045.570	895.365	506.982	473.368	426.807	Continuing	Continuing
670132: <i>B-52 Mission Employment Trainer</i>	-	0.000	15.335	6.213	0.000	6.213	0.000	0.000	0.000	0.000	0.000	21.548
671803: <i>B-52 AFMC Test Assets</i>	-	2.733	1.503	1.552	0.000	1.552	1.514	1.474	2.991	3.051	Continuing	Continuing
671805: <i>B-52 VLF/LF Modernization</i>	-	4.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.000
671810: <i>B-52 AEHF Integration</i>	-	33.422	102.924	28.183	0.000	28.183	97.996	22.847	0.000	0.000	0.000	285.372
675039: <i>B-52 System Improvements</i>	-	30.847	15.024	4.030	0.000	4.030	0.000	0.000	0.000	0.000	0.000	49.901
675056: <i>B-52 Radar Modernization Program (RMP)</i>	-	239.814	204.349	179.765	0.000	179.765	143.505	64.292	9.750	3.928	0.000	845.403
675057: <i>B-52 Low Cost Improvement (LCI)</i>	-	0.702	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.702
675129: <i>B-52 CERP</i>	-	379.401	576.016	784.975	0.000	784.975	594.734	360.341	416.323	419.828	Continuing	Continuing
675160: <i>B-52 Crypto Modernization</i>	-	3.245	0.000	3.999	0.000	3.999	1.202	0.000	0.000	0.000	0.000	8.446
675165: <i>B-52 Quad Crew</i>	-	7.770	30.652	35.826	0.000	35.826	43.597	24.570	9.590	0.000	0.000	152.005
676039: <i>B-52 Airspace Compliance</i>	-	0.000	5.012	1.027	0.000	1.027	12.817	33.458	34.714	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

The B-52H is a long-range bomber capable of delivering the widest variety of nuclear and conventional standoff and direct attack munitions in the Air Force. The Air Force plans to fly the B-52H to 2050.

The B-52H modernization efforts are needed to perform current and future wartime missions and to ensure relevance, lethality and survivability. Additionally, modernization projects alleviate aircraft obsolescence issues due to Diminishing Manufacturing Sources and Material Shortages (DMSMS) while at the same time providing improved capabilities to the B-52H weapon system that require significant hardware and software development and testing.

B-52 funding also supports innovation activities including, but not limited to tech demonstrations, studies, analyses, requirements definition, and quick-reaction capability prototypes/demonstrations to accelerate planning for technology transition, technology insertion, and future acquisition programs.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>
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This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 22.128M was expended for civilian pay expenses in this program element, and in FY24 27.494M is forecasted for civilian pay expenses in this program element.

This requirement supports performance of a full financial audit as required by title 10 U.S.C. Chapter 9A, Sec 240-D

In FY 2024 B-52 Mission Employment Trainer and B-52 Airspace Compliance were new starts.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	723.107	950.815	1,010.212	0.000	1,010.212
Current President's Budget	701.934	950.815	1,045.570	0.000	1,045.570
Total Adjustments	-21.173	0.000	35.358	0.000	35.358
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-21.173	0.000			
• Other Adjustments	0.000	0.000	35.358	0.000	35.358

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 675039: *B-52 System Improvements*

Congressional Add: *AFGSC Innovation Hub*

	FY 2023	FY 2024
Congressional Add Subtotals for Project: 675039	10.000	-
Congressional Add Totals for all Projects	10.000	-

Change Summary Explanation

FY 2023 adjustment of -21.173 million for Small Business Innovative Research (SBIR)

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>	

FY 2025 adjustment is to support Radar Modernization Program (RMP) to continue test and evaluation of EMD units; continue Agile and incremental software code development; continue hardware/software integration SIL tests; complete second test aircraft modification and functional checkouts; complete ground test and initiate flight test with second test aircraft.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons				Project (Number/Name) 670132 / B-52 Mission Employment Trainer			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
670132: B-52 Mission Employment Trainer	-	0.000	15.335	6.213	0.000	6.213	0.000	0.000	0.000	0.000	0.000	21.548
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The B-52 Mission Employment Trainer (MET) program is for the development of the B-52 Family of Systems (FoS) Trainers. The FoS Trainers includes, but is not limited to, new training devices and Systems Integration Labs (SIL) that will augment and eventually replace the existing B-52 legacy training systems and SIL that are antiquated, not concurrent with the B-52 aircraft, and cost-prohibitive for modernization or sustainment. The current B-52 trainers do not completely satisfy the training tasks specified in various course syllabi. In conjunction with the AFGSC A3/6 signed Future Training Concept, this new FoS approach will train Air Force personnel utilizing low, medium, and high-fidelity training devices. These training devices will leverage a common software architecture, include modularity and open mission systems, be rapidly reprogrammable and network capable, enable accelerated future upgrades, and support affordable sustainment. This FoS concept fulfills the future training needs of the formal training unit (FTU), combat units, and weapons school students spanning the continuum of learning. These new devices/trainers are of paramount importance because of their critical role to future B-52 combat capabilities that must advance through 2050.

Initial funds will be used to develop a B-52 medium fidelity training device that will provide an interactive and immersive environment to provide proficiency-based training for full-crew mission training and coordination, and related programmatic support. The current direction with the medium fidelity device will reuse a virtualized version of the aircraft's Operational Flight Programs (OFP) and will execute on commercial-grade, off-the-shelf computational hardware to offer a standalone, integrated, and appropriate simulated training environment. The virtualized OFP software will be developed to run on multiple training devices of varying physical fidelity. The medium fidelity device, and subsequent higher fidelity devices, will be rapidly reconfigurable to different aircraft configurations, be mobile, and capable of worldwide deployment. It lays the groundwork for an open system architecture that allows a continual roadmap to aircraft concurrency, upgradability, and feature sets that can be added in a cost-effective manner, keeping pace with the speed of technology and future B-52 aircraft upgrades.

Funds may be used to address requirements including, but not limited to, emerging and short-notice Diminishing Manufacturing Sources and Material Shortages (DMSMS) for training systems, Development Testing (DT)/ Operational Testing (OT), and safety of flight issues. Additionally, funds may accommodate Program Management Administration (PMA) and support, civilian pay expenses, rapid technology insertion, and fulfill Federal Aviation Agency (FAA) or other mandates necessary to ensure continued aircrew safety and mission effectiveness. Funds may be used to purchase long-lead parts following completion of Preliminary Design Review (PDR).

As MET Integration provides future communication growth to the B-52, emerging security/certification requirements (nuclear certification, cyber security, program protection, crypto modernization, etc.) as well as other aircraft upgrades may require studies and/or support for potential impact to MET. Funds may be used to conduct development and test activities.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F,

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 670132 / B-52 Mission Employment Trainer
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0606398F. In FY22 0M was expended for civilian pay expenses in this program element, and in FY23 0M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Title: Mission Employment Trainer</p> <p>Description: Mission Employment Trainer (MET) is a virtual flight simulator that provides necessary pilot training for various environments and conditions. The MET will include a modern, advanced Operational Flight Program that is rapidly reprogrammable and support simulated mission tasking.</p> <p>FY 2024 Plans: The Mission Employment Trainer project will start software and hardware development activities required to build a prototype training simulator.</p> <p>FY 2025 Plans: The Mission Employment Trainer project will finish software and hardware development activities and start software/hardware integration activities to complete and deliver a prototype training simulator.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: The funding decrease from FY24 to FY25 is due to entering the final phase of development of the first Mission Employment Trainer device</p>	0.000	15.335	6.213
Accomplishments/Planned Programs Subtotals	0.000	15.335	6.213

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

The Mission Employment Trainer program is using a Small Business Innovative Research (SBIR) contract to develop the required software and hardware required for a modern B-52 virtual training system. The SBIR effort will support hardware/software development and incorporating Operational Flight Programs into the training simulator.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 670132 / B-52 Mission Employment Trainer

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Mission Employment Trainer Integration</i>	
Software Development	██████████
Hardware Development	████████████████████
H/W and S/W Integration	████████████████████
Acceptance Testing	██████████

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 670132 / B-52 Mission Employment Trainer

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Mission Employment Trainer Integration</i>				
Software Development	2	2024	4	2024
Hardware Development	3	2024	4	2025
H/W and S/W Integration	4	2024	4	2025
Acceptance Testing	4	2025	1	2026

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons				Project (Number/Name) 671803 / B-52 AFMC Test Assets			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
671803: B-52 AFMC Test Assets	-	2.733	1.503	1.552	0.000	1.552	1.514	1.474	2.991	3.051	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The B-52 AFMC Test Assets project will provide funding for the test aircraft, manpower, and facilities at the Air Force Test Center located at Edwards AFB, California. The project will support the development testing and Bomber Modular Data Acquisition System (BMDAS) integration on B-52 test aircraft. The project can support Programmed Depot Maintenance (PDM) costs supporting test aircraft modifications occurring at Tinker AFB, OK.

Costs include, but are not limited to, any analysis, documentation, and related expenses necessary to establish a program of record and support the B-52 weapon system. Additionally, other costs include Program Management Administration (PMA) and centralized support and initiatives for anticipated weapon system enhancements (to include efforts to improve weapon system operational capabilities, safety, supportability, maintainability, reliability, and total cost of ownership).

Funds may be used to address requirements including, but not limited to, emerging and short-notice Diminishing Manufacturing Sources and Material Shortages (DMSMS) for both aircraft and associated training systems, Development Testing (DT), and safety of flight issues. Additionally, funds may accommodate PMA and support, civilian pay expenses, rapid technology insertion, and fulfill Federal Aviation Agency (FAA) or other mandates necessary to ensure continued aircrew safety and mission effectiveness.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 0M was expended for civilian pay expenses in this program element, and in FY24 0M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: B-52 AFMC Test Aircraft Asset Support	2.733	1.503	1.552
Description: B-52 Test Support provides funding for the test aircraft, manpower, Bomber Modular Data Acquisition System (BMDAS), and facilities at the Air Force Test Center, Edwards AFB. This will support the developmental testing and sustainment needs of the B-52.			
FY 2024 Plans: Will continue to provide funding for the test aircraft, manpower, BMDAS, and facilities at the Air Force Test Center, Edwards AFB. This will support the developmental testing, facility, and sustainment needs of the B-52.			
FY 2025 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>	Project (Number/Name) 671803 / <i>B-52 AFMC Test Assets</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Will continue to provide funding for the test aircraft, manpower, BMDAS, and facilities at the Air Force Test Center, Edwards AFB. This will support the developmental testing, facility, and sustainment needs of the B-52.			
<i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Funding increase from FY2024 to FY2025 is due to inflation.			
Accomplishments/Planned Programs Subtotals	2.733	1.503	1.552

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

Funding sent to Edwards AFB via MIPR and Project Orders for the test aircraft, manpower, BMDAS and facilities at the Air Force Test Center located at Edwards AFB, California.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>	Project (Number/Name) 671803 / <i>B-52 AFMC Test Assets</i>
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>AFMC Test Aircraft Support - 0036</i>	
Test Support	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>	Project (Number/Name) 671803 / <i>B-52 AFMC Test Assets</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>AFMC Test Aircraft Support - 0036</i>				
Test Support	1	2023	4	2029

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 671805 / B-52 VLF/LF Modernization
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
671805: B-52 VLF/LF Modernization	-	4.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.000
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The B-52 Very Low Frequency/Low Frequency (VLF/LF) Modernization program integrates a receive-only, low frequency receiver and antenna subsystem to provide a secure, survivable strategic nuclear communication capability for the B-52. This project will consist of integrating an existing VLF/LF terminal into the B-52. Integration includes Group A wiring, rack and antenna, and the Group B terminal Line Replaceable Unit (LRU).

Funds may be used to address requirements including, but not limited to, emerging and short-notice Diminishing Manufacturing Sources and Material Shortages (DMSMS) for both aircraft and associated training systems, Development Testing (DT)/ Operational Testing (OT), and safety of flight issues. Additionally, funds may accommodate Program Management Administration (PMA) and support, civilian pay expenses, rapid technology insertion, and fulfill Federal Aviation Agency (FAA) or other mandates necessary to ensure continued aircrew safety and mission effectiveness.

As the VLF/LF provides future communication growth to the B-52, emerging security/certification requirements (nuclear certification, cyber security, program protection, crypto modernization, etc.) as well as other aircraft upgrades may require studies and/or support for potential impact to VLF/LF.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY22 0M was expended for civilian pay expenses in this program element, and in FY23 0M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: B-52 Very Low Frequency/Low Frequency (VLF/LF)	4.000	0.000	0.000
Description: Provides secure, survivable, receive-only strategic nuclear communication for the B-52			
FY 2024 Plans: N/A			
FY 2025 Plans: N/A			
FY 2024 to FY 2025 Increase/Decrease Statement: N/A			
Accomplishments/Planned Programs Subtotals	4.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 671805 / B-52 VLF/LF Modernization
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APAF 05 B05200: <i>BP11 Production</i>	11.489	26.513	13.052	-	13.052	6.437	3.331	0.370	-	Continuing	Continuing
• APAF 06 000999: <i>Initial Spares/Repair Parts</i>	2.652	2.724	3.381	-	3.381	-	-	-	-	0.000	8.757

Remarks

D. Acquisition Strategy

The Milestone Decision Authority (MDA) approved the 25 January 2019 decision of the B-52 VLF/LF Acquisition Strategy Panel (ASP), which authorized the program to enter into the EMD phase with the Original Equipment Manufacturer (OEM). The program office received a proposal from the OEM on 16 August 2019. The EMD Contract was awarded 22 January 2020. The Acquisition Program Baseline (APB) was signed April 2020.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 671805 / B-52 VLF/LF Modernization
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Environmental Study	SS/FFP	Environmental Study : Richardson, TX	-	-		-		-		-		-	0.000	0.000	-
VLF/LF EMD	SS/CPFF	Various : Oklahoma, OK	-	1.826	Mar 2023	-		-		-		-	0.000	1.826	-
Subtotal			-	1.826		-		-		-		-	0.000	1.826	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
VLF/LF Program Office Support	Various	Various : TBD	-	1.200	Mar 2023	-		-		-		-	0.000	1.200	-
Subtotal			-	1.200		-		-		-		-	0.000	1.200	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
VLF/LF Test	PO	Not specified. : TBD	-	0.974	Oct 2022	-		-		-		-	0.000	0.974	-
VLF/LF Certifications	TBD	Not specified. : TBD	-	-		-		-		-		-	0.000	0.000	-
Subtotal			-	0.974		-		-		-		-	0.000	0.974	N/A

			Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	4.000	-	-	-	-	0.000	4.000	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force Date: March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>	Project (Number/Name) 671805 / <i>B-52 VLF/LF Modernization</i>
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	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
<i>B-52 VLF/LF Modernization</i>																																
EMD																																
MS C																																
IOC																																

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>	Project (Number/Name) 671805 / <i>B-52 VLF/LF Modernization</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>B-52 VLF/LF Modernization</i>				
EMD	1	2023	4	2023
MS C	4	2023	4	2023
IOC	2	2025	2	2025

Note
EMD actual start date was Q2 2019 - Q4 2023

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons				Project (Number/Name) 671810 / B-52 AEHF Integration			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
671810: B-52 AEHF Integration	-	33.422	102.924	28.183	0.000	28.183	97.996	22.847	0.000	0.000	0.000	285.372
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The B-52 Advanced Extremely High Frequency (AEHF) Integration satellite communications (SATCOM) system provides a survivable, low probability of intercept/detection, high bandwidth system that ensures secure intra/inter-flight and two-way command and control communications in the modern anti-access/aerial denial battle space. This communications upgrade replaces the Military Strategic and Tactical Relay (MILSTAR) Ultra High Frequency (UHF) SATCOM capability (MILSTAR is nearing system end of life) on the B-52. The AEHF Integration effort will integrate the radio, antenna and system components required to provide two-way satellite communication for the B-52.

Funds may be used to address requirements including, but not limited to, emerging and short-notice Diminishing Manufacturing Sources and Material Shortages (DMSMS) for both aircraft and associated training systems, Development Testing (DT)/ Operational Testing (OT), and safety of flight issues. Additionally, funds may accommodate Program Management Administration (PMA) and support, civilian pay expenses, rapid technology insertion, and fulfill Federal Aviation Agency (FAA) or other mandates necessary to ensure continued aircrew safety and mission effectiveness.

As AEHF Integration provides future communication growth to the B-52, emerging security/certification requirements (nuclear certification, cyber security, program protection, crypto modernization, etc.) as well as other aircraft upgrades may require studies and/or support for potential impact to AEHF. Funds will be used to conduct development and test activities.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 2.440M was expended for civilian pay expenses in this program element, and in FY24 3.146M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: B-52 AEHF Integration	33.422	102.924	28.183
Description: The B-52 Advance Extremely High Frequency (AEHF) Integration SATCOM system provides a survivable, low probability of intercept/detection, high bandwidth system that ensures secure intra/inter-flight and two-way command and control communications in the modern anti-access/aerial denial battle space. This communications upgrade replaces the Military Strategic Tactical Relay (MILSTAR) and its Ultra High Frequency (UHF) SATCOM capability (MILSTAR is nearing system end of life) on the B-52. The AEHF Integration effort will integrate the radio, antenna and system components required to provide two-way satellite communication for the B-52.			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 671810 / B-52 AEHF Integration
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p><i>FY 2024 Plans:</i> Complete the Boeing P3C Technology Maturation and Risk Reduction (TMRR) contract. Preparation for the acquisition strategy change to a competitive award of a new TMRR contract which would include preliminary and final designs to support preliminary and critical design reviews.</p> <p><i>FY 2025 Plans:</i> Award competitive Technology Maturation and Risk Reduction (TMRR) contract, which includes preliminary and final designs to support critical design reviews.</p> <p><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Funding decreased due to a change in acquisition strategy to award competitive TMRR contract</p>			
Accomplishments/Planned Programs Subtotals	33.422	102.924	28.183

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2023	FY 2024	FY 2025	FY 2025	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Cost To	Total Cost
			Base	OCO	Total					Complete	
• APAF 05 B05200: B-52	0.000	0.000	0.000	-	0.000	0.000	46.794	52.305	54.812	Continuing	Continuing

Remarks

D. Acquisition Strategy
The Milestone Decision Authority (MDA) for B-52 AEHF Integration is the Air Force Program Executive Officer (AFPEO) for Nuclear Command, Control, and Communications (NC3). The program will utilize the General Service Administration (GSA) ASTRO contract to award Risk Reduction studies, Program Planning activities, and the EMD effort to a vendor competitively selected in the Aviation Pool of GSA's ASTRO. The vendor will be responsible for the integration of the AEHF terminal, which will be provided as Government Furnished Equipment (GFE).

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 671810 / B-52 AEHF Integration
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Risk Reduction	SS/CPFF	The Boeing Company : Oklahoma City, OK	-	19.398	Oct 2022	-		-		-		-	Continuing	Continuing	-
Risk Reduction Contract	C/CPIF	GSA : Ft. Worth, TX	-	-		82.568	Oct 2024	11.655	Oct 2024	-		11.655	Continuing	Continuing	-
Subtotal			-	19.398		82.568		11.655		-		11.655	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Crypto Overrun	SS/CPAF	The Boeing Company : Oklahoma City, OK	-	3.170	May 2023	0.830	Jan 2024	-		-		-	Continuing	Continuing	-
Direct Cite Civilian Pay	Various	Not specified. : TBD	-	2.440	Oct 2022	3.146	Oct 2023	2.983	Oct 2024	-		2.983	Continuing	Continuing	-
Subtotal			-	5.610		3.976		2.983		-		2.983	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government Test	Various	Various : TBD	-	0.330	Oct 2022	1.052	Nov 2023	1.188	Dec 2024	-		1.188	Continuing	Continuing	-
Subtotal			-	0.330		1.052		1.188		-		1.188	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Office Support (A&AS, Travel, centralized sprt & OGC)	C/CPAF	Not specified. : TBD	-	8.084	Dec 2022	15.328	Dec 2023	12.357	Dec 2024	-		12.357	Continuing	Continuing	-
Subtotal			-	8.084		15.328		12.357		-		12.357	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force								Date: March 2024					
Appropriation/Budget Activity 3600 / 7				R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>				Project (Number/Name) 671810 / <i>B-52 AEHF Integration</i>					
	Prior Years	FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	33.422		102.924		28.183		-		28.183	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>	Project (Number/Name) 671810 / <i>B-52 AEHF Integration</i>
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>B-52 AEHF Integration</i>	
TMRR Activities	████████████████████
Milestone B	████████████████████
EMD	██
MOD	██
Flight Test	██
Milestone C	████████████████████

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>	Project (Number/Name) 671810 / <i>B-52 AEHF Integration</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>B-52 AEHF Integration</i>				
TMRR Activities	1	2025	1	2026
Milestone B	1	2026	1	2026
EMD	1	2026	1	2029
MOD	2	2027	4	2027
Flight Test	1	2028	4	2028
Milestone C	1	2029	1	2029

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 675039 / B-52 System Improvements
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
675039: B-52 System Improvements	-	30.847	15.024	4.030	0.000	4.030	0.000	0.000	0.000	0.000	0.000	49.901
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

B-52 System Improvements is a comprehensive project to facilitate future capabilities and ensure the B-52's viability in performing current and future wartime missions. The scope of work may include, but not limited to, the development of an Analysis of Alternative (AoA), studies and analyses, a Capability Development Document (CDD), and/or any other analyses or documentation necessary to establish a Program of Record (POR). Additionally, this project may include airborne integration experiments or demonstrations of emerging technologies. Support of the platform integration efforts are necessary to identify and resolve challenges associated with integrating multiple programs and activities planned for the B-52 fleet.

Costs include any analysis, documentation, and related expenses necessary to establish a POR and support the B-52 weapon system. Additionally, other costs include, but are not limited to Program Management Administration (PMA), civilian pay expenses, rapid technology insertion, centralized support and initiatives for anticipated weapon system enhancements (to include efforts to improve weapon system operational capabilities, safety, supportability, maintainability, reliability, and total cost of ownership), emerging and short-notice Diminishing Manufacturing Sources and Material Shortages (DMSMS) for both aircraft and associated training systems, Development Testing (DT)/ Operational Testing (OT), safety of flight issues and to fulfill Federal Aviation Agency (FAA) or other mandates necessary to ensure continued aircrew safety and mission effectiveness. Systems Improvement is permitted to fund software modernization efforts that merge into the operational flight program.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 0.0M was expended for civilian pay expenses in this program element, and in FY24 0M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: B-52 Systems Improvements	4.140	0.150	0.158
Description: Initiate Analysis of Alternatives, modeling, simulation, testing, and demonstration, including but not limited to: Studies of existing and planned avionics, communications/navigation, electrical, weapons, flight, and nuclear-related aircraft systems and subsystems to support the future viability of the B-52 fleet.			
FY 2024 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 675039 / B-52 System Improvements

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Will continue Analysis of Alternatives, modeling, simulation, testing, and demonstration, including but not limited to: Studies of existing and planned avionics, communications/navigation, electrical, weapons, flight, and nuclear-related aircraft systems and subsystems to support the future viability of the B-52 fleet.</p> <p>FY 2025 Plans: Will continue Analysis of Alternatives, modeling, simulation, testing, and demonstration, including but not limited to: Studies of existing and planned avionics, communications/navigation, electrical, weapons, flight, and nuclear-related aircraft systems and subsystems to support the future viability of the B-52 fleet.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Increase due to inflation rates</p>			
<p>Title: Quad Crew</p> <p>Description: The B-52 Quad Crew effort transitions Electronic Warfare display and functionality to the existing B-52 navigator station reducing the aircrew from five to four crew members.</p> <p>FY 2024 Plans: FY24 funding is reflected in Project 675165 Quad Crew. This FY23 \$8M was incorrectly mapped to this project. Quad Crew efforts increase in Project 675165 due to supporting design and integration activities, procuring long-lead test material, and updating technical documentation.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Effort moved to Quad Crew Project 675165</p>	8.000	0.000	-
<p>Title: Advanced Concept Demonstration</p> <p>Description: Effort supports a classified Proof of Concept demonstration on the B-52.</p> <p>FY 2024 Plans: Continued support a proof of concept demonstration on the B-52 for a new classified initiative.</p> <p>FY 2025 Plans: Continued support a proof of concept demonstration on the B-52 for a new classified initiative.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: The funding decrease is due to the completion of concept election and demonstrated capability.</p>	8.707	14.874	3.872
Accomplishments/Planned Programs Subtotals	20.847	15.024	4.030

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>	Project (Number/Name) 675039 / <i>B-52 System Improvements</i>
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	FY 2023	FY 2024
Congressional Add: AFGSC Innovation Hub	10.000	-
FY 2023 Accomplishments: Continue to support development initiatives and efforts that include Agile Pods, Beyond Line of Sight Communications, 3D Fuel System Model, and Fuel Additive Studies.		
Congressional Adds Subtotals	10.000	-

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

The Acquisition Strategy for Quad Crew is addressed under Project 675165.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 675039 / B-52 System Improvements
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
System Improvements Studies and Analysis	SS/ Various	The Boeing Company, 559 SMXS/MXDPBA : Oklahoma City, OK	-	0.100	Jan 2023	0.100	Jan 2024	0.100	Jan 2025	-		0.100	0.000	0.300	-
AFGSC Innovation Hub	C/CPAF	Radiance, SBCC, Outerlink : Barksdale, LA	-	10.000	Jul 2023	-		-		-		-	0.000	10.000	-
B-52 Training Automation	TBD	TBD : Oklahoma City, OK	-	-		-		-		-		-	0.000	0.000	-
Quad Crew	TBD	Not Specified : Oklahoma City, OK	-	8.000	Jul 2023	-		-		-		-	0.000	8.000	-
Proof of Concept Demonstration	TBD	Not Specified: TBD : Tinker, OK	-	8.707	Jul 2023	14.874	Jul 2024	3.872	Jan 2025	-		3.872	0.000	27.453	-
Subtotal			-	26.807		14.974		3.972		-		3.972	0.000	45.753	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
B-52 Centralized Support, Program Management Administration, TDY, A&AS Contractor Support - 675039	Various	TBD : OK	-	4.030	Jan 2023	0.040	Jan 2024	0.048	Jan 2025	-		0.048	0.000	4.118	-
B-52 Centralized Support, Travel - 675039	Various	Various : TBD	-	0.010	Jan 2023	0.010	Jan 2024	0.010	Jan 2025	-		0.010	0.000	0.030	-
Subtotal			-	4.040		0.050		0.058		-		0.058	0.000	4.148	N/A

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals		-	30.847	15.024	4.030	-	4.030	0.000	49.901	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>	Project (Number/Name) 675039 / <i>B-52 System Improvements</i>
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Systems Improvements</i>	
System Improvements Studies and Analysis, etc.	
<i>AFGSC Innovation Hub</i>	
Industry Collaboration Efforts	
<i>B-52 Training Automation</i>	
Training System Automation	
<i>Proof of Concept Demonstration</i>	
Proof of Concept	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>	Project (Number/Name) 675039 / <i>B-52 System Improvements</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Systems Improvements</i>				
System Improvements Studies and Analysis, etc.	1	2023	4	2026
<i>AFGSC Innovation Hub</i>				
Industry Collaboration Efforts	1	2023	4	2023
<i>B-52 Training Automation</i>				
Training System Automation	1	2023	2	2023
<i>Proof of Concept Demonstration</i>				
Proof of Concept	1	2023	4	2025

Note

Quad Crew schedule shown in Project 675165.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons				Project (Number/Name) 675056 / B-52 Radar Modernization Program (RMP)			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
675056: B-52 Radar Modernization Program (RMP)	-	239.814	204.349	179.765	0.000	179.765	143.505	64.292	9.750	3.928	0.000	845.403
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The B-52 Radar Modernization Program (RMP) supports nuclear and conventional operations by replacing the current APQ-166 radar on the B-52H aircraft. The APQ-166 system is increasingly difficult to sustain due to diminished manufacturing sources and obsolescent technologies; the current failure rate of the APQ-166 places long-duration missions at risk. This modernization program will encompass the radar antenna array, 12 individual Line Replaceable Units (LRU), radar control panel, radome, and Group A allocation that comprise the entire radar system. RMP will take advantage of advances in technology and on-going development efforts to acquire, to the maximum extent possible, previously developed Radar systems and integrate them into the B-52. The use of new technology will increase both the overall reliability of the radar system and the capabilities for new missions. RMP will allow the operational command (AF Global Strike Command) to fully utilize the capabilities of the B-52H aircraft to employ an array of nuclear and conventional weapons and to perform mission-essential navigation and weather avoidance functions. In addition, applicable training devices for the new radar subsystem must also be developed, modified and/or upgraded in conjunction with the aircraft modifications. This modification includes the installation of Engineering and Manufacturing Development (EMD) kits on two B-52H test aircraft to support Developmental/Operational Test and Evaluation.

This upgrade will affect B-52 training devices and will provide the ability to connect / operate in a common environment that provides realistic high-end combat training to meet future standards. Funds may be used to address the Bombing-Navigation System Maintenance Trainers (BNSMTs), a desktop trainer, as well as the Mission Employment Trainer (MET), and a Family of Systems (FoS) concept that includes Handheld/Wearable and Point-of-Use Devices, Medium-Fidelity Deployable Devices and High-Fidelity Devices covering the entire training spectrum. This program also upgrades one B-52 Software Integration Lab (SIL) with radar functionality, and builds a new Radar Development Lab and a new Radar SIL. As the RMP upgrade brings additional capability to the B-52, funds may be used to address emerging security/certification requirements (nuclear certification, cyber security, program protection, simulator common standards, etc.) in addition to increased radar integration (advanced targeting pod, Combat Network Communication Technology (CONNECT), Tactical Data Link (TDL), offensive avionics system, GPS Integration Unit (GPS-IU), Crypto modernization, mission planning, modular open system architecture (MOSA) considerations, crew vehicle interfaces, Electronic Warfare System, and B-52 Software Block (BSB), etc).

Funds may be used to address requirements including, but not limited to, emerging and short-notice Diminishing Manufacturing and Material Shortages (DMSMS) for both aircraft and associated training systems, Development Testing (DT)/ Operational Testing (OT), safety of flight issues, and associated components in the RMP configuration baseline. DMSMS efforts may include removal of end-of-life/obsolete software/hardware within the weapons system, simulators systems, and MOSA implementation. Additionally, funds may accommodate Program Management Administration (PMA) and support, civilian pay expenses, rapid technology insertion, and fulfill Federal Aviation Agency (FAA) or other mandates necessary to ensure continued aircrew safety and mission effectiveness.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 675056 / B-52 Radar Modernization Program (RMP)

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 \$5.550M was expended for civilian pay expenses in this program element, and in FY24 \$6.569M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Title: Radar Modernization Program</p> <p>Description: Support nuclear and conventional operations by replacing the current APQ-166 radar on the B-52H aircraft. Development and production of new systems to replace the legacy equipment and to be installed on all 76 B-52H aircraft.</p> <p>FY 2024 Plans: Will continue fabrication and delivery of EMD subsystem units; complete Radar System Integration Labs (SIL) security certification; continue Agile and incremental software code development; continue hardware/software integration SIL tests; complete training course material and tech pubs development; complete first test aircraft modification and functional checkouts; complete ground test and initiate flight test with first test aircraft; initiate second test aircraft modification.</p> <p>FY 2025 Plans: Will continue test and evaluation of EMD units; continue Agile and incremental software code development; continue hardware/software integration SIL tests; complete second test aircraft modification and functional checkouts; complete ground test and initiate flight test with second test aircraft.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding decreased due to requiring a lower level of resources to complete aircraft modifications, software development, and supporting ground/flight test events.</p>	239.814	204.349	179.765
Accomplishments/Planned Programs Subtotals	239.814	204.349	179.765

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• APAF 05 Lineltem B05200: BP11 Production	-	-	117.305	-	117.305	132.237	208.142	205.797	169.807	Continuing	Continuing
• APAF 07 Line Item B05200: Post Production Support	-	-	-	-	-	0.111	0.113	0.115	0.117	Continuing	Continuing
• APAF 06 000999: Initial Spares	-	-	12.245	-	12.245	0.223	0.227	0.232	0.237	Continuing	Continuing

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>	Project (Number/Name) 675056 / <i>B-52 Radar Modernization Program (RMP)</i>

D. Acquisition Strategy

The Milestone Decision Authority approved the B-52 RMP Acquisition Strategy (AS) on 13 March 2018. Per the Acquisition Strategy, the Original Equipment Manufacturer completed radar and other supplier selections in June 2019. The team completed System Preliminary Design Review in October 2020, Milestone B in June 2021, awarded the Engineering Manufacturing and Development contract in June 2021, and conducted System Critical Design Review in February 2022.

The Milestone B Acquisition Decision Memo updated the Acquisition Strategy to split the Milestone C into two decision points. Milestone C Decision Point #1 authorizes Low-Rate Initial Production (LRIP) Lot 1 needed to meet Initial Operational Capability. Milestone C Decision Point #2 will authorize LRIP Lot 2.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 675056 / B-52 Radar Modernization Program (RMP)
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	C/CPFF	The Boeing Company : Oklahoma City, OK	-	25.816	Dec 2022	2.000	Jan 2024	-		-		-	Continuing	Continuing	-
Engineering & Manufacturing Development (EMD) Phase	SS/CPIF	The Boeing Company : Oklahoma City, OK	-	177.073	Nov 2022	176.220	Nov 2023	145.450	Nov 2024	-		145.450	Continuing	Continuing	-
Subtotal			-	202.889		178.220		145.450		-		145.450	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Weapon Trainer Support	C/CPAF	AFLCMC/WNS : WPAFB, OH	-	4.160	Aug 2023	-		-		-		-	Continuing	Continuing	-
557th Software Development	PO	557th SWES : Tinker AFB, OK	-	3.243	Dec 2022	1.980	Mar 2024	2.035	Dec 2024	-		2.035	Continuing	Continuing	-
CAPRE AESA Adapter Support	PO	516th SWES : Hill AFB, UT	-	0.231	Dec 2022	-		-		-		-	Continuing	Continuing	-
Direct Cite Civilian Pay	Various	AFLCMC/FZA : WPAFB, OH	-	5.550	Oct 2022	6.569	Oct 2023	6.695	Oct 2024	-		6.695	Continuing	Continuing	-
Subtotal			-	13.184		8.549		8.730		-		8.730	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Edwards AFTC	PO	Edwards AFB : Edwards AFB, CA	-	9.805	Dec 2022	9.692	Jan 2024	16.308	Jan 2025	-		16.308	Continuing	Continuing	-
AFOTEC Support	PO	AFOTEC : Kirtland AFB, NM	-	0.400	Mar 2023	0.975	Mar 2024	1.286	Mar 2025	-		1.286	Continuing	Continuing	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 675056 / B-52 Radar Modernization Program (RMP)
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Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
47th CTS Cyber Test	PO	47th CTS : Eglin AFB, FL	-	0.164	Dec 2022	0.098	Dec 2023	0.210	Dec 2024	-		0.210	Continuing	Continuing	-
Subtotal			-	10.369		10.765		17.804		-		17.804	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Administration, A&AS Support, Centralized Support, TDY, OGC	Various	Various : Various	-	13.372	Dec 2022	6.815	Dec 2023	7.781	Dec 2024	-		7.781	Continuing	Continuing	-
Subtotal			-	13.372		6.815		7.781		-		7.781	Continuing	Continuing	N/A

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	239.814	204.349	179.765	-	179.765	Continuing	Continuing	N/A

Remarks
 The FY25 increase in the Edwards AFTC line is primarily driven by the initiation of RMP Developmental Test Flight Test activities at Edwards AFB, including operations of the test aircraft, support aircraft, data collection, analysis, and reporting. Activities are expected to in continue through Operational Test in FY26.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 675056 / B-52 Radar Modernization Program (RMP)

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Radar Modernization Program</i>	
EMD	
Developmental Testing	
MS C DP#1	
MS-C DP#2	
IOC	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>	Project (Number/Name) 675056 / <i>B-52 Radar Modernization Program (RMP)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Radar Modernization Program</i>				
EMD	1	2023	2	2027
Developmental Testing	4	2023	4	2026
MS C DP#1	2	2025	2	2025
MS-C DP#2	4	2025	4	2025
IOC	4	2027	4	2027

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 675057 / B-52 Low Cost Improvement (LCI)
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
675057: B-52 Low Cost Improvement (LCI)	-	0.702	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.702
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This program will include projects to facilitate future B-52 capabilities. Scope of work may involve, but is not limited to, Avionics, Navigation, Situational Awareness (SA) and Defensive Systems. Develop and integrate emerging technologies for specialized B-52 missions to include Intelligence Surveillance and Reconnaissance (ISR), Targeting and Weapons, future prototyping efforts, Diminishing Manufacturing Sources and Material Shortages (DMSMS) efforts to include removal of end-of-life software/hardware within simulators systems, and common open system architecture that is sustainable and cyber-resilient. Funds may be used to address requirements including, but not limited to, emerging and short-notice DMSMS for both aircraft and associated training systems, Development Testing (DT)/ Operational Testing (OT), and safety of flight issues. Additionally, funds may accommodate Program Management Administration (PMA) and support, civilian pay expenses, rapid technology insertion, and fulfill Federal Aviation Agency (FAA) or other mandates necessary to ensure continued aircrew safety and mission effectiveness.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY22 0M was expended for civilian pay expenses in this program element, and in FY23 0M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: B-52 Low Cost Improvements	0.702	0.000	0.000
Description: Develop and integrate emerging technologies for specialized B-52 missions to include ISR, targeting, and weapons. This includes performing demonstrations and experimentation of emerging and advanced technologies, as well as supporting external agency projects of the technology in a relevant environment.			
FY 2024 Plans: N/A			
FY 2025 Plans: N/A			
FY 2024 to FY 2025 Increase/Decrease Statement: N/A			
Accomplishments/Planned Programs Subtotals	0.702	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 675057 / B-52 Low Cost Improvement (LCI)
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APAF 05 Line item B05200: BP11 Production	0.545	0.662	2.736	-	2.736	2.783	2.846	2.905	2.963	Continuing	Continuing

Remarks

D. Acquisition Strategy

Studies and analyses will be conducted by various Air Force Life Cycle Management Center and Air Force Global Strike Command organizations.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 675057 / B-52 Low Cost Improvement (LCI)
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Studies and analyses to develop and integrate emerging technologies for the B-52, A&AS contractor support.	C/Various	TBD : NV	-	0.702	Mar 2023	-		-		-		-	Continuing	Continuing	-
Subtotal			-	0.702		-		-		-		-	Continuing	Continuing	N/A
Project Cost Totals			-	0.702		-		-		-		-	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force			Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 675057 / B-52 Low Cost Improvement (LCI)	

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Low Cost Improvements	
Low Cost Improvements Studies and Analyses	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>	Project (Number/Name) 675057 / <i>B-52 Low Cost Improvement (LCI)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Low Cost Improvements</i>				
Low Cost Improvements Studies and Analyses	1	2023	4	2023

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons				Project (Number/Name) 675129 / B-52 CERP			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
675129: B-52 CERP	-	379.401	576.016	784.975	0.000	784.975	594.734	360.341	416.323	419.828	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

The B-52 Commercial Engine Replacement Program (CERP) transitioned from a Middle Tier of Acquisition (MTA) to a Major Capability Acquisition (MCA) program.

A. Mission Description and Budget Item Justification

The B-52 Commercial Engine Replacement Program (CERP) supports nuclear and conventional operations by replacing the current TF33-PW-103 engine on the B-52H aircraft. The TF33-PW-103 engine is experiencing significant supportability challenges due to diminished manufacturing sources and obsolescent technologies. This program will replace the current TF33-PW-103 engine with new military derivative commercial Rolls-Royce F130 engines of similar size, weight, and thrust characteristics. Along with the new engines, CERP will replace associated subsystems, such as engine struts and nacelles, the electrical power generation system, and cockpit displays. The development, production and installation of new engines and related subsystems will replace the legacy equipment on all 76 B-52H aircraft. Any B-52H aircraft modified with the new commercial engines and associated subsystems will be designated as B-52J.

B-52 CERP is taking advantage of advances in technology and on-going development efforts to acquire engines and integrate them into the B-52. The new technology will increase both the overall reliability and maintainability of the propulsion system and produce additional electrical power generation capabilities for emerging requirements. The B-52 CERP will allow the operational command (Air Force Global Strike Command) to fully utilize the capabilities of the B-52 aircraft to employ an array of nuclear and conventional weapons while increasing fuel efficiency and extending the range/loiter capabilities of the aircraft. In addition, applicable training devices must be developed, modified and/or upgraded in conjunction with the aircraft modifications. As B-52 CERP brings additional capability to the B-52, emerging security/certification requirements (nuclear hardening, cyber security, program protection, etc.) are being addressed. Several concurrent aircraft upgrades during the B-52 CERP may necessitate temporary facilities or facility upgrades/modifications. In addition, it may necessitate studies be performed to determine optimal engine installation and deployment options. Additionally, funds will be used to procure long lead components for test aircraft to include engines and all required associated components in the B-52 CERP configuration baseline.

Cost includes any other analysis or documentation and related expenses necessary to establish a program of record and support the B-52 Weapon System. Cost includes Program Management Administration (PMA) costs, centralized support and initiatives for digital engineering and anticipated weapon system enhancements, to include efforts to improve weapon system operational capabilities, safety, supportability, maintainability, reliability, and total cost of ownership.

Funds may be used to address requirements including, but not limited to, emerging and short-notice Diminishing Manufacturing Sources and Material Shortages (DMSMS) for both aircraft and associated training systems, Development Testing (DT)/ Operational Testing (OT), and safety of flight issues. Additionally, funds may accommodate PMA and support, civilian pay expenses, rapid technology insertion, and fulfill Federal Aviation Administration (FAA) or other mandates necessary to ensure continued aircrew safety and mission effectiveness.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>	Project (Number/Name) 675129 / <i>B-52 CERP</i>
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This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 \$14.138M was expended and in FY24 \$17.609M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: B-52 CERP	379.401	576.016	784.975
Description: This program will replace the current TF33-PW-103 engine with new military derivative commercial Rolls-Royce F130 engines of similar size, weight, and thrust characteristics. The development, production and installation of new engines and related subsystems will replace the legacy equipment on all 76 B-52H aircraft. B-52 CERP will take advantage of advances in technology and on-going development efforts to acquire engines and integrate them into the B-52.			
FY 2024 Plans: Complete the RVP MTA and deliver Virtual System Prototype (VSP) Increment 2. Continue the Rapid Prototype 1 (RP1) contract, system critical design, and the Rapid Prototype Material (RPM) contracts (long lead material). Continue ordering hardware for two test aircraft to include prototype and instrumented test engines. Complete engine critical design review.			
FY 2025 Plans: Conduct multiple component and subsystem critical design reviews culminating in completion of system critical design under the RP1 contract. Continue ordering hardware for two test aircraft on RPM contracts and complete all activities required for EMD contract award.			
FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to resource ramp-up required to complete sub-system (e.g., Avionics, Propulsion) and system critical design reviews, standup developmental test facilities, develop avionics software, and order long-lead test material.			
Accomplishments/Planned Programs Subtotals	379.401	576.016	784.975

C. Other Program Funding Summary (\$ in Millions)

	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2025</u>	<u>FY 2025</u>							
<u>Line Item</u>			<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Complete</u>	<u>Total Cost</u>	<u>Cost To</u>
• APAF 05 0101113F: <i>B-52 SQUADRONS</i>	-	-	2.104	-	2.104	20.757	735.391	708.079	722.150	Continuing	Continuing	

Remarks

D. Acquisition Strategy

Rapid Virtual Prototyping, utilizing the Middle Tier of Acquisition pathway, delivered a virtual System Prototype and enabled the program to transition to the Major Capability Acquisition pathway in December 2023. Under the EMD contract, B-52 CERP will build test hardware and modify two test aircraft, then conduct ground and

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
3600 / 7	PE 0101113F / <i>B-52 Squadrons</i>	675129 / <i>B-52 CERP</i>

flight testing to verify system requirements are met. After Milestone C, B-52 CERP will enter the Production and Deployment phase. This strategy is being accomplished by two prime contractors.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 675129 / B-52 CERP
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Rapid Prototyping Phase 1	SS/CPPIF	The Boeing Co : Oklahoma City, OK	-	185.278	Mar 2023	255.801	Dec 2023	492.287	Oct 2024	-		492.287	Continuing	Continuing	-
Engine Contract	C/FFP	Rolls Royce : Indianapolis, IN	-	27.159	Dec 2022	105.522	Dec 2023	63.984	Nov 2024	-		63.984	Continuing	Continuing	-
Rapid Prototyping Material 0	SS/CPFF	The Boeing Co : Oklahoma City, OK	-	73.000	Mar 2023	137.249	Dec 2023	114.106	Oct 2024	-		114.106	Continuing	Continuing	-
Rapid Prototyping Material 1	SS/CPFF	The Boeing Co : Oklahoma City, OK	-	41.600	Mar 2023	22.911	Feb 2024	41.254	Oct 2024	-		41.254	Continuing	Continuing	-
Subtotal			-	327.037		521.483		711.631		-		711.631	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Documentation - Technical Support	MIPR	Booz Allen Hamilton : Oklahoma City, OK	-	7.080	Jan 2023	8.200	Jan 2024	9.000	Jan 2025	-		9.000	Continuing	Continuing	-
557th SWES	PO	557th SWES : Oklahoma City, OK	-	0.636	Dec 2022	0.480	Jan 2024	0.500	Jan 2025	-		0.500	Continuing	Continuing	-
Direct Cite Authority for CERP Civilian Personnel	Allot	AFLCMC/FZA : TBD	-	14.138	Oct 2022	17.609	Oct 2023	18.314	Oct 2024	-		18.314	Continuing	Continuing	-
Subtotal			-	21.854		26.289		27.814		-		27.814	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Edwards AFTC	PO	412TW : Edwards AFB, CA	-	2.485	Mar 2023	11.826	Mar 2024	20.484	Jan 2025	-		20.484	Continuing	Continuing	-
Mock Up A/C	PO	Boeing : Oklahoma City, OK	-	0.901	Feb 2023	-		-		-		-	Continuing	Continuing	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 675129 / B-52 CERP
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Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
AEDC	PO	AEDC/Flight Systems CTF : Arnold AFB, TN	-	12.305	Nov 2022	0.000	Mar 2024	2.500	Nov 2024	-		2.500	Continuing	Continuing	-
48th CTS Cyber Test	PO	47th CTS : Edwards AFB, CA	-	0.071	Dec 2022	0.324	Mar 2024	0.400	Jan 2025	-		0.400	Continuing	Continuing	-
AFSEO	PO	AFSEO : Eglin AFB, FL	-	0.603	Dec 2022	0.100	May 2024	-		-		-	Continuing	Continuing	-
AFOTEC	MIPR	AFOTEC : Edwards AFB, CA	-	0.700	Jan 2023	0.440	Mar 2024	0.970	Jan 2025	-		0.970	Continuing	Continuing	-
Test Aircrew Trainer	PO	TBD : TBD	-	-		-		5.000	Mar 2025	-		5.000	Continuing	Continuing	-
Subtotal			-	17.065		12.690		29.354		-		29.354	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Administration, A&AS Support, Centralized Support, TDY, OGC	Various	Various : Various	-	13.445	Jan 2023	15.554	Feb 2024	16.176	Mar 2025	-		16.176	Continuing	Continuing	-
Subtotal			-	13.445		15.554		16.176		-		16.176	Continuing	Continuing	N/A

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	379.401	576.016	784.975	-	784.975	Continuing	Continuing	N/A

Remarks
 RP1 FY24 to FY25 increase due to ramp up of material purchases to support CDR and expected contract definitization of existing PDR to CDR UCA in FY25.
 RPM1 FY24 to FY25 increase due to contract definitization of existing UCA in FY25.
 Edwards AFTC FY24 to FY25 increase due to CERP test hangar readiness project utilizing laboratory revitalization

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>	Project (Number/Name) 675129 / <i>B-52 CERP</i>
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>B-52 CERP</i>	
Rapid Prototype Phase 1 Contract	
Rapid Prototype Material Contract	
Engine Contract	
Virtual System Prototype Increment 2	■
Milestone B	■
Critical Design Review	■
Engineering and Manufacturing Development Contract	
Milestone C	■

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>	Project (Number/Name) 675129 / <i>B-52 CERP</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>B-52 CERP</i>				
Rapid Prototype Phase 1 Contract	1	2023	2	2026
Rapid Prototype Material Contract	1	2023	4	2029
Engine Contract	1	2023	4	2029
Virtual System Prototype Increment 2	1	2024	1	2024
Milestone B	3	2024	3	2024
Critical Design Review	4	2025	4	2025
Engineering and Manufacturing Development Contract	1	2026	4	2029
Milestone C	4	2028	4	2028

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 675160 / B-52 Crypto Modernization
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
675160: B-52 Crypto Modernization	-	3.245	0.000	3.999	0.000	3.999	1.202	0.000	0.000	0.000	0.000	8.446
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

B-52 Crypto Modernization upgrades aircraft with Mobile User Objective System (MUOS) capable ARC-210 radio systems that prevent loss of beyond line of sight (BLOS) voice and data communications capability. The program will integrate upgrade the B-52 aircraft with secure voice and data communications via SATURN (Second Generation Anti-Jam Technical UHF Radio for NATO) network, MUOS (Mobile User Objective System) Satellite constellation, and DAMA-IW (Demand Assigned Multiple Access - Integrated Waveform) SATCOM connection. These updates are required by the National Security Agency (NSA), DoD mandates, and directives.

Funds may be used to address requirements including, but not limited to, emerging and short-notice Diminishing Manufacturing Sources and Material Shortages (DMSMS) for both aircraft and associated training systems, Development Testing (DT)/ Operational Testing (OT), and safety of flight issues. Additionally, funds may accommodate Program Management Administration (PMA) and support, civilian pay expenses, rapid technology insertion, and fulfill Federal Aviation Agency (FAA) or other mandates necessary to ensure continued aircrew safety and mission effectiveness.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY22 0M was expended for civilian pay expenses in this program element, and in FY23 0M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: B-52 Crypto Modernization	3.245	0.000	3.999
Description: Upgrades aircraft with secure ARC-210 radio systems and associated hardware/software to prevent loss of beyond line of sight (BLOS) voice and data communications capability.			
FY 2024 Plans: Continue EMD; planned completion of Ground Test and Flight Test of A/C 1			
FY 2025 Plans: Continue EMD; planned completion of Ground Test and Flight Test of A/C 1			
FY 2024 to FY 2025 Increase/Decrease Statement:			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>	Project (Number/Name) 675160 / <i>B-52 Crypto Modernization</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
FY25 funding increase from FY24PB to continue to fund EMD overrun through FY25. Funds will support planned completion of Ground Test and Flight Test for A/C 1.			
Accomplishments/Planned Programs Subtotals	3.245	0.000	3.999

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APAF 05 Line item B05200: <i>BP11 Production</i>	10.809	14.081	8.848	-	8.848	28.619	30.294	11.459	9.856	Continuing	Continuing
• APAF 06 000999: <i>Initial Spares/Repair Parts</i>	4.293	1.214	1.249	-	1.249	1.281	-	-	-	0.000	8.037

Remarks

The Air Force requested a FY24 technical adjustment moving \$14.017M from the B-52 Crypto Modernization P-3A to this project to accommodate the EMD overrun; funds will be executed upon enactment of the FY24 defense appropriation.

D. Acquisition Strategy

Per the National Security Agency mandate, the B-52 Crypto Modernization program will upgrade the aircraft with secure radio devices (ARC-210 Gen 6) that meet the requirement for secure beyond line of sight voice and data communications. The program is currently in the Engineering Manufacturing and Development (EMD) phase and forecasted to complete EMD by start FY2026 with Flight following. During the EMD phase, the program will procure radio systems that meet the NSA timeline while furthering aircraft integration supporting Mobile User Objective System. Milestone C is estimated for 3Q FY25.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 675160 / B-52 Crypto Modernization
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Crypto Modernization: Development and Integration Activities	SS/CPIF	OEM : Oklahoma City, OK	-	2.826	Mar 2023	-		3.954	Mar 2025	-		3.954	0.000	6.780	-
Subtotal			-	2.826		-		3.954		-		3.954	0.000	6.780	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test Support	PO	Various : TBD	-	0.344	Mar 2023	-		-		-		-	0.000	0.344	-
Subtotal			-	0.344		-		-		-		-	0.000	0.344	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Travel	Various	Not specified. : TBD	-	0.075	Mar 2023	-		0.045	Mar 2025	-		0.045	0.000	0.120	-
Subtotal			-	0.075		-		0.045		-		0.045	0.000	0.120	N/A

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals		-	3.245	-	3.999	-	3.999	0.000	7.244	N/A

Remarks

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>	Project (Number/Name) 675160 / <i>B-52 Crypto Modernization</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Crypto Modernization</i>				
EMD	1	2023	3	2025
IQT/FQT	1	2023	1	2023
DT/OT	3	2024	1	2025
MS C	3	2025	3	2025

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons				Project (Number/Name) 675165 / B-52 Quad Crew			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
675165: B-52 Quad Crew	-	7.770	30.652	35.826	0.000	35.826	43.597	24.570	9.590	0.000	0.000	152.005
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Quad Crew program reduces B-52 crew size from five to four personnel. To facilitate this, the program upgrades & modifies the ALQ-172 Electronic Warfare Countermeasure System on the B-52 aircraft. The program will transition controls and displays for the ALQ-172 electronic warfare system from the Electronic Warfare Officer (EWO) station to the B-52 Navigator (NAV) Station supporting situational awareness, self-protection, and survivability in a contested environment. In addition, the Quad Crew program will include expansion of frequency bands within the ALQ-172 system to restore frequencies previously covered by the deactivated AN/ALQ-155 system.

Quad Crew Phase I (Control Display Unit Move) - Relocates system controls and displays (mid-band only) required to reduce crew size to four members.

Quad Crew Phase II (Low-Band Expansion) - Modify ALQ-172 LRU-1 and associated hardware to add low-band radio frequency coverage capability.

Funds may be used to address requirements including, but not limited to, system intergration, emerging and short-notice Diminishing Manufacturing Sources and Material Shortages (DMSMS) for both aircraft and associated training systems, Development Testing (DT)/Operational Testing (OT), and safety of flight issues. Additionally, funds may accommodate Program Management Administration (PMA) and support, civilian pay expenses, rapid technology insertion, and fulfill Federal Aviation Agency (FAA) or other mandates necessary to ensure continued aircrew safety and mission effectiveness.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F.

In FY23 0M was expended for civilian pay expenses in this program element, and in FY24 0.17M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: B-52 Quad Crew	7.770	30.652	35.826
Description: The Quad Crew program reduces B-52 crew size from five to four personnel. To facilitate this, the program upgrades & modifies the AN/ALQ-172 Electronic Warfare Countermeasure System on the B-52 aircraft. Phase I of the program will transition controls and displays for the ALQ-172 from the Electronic Warfare Officer (EWO) station to the B-52 Navigator (NAV) Station supporting situational awareness, self-protection, and survivability in a contested environment. Phase II will upgrade/modify ALQ-172 LRU-1 to expand frequency coverage of the ALQ-172 system to restore frequencies previously covered by the deactivated AN/ALQ-155 system.			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 675165 / B-52 Quad Crew

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>FY 2024 Plans: Initiate Phase I Engineering and Manufacturing Development activities that will include aircraft structure and design efforts, development of aircraft technical documentation, kit development, and procurement of long lead material.</p> <p>FY 2025 Plans: Continue Phase I and initiate Phase II Engineering and Manufacturing Development activities that will include aircraft structure and design efforts, development of aircraft technical documentation, kit development, and procurement of long lead material.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Increase due to addition of EMD costs associated with Quad Crew Phase II, scheduled to award 1QFY25.</p>			
Accomplishments/Planned Programs Subtotals	7.770	30.652	35.826

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• APAF 06 0101113F: B-52 SQUADRONS	-	-	-	-	-	-	8.673	32.391	23.323	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Quad Crew program reduces B-52 crew size from five to four personnel. To facilitate this, the program upgrades & modifies the AN/ALQ-172 Electronic Warfare Countermeasure System on the B-52 aircraft. Phase I of the program will transition controls and displays for the ALQ-172 from the Electronic Warfare Officer (EWO) station to the B-52 Navigator (NAV) Station supporting situational awareness, self-protection, and survivability in a contested environment. Phase II will upgrade/modify ALQ-172 LRU-1 to expand frequency coverage of the ALQ-172 system to restore frequencies previously covered by the deactivated AN/ALQ-155 system. The program will award the Phase I Engineering Manufacturing and Development (EMD) contract in 2QFY24 and the Phase II EMD contract in 1QFY25.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 675165 / B-52 Quad Crew
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Quad Crew Phase I	SS/CPFF	Not specified. : Oklahoma City, OK	-	7.770	Feb 2024	15.000	Mar 2024	0.000	Apr 2025	-		0.000	Continuing	Continuing	-
Quad Crew Phase II	SS/CPFF	Not specified. : TBD	-	-		12.416	Oct 2024	35.651	Apr 2025	-		35.651	Continuing	Continuing	-
Subtotal			-	7.770		27.416		35.651		-		35.651	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Direct Cite Civilian Pay	Various	Not specified. : TBD	-	-		0.171	Oct 2023	0.175	Oct 2024	-		0.175	Continuing	Continuing	-
Subtotal			-	-		0.171		0.175		-		0.175	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Management Support, A&AS, PMA	TBD	Not specified. : TBD	-	-		3.065	Mar 2024	-		-		-	Continuing	Continuing	-
Subtotal			-	-		3.065		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract		
Project Cost Totals		-	7.770	30.652	35.826	-	-	35.826	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 675165 / B-52 Quad Crew
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Quad Crew	
EMD	[REDACTED]
Milestone C	[REDACTED]

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>	Project (Number/Name) 675165 / <i>B-52 Quad Crew</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Quad Crew				
EMD	2	2024	2	2029
Milestone C	2	2029	2	2029

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 676039 / B-52 Airspace Compliance
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
676039: B-52 Airspace Compliance	-	0.000	5.012	1.027	0.000	1.027	12.817	33.458	34.714	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The B-52 Airspace Compliance Program ensures the B-52 meets regulatory Airspace Compliance, DoD and FAA mandates by integrated required hardware, software and firmware updates onto the fleet.

The scope of work may include, but not limited to, the development of an Analysis of Alternatives (AoA), studies and analyses, and/or any additional analyses or documentation necessary to establish a Programs of Record (POR) the meet mandated functions. Funds may also be used to address emerging and short-notice Diminishing Manufacturing and Material Shortages (DMSMS) for both aircraft and associated training systems, Development Testing (DT)/Operational Testing (OT), safety of flight issues, and associated components of the B-52 baseline configurations. DMSMS efforts may include removal of end-of-life/obsolete software and hardware due to the future emergence of Modular Open Systems Approach (MOSA) implementation.

This also includes the new Global Positioning System (GPS) Military Code (M-Code) signal design that provides a robust signal for the B-52 Fleet, enhancing Anti-Jam/Anti-Spoof capabilities and improving security to the GPS data message as military applications, technology, and mission requirements evolve.

This Program may also include necessary civilian pay expenses required to manage, execute, and deliver M-Code GPS signal capability, as well as PM Administration (PMA) and support, rapid technology insertion, and fulfill Federal Aviation Agency (FAA) or other mandates necessary to ensure continued aircrew safety and mission effectiveness. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY 2023 0M was expended for civilian pay expenses in this program element, and in FY 2024 0M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Airspace Compliance (M-Code)	0.000	5.012	1.027
Description: The new Military Code (M-Code) signal design provides a robust signal acquisition for the B-52 Fleet, enhancing Anti-Jam/Anti-Spoof capabilities and improving security to the GPS data message as military applications, technology, and mission requirements evolve.			
FY 2024 Plans: Program will start integration assessment and risk reduction to inform Global Positioning System (GPS) M-Code system integration Acquisition Strategy Development			
FY 2025 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 676039 / B-52 Airspace Compliance
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Program office will continue integration assessment activities and complete risk reduction activities and gain approval of Global Positioning System (GPS) M-Code system integration Acquisition Strategy.			
<i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> The decrease in funding is due to Milestone B delaying from FY24 to FY26			
Accomplishments/Planned Programs Subtotals	0.000	5.012	1.027

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• APAF 05 0101113F: B-52 SQUADRONS	-	-	-	-	-	14.563	14.576	14.901	-	Continuing	Continuing

Remarks

D. Acquisition Strategy
The Milestone Decision Authority (MDA) for B-52 M-Code is the Senior Materiel Leader (SML) for the B-52 System Program Office (AFLCMC/WBD). Program will complete the integration of M-Code capable components onto the B-52 aircraft fleet. The Acquisition Strategy is to gain MDA approval to enter at Milestone B in FY2026.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 676039 / B-52 Airspace Compliance
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Integration Assessment	TBD	TBD : Oklahoma City, OK	-	-		0.500	Mar 2024	-		-		-	Continuing	Continuing	-
Risk Reduction	TBD	TBD : Oklahoma City, OK	-	-		1.990	Aug 2024	-		-		-	Continuing	Continuing	-
Subtotal			-	-		2.490		-		-		-	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Office Support (A&AS, Travel, OGC, etc.)	Various	TBD : TBD	-	-		2.522	Mar 2024	0.980	Mar 2025	-		0.980	Continuing	Continuing	-
Subtotal			-	-		2.522		0.980		-		0.980	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Not specified.	C/CPAF	Not specified. : TBD	-	-		-		0.047	Mar 2025	-		0.047	Continuing	Continuing	-
Subtotal			-	-		-		0.047		-		0.047	Continuing	Continuing	N/A

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-	5.012	1.027	-	1.027	Continuing	Continuing	N/A

Remarks
The decrease in funding is due to Milestone B delaying from FY24 to FY26.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / B-52 Squadrons	Project (Number/Name) 676039 / B-52 Airspace Compliance
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	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Airspace Compliance																																
Studies / Risk Reduction																																
MS B																																
EMD																																
MS C																																

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101113F / <i>B-52 Squadrons</i>	Project (Number/Name) 676039 / <i>B-52 Airspace Compliance</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Airspace Compliance</i>				
Studies / Risk Reduction	2	2025	4	2026
MS B	4	2026	4	2026
EMD	1	2027	2	2029
MS C	3	2029	3	2029

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101122F / <i>Air-Launched Cruise Missile (ALCM)</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	0.571	0.290	0.542	0.000	0.542	0.557	0.567	0.588	0.599	Continuing	Continuing
674797: <i>ALCM Upgrades</i>	-	0.571	0.290	0.542	0.000	0.542	0.557	0.567	0.588	0.599	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The AGM-86B, Air Launched Cruise Missile (ALCM), is a subsonic, air-to-surface strategic nuclear missile, operational since 1982. Armed with a W-80 warhead, it is designed to evade air and ground-based defenses in order to strike targets at any location within any enemy's territory. The ALCM is designed for B-52H internal and external carriage.

RDT&E funds support development of new test and evaluation procedures, software, and equipment. RDT&E funds also provide sustainment solutions for Line Replaceable Units (LRU) and technology insertion to ensure ALCM sustainability supports Air Force strategic nuclear deterrence and Global Strike mission requirements until the capability is replaced by the Long Range Stand Off (LRSO) cruise missile. Additionally, RDT&E funds support aging and surveillance analysis to pro-actively identify components which will degrade system reliability.

The ALCM Test Plan Development and Evaluation program develops plans and procedures for testing nuclear systems, and implements those procedures as directed by the Chairman, Joint Chiefs of Staff (CJCS) and to satisfy the recurring requirements to test Chemical, Biological, Radiological, and Nuclear (CBRN) susceptibility.

An extensive Service Life Extension Program (SLEP) is in place to address age related issues and to ensure reliability and sustainability until replaced by the Long Range Stand Off (LRSO) cruise missile. Technology insertion is anticipated to address serviceability of components at or near end of life.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 \$0.0M was expended for civilian pay expenses in this program element, and in FY24 \$0.0M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101122F / <i>Air-Launched Cruise Missile (ALCM)</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	0.571	0.290	0.541	0.000	0.541
Current President's Budget	0.571	0.290	0.542	0.000	0.542
Total Adjustments	0.000	0.000	0.001	0.000	0.001
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.001	0.000	0.001

Change Summary Explanation

No significant changes.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: ALCM Test Plan Development and Evaluation	0.571	0.290	0.542
Description: Develop test procedures to implement CJCS-directed requirement for Electromagnetic (EM) testing for nuclear systems.			
FY 2024 Plans: - Air Launched Cruise Missile (ALCM) Interface Test Trainer (ITT) instrument installation in support of risk reduction testing for nuclear hardness qualification test. - ALCM ITT receipt, unpack, setup, re-pack and shipment costs in support of risk reduction testing for nuclear hardness qualification test. - On-site support, ALCM Subject Matter Experts in engineering, documentation in support of risk reduction testing for nuclear hardness qualification test.			
FY 2025 Plans: Preparations for ALCM Pylon and Common Strategic Rotary Launcher (CSRL) High-Altitude Electromagnetic Pulse (HEMP) testing in 2026.			
FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to the fact that HEMP testing efforts have additional scope than the risk reduction testing.			
Accomplishments/Planned Programs Subtotals	0.571	0.290	0.542

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101122F / <i>Air-Launched Cruise Missile (ALCM)</i>
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D. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• MPAF 03 Line Item MALCBG: <i>ALCM, Missile Modifications</i>	33.778	41.494	33.956	-	33.956	28.818	29.272	29.896	8.088	Continuing	Continuing
• MPAF 04 Line Item MALCBG: <i>ALCM, Replenishment Spares</i>	2.508	2.577	2.629	-	2.629	2.669	2.705	2.763	2.818	Continuing	Continuing
• MPAF 04 Line Item 999/Replen <i>Spa...: ALCM, Initial Spares</i>	0.452	0.360	0.365	-	0.365	0.370	0.376	0.384	0.391	Continuing	Continuing

Remarks

E. Acquisition Strategy

Previously, the Air Launched Cruise Missile (ALCM) was assessed in the nuclear environment for Chemical, Biological, Radiological and Nuclear (CBRN) Survivability for High Altitude Electromagnetic Pulse (HEMP) and Total Ionizing Dose at White Sands Missile Range (WSMR).

Follow-on test development will assess the neutron and gamma component in the nuclear environment for CBRN survivability. Test development and execution will utilize organic and contractor agencies.

Existing contracts are either Indefinite Delivery Indefinite Quantity (IDIQ) or Requirements contracts.

Continuous and on-going efforts to identify reliability issues are addressed through low-cost modifications and Service Life Extension Programs (SLEPs).

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101122F / Air-Launched Cruise Missile (ALCM)	Project (Number/Name) 674797 / ALCM Upgrades
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Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
CBRN Test Plan Development & Evaluation	Various	WSMR, Boeing : NV	-	0.446	Mar 2023	0.290	May 2024	0.542	May 2025	-		0.542	Continuing	Continuing	-
Subtotal			-	0.446		0.290		0.542		-		0.542	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Management and Engineering Services for research, development, test and evaluation on ALCM	C/CPAF	Not specified. : TBD	-	0.105	Jul 2023	-		-		-		-	Continuing	Continuing	-
PMA - Government Costs	Various	Various : Various	-	0.020	Jul 2023	-		-		-		-	Continuing	Continuing	-
Subtotal			-	0.125		-		-		-		-	Continuing	Continuing	N/A

Remarks
Test Development and Evaluation PMA is for Supplies and Travel in support of project number 674797.

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	0.571	0.290	0.542	-	0.542	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101122F / Air-Launched Cruise Missile (ALCM)	Project (Number/Name) 674797 / ALCM Upgrades

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

CBRN Test	
CBRN Test Plan Development	[REDACTED]
CBRN Test Execution	[REDACTED]

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101122F / <i>Air-Launched Cruise Missile (ALCM)</i>	Project (Number/Name) 674797 / <i>ALCM Upgrades</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
CBRN Test				
CBRN Test Plan Development	2	2023	4	2025
CBRN Test Execution	2	2025	4	2027

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101126F / B-1B Squadrons
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	19.456	12.619	17.939	0.000	17.939	1.976	0.000	0.000	0.000	0.000	51.990
675344: <i>B-1B Modernization</i>	-	19.456	12.619	17.939	0.000	17.939	1.976	0.000	0.000	0.000	0.000	51.990
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The B-1B Lancer is a swing-wing, supersonic, long-range conventional bomber. It carries the largest payload of both guided and unguided weapons in the AF inventory. The multi-mission B-1B is the backbone of America's long-range conventional bomber force and can rapidly deliver massive quantities of precision (and non-precision) weapons against any adversary, anywhere in the world, at any time. The B-1B modernization projects alleviate aircraft obsolescence issues due to Diminishing Manufacturing Sources and Material Shortages (DMSMS) while at the same time providing improved capabilities to the B-1B weapon system that require significant hardware and software development and testing.

RADIO-CRYPTO MODERNIZATION:

The B-1B Radio Crypto program originates from JROCM 040-11, VACM Cease Key CED-026-11, UHF SATCOM (Ultra-High Frequency Satellite Communication) Decommission and Cease Key for Demand Assigned Multi Access (DAMA) Orderwire, HAVE QUICK II Cease use date, and DoD CIO Mobile User Objective System (MUOS) transition directive. If the requirements/directives are not met, B-1B will lose its secure line of sight, beyond line of sight, and anti-jam communication with ground and air forces. The initiative will replace the existing ARC-210 (Gen 3/4) with ARC-210 (Gen 6) next generation radios. Additionally, the program will provide MUOS Satellite Communication capability that supports the DoD Chief Information Officer (CIO) directive to move all DoD assets to MUOS constellation (70% by FY26). This effort will lay in Ethernet cable required by MUOS Data (J-REAP C), install MUOS ancillaries (HPA/LNA) and additional software to execute MUOS capability on the aircraft. The B-1B Radio Crypto program received an updated Acquisition Decision Memorandum (ADM) in March 2023 approving an updated acquisition strategy that combined the program increments into one technical baseline and accelerated the schedule. A further updated ADM signed January 2024 accelerated the full production lot buys. Preliminary Design Review (PDR) was completed in Q4 FY23, and Critical Design Review (CDR) approval is on schedule for Q2 FY24.

HYPERSONIC INTEGRATION:

The FY22 and FY23 Conference Appropriations, detailed in the Congressional Conference Reports of Interest, added \$20M (\$10M in FY22 and \$10M in FY23) RTD&E appropriation for B-1B hypersonic weapon integration. This appropriation develops an external carry-enabled B-1B as a testbed to facilitate rapid integration of priority hypersonic weapons to support national security objectives leading to a potential investment opportunity for weapons programs. This program provides an opportunity to significantly reduce risk for an operational external carry capability on the B-1B if directed.

GAP AND INTEGRATION ANALYSIS:

Program funds cover engineering/planning studies, related engineering efforts, and the auxiliary equipment needed for development projects that have not yet been fielded. Funds may be used to resolve emerging safety of flight and DMSMS issues, accommodate technology insertion, and fulfill FAA (or other) mandates necessary to ensure continued aircrew safety and mission effectiveness. Costs include PMA costs, total ownership cost, as well as initiatives for anticipated weapon system

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101126F / B-1B Squadrons
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enhancements (to include efforts for improving weapon system operational capabilities, safety, supportability, maintainability, reliability, digital engineering and total cost of ownership). B-1B funding also supports innovation activities to include studies, analyses, requirements definition, digital engineering initiatives and quick-reaction capability prototypes/demonstrations to accelerate planning for technology transition, technology insertion, and future acquisition programs. Funds may be used to resolve emerging safety of flight and DMSMS accommodating technology insertion and fulfilling FAA or other mandates necessary to ensure continued aircrew safety and mission effectiveness.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23, \$1.8M was expended for civilian pay expenses in this program element, and in FY24, \$2.1M is forecast for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	20.044	12.619	17.926	0.000	17.926
Current President's Budget	19.456	12.619	17.939	0.000	17.939
Total Adjustments	-0.588	0.000	0.013	0.000	0.013
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.588	0.000			
• Other Adjustments	0.000	0.000	0.013	0.000	0.013

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 675344: *B-1B Modernization*

Congressional Add: *HYPERSONIC INTEGRATION*

	FY 2023	FY 2024
Congressional Add Subtotals for Project: 675344	9.707	0.000
Congressional Add Totals for all Projects	9.707	0.000

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101126F / B-1B Squadrons
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Change Summary Explanation
No Significant Changes

C. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: RADIO-CRYPTO	9.749	12.619	17.939	0.000	17.939
Description: The B-1B Radio Crypto program originates from JROCM 040-11, VACM Cease Key CED-026-11, UHF SATCOM (Ultra-High Frequency Satellite Communication) Decommission and Cease Key for Demand Assigned Multi Access (DAMA) Orderwire, HAVE QUICK II Cease use date, and DoD CIO Mobile User Objective System (MUOS) transition directive. If the requirements/directives are not met, B-1B will lose its secure line of sight, beyond line of sight, and anti-jam communication with ground and air forces. The initiative will replace the existing ARC-210 (Gen 3/4) with ARC-210 (Gen 6) next generation radios. Additionally, the program will provide MUOS Satellite Communication capability that supports the DoD Chief Information Officer (CIO) directive to move all DoD assets to MUOS constellation (70% by FY26). This effort will lay in Ethernet cable required by MUOS Data (J-REAP C), install MUOS ancillaries (HPA/LNA) and additional software to execute MUOS capability on the aircraft. The B-1B Radio Crypto program received an updated Acquisition Decision Memorandum (ADM) in March 2023 approving an updated acquisition strategy that combined the program increments into one technical baseline and accelerated the schedule. A further updated ADM signed January 2024 accelerated the full production lot buys. Preliminary Design Review (PDR) was completed in Q4 FY23, and Critical Design Review (CDR) approval is on schedule for Q2 FY24.					
FY 2024 Plans: Continue EMD activities (EA-11468) through Flight Test to complete the EMD phase.					
FY 2025 Base Plans: Complete EMD activities (EA-11468) and transition into production.					
FY 2025 OCO Plans: N/A					
FY 2024 to FY 2025 Increase/Decrease Statement: Increase of \$5.32M between FY24 and FY25 supports SEPM/Integration, Trainers & Simulators (Software), Engineering Ground and Flight test, and Engineering Change Orders.					
Accomplishments/Planned Programs Subtotals	9.749	12.619	17.939	0.000	17.939

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101126F / B-1B Squadrons
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	FY 2023	FY 2024
Congressional Add: HYPERSONIC INTEGRATION FY 2023 Accomplishments: Awarded Boeing Engineering Assignment for Load Adaptive Modular (LAM) Integration, continuing airworthiness analysis, and demonstration of ground and flight testing. In May 2023, Boeing delivered their IRAD (Internal Research & Development) Load Adaptable Modular (LAM) pylon to Edwards AFB to begin the test/evaluation process. In June 2023, the Load Adaptable Modular (LAM) pylon completed ground vibration testing at Edwards AFB. The ground test is completed. Captive Carry GBU-72 completed 31 October 2023 and Captive Carry #1 ARRW IMV-1 completed 14 December 2023. FY 2024 Plans: No FY24 activity	9.707	0.000
Congressional Adds Subtotals	9.707	0.000

D. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• APAF 05 Line Item	0.102	0.501	0.513	-	0.513	0.521	0.533	0.890	0.908	0.000	3.968
B01B00: <i>Training Support to Units, Mods PE 0809731F</i>											
• APAF 05 B01B00: B-1B	36.313	12.757	13.406	-	13.406	13.154	1.003	1.370	1.397	0.000	79.400
• APAF 05 B00100: B-1	-	-	-	-	-	-	-	-	-	0.000	0.000
• APAF 05 Line Item B01B00	0.000	0.000	-	-	-	-	-	-	-	0.000	0.000
Spares: <i>B-1B Squadrons, Spares</i>											

Remarks

E. Acquisition Strategy

Radio Crypto acquisition strategy addresses National Security Agency (NSA) as well as DoD mandates and directives by executing EMD and production with a Sole Source (SS), Cost Plus Fixed Fee (CPFF), EMD contract effort followed by a two-year production and installation effort.

The Hypersonic Weapons Integration strategy addresses national security objectives and is designed to achieve the end result of an external carry-enabled testbed facilitating rapid integration of priority hypersonic weapons through a two-year Sole Source (SS), Cost Plus Fixed Fee (CPFF), Engineering Assignment effort. An additional 18-month SS CPFF term Engineering Assignment effort will continue the integration of Load Adaptive Modular (LAM) pylon for demonstrating carry and release capability of various stores and works toward utilizing additional hardpoints. Two LAM pylon prototypes are being purchased for future testing.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101126F / B-1B Squadrons	Project (Number/Name) 675344 / B-1B Modernization
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Radio Crypto Compliance (EA- 11468)	SS/CPFF	Boeing : OKC, OK	-	5.568	Apr 2023	1.282	Nov 2023	-		-		-	0.000	6.850	35.000
Radio Crypto Compliance (EA-11468)	SS/CPFF	Boeing : OKC, OK	-	2.347	Aug 2023	7.597	Mar 2024	14.632	Nov 2024	-		14.632	Continuing	Continuing	-
Hypersonic Weapons Integration	SS/CPFF	Boeing : OKC, OK	-	6.035	Sep 2023	-		-		-		-	0.000	6.035	-
Subtotal			-	13.950		8.879		14.632		-		14.632	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Hypersonic Weapons Integration (Travel)	TBD	Travel : TBD	-	0.200	Sep 2023	-		-		-		-	0.000	0.200	-
Hypersonic Weapons Integration (BAH A&AS)	MIPR	GSA: OKC, Ok : TBD	-	0.412	Jun 2023	-		-		-		-	0.000	0.412	-
Radio Crypto Compliance (OGC)	TBD	POS, Travel : OKC, OK	-	-		0.381	Aug 2024	0.611	Aug 2025	-		0.611	Continuing	Continuing	-
Radio Crypto Compliance (Trainer/Simulator Software)	TBD	Trainers & Simulators : OKC, OK	-	-		-		2.069	Nov 2024	-		2.069	Continuing	Continuing	-
Subtotal			-	0.612		0.381		2.680		-		2.680	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Hypersonic Weapons Integration (DT/OT)	PO	Edwards : CA	-	3.060	Sep 2023	-		-		-		-	0.000	3.060	-
Radio Crypto Compliance (DT/OT)	PO	Edwards : CA	-	-		1.305	Mar 2024	-		-		-	0.000	1.305	-
Subtotal			-	3.060		1.305		-		-		-	0.000	4.365	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101126F / B-1B Squadrons	Project (Number/Name) 675344 / B-1B Modernization
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Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
Radio Crypto Project Order (PO) for Flight testing is to the 419th Test Squadron.

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PMA/DCA - Radio Crypto Compliance	Various	Various : OKC, OK	-	1.834	Jan 2023	2.054	Oct 2023	0.627	Oct 2024	-		0.627	0.000	4.515	-
Subtotal			-	1.834		2.054		0.627		-		0.627	0.000	4.515	N/A

			Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	19.456	12.619	17.939	-	17.939	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101126F / B-1B Squadrons	Project (Number/Name) 675344 / B-1B Modernization
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	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Hypersonic Integration</i>	
Demo Planning	
Demo Ground Test	
Demo Flight Test	
Additional Hardpoint Development	
<i>Radio Crypto</i>	
EMD	
PDR/CDR	
DT/OT	
MS-C	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101126F / B-1B Squadrons	Project (Number/Name) 675344 / B-1B Modernization

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Hypersonic Integration</i>				
Demo Planning	1	2023	2	2023
Demo Ground Test	2	2023	3	2023
Demo Flight Test	4	2023	2	2024
Additional Hardpoint Development	2	2024	2	2025
<i>Radio Crypto</i>				
EMD	1	2023	3	2025
PDR/CDR	4	2023	2	2024
DT/OT	4	2024	2	2025
MS-C	4	2025	4	2025

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	0.000	100.590	87.623	41.212	0.000	41.212	0.004	0.004	0.004	0.004	Continuing	Continuing
675345: <i>B-2 Modernization</i>	0.000	86.354	85.468	33.196	0.000	33.196	0.004	0.004	0.004	0.004	0.000	205.034
676021: <i>BASELINE SUPPORT</i>	0.000	14.236	2.155	8.016	0.000	8.016	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

The B-2 is currently undergoing modernization of avionics, communications systems, cockpit displays, armament systems, low observable components, core training system components, aircraft supportability improvements, and support equipment development.

The Air Force will also study multiple structural, avionics, and engine modifications, as well as advanced weapons integration and advanced communications, that could improve the performance of the aircraft and engines and reduce maintenance man-hours and the logistics footprint of the fleet. Focus of the studies will be on non-mission capable (maintenance) drivers, safety issues, and obsolescence issues through modernization of key components in the airframe, avionics, and engines resulting in improved aircraft availability of a high demand/low density fleet.

The B-2 Display Modernization program is a modernization of the B-2 multi-purpose display units (MDUs) and includes removal of the Defensive Management System-Modernization (DMS-M) modification from the B-2 fleet test aircraft and lab environment. This is not a new start, but a continuation of RDT&E scope that was part of the previous DMS-M program. FY 2021 and prior years DMS-M efforts were in PE 0605931F.

B-2 Advanced Communications included Multiple modernization efforts in the FY24 PB and is now being broken out in two (2) separate lines in the FY25 PB. These efforts support and enhance the aircraft's communications capabilities to keep the B-2 ready, effective, and survivable by complying with growing crypto mandates and mitigating end of life systems. The Adaptable Communications Suite (ACS) Increment 4.0 provides secure beyond line-of-sight SATCOM Command and Control connectivity. ACS 4.0 will replace the current radios and ancillaries to transition B-2 SATCOM to Mobile User Objective System due to the sunset of the current Ultra High Frequency Follow-On satellite constellation. Along with the aircraft system, the ACS ground systems and infrastructure will be redesigned to support this requirement. Significantly, ACS 4.0 will allow for simultaneous use of SATCOM voice and data.

B-2 Battlespace Collaborative Combat Communications (B2C3) integrates an independent Open Mission Systems (OMS) avionics architecture integrated on the B-2. B2C3 objective is to identify, leverage, and integrate existing capabilities to meet B-2 communications requirements. B2C3 is a compilation of multiple efforts (can be thought of as an integration effort) designed to deliver the OMS architecture (domain) within the B-2. B2C3 will implement Airborne Integrated Terminal Group (AITG) which provides Line-of-Sight Ultra High Frequency (UHF) and Very High Frequency (VHF) anti-jam, encrypted, and unencrypted voice communications. AITG Replacement will include the replacement of the AN/ARC-234 radio which will reach end-of-life effective 01 Oct 2026. AITG replacement will also implement the SATURN Waveform for anti-jam voice communications; this is a transition from the HAVE QUICK Waveform which will be retired effective 01 Oct 2024.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force Date: March 2024

Appropriation/Budget Activity
3600: *Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development*

R-1 Program Element (Number/Name)
PE 0101127F / *B-2 Squadrons*

Low Observable Signature and Supportable Modifications (LOSSM) is a continuous improvement program delivering quickly fielded solutions that ensures the B-2 stealth platform (LO maintainability and signature performance) stays relevant. The program addresses emerging threats that challenge the viability of the LO aircraft in highly contested environments. LOSSM ensures aircraft survivability through innovation in signature reduction and advanced LO performance; as well as reducing the LO maintenance and maintainability. The efforts reduce costs and maintenance man hours as well as increase aircraft readiness.

The B-2 Identification Friend or Foe (IFF) Mode 5/S modification program replaces the current IFF transponder with a new Mode 5 and Mode S capable transponder ensuring compliance with DoD Combat Identification mandates and global Communications, Navigation, Surveillance/Air Traffic Management (CNS/ATM) requirements. Mode 5 is the DoD standard for secure combat identification and provides improved discrimination between closely spaced platforms, while reducing interference with civil air traffic control transponders, enabling the B-2 fleet to accomplish its anti-access and global strike mission. Mode 5 replaced the obsolete Mode 4 combat identification. Mode S is a civil air traffic control secondary surveillance radar process that allows selective interrogation of aircraft according to the unique 24-bit address. Mode S provides improved accuracy and altitude resolution and reduced interference from closely spaced aircraft through selective interrogation of assigned transponder addresses.

The B-2 Training System upgrades include updates to training device hardware and components, simulation software, course ware and academic materials, instructional system design architectures, engineering drawings, and system documentation that is not driven by a funded aircraft modification.

This budget supports B-2 nuclear certification activities to include certification testing, analysis, and support related costs to ensure the weapon system's nuclear mission remains intact. B-2 funding also supports innovation activities to include studies, analyses, requirements definition, and quick-reaction capability prototypes/ demonstrations to accelerate planning for technology transition, technology insertion, and future acquisition programs.

Additionally, program funds may be used for Airframe Hardware Supportability Modifications (AHSM). The AHSM program increases aircraft availability and ensures mission effectiveness by targeting flight control, defensive management, communication, armament, and other system components that are the greatest contributors to aircraft downtime and/or ineffective system performance through lack of spares, extensive man-hours to troubleshoot and repair, and/or high failure rates. This program addresses current and forecasted obsolescence, Diminishing Manufacturing Sources/Material Shortages (DMSMS), and effective and timely repairs at both the field and depot levels. It also targets components whose failure rates, mean time to repair (MTTR) hours, and performance levels fail to meet established baseline targets/ specifications. This program includes multiple efforts including, but not limited to, the Radio Frequency Switching Unit, Radar Receiver Exciter, Radar Signal Processor, Flight Control Computer, Band 1 Radio Frequency Front End (RFFE), Air Turbine Starter Control Valve.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program's funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY22 0M was expended for civilian pay expenses in this program element, and in FY23 0M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101127F / <i>B-2 Squadrons</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	101.790	87.623	33.136	0.000	33.136
Current President's Budget	100.590	87.623	41.212	0.000	41.212
Total Adjustments	-1.200	0.000	8.076	0.000	8.076
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	2.080	0.000			
• SBIR/STTR Transfer	-3.280	0.000			
• Other Adjustments	0.000	0.000	8.076	0.000	8.076

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 675345: *B-2 Modernization*

Congressional Add: *B-2 Modernization*

	FY 2023	FY 2024
	5.000	-
Congressional Add Subtotals for Project: 675345	5.000	-
Congressional Add Totals for all Projects	5.000	-

Change Summary Explanation

FY23 adjustments consist of -\$1.260M on FY23-80PA; +\$4.0M reprogramming for Fixed Reception Pattern Antenna Retrofit; -\$0.660M for AFIPPS reprogrammings and -3.280M for Small Business Innovative Research (SBIR)
 FY25 increase addresses Baseline Support for Flight Test infrastructure

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons				Project (Number/Name) 675345 / B-2 Modernization			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
675345: B-2 Modernization	0.000	86.354	85.468	33.196	0.000	33.196	0.004	0.004	0.004	0.004	0.000	205.034
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The B-2 is currently undergoing modernization of avionics, communications systems, cockpit displays, armament systems, low observable components, core training system components, aircraft supportability improvements, and support equipment development.

The Air Force will also study multiple structural, avionics, and engine modifications, as well as advanced weapons integration and advanced communications, that could improve the performance of the aircraft and engines and reduce maintenance man-hours and the logistics footprint of the fleet.

The B-2 Display Modernization program is a modernization of the B-2 multi-purpose display units (MDUs) and includes removal of the Defensive Management System-Modernization (DMS-M) modification from the B-2 fleet test aircraft and lab environment. This is not a new start, but a continuation of 3600 scope that was part of the previous DMS-M program. FY 2021 and prior years DMS-M efforts were in PE 0605931F.

B-2 Advanced Communications included multiple modernization efforts in the FY24 PB and is now being broken out in two (2) separate lines in the FY25 PB. These efforts support and enhance the aircraft's communications capabilities to keep the B-2 ready, effective, and survivable by complying with growing crypto mandates and mitigating end of life systems. The Adaptable Communications Suite (ACS) Increment 4.0 provides secure beyond line-of-sight SATCOM Command and Control connectivity. ACS 4.0 will replace the current radios and ancillaries to transition B-2 SATCOM to Mobile User Objective System due to the sunset of the current Ultra High Frequency Follow-On satellite constellation. Along with the aircraft system, the ACS ground systems and infrastructure will be redesigned to support this requirement. Significantly, ACS 4.0 will allow for simultaneous use of SATCOM voice and data.

B-2 Battlespace Collaborative Combat Communications (B2C3) integrates an independent Open Mission Systems (OMS) avionics architecture integrated on the B-2. B2C3 objective is to identify, leverage, and integrate existing capabilities to meet B-2 communications requirements. B2C3 is a compilation of multiple efforts (can be thought of as an integration effort) designed to deliver the OMS architecture (domain) within the B-2. B2C3 will implement Airborne Integrated Terminal Group (AITG) which provides Line-of-Sight Ultra High Frequency (UHF) and Very High Frequency (VHF) anti-jam, encrypted, and unencrypted voice communications. AITG Replacement will include the replacement of the AN/ARC-234 radio which will reach end-of-life effective 01 Oct 2026. AITG replacement will also implement the SATURN Waveform for anti-jam voice communications; this is a transition from the HAVE QUICK Waveform which will be retired effective 01 Oct 2024.

The Low Observable Signature and Supportability Modifications (LOSSM) program supports the B-2 ability to penetrate anti-access combat environments, performing missions directed by the National Command Authority while ensuring aircrew survivability. The LOSSM program reduces low observable (LO) maintenance, stabilizes, and improves the combat-ready LO signature for the B-2 fleet. This program encompasses multiple improvement projects including, but not limited to, improved LO materials (electrically conductive materials, adhesives, electrically resistive materials, radar absorbing material, fastener fills, coatings, welds, material removal tools, and improved processes), LO structures (radar radomes, antennas, hot trailing edges and tiles, intermediate section doors, tailpipes, windows, lib bay panels, leading edge, permanent fasteners, exhaust pockets, gust load alleviation system, inlets, radar absorbing structures, overall signature stability, and Alternate High Frequency Material

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / <i>B-2 Squadrons</i>	Project (Number/Name) 675345 / <i>B-2 Modernization</i>
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expansion); and radio frequency (RF) diagnostic tools, evaluation systems, and other key support equipment (Tier I Material Inspection System, Signature Diagnostic System, next generation Tier II and Tier III systems, Test Article 0998 (a B-2 test asset) optimization, conductivity probes, tailpipe inspection tools, LO- related special test equipment, data archival, and communications tools). LOSSM yields a high Return On Investment (ROI) and provides signature confidence for war time readiness posturing.

The B-2 Identification Friend or Foe (IFF) Mode 5/S program replaces the current IFF transponder with a new Mode 5 and Mode S capable transponder ensuring compliance with DoD Combat Identification mandates and global Communications, Navigation, Surveillance/Air Traffic Management (CNS/ATM) requirements. Mode 5 is the DoD standard for secure combat identification and provides improved discrimination between closely spaced platforms, while reducing interference with civil air traffic control transponders, enabling the B-2 fleet to accomplish its anti-access and global strike mission. Mode 5 replaced the obsolete Mode 4 combat identification. Mode S is a civil air traffic control secondary surveillance radar process that allows selective interrogation of aircraft according to the unique 24-bit address. Mode S provides improved accuracy and altitude resolution and reduced interference from closely spaced aircraft through selective interrogation of assigned transponder addresses.

The B-2 Training System upgrades include, but are not limited to, updates to training device hardware and components, simulation software, course ware and academic materials, instructional system design architectures, engineering drawings, and system documentation that are not driven by a funded aircraft modification. Upgrades may include Diminishing Manufacturing Sources efforts to include removal of end-of-life software/hardware within simulator systems and move to a modular, common open system architecture that is sustainable and cyber-resilient. Additional Training System Upgrades may also include efforts to implement requirements and standards defined under the Simulator Common Architecture Requirements and Standards (SCARS) initiative.

Continuation of B-2 Armament upgrades integrate new and/or advanced weapons on the B-2 to attack a wider array of target sets, to include hardened, deeply buried targets, as well as destroy more targets per sortie. Studies and efforts will refine B-2 targeting accuracy using GPS guided weapons. Nuclear modernization will continue with software and crypto modifications.

B-2 funding may be used to resolve emerging safety of flight and diminishing manufacturing sources issues, and fulfill FAA or other mandates necessary to ensure continued aircrew safety and mission effectiveness. Funding may also support innovation activities including, but not limited to, studies, analyses, requirements definition, and quick-reaction capability prototypes/demonstrations to accelerate planning for technology transition, technology insertion, and future acquisition programs.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY22 0M was expended for civilian pay expenses in this program element, and in FY23 0M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: Low Observable Signature and Supportability Mods and Trainers	5.018	0.200	1.000

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons	Project (Number/Name) 675345 / B-2 Modernization		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>Description: B-2 Low Observable Signature and Supportability Modifications (LOSSM) pursues multiple low-cost development upgrades for Low Observable (LO) materials, diagnostics and procedures to enhance LO signature and/or improve aircraft supportability, as well as other development or study efforts for training system improvements.</p> <p>FY 2024 Plans: LOSSM will utilize these funds to continue technology development activities of the Next Generation Zonal Radar to finalize replacement of legacy system (SCI-2K) by developing Tier 2 low frequency inspection ability that has reemerged as a critical need.</p> <p>FY 2025 Plans: LOSSM will utilize funding for additional phases of research and development for ASR-11 (classified effort) which involves the potential for integration of already matured technologies that will provide new capabilities not previously employed by the B-2.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding for FY25 has been reallocated to LOSSM as a high priority program with ability to execute funding more effectively.</p>				
<p>Title: B-2 Advanced Communications -- Adaptable Communications Suite (ACS) 4.0</p> <p>Description: ACS 4.0 provides secure beyond line-of-sight SATCOM Command and Control connectivity. ACS 4.0 will involve replacing the current radios and ancillaries to transition B-2 SATCOM to Mobile User Objective System due to the sunset of the current Ultra High Frequency Follow-On satellite constellation. Along with the aircraft system, the ACS ground systems and infrastructure will be redesigned to support this requirement. Significantly, ACS 4.0 will allow for simultaneous use of SATCOM voice and data.</p> <p>FY 2024 Plans: ACS 4.0: Award EMD contracts, Complete CDR, conduct Test Readiness Review</p> <p>FY 2025 Plans: Complete airworthiness</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Advanced Communications RDT&E will be complete in FY25.</p>		17.162	23.719	4.617
<p>Title: B-2 Advanced Communications -- B-2 Battlespace Collaborative Combat Communications (B2C3)</p> <p>Description: B2C3 integrates an independent OMS avionics architecture integrated on the B-2. B2C3 objective is to identify, leverage, and integrate existing capabilities (such as ACS & AITG) to meet B-2 communications requirements. B2C3 is a compilation of multiple efforts (can be thought of as an integration effort) designed to deliver the Open Mission Systems (OMS) architecture (domain) within the B-2. By controlling this interface, new technologies can be rapidly developed and fielded.</p>		6.225	21.860	12.033

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons	Project (Number/Name) 675345 / B-2 Modernization
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024		FY 2025
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<p>This will provide an integrated concept that merges BLOS and LOS Link-16 data into the cockpit display and provides a single consolidated Tactical Situation Display (TSD) centrally located for the aircrew.</p> <p>Being developed and fielded as part of B2C3, the AITG provides Line-of-Sight UHF and Very High Frequency (VHF) anti-jam, encrypted, and unencrypted voice communications. AITG Replacement will include the replacement of the AN/ARC-234 radio which will reach end-of-life effective 01 Oct 2026. AITG replacement will also implement the SATURN Waveform for anti-jam voice communications; this is a transition from the HAVE QUICK Waveform which will be retired effective 01 Oct 2024.</p> <p>FY 2024 Plans: Complete development of Spiral 1, release LRIP production contract. Begin Spiral 2 (AITR) development (PDR/CDR)</p> <p>FY 2025 Plans: Continue development of Spiral 2 and Test Spiral 2</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Ramping down B-2 Battlespace Collaborative Combat Communications (B2C3) activities</p>				
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<p>Title: B-2 Identification Friend or Foe (IFF) Mode 5/S Program</p> <p>Description: The B-2 IFF Mode 5/S Program is part of B-2 Integrated Functional Capability (IFC) drop P6.6, which also includes software sustainment updates and form, fit, function hardware replacement. The IFC Process is the framework within which B-2 modernization and sustainment improvements are designed, developed, integrated, tested, and delivered. B-2 IFF Mode 5/S Program replaces the current IFF transponder with a new Mode 5 and Mode S capable transponder ensuring compliance with DoD Combat Identification mandates and global communications, Navigation, Surveillance/Air Traffic Management (CNS/ATM) requirements. Mode 5 is the DoD standard for secure combat identification and provides improved discrimination between closely spaced platforms, while reducing interference with civil air traffic control transponders, enabling the B-2 fleet to accomplish its anti-access and global strike mission. Mode 5 replaced the obsolete Mode 4 combat identification. Mode S is a civil air traffic control secondary surveillance radar process that allows selective interrogation of aircraft according to the unique 24-bit address. Mode S provides improved accuracy and altitude resolution and reduced interference from closely spaced aircraft through selective interrogation of assigned transponder addresses.</p> <p>FY 2024 Plans: There are no RDT&E program plans in FY24</p> <p>FY 2025 Plans: No FY25 funding</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement:</p>	1.789	0.000		0.000
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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons	Project (Number/Name) 675345 / B-2 Modernization		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
No decrease or increase				
<p>Title: B-2 Display Modernization (BDM)</p> <p>Description: The B-2 Display Modernization program is a modernization of the B-2 multi-purpose display units (MDUs) and includes removal of the Defensive Management System-Modernization (DMS-M) modification from the B-2 fleet test aircraft and lab environment. This is not a new start, but a continuation of RDT&E that was part of the previous DMS-M program. FY 2021 and prior years DMS-M efforts were in PE 0605931F.</p> <p>FY 2024 Plans: Continue development and software integration of MDU Replacements (MDU-R). Advance development on lab support activities and complete modification of the B-2 Test Aircraft, A/C 1087, (currently configured for DMS-M). Conduct technical and test reviews to support restructured program. Start flight test activities.</p> <p>FY 2025 Plans: Complete flight test activities and System Verification Review.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding decreased due to transition from development and integration activities to flight test and System Verification Review.</p>		50.749	37.056	12.294
<p>Title: B-2 Trainers Modernization</p> <p>Description: The B-2 Training System upgrades include, but are not limited to, updates to training device hardware and components, simulation software, courseware and academic materials, instructional system design architectures, engineering drawings, and system documentation that is not driven by a funded aircraft modification. Upgrades may include Diminishing Manufacturing Sources efforts to include removal of end-of-life software/hardware within simulator systems and move to a modular, common open system architecture that is sustainable and cyber-resilient. Additional Training System Upgrades may also include efforts to implement requirements and standards defined under the Simulator Common Architecture Requirements and Standards (SCARS) initiative. Other Training Systems upgrades may include efforts such as Advanced Communications in conjunction with the platform upgrades. Support to include, but not limited to, Program Management Administration (PMA), Advisory and Assistance Services (A&AS), and travel to enable mission requirements.</p> <p>FY 2024 Plans: Integrate BDM capabilities into the training system to ensure concurrency between the aircraft and training system.</p> <p>FY 2025 Plans: Integrate Advanced Communications capabilities into the training system to ensure concurrency between the aircraft and training system.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement:</p>		0.411	2.633	3.252

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons	Project (Number/Name) 675345 / B-2 Modernization

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Increase in funds will be used to support the Advanced Communications integration effort.			
Accomplishments/Planned Programs Subtotals	81.354	85.468	33.196

	FY 2023	FY 2024
Congressional Add: B-2 Modernization	5.000	-
FY 2023 Accomplishments: Funds will be used in support of the Air Force Global Strike Command (AFGSC) Commercial Capabilities Integration and Transition capability, which will explore, prototype, and invest in commercial technologies to include autonomous robotics perimeter defense system, 5G testing support, and advanced software tools.		
Congressional Adds Subtotals	5.000	-

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APAF 05 B00200: B-2A	72.919	107.980	63.932	-	63.932	58.891	463.000	15.807	16.124	0.000	798.653
• APAF 06 000999: Initial Spares/Repair Parts	9.242	-	-	-	-	-	-	-	-	0.000	9.242
• APAF 07 B00200: B-2A	1.802	1.838	1.885	-	1.885	1.918	-	-	-	0.000	7.443
• APAF 07 B002B0: B-2B	36.325	15.207	15.709	-	15.709	16.026	16.854	17.204	17.547	0.000	134.872
• APAF 07 000075: Other Production Charges	20.320	18.894	19.358	-	19.358	19.698	-	-	-	0.000	78.270
• OPAF 03 833140: Strategic Command And Control	0.617	0.535	0.578	-	0.578	0.591	0.612	0.624	0.636	0.000	4.193

Remarks

D. Acquisition Strategy

The B-2 is currently undergoing modernization of avionics systems, communication systems, cockpit displays, low observable components and training systems as well as the integration of advanced weapons. Most, but not all B-2 modernization programs utilize a sole source contract with the prime/integrating contractor (Northrop Grumman). Key elements of the acquisition strategy include: use of cost plus incentive fee and fixed price incentive fee development contracts, as well as the combination of developmental upgrades with software sustainment blocks to minimize the number of software releases, aircraft downtime, and number of fielded configurations.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons	Project (Number/Name) 675345 / B-2 Modernization
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Low Observable Signature and Supportability Mods	Various	Various : Various	0.000	4.587	Jun 2023	0.181	Dec 2023	0.900	Apr 2025	-		0.900	Continuing	Continuing	-
B-2 Advanced Communications - Adaptive Communications Suite 4.0	Various	Various : Various	0.000	15.749	Aug 2023	23.823	Dec 2023	3.400	Aug 2025	-		3.400	Continuing	Continuing	-
B-2 Advanced Communications - Battlespace Collaborative Combat Communications (B2C3)	Various	Northrop Grumman; various : Various	0.000	5.054	Aug 2023	15.931	Nov 2023	9.113	Aug 2025	-		9.113	0.000	30.098	-
B-2 IFF Mode 5/S	Various	Northrop Grumman : Various	0.000	1.789	Aug 2023	-		-		-		-	0.000	1.789	-
B-2 Display Modernization (BDM)	Various	Northrop Grumman : Various	0.000	39.375	May 2023	26.799	Jan 2024	9.453	Jan 2025	-		9.453	Continuing	Continuing	-
B-2 Training Modernization	Various	Northrop Grumman : Various	0.000	0.367	Feb 2023	2.377	Feb 2024	2.475	Feb 2025	-		2.475	Continuing	Continuing	-
Congressional Add	Various	Not specified. : TBD	0.000	5.000	Sep 2023	-		-		-		-	0.000	5.000	-
Subtotal			0.000	71.921		69.111		25.341		-		25.341	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Support	SS/ Various	Northrop Grumman : Various	0.000	1.572	Jan 2023	1.688	Jan 2024	1.014	Jan 2025	-		1.014	0.000	4.274	-
Subtotal			0.000	1.572		1.688		1.014		-		1.014	0.000	4.274	N/A

Remarks
This support is the Enterprise Support Delivery Order (ESDO) under the B-2 Flexible Acquisition and Sustainment Team (FAST) II umbrella contract with Northrop Grumman.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons	Project (Number/Name) 675345 / B-2 Modernization
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Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Management Services	Various	Various : Various	0.000	4.402	Oct 2022	5.921	Oct 2023	3.651	Oct 2024	-		3.651	0.000	13.974	-
PMA	Various	DCS Corporation : Various	0.000	8.459	Oct 2022	8.748	Oct 2023	3.190	Oct 2024	-		3.190	Continuing	Continuing	-
Subtotal			0.000	12.861		14.669		6.841		-		6.841	Continuing	Continuing	N/A
Project Cost Totals			0.000	86.354		85.468		33.196		-		33.196	Continuing	Continuing	N/A

Remarks
Award dates listed are the first incremental funding opportunity associated with each cost category.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons	Project (Number/Name) 675345 / B-2 Modernization
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

B-2 Modifications Schedule																												
Low Observable Signature and Supportability Mods and Trainers																												
IFF Mode 5/S EMD Phase																												
B-2 Display Modernization (BDM) Displays EMD Phase																												
Advanced Communications-Adaptable Communications Suite (ACS 4.0)																												
Advanced Communications-B-2 Battlespace Collaborative Combat Communications (B2C3)																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons	Project (Number/Name) 675345 / B-2 Modernization

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
B-2 Modifications Schedule				
Low Observable Signature and Supportability Mods and Trainers	1	2023	4	2025
IFF Mode 5/S EMD Phase	1	2023	2	2024
B-2 Display Modernization (BDM) Displays EMD Phase	1	2023	4	2025
Advanced Communications-Adaptable Communications Suite (ACS 4.0)	1	2023	3	2025
Advanced Communications-B-2 Battlespace Collaborative Combat Communications (B2C3)	1	2023	1	2026

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons				Project (Number/Name) 676021 / BASELINE SUPPORT			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
676021: <i>BASELINE SUPPORT</i>	0.000	14.236	2.155	8.016	0.000	8.016	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Baseline Support maintains and upgrades the B-2 unique flight test aircraft as well as hardware/software and test equipment to support developmental systems integration, and flight test, reducing the need for additional operational aircraft and accelerating deployment of advanced operational capabilities to the warfighter.

Baseline Support also provides for other B-2 unique government costs and includes assorted studies of aircraft performance as well as acquisition planning activities, up to and including proposal preparation, for future aircraft, engine, weapon, communication, navigation or other capabilities.

B-2 funding may be used to resolve emerging safety of flight and diminishing manufacturing sources issues, and fulfill FAA or other mandates necessary to ensure continued aircrew safety and mission effectiveness. Funding may also support innovation activities including, but not limited to, studies, analyses, requirements definition, and quick-reaction capability prototypes/demonstrations to accelerate planning for technology transition, technology insertion, and future acquisition programs.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
<p>Title: Baseline Support Acq Plan/Studies/Integr Test Support</p> <p>Description: Baseline Support provides for other B-2 unique government costs, including acquisition planning activities for future capabilities, long range planning, studies, and program integration activities, as well as integration and test support of upgraded crypto components as needed.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: No increase or decrease.</p>	0.000	0.000	0.000
<p>Title: Baseline Support Flight Test</p> <p>Description: Baseline Support Flight Test maintains and upgrades the B-2 unique flight test aircraft as well as hardware/software and test equipment to support developmental systems integration and flight test, reducing the need for additional operational aircraft and accelerating deployment of advanced operational capabilities to the warfighter.</p> <p>FY 2024 Plans:</p>	14.236	2.155	8.016

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / <i>B-2 Squadrons</i>	Project (Number/Name) 676021 / <i>BASELINE SUPPORT</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Continue to support and complete B-2 test activities.			
<i>FY 2025 Plans:</i> Continue to support and complete B-2 test activities including maintaining and supporting the B-2 flight test aircraft and supporting integration flight test, and planning activities associated with the test jet.			
<i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Increase will be used to cover the costs of maintaining the B-2 flight test aircraft as well as hardware/software and test equipment to support developmental systems. It will support costs associated with the test jet including planning activities, proposal preparation for future aircraft engine, weapon, communication and navigation capabilities, resolve emerging safety of flight issues and to ensure continued aircrew safety and mission effectiveness.			
Accomplishments/Planned Programs Subtotals	14.236	2.155	8.016

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

Key elements of the acquisition strategy include: use of a sole source contract with a prime/integrating contractor (Northrop Grumman) for most but not all B-2 programs; use of cost plus incentive fee (CPIF) development contracts; use of B-2A Global Power Bomber Combined Test Force (GPB CTF) Statement of Capabilities (SOC) and the combination of developmental upgrades with software sustainment blocks to minimize the number of software releases, aircraft downtime, and differences in fielded configurations.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons	Project (Number/Name) 676021 / BASELINE SUPPORT
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Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Support	SS/ Various	Northrop Grumman : Various	0.000	0.004	Jan 2023	-		-		-		-	0.000	0.004	-
Other Government Costs	Various	Various : Various	0.000	12.989	Oct 2022	1.945	Oct 2023	6.380	Oct 2024	-		6.380	Continuing	Continuing	-
Subtotal			0.000	12.993		1.945		6.380		-		6.380	Continuing	Continuing	N/A

Remarks
 This support is the Enterprise Support Delivery Order (ESDO) under the B-2 Flexible Acquisition and Sustainment Team (FAST) II umbrella contract with Northrop Grumman.
 Other Government Costs covers the flight test cadre Contract Line Item Number (CLIN) on the ESDO.

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Management Services	C/CPAF	Not specified. : TBD	0.000	0.625		0.000		0.825	Dec 2024	-		0.825	0.000	1.450	-
PMA	Various	Various : TBD	0.000	0.618	Dec 2022	0.210	Dec 2023	0.811	Dec 2024	-		0.811	Continuing	Continuing	-
Subtotal			0.000	1.243		0.210		1.636		-		1.636	Continuing	Continuing	N/A

			Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	14.236	2.155	8.016	-	8.016	Continuing	Continuing	N/A

Remarks
 Award dates listed are the first incremental funding opportunity associated with each cost category.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons	Project (Number/Name) 676021 / BASELINE SUPPORT
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>B-2 Baseline Support</i>	
FY 2023 Flight Test Core Support Annual Contract Award	
FY 2024 Flight Test Core Support Annual Contract Award	
FY 2025 Flight Test Core Support Annual Contract Award	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101127F / B-2 Squadrons	Project (Number/Name) 676021 / BASELINE SUPPORT

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>B-2 Baseline Support</i>				
FY 2023 Flight Test Core Support Annual Contract Award	1	2023	1	2024
FY 2024 Flight Test Core Support Annual Contract Award	1	2024	1	2025
FY 2025 Flight Test Core Support Annual Contract Award	1	2025	1	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101213F / <i>Minuteman Squadrons</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	0.000	71.339	33.237	62.550	0.000	62.550	24.436	20.830	16.194	9.343	Continuing	Continuing
672983: <i>MM Ground and Comm Equipment</i>	0.000	6.548	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.548
672984: <i>MM III Baseline Support</i>	0.000	51.750	33.237	50.017	0.000	50.017	24.436	20.830	16.194	9.343	Continuing	Continuing
672985: <i>MM Support Equip</i>	0.000	13.041	0.000	12.533	0.000	12.533	0.000	0.000	0.000	0.000	0.000	25.574

Note

This program, BA 7, PE 0101213F, project 672984, Little Mountain Test Facility (LMTF), is a new start.
 This program, BA 7, PE 0101213F, project 672984, Stage 1 Battery Replacement (SOBR), is a new start.
 This program, BA 7, PE 0101213F, project 672984, LGM-30G Depot Reentry Support Equipment Replacement Program (DRSERP), is a new start.
 This program, BA 7, PE 0101213F, project 672985, LGM-30G MM III Missile Transporter Acquisitions Program (MTAP), is a new start.

A. Mission Description and Budget Item Justification

The MM Ground and Comm Equipment program replaces obsolete/unsupportable ground-based weapon system equipment located at Launch Control Centers (LCCs) and Launch Facilities (LFs) necessary to continue Minuteman III (MM III) operations until replaced by Sentinel. Current efforts include development, qualification, integration, and testing of replacement equipment for the LGM-30G Fast Rising B-Plug Energy Storage System-Replacement (FRBP ESS-R).

MM III Baseline Support program replaces or upgrades obsolete/unsupportable flight test unique equipment installed on the missile during flight test, used to test MM III systems on the ground, or located at test facilities to collect, process, and analyze test data. Flight test equipment supports test and evaluation of MM III capabilities, and MM III Operational Test Launches (OTLs) to determine ICBM force readiness, reliability and capability shortfalls. Efforts include development, qualification, integration and testing of replacement equipment such as LGM-30G Flight Test Telemetry and Termination System (FT3) and LGM-30G Higher Authority Command Test System (HACTS) 2.0 and LGM-30G Stage 1 Battery (SOBR) and LGM-30G Depot Reentry Support Equipment Replacement Program (DRSERP) and Little Mountain Test Facility (LMTF). These programs will also implement processes, procedures and data systems to mitigate the transition risk from MM III to Sentinel. As other similar equipment is identified for replacement, it will be added to this program. MM III Baseline Support also provides for other MM III unique government costs, studies of system performance, contract closeout costs, cost trades and acquisition planning activities, up to and including proposal preparation, for future capabilities. Efforts also include any minor needs required to prepare for full acquisition purposes.

MM Support Equipment program designs, develops, and tests replacement of obsolete/non-serviceable weapon system support equipment. These programs will also implement processes, procedures and data systems to mitigate the transition risk from MM III to Sentinel. Efforts include design, development, and testing of support equipment such as MM III Acquisition of Transportation and Handling and Support Equipment (MATH) effort as well Missile Transport Acquisitions Program (MTAP). Programs will execute Diminishing Manufacturing Sources and Material Shortages/Program Management Administration support through the ISC 2.0 contract established to support the ICBM enterprise through the life of MM III.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101213F / <i>Minuteman Squadrons</i>
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MM Crypto Mods executes United States Strategic Command, Air Force Global Strike Command, and Air Force Safety Center requirements by implementing the KS-60 capabilities in LGM-30G ICBM (Intercontinental Ballistic Missile (ICBM) Cryptography Upgrade II (ICU II) of remote key/code change and irreversible transformation as mandated in the approved Capabilities Development Document (dated 4 Jan 05) and addresses Nuclear Weapon System Safety Group Operational Safety Review requirements 98-2, 00-1, and 02-2. It also incorporates continuous signal lockout capabilities to prevent the widespread loss of status monitoring. These features will greatly increase security during code changes by reducing the frequency of open sites by 75 days annually and will reduce associated resource costs for 450 LFs and 45 LCCs.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY2023 \$0.502M was expended for civilian pay expenses in this program element, and in FY 2024 \$0.000M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	73.650	33.237	3.133	0.000	3.133
Current President's Budget	71.339	33.237	62.550	0.000	62.550
Total Adjustments	-2.311	0.000	59.417	0.000	59.417
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-2.311	0.000			
• Other Adjustments	0.000	0.000	59.417	0.000	59.417

Change Summary Explanation

FY 2023 adjustment of -\$2.311M for Small Business Innovative Research (SBIR)

FY 2025 \$59.417M increase due to close out activities for FT3, Baseline Support activities, and new starts: SOBR, DRSERP, and LMTF.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101213F / <i>Minuteman Squadrons</i>	Project (Number/Name) 672983 / <i>MM Ground and Comm Equipment</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
672983: <i>MM Ground and Comm Equipment</i>	0.000	6.548	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.548
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The MM Ground and Comm Equipment program replaces obsolete/unsupportable ground-based weapon system equipment located at Launch Control Centers (LCCs) and Launch Facilities (LFs) necessary to continue Minuteman III operations until replaced by Sentinel. Current efforts include development, qualification, integration, and testing of replacement equipment such as the LGM-30G Fast Rising B-Plug Energy Storage System-Replacement (FRBP ESS-R).

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: LGM-30G Fast Rising B-Plug Energy Storage System-Replacement (FRBP ESS-R)	6.548	0.000	0.000
Description: The FRBP ESS-R provides security functions for the Personnel Access System (PAS) of the LFs. It is a 14,000 pound cylinder with 12 locking pins used to deny/delay access to intruders during LF maintenance activities.			
This effort includes critical hardware modifications to address high obsolescence risk and reliability issues affecting the operational wings.			
FY 2024 Plans: No FY24 funding			
FY 2025 Plans: No FY25 funding			
FY 2024 to FY 2025 Increase/Decrease Statement: Not Applicable			
Accomplishments/Planned Programs Subtotals	6.548	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101213F / <i>Minuteman Squadrons</i>	Project (Number/Name) 672983 / <i>MM Ground and Comm Equipment</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• MPAF 03 Line Item <i>M30MLG: MM III Modifications</i>	9.224	11.637	12.818	-	12.818	8.734	0.000	0.000	-	0.000	42.413
• MPAF 04 Line Item 00098A: <i>Msl Sprs / Repair Parts (Initial)</i>	0.778	0.000	0.000	-	0.000	0.000	0.000	0.000	-	0.000	0.778

Remarks

D. Acquisition Strategy

Ground and communication equipment replacement efforts are reviewed to determine the best method for execution; including vendor qualification and procurement with no development required; develop and/or modify organic depot capabilities with industry. Industry development for ground and communication equipment efforts will be executed through contracts under the Future Intercontinental Ballistic Missile (ICBM) Sustainment and Acquisition Construct (FISAC) or competitive source selections. Nuclear Surety Cross Check Analysis (NSCCA) and Independent Verification and Validation (IV&V) efforts are contracted separately. Nuclear Surety and Vulnerability analysis requirements are covered in the Acquisition Strategy.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101213F / Minuteman Squadrons	Project (Number/Name) 672983 / MM Ground and Comm Equipment
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
LGM-30G Fast Rising B-Plug Energy Storage System-Replacement (FRBP ESS-R) EMD SIBR	C/CPAF	Select Engineering Serv : Layton, UT	0.000	4.489	Oct 2022	-		-		-		-	Continuing	Continuing	-
LGM-30G Fast Rising B-Plug Energy Storage System-Replacement (FRBP ESS-R) EMD	C/CPFF	Northrop Grumman : Salt Lake City, UT	0.000	-		-		-		-		-	Continuing	Continuing	21.949
Subtotal			0.000	4.489		-		-		-		-	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
LGM-30G Fast Rising B-Plug Energy Storage System-Replacement (FRBP ESS-R) Test & Evaluation	Various	Various : Various	0.000	0.198	Oct 2022	-		-		-		-	Continuing	Continuing	0.000
Subtotal			0.000	0.198		-		-		-		-	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
LGM-30G Fast Rising B-Plug Energy Storage System-Replacement (FRBP ESS-R) A&AS	C/FP	BAE : Layton, UT	0.000	1.162	Oct 2022	-		-		-		-	Continuing	Continuing	3.692
LGM-30G Fast Rising B-Plug Energy Storage System-Replacement (FRBP ESS-R) PSC	Various	Various : Various	0.000	0.699	Jan 2023	-		-		-		-	Continuing	Continuing	0.000
Subtotal			0.000	1.861		-		-		-		-	Continuing	Continuing	N/A

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101213F / <i>Minuteman Squadrons</i>	Project (Number/Name) 672983 / <i>MM Ground and Comm Equipment</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>MM Ground and Comm Equipment</i>				
FRBP ESS-R Engineering & Manufacturing Development Phase	1	2023	1	2025
FRBP ESS-R Milestone C (Jun 2024)	3	2024	3	2024
FRBP ESS-R Production & Deployment Phase	3	2024	3	2027
FRBP ESS-R Full Operational Capability (FOC) (April 2027)	3	2027	3	2027

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0101213F / <i>Minuteman Squadrons</i>				Project (Number/Name) 672984 / <i>MM III Baseline Support</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
672984: <i>MM III Baseline Support</i>	0.000	51.750	33.237	50.017	0.000	50.017	24.436	20.830	16.194	9.343	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This program, BA 7, PE 0101213F, project 672984, Little Mountain Test Facility (LMTF), is a new start.
 This program, BA 7, PE 0101213F, project 672984, Stage 1 Battery Replacement (SOBR), is a new start.
 This program, BA 7, PE 0101213F, project 672984, LGM-30G Depot Reentry Support Equipment Replacement Program (DRSERP), is a new start.
 Project 672984, LGM-30G Arm/Disarm Switch Replacement (ADSR), is expected to complete EMD by 3QFY23.

A. Mission Description and Budget Item Justification

Minuteman III (MM III) Baseline Support program replaces or upgrades obsolete/unsupportable flight test unique equipment installed on the missile during flight test, used to test MM III systems on the ground, or located at test facilities to collect, process, and analyze test data. Flight test equipment supports test and evaluation of MM III capabilities, and MM III Operational Test Launches (OTLs) to determine ICBM force readiness, reliability and capability shortfalls. Efforts include development, qualification, integration and testing of replacement equipment such as LGM-30G Flight Test Telemetry and Termination System (FT3); LGM-30G Higher Authority Command Test System (HACTS) 2.0 and LGM-30G Depot Reentry Support Equipment Replacement Program (DRSERP). As other similar equipment is identified for replacement, it will be added to this program. MM III Baseline Support also provides for other MM III unique government costs, studies of system performance, contract closeout costs, cost trades and acquisition planning activities, up to and including proposal preparation, for future capabilities.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY 2023 \$0.502M was expended for civilian pay expenses in this program element, and in FY 2024 \$0.000M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Little Mountain Test Facility (LMTF)	-	0.000	5.800
Description: To fund test activities, equipment development, integration, and purchases along with associated indirect costs in support of the Air Force Nuclear Weapons Center (AFNWC) portfolio, Department of Defense (DoD) and Department of Energy (DOE) programs, and other partners. The LMTF requires test capability modernization and updates to meet increasing nuclear hardness test customer needs. Equipment is outdated and has exceeded useful life. Growing nuclear enterprise requirements are driving required updates to test capabilities such as restoration and expanded infrastructure and prompt gamma testing equipment development and procurement. LMTF requires test capability modernization to ensure test capabilities and facilities meet sustainment, modernization, and mission requirements.			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101213F / <i>Minuteman Squadrons</i>	Project (Number/Name) 672984 / <i>MM III Baseline Support</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Execute a 3-year bridge contract award with two follow-on option years with LMTF prime contractor (Boeing) for test, operations, sustainment, equipment development, procurement, and integration.</p> <p>FY 2024 Plans: No FY24 funding.</p> <p>FY 2025 Plans: Continue to execute contract award with LMTF prime contractor for test, operations, sustainment, equipment development, procurement. Prime will work with subcontractors to award development, purchase, test, and implementation of ARES test equipment. Initial long lead equipment purchases will be scheduled.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: This is an FY25 new start.</p>			
<p>Title: Stage 1 Battery Replacement (SOBR)</p> <p>Description: The current Stage 1 (SE-13G) battery has exceeded its projected shelf life and recent aging surveillance testing shows adverse impacts to reliability and availability. As a result, the batteries are not expected to last for the extended MM III lifespan. This program plans to replace the aging silver zinc Stage 1 battery by utilizing newer technologies to develop and produce a thermal battery replacement to extend the MM III lifespan through the transition period to Sentinel.</p> <p>FY 2024 Plans: No FY24 funding</p> <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> - Milestone B completion - Contract award for development of new battery - Take 3 contractors to PDR and CDR <p>FY 2024 to FY 2025 Increase/Decrease Statement: This is an FY25 New Start</p>	-	0.000	4.671
<p>Title: LGM-30G Flight Test Telemetry and Termination System (FT3)</p> <p>Description: The FT3 Program replaces the Mod 7 Instrumentation Wafer and associated Signal Conditioner Monitor Group, and All Ordnance Destruct System (AODS) with a flight test kit. In addition, a replacement of the Launch Support System (LSS) is required to deploy the flight test kit. The flight test kit consists of the Flight Destruct System (FDS) and an Integrated Instrumentation System (IIS). In addition, replacement of the IIS is necessary to meet Space Launch Delta 30th Space Wing Range Safety and Air Force Global Strike Command (AFGSC) requirements and resolve obsolescence concerns/issues.</p>	33.393	26.800	3.767

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101213F / <i>Minuteman Squadrons</i>	Project (Number/Name) 672984 / <i>MM III Baseline Support</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
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The AODS, Mod 7 Instrumentation Wafer, and LSS include components that are not economically available, are no longer compliant with applicable range safety requirements, or are in need of technical modernization. Replacement of the Vandenberg Space Force Base (VSFB) flight test unique equipment is necessary to sustain future AFGSC Operational Test Launches (OTL), which support US Strategic Command requirements starting in FY22. The OTLs are critical to validating the continued accuracy and reliability of the MM III weapons system until the Sentinel is fielded by providing valuable data to ensure a safe, secure, and effective nuclear deterrent. The FT3 systems will perform the same function as the existing systems with upgraded design features in order to comply with U.S. Space Force Range Safety User Requirements, Range Commander's Council (RCC) 319, Flight Termination Systems Commonality Standard, and RCC 324, Global Positioning and Inertial Measurements Range Safety Tracking Systems' commonality standard.

In February 2020, the FT3 program began executing a rapid fielding plan to meet a requirement to be first launch ready, September 2022. A successful first flight (GT 244) occurred on 7 September 2022. Rapid Fielding execution increased concurrency of technical milestones, delaying some noncritical activities to be completed after the first flight.

FY 2024 Plans:

- Take delivery of Low Rate Initial Production (LRIP) articles 5 through 7 (of 8).
- Support LRIP flights 4 and 5 (GT 249 and GT 250).
- Install Launch Support System in LF-09.
- Take delivery of the Countdown Mockup Trainer at VSFB.
- Conduct component redesign/requalification.

FY 2025 Plans:

- Take Delivery of LRIP item 8.
- Continue to support LRIP flights 6-8 (GT 251 - GT 253).
- Complete remaining technical orders.
- Complete component redesign/requalification.
- Contract closeout.

FY 2024 to FY 2025 Increase/Decrease Statement:

Completing redesign/requalification efforts and contract closeout activities.

Title: LGM-30G Higher Authority Command Test System (HACTS) 2.0	9.547	0.000	0.000
Description: The MM III HACTS 2.0 program replaces obsolete/unsupportable communication system test equipment located at test facilities. HACTS laptops are past their vendor support life and require battery replacement. Due to its battery being non-user serviceable, the need for battery factory service makes the laptop units candidates for replacement. Although the HACTS laptop			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101213F / <i>Minuteman Squadrons</i>	Project (Number/Name) 672984 / <i>MM III Baseline Support</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>processor is "ruggedized", its design life is only approximately four years. The replacement must be compatible with operating system updates as mandated by the Risk Management Framework. Incorporating the Weapons System Console Equipment Simulator into the HACTS enables a single hardware platform to execute both software functions, thus reducing the number of hardware devices the Government must maintain. The EMD phase will produce two refurbished units.</p> <p>FY 2024 Plans: Not funded in FY24.</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A</p>			
<p>Title: LGM-30G Depot Reentry Support Equipment Replacement Program (DRSERP)</p> <p>Description: The DRSERP program ensures the sustainment of MM III through end-of-life and transition to Sentinel. The current Reentry System/Reentry Vehicle (RS/RV) depot test suite will not sustain MM III through end-of-life; several items have obsolescence issues. This program will develop and procure a replacement for the Low Frequency Instrumentation Console (LFIC), Radio Frequency Instrumentation Console (RFIC), Test Control Station (TCS) and Interface Adapter Systems (IASs) with new Test Program Sets (TPSs).</p> <p>FY 2024 Plans: No FY24 funding</p> <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> • Milestone B. • Award Engineering and Manufacturing Development contract. • Hold Preliminary Design Review (PDR). <p>FY 2024 to FY 2025 Increase/Decrease Statement: This is an FY25 new start.</p>	-	0.000	32.234
<p>Title: LGM-30G Baseline Support</p> <p>Description: This program provides for other MM III unique government costs, studies of system performance, contract closeout costs, cost trades, and acquisition planning activities, up to and including proposal preparation, for future capabilities.</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> • Conduct studies of system performance. 	8.810	6.437	3.545

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101213F / <i>Minuteman Squadrons</i>	Project (Number/Name) 672984 / <i>MM III Baseline Support</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> Conduct cost trades and acquisition planning activities, up to and including proposal preparation; technology for future capabilities. <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> Continue to conduct studies of system performance. Continue to conduct cost trades and acquisition planning activities, up to and including proposal preparation, technology for future capabilities. <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding decreased due to ramp-down of program activities and EMD contract close-out actions.</p>			
Accomplishments/Planned Programs Subtotals	51.750	33.237	50.017

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• MPAF 03 Line Item	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	-	0.000	0.000
M30MLG: <i>MM III Modifications</i>											
• MPAF 01 00099L: <i>Missile Replacement Eq-Ballistic</i>	0.000	0.000	4.338	-	4.338	0.000	0.000	0.000	-	0.000	4.338
• MPAF 04 000999: <i>Initial Spares/Repair Parts</i>	18.523	39.085	45.866	-	45.866	42.873	51.433	53.363	-	Continuing	Continuing
• MPAF 04 Line Item 00098A: <i>Msl Sprs/Repair Parts (Initial)</i>	0.860	0.000	0.000	-	0.000	0.000	0.000	0.000	-	0.000	0.860

Remarks

D. Acquisition Strategy

Baseline Support equipment replacement efforts are reviewed to determine the best method for execution; including vendor qualification and procurement with no development required; develop and/or modify organic depot capabilities with industry. Industry development for ground and communication equipment efforts will be executed through contracts under the Future ICBM Sustainment and Acquisition Construct (FISAC) or competitive source selections. Nuclear Surety Cross Check Analysis (NSCCA) and Independent Verification and Validation (IV&V) efforts are contracted separately. Nuclear Surety and Vulnerability analysis requirements are covered in the Acquisition Strategy.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101213F / Minuteman Squadrons	Project (Number/Name) 672984 / MM III Baseline Support
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
LGM-30G Arm Disarm Switch Replacement (ADSR)	C/CPFF	MOOG/ BIONETICS/ EBAD : Moorpark, CA. Blacksburg VA. Heath OH, CA	0.000	-		-		-		-		-	0.000	0.000	8.587
LGM-30G Stage 1 Battery (SOBR)	C/CPAF	Hill AFB : Clearfield, UT	0.000	-		-		3.838	Jan 2025	-		3.838	0.000	3.838	-
LGM-30G Flight Test Telemetry and Termination System (FT3) TMRR/EMD	C/CPIF	Boeing : Clearfield, UT	0.000	24.868	Dec 2022	22.202	Nov 2023	3.767	Jan 2025	-		3.767	0.000	50.837	387.071
LGM-30G Higher Authority Command Test System (HACTS) 2.0	C/CPAF	General Dynamics : Dedham, MA	0.000	9.547	Jan 2024	-		-		-		-	0.000	9.547	-
LGM-30G Depot Reentry Support Equipment Replacement Program (DRSERP) EMD	SS/CPFF	Lockheed Martin : Orlando, FL	0.000	-		-		28.805	Mar 2025	-		28.805	0.000	28.805	-
Subtotal			0.000	34.415		22.202		36.410		-		36.410	0.000	93.027	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Little Mountain Test Facility (LMTF)	C/CPAF	Boeing : Clearfield, UT	0.000	-		-		0.500	Feb 2025	-		0.500	0.000	0.500	-
LGM-30G Arm Disarm Switch Replacement (ADSR) Support	C/Various	Hill AFB : Clearfield, UT	0.000	-		-		-		-		-	0.000	0.000	-
LGM-30G Arm Disarm Switch Replacement (ADSR) Civilian Pay	C/FP	Hill AFB : Clearfield, UT	0.000	-		-		-		-		-	0.000	0.000	-
LGM-30G Stage 1 Battery (SOBR)	C/FP	Hill AFB : Clearfield, UT	0.000	-		-		0.833	Jan 2025	-		0.833	0.000	0.833	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101213F / Minuteman Squadrons	Project (Number/Name) 672984 / MM III Baseline Support
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Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
LGM-30G Flight Test Telemetry and Termination System (FT3) Support	C/Various	Various : Clearfield, UT	0.000	3.757	Nov 2022	1.094	Mar 2024	-		-		-	0.000	4.851	-
LGM-30G Flight Test Telemetry and Termination System (FT3) Civilian Pay	C/FP	Hill AFB : Clearfield, UT	0.000	1.090	Oct 2022	1.117	Oct 2023	-		-		-	0.000	2.207	-
LGM-30G Depot Reentry Support Equipment Replacement Program (DRSERP)	SS/CPFF	Hill AFB : Clearfield, UT	0.000	-		-		2.736	Mar 2025	-		2.736	0.000	2.736	-
LGM-30G Baseline Support	C/Various	Various : Various	0.000	8.810	Mar 2023	6.437	Mar 2024	3.545	Mar 2025	-		3.545	0.000	18.792	-
Subtotal			0.000	13.657		8.648		7.614		-		7.614	0.000	29.919	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Little Mountain Test Facility (LMTF)	C/CPAF	Boeing : Clearfield, UT	0.000	-		-		5.300	Feb 2025	-		5.300	0.000	5.300	-
LGM-30G Flight Test Telemetry and Termination System (FT3) Lead Developmental Test Organization	MIPR	AEDC/TST : AAFB, TN	0.000	0.099	Nov 2022	0.008	Nov 2023	-		-		-	0.000	0.107	-
Subtotal			0.000	0.099		0.008		5.300		-		5.300	0.000	5.407	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
LGM-30G Arm Disarm Switch Replacement (ADSR) PSC	Various	Various : Various	0.000	-		-		-		-		-	0.000	0.000	-

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101213F / <i>Minuteman Squadrons</i>	Project (Number/Name) 672984 / <i>MM III Baseline Support</i>
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

MM III Baseline Support																												
ADSR Milestone C (May 2023)																												
ADSR Production and Development Phase (Nov 2024)																												
FT3 Engineering and Manufacturing Development (EMD) Phase																												
FT3 Milestone C (Apr 2023)																												
FT3 Production and Deployment (P&D) Phase																												
FT3 Operations and Support Phase																												
HACTS 2.0 Milestone B (Sep 2023)																												
HACTS 2.0 EMD Phase (May 2024)																												
HACTS 2.0 Milestone C (Jan 2026)																												
HACTS 2.0 P&D (Jan 2026)																												
HACTS 2.0 Full Operational Capability (FOC) (Aug 2026)																												
SOBR Milestone B (Feb 2025)																												
SOBR EMD Phase (Feb 2025)																												
SOBR Milestone C (July 2027)																												
SOBR Production Contract Award																												
SOBR P&D (Mar 2028)																												
SOBR FOC (Aug 2028)																												
DRSERP Milestone B (Jan 2025)																												
DRSERP EMD (Mar 2025)																												
DRSERP Milestone C (Oct 2028)																												
DRSERP P&D (Oct 2028)																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101213F / <i>Minuteman Squadrons</i>	Project (Number/Name) 672984 / <i>MM III Baseline Support</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>MM III Baseline Support</i>				
ADSR Milestone C (May 2023)	2	2024	2	2024
ADSR Production and Development Phase (Nov 2024)	2	2024	4	2024
FT3 Engineering and Manufacturing Development (EMD) Phase	1	2023	1	2026
FT3 Milestone C (Apr 2023)	3	2023	3	2023
FT3 Production and Deployment (P&D) Phase	3	2023	4	2025
FT3 Operations and Support Phase	2	2023	4	2028
HACTS 2.0 Milestone B (Sep 2023)	4	2023	3	2024
HACTS 2.0 EMD Phase (May 2024)	3	2024	2	2026
HACTS 2.0 Milestone C (Jan 2026)	2	2026	2	2026
HACTS 2.0 P&D (Jan 2026)	2	2026	4	2026
HACTS 2.0 Full Operational Capability (FOC) (Aug 2026)	4	2026	4	2026
SOBR Milestone B (Feb 2025)	2	2025	2	2025
SOBR EMD Phase (Feb 2025)	2	2025	4	2027
SOBR Milestone C (July 2027)	4	2027	4	2027
SOBR Production Contract Award	4	2027	2	2028
SOBR P&D (Mar 2028)	2	2028	4	2028
SOBR FOC (Aug 2028)	4	2028	4	2028
DRSERP Milestone B (Jan 2025)	2	2025	3	2025
DRSERP EMD (Mar 2025)	2	2025	1	2028
DRSERP Milestone C (Oct 2028)	1	2028	4	2029
DRSERP P&D (Oct 2028)	1	2028	4	2029
DRSERP FOC (Sep 2029)	4	2029	4	2029

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101213F / <i>Minuteman Squadrons</i>	Project (Number/Name) 672984 / <i>MM III Baseline Support</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
LMTF Contract Award (Mar 2025)	2	2025	4	2025
LMTF Procurement Activities (Aug 2025)	4	2025	3	2028
LMTF Testing, Final Integration (Aug 2027)	4	2027	1	2029
LMTF Certification (Nov 2029)	1	2029	3	2029

Note

FT3 Program:

- FT3 Acquisition Strategy drives an overlap in the EMD and P&D phases. FT3 uses RDT&E to fund LRIP units. As flight test units are consumed, the program replaces those units with replenishment spares. The order of replenishment spares overlaps with EMD to deliver spares at a rate that keeps pace with consumption.
- Redesign and Requalification change order extends the period of performance through the end of 1QFY26.
- P&D Phase will end when the first full-rate production unit is delivered and P&D exit criteria are met (4QFY25).
- Operations and support phase started when FT3 systems sustainment activities began (2QFY23).
- Sustainment includes LSS and associated FT3 support equipment (APPN 3400) through the life of MM III OTL Program.
- Plan is to purchase up to 20 replenishment spares (up to 4 per year through 2030) which will support the MM III OTL mission.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0101213F / <i>Minuteman Squadrons</i>				Project (Number/Name) 672985 / <i>MM Support Equip</i>			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
672985: <i>MM Support Equip</i>	0.000	13.041	0.000	12.533	0.000	12.533	0.000	0.000	0.000	0.000	0.000	25.574
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This program, BA 7, PE 0101213F, project 672985, LGM-30G MM III Missile Transporter Acquisitions Program (MTAP), is a new start.

A. Mission Description and Budget Item Justification

Minuteman (MM) Support Equipment program designs, develops, and tests replacement of obsolete/non-serviceable weapon system support equipment. These programs will also implement processes, procedures and data systems to mitigate the transition risk from MM III to Sentinel. Efforts include design, development, and testing of support equipment such as LGM-30G MM III Acquisition of Transportation & Handling and Support (MATH) Equipment effort, and Missile Transporter Acquisition Procurement (MTAP) effort.

In FY24, MATH Technical Data Package (TDP) updates (phase one) will occur in FY24. During phase one, there will be a review of the legacy Government engineering design data of each asset, specifically the Propulsion System Rocket Engine (PSRE), PSRE tractor & trailer (PST), and Rocket Motor Semi-Trailer (RMS) to determine required changes to address obsolescence issues and enable manufacturing of new assets. Phase-One includes a Preliminary Design Review (PDR) and a Critical Design Review (CDR) of the asset design for first article manufacturing.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: LGM-30G MM III Missile Transporter Acquisitions Program (MTAP)	-	0.000	6.266
Description: The MTAP effort modernizes the missile transporter (MT) fleet to address known obsolescence, update the TDP, procure new MT units, and provision spares where none exist. This modernization effort ensures that the MT fleet is poised to transport the LGM-30G downstage until the MM III weapon system reaches its projected end of life.			
FY 2024 Plans: No FY24 funding			
FY 2025 Plans: - Contract award; 1st article MT tractor and trailer. - PDR.			
FY 2024 to FY 2025 Increase/Decrease Statement:			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101213F / <i>Minuteman Squadrons</i>	Project (Number/Name) 672985 / <i>MM Support Equip</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
FY25 new start.			
<p>Title: LGM-30G MM III Acquisition of Transportation and Handling and Support Equipment (MATH)</p> <p>Description: The MATH program ensures the sustainment of the MM III weapons system and concurrent transition to Sentinel without any disruption to the nuclear deterrence mission. The current transport and handling (T&H) equipment will not sustain MM III through end of life. The current T&H TDP is out of date; several items have obsolescence issues. Engineering is needed to provide adequate and complete technical data to support acquisition of MM III T&H equipment. Items include the following:</p> <ul style="list-style-type: none"> a. Propulsion System Rocket Engine (PSRE) tractor and trailer (PST); b. Rocket motor semi-trailer; c. Support Equipment (SE). <p>MATH engineering efforts will include a Preliminary Design Review (PDR) and a Critical Design Review (CDR) to evaluate the proposed TDP and first article testing to validate the TDPs. Technical support documents will be updated as necessary.</p> <p>FY 2024 Plans: No FY24 funding.</p> <p>FY 2025 Plans: Award EMD Contract</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Requirements definitized which require additional funding.</p>	13.041	0.000	6.267
Accomplishments/Planned Programs Subtotals	13.041	0.000	12.533

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• MPAF 01 Line Item 00099L: <i>Missile Replacement Eq- Ballistic</i>	0.000	10.893	0.000	-	0.000	0.000	8.950	8.140	-	0.000	27.983

Remarks

D. Acquisition Strategy
Support and test equipment efforts are reviewed to determine the best method for execution, including vendor qualification and procurement with no development required; develop and/or modify with organic depot capabilities, or development with industry. Industry development efforts for support equipment will be executed

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
3600 / 7	PE 0101213F / <i>Minuteman Squadrons</i>	672985 / <i>MM Support Equip</i>

through contracts available under the Future ICBM Sustainment and Acquisition Contract (FISAC) or competitive source selections. Nuclear Surety Cross Check Analysis (NSCCA) and Independent Verification and Validation (IV&V) efforts are conducted separately. Nuclear Surety and Vulnerability analysis requirements are covered in the Acquisition Strategy.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101213F / Minuteman Squadrons	Project (Number/Name) 672985 / MM Support Equip
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MM III Missile Transporter Acquisition Procurement (MTAP)	TBD	TBD : TBD	0.000	-		-		4.932	Jun 2025	-		4.932	0.000	4.932	-
MM III Transportation/ Handling MATH (PSRE Semi Trailer)	SS/CPIF	HDT : Solon	0.000	5.530	Jan 2024	-		2.070	Apr 2025	-		2.070	Continuing	Continuing	-
MM III Transportation/ Handling MATH (Rocket Motor Semitrailer)	SS/CPIF	HDT : Solon	0.000	3.389	Jan 2024	-		2.360	Apr 2025	-		2.360	Continuing	Continuing	-
MM III Transportation/ Handling and Support Equipment MATH (Support Equipment)	Various	Various : Various	0.000	2.884	Aug 2023	-		-		-		-	0.000	2.884	-
Subtotal			0.000	11.803		-		9.362		-		9.362	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MM III Missile Transporter Acquisition Procurement MTAP	PO	LDTO : HILL AFB	0.000	-		-		-		-		-	0.000	0.000	-
MM III Transportation/ Handling MATH	PO	LDTO : Hill AFB	0.000	0.290	Dec 2022	-		1.280	Nov 2024	-		1.280	0.000	1.570	-
Subtotal			0.000	0.290		-		1.280		-		1.280	0.000	1.570	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MM III Missile Transporter Acquisition Procurement MTAP A&AS	C/FFP	BAE : Hill AFB	0.000	-		-		0.579	Jun 2025	-		0.579	0.000	0.579	-

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101213F / <i>Minuteman Squadrons</i>	Project (Number/Name) 672985 / <i>MM Support Equip</i>
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
<i>MM Support Equipment</i>																												
MATH Support Equipment (SE) Middle-Tier Acquisition (MTA) Rapid Prototyping (Aug 2023)				■																								
MATH Milestone B (Apr 2024)							■																					
MATH Engineering and Manufacturing Development (EMD) Phase (Jan 2025)											■																	
MATH SE MTA Rapid Fielding (Jan 2025)											■																	
MATH Milestone C (Jan 2026)												■																
MATH Production and Deployment (P&D) Phase (Apr 2026)															■													
MATH PSRE Trailer Initial Operational Capability (IOC) (Jan 2027)															■													
MATH PSRE Trailer Full Operational Capability (FOC) (Oct 2028)																				■								
MATH RMS Trailer IOC (Jan 2027)															■													
MATH RMS Trailer FOC (Jan 2029)																											■	
MTAP Milestone B (Jun 2025)											■																	
MTAP EMD Phase											■				■													
MTAP Milestone C (Jul 2027)																				■								
MTAP Production Contract Award (Feb 2028)																				■								
MTAP P&D (Feb 2028)																				■								
MTAP FOC (Sept 2029)																											■	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101213F / <i>Minuteman Squadrons</i>	Project (Number/Name) 672985 / <i>MM Support Equip</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
MM Support Equipment				
MATH Support Equipment (SE) Middle-Tier Acquisition (MTA) Rapid Prototyping (Aug 2023)	4	2023	4	2024
MATH Milestone B (Apr 2024)	3	2024	1	2025
MATH Engineering and Manufacturing Development (EMD) Phase (Jan 2025)	2	2025	2	2026
MATH SE MTA Rapid Fielding (Jan 2025)	2	2025	2	2026
MATH Milestone C (Jan 2026)	2	2026	2	2026
MATH Production and Deployment (P&D) Phase (Apr 2026)	3	2026	2	2029
MATH PSRE Trailer Initial Operational Capability (IOC) (Jan 2027)	2	2027	2	2027
MATH PSRE Trailer Full Operational Capability (FOC) (Oct 2028)	1	2028	1	2028
MATH RMS Trailer IOC (Jan 2027)	2	2027	2	2027
MATH RMS Trailer FOC (Jan 2029)	2	2029	2	2029
MTAP Milestone B (Jun 2025)	2	2025	2	2025
MTAP EMD Phase	2	2025	4	2027
MTAP Milestone C (Jul 2027)	4	2027	2	2028
MTAP Production Contract Award (Feb 2028)	2	2028	2	2028
MTAP P&D (Feb 2028)	2	2028	4	2029
MTAP FOC (Sept 2029)	4	2029	4	2029

Note

MATH Program:

- Updates made to reflect delays awarding contract. After determining the incomplete nature of the MATH TDP, the program revectorred its initial contract approach from Full & Open to GSSC 2.0 Task Order. Additionally, the team discovered all docs required for the request for proposal (RFP) needed a complete overhaul to support a stronger contract. The program's Sole Source Justification and Authorization was signed and approved by Maj Gen Newberry on 1 November 2023. A final RFP was released to the contractor in December 2023, with an expected response in February 2024. Contract award anticipated in March 2024.

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
3600 / 7	PE 0101213F / <i>Minuteman Squadrons</i>	672985 / <i>MM Support Equip</i>

MTAP Program:
• Program re-phased due to strategy change and adding EMD phase. This strategy change delayed production, expected to begin FY28.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101316F / <i>Worldwide Joint Strategic Communications</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	17.894	24.653	13.690	0.000	13.690	24.161	14.503	8.047	8.206	0.000	111.154
671820: <i>Strategic Automated Command and Control System</i>	-	17.894	24.653	13.690	0.000	13.690	24.161	14.503	8.047	8.206	0.000	111.154
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

Worldwide Joint Strategic Communication efforts include Nuclear Command, Control, and Communications (NC3) systems to include the Defense Injection Reception Emergency Action Message (EAM) C2 Terminals (DIRECT) and the Strategic Automated Command and Control System (SACCS). Funding may be used to modernize these, and other, NC3 systems. Funding may also be used for research, testing, validation, certification, configuration management, and assessment of the Air Force NC3 Weapon System.

SACCS is a dedicated, high speed, multi-level secure, data transmission, processing, and display system. SACCS provides the primary non-survivable command and control capability for receiving and disseminating secure Emergency Action Messages (EAM), Force Direction Messages (FDM), Force Status Reporting (FSR), and exchanging information type messages from USSTRATCOM. SACCS provides messages for effective deployment of strategic bombers, reconnaissance aircraft, mobilization aircraft, tanker support aircraft, and the Intercontinental Ballistic Missile (ICBM) force to include Minuteman III (MM III) and Sentinel.

SACCS has equipment that has reached its end of life and is no longer repairable due to diminished manufacturing sources and parts obsolescence. This jeopardizes Air Force Global Strike Command's (AFGSC) ability to meet mission requirements as required by Chairman Joint Chiefs of Staff Nuclear Technical Performance Criteria and Operational Standards (CJCSI 6811.01). In order to mitigate the risk of SACCS inability to operate once the current spares are completely diminished and ensure the system remains secure against modern/future threats, the Air Force is developing a replacement system (SACCS-R). SACCS-R is currently pursuing Technology Maturation and Risk Reduction (TMRR) efforts to transition from Time-Division Multiplexing (TDM) to Internet Protocol (IP) architecture, monitor and secure the new IP-based network, and provide requisite support to Sentinel fielding plans.

The FY2025 funding request was reduced by \$4.111 million to account for the availability of prior year execution balances.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver SACCS capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY 2023 0.321M was expended for civilian pay expenses in this program element, and in FY 2024 0.000M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101316F / <i>Worldwide Joint Strategic Communications</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	22.708	24.653	22.779	0.000	22.779
Current President's Budget	17.894	24.653	13.690	0.000	13.690
Total Adjustments	-4.814	0.000	-9.089	0.000	-9.089
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-4.115	0.000			
• SBIR/STTR Transfer	-0.699	0.000			
• Other Adjustments	0.000	0.000	-9.089	0.000	-9.089

Change Summary Explanation

FY 2023: adjustments consist of reprogrammings of -\$2.1M to NC3 Integration and -\$2.015M for ABADS. Also, -\$0.699M for Small Business Innovative Research (SBIR)

FY 2025: Adjustment decrease of \$9.089M due to Air Force priorities, and to support program execution

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
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Title: SACCS Replacement	17.894	24.653	13.690
Description: Design and develop replacement Strategic Automated Command Control System (SACCS-R). Transition architecture from Time Division Multiplexing to Internet Protocol (TDM-IP). Replace legacy components with supportable networking and information system hardware. The new system mitigates cybersecurity risks; improves Mean Time Between Failure rates; improves reliability and availability; improves user interface; decreases annual sustainment costs; addresses Diminishing Manufacturing Sources and Material Shortages and obsolescence challenges; supports a bridge connection to Sentinel through Sentinel NC3 Terrestrial Integration (SNTI); and supports meeting the Chairman Joint Chiefs of Staff Nuclear Technical Performance Criteria and Operational Standards (CJCSI 6811.01).			
FY 2024 Plans:			
1.2 Program			
-Continue TMRR efforts to facilitate 1.2 program to include a temporary modification to address near term obsolescence issues.			
-Continue transition of TDM circuits to IP circuits through the System Program Office (SPO)/Defense Information Systems Agency (DISA) process.			
-Continue prototype development for 1.2 Program.			
-Continue development of the SACCS Cybersecurity Operations Cells (SCOC) and Test Readiness Review (TRR).			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101316F / <i>Worldwide Joint Strategic Communications</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> -Continue to facilitate Cross Domain Solution (CDS). -Continue to update the SACCS core to facilitate 1.2 program. -Document and maintain the CM for all designs, drawings, and publications. -Purchase hardware in support of 1.2 program. -Initiate fielding of all aspects of the the SACCS Cybersecurity Operations Cells (SCOC) Cybersecurity Operations Cell. -Perform site modifications in support of 1.2 program. -Develop designs for the SACCS Cybersecurity Operations Cells (SCOC). -Support Defensive Cyber Operations (DCO) technical capabilities and user Standard Operation Procedures (SOPs). -Perform site modifications in support of 1.2 program. -Continue design of Black IP Transport (Storm Cloud) for implementation in SACCS. -Support development and implementation of documentation for Risk Management Framework (RMF) policies and procedures. -Continue transition of TDM circuits to IP circuits through DISA process for establishing new circuits. -Conduct 1.2 initial design Integration Testing. <p>SNTI Program</p> <ul style="list-style-type: none"> -Continue TMRR efforts to include a temporary modification to address near term obsolescence issues. -Support preliminary design for the modifications to the Sentinel Trainer. -Continue to update the SACCS core to facilitate SNTI program. -Purchase hardware in support of SNTI program. <p>2.0 Program</p> <ul style="list-style-type: none"> -Continue to develop requirement documents to support design and development efforts. -Continue to go through the competitive bid contract process to get contractor on contract for 2.0 Program work. -Develop documentation in support of Acquisition Decision Memorandum. -Evaluate needs of the SACCS Cybersecurity Operations Cell (SCOC) design to include all SACCS 2.0 equipment/sites. -Update Cyber documentation for additional Defensive Cyber Operations (DCO) and cyber needs based on 2.0 requirements. -Develop/implement two-factor authentication requirement for all SACCS end users. <p>FY 2025 Plans:</p> <p>1.2 Program</p> <ul style="list-style-type: none"> -Continue TMRR efforts to facilitate 1.2 program to include a temporary modification to address near term obsolescence issues. -Continue development of the SACCS Cybersecurity Operations Cells (SCOC) and Test Readiness Review (TRR). -Continue to facilitate CDS solution. -Document and maintain the CM for all designs, drawings, and publications. 			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101316F / <i>Worldwide Joint Strategic Communications</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> -Continue to update the SACCS core to facilitate 1.2 program. -Complete 1.2 Integration Testing. -Begin fielding the SACCS Cybersecurity Operations Cells (SCOC). -Facilitate cybersecurity penetration testing of the SACCS Cybersecurity Operations Cells (SCOC). -Complete all site modifications for 1.2 Program gearing up for fielding. -Initiate fielding for the 1.2 Program. -Purchase production hardware in support of 1.2 Program. -Continue transition of TDM circuits to IP circuits through DISA process for establishing new circuits. -Finalize Defensive Cyber Operations (DCO) technical capabilities and user Standard Operation Procedures (SOPs). -Finalize and publish documentation for Risk Management Framework (RMF) policies and procedures. -Initial fielding preparation steps including Functional Configuration Audit, Physical Configuration Audit, and fielding decision. <p>SNTI Program</p> <ul style="list-style-type: none"> -Continue TMRR efforts to include a temporary modification to address near term obsolescence issues. -Support fielding of SACCS-R SNTI efforts as a bridge to Sentinel to facilitate 2.0 program solution. -Support preliminary design for the modifications to the Sentinel Trainer. -Continue to update the SACCS core to facilitate SNTI program. -Purchase hardware in support of SNTI program. -Complete Integration Testing. <p>2.0 Program</p> <ul style="list-style-type: none"> -Award Contract for 2.0 Program -Complete Middle Tier Acquisition (MTA) documentation and transition to the rapid prototyping -Order circuits through DISA storefront. -Complete last mile installation of new circuits from DISA point of presence to the SACCS terminal. -Continue design of updated Navy Modernized Hybrid Solution (NMHS) interface changes. -Continue design of Black IP Transport (Storm Cloud) for implementation in SACCS. -Start design of software to modernize core message processing. -Document and maintain the configuration management for all designs, drawing, and publications associated with SACCS-R. -Outline and design the 2.0 SACCS Cybersecurity Operations Cells (SCOC) to include all SACCS 2.0 equipment/sites. -Start development of 2.0 SACCS Cybersecurity Operations Cells (SCOC). -Update SACCS core to modernize message processing and SACCS Cybersecurity Operations Cells (SCOC). -Develop/implement two-factor authentication for all SACCS end users. 			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101316F / <i>Worldwide Joint Strategic Communications</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
-Design and develop full Defensive Cyber Operations (DCO) technical capabilities solution for 2.0 Program.			
<i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> -Decrease funding scope for SNTI because Sentinel Program is funding the Sentinel Connectivity effort.			
Accomplishments/Planned Programs Subtotals	17.894	24.653	13.690

D. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• OPAF 03 PE 0101316F: <i>Strategic Command and Control (833140)</i>	31.993	25.096	26.859	-	26.859	27.912	28.317	28.925	29.497	0.000	198.599

Remarks

E. Acquisition Strategy
 Programmed funds continue to support TMRR efforts including a temporary modification to address near-term obsolescence issues (TDM-IP). The program is using a task order under the ICBM Ground Subsystems Support Contract and organic support from the 595 SCS and the 309 SWEG to conduct TMRR efforts.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force												Date: March 2024				
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)								
3600 / 7				PE 0101316F / Worldwide Joint Strategic Communications				671820 / Strategic Automated Command and Control System								
Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
SACCS-R TMRR	SS/CPFF	Northrop Grumman : Layton, UT	-	12.732	Nov 2022	16.173	Nov 2023	8.271	Dec 2024	0.000		8.271	0.000	37.176	0.000	
Subtotal			-	12.732		16.173		8.271		0.000		8.271	0.000	37.176	N/A	
Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
SACCS-R Engineering Development	Various	Various : Various	-	0.670	Nov 2022	2.786	Nov 2023	0.660	Nov 2024	-		0.660	0.000	4.116	0.000	
Subtotal			-	0.670		2.786		0.660		-		0.660	0.000	4.116	N/A	
Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
SACCS-R Development Test & Evaluation	Various	Various : Various	-	0.645	Nov 2022	0.936	Nov 2023	1.341	Nov 2024	0.000		1.341	0.000	2.922	0.000	
Subtotal			-	0.645		0.936		1.341		0.000		1.341	0.000	2.922	N/A	
Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
SACCS-R Other Program Support Costs (PSC)	Various	Various : Various	-	2.273	Nov 2022	3.343	Nov 2023	1.686	Nov 2024	-		1.686	0.000	7.302	0.000	
SACCS-R Integration Support	C/FFP	BAE Systems, Inc. : Hill AFB, UT	-	1.574	Nov 2022	1.415	Nov 2023	1.732	Nov 2024	-		1.732	0.000	4.721	-	
Subtotal			-	3.847		4.758		3.418		-		3.418	0.000	12.023	N/A	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101316F / <i>Worldwide Joint Strategic Communications</i>	Project (Number/Name) 671820 / <i>Strategic Automated Command and Control System</i>
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Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
Costs and services in support of program office management and administration processes such as: program oversight, resource justification, budget and programming, milestone and scheduling--PMA costs.

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	17.894	24.653	13.690	0.000	13.690	0.000	56.237	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101316F / <i>Worldwide Joint Strategic Communications</i>	Project (Number/Name) 671820 / <i>Strategic Automated Command and Control System</i>

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Strategic Automated Command and Control System	
SACCS-R Technology Maturation/Risk Reduction	
SACCS-R TDM-IP 1.1	
SACCS-R PEP Refresh	
SACCS-R TDM-IP 1.2	
SNTI	
Acquisition Decision Memorandum (ADM)	
SACCS-R 2.0 Program	
2.0 Program PDR	
2.0 Program CDR	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101316F / <i>Worldwide Joint Strategic Communications</i>	Project (Number/Name) 671820 / <i>Strategic Automated Command and Control System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Strategic Automated Command and Control System</i>				
SACCS-R Technology Maturation/Risk Reduction	1	2023	4	2025
SACCS-R TDM-IP 1.1	1	2023	1	2023
SACCS-R PEP Refresh	1	2023	2	2023
SACCS-R TDM-IP 1.2	1	2023	4	2026
SNTI	1	2023	4	2026
Acquisition Decision Memorandum (ADM)	1	2024	4	2024
SACCS-R 2.0 Program	3	2025	4	2029
2.0 Program PDR	4	2026	4	2026
2.0 Program CDR	4	2027	4	2027

Note

Delay in GSSC 2.0 TO award for SACCS-R pushed 1.2 into FY26. Additionally, the 2.0 Program has been determined to follow a Middle Tier Acquisition (MTA) pathway which does not follow the typical MS B or EMD phases. These events have been removed from the expected schedule and replaced with corresponding MTA milestones and events.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101318F / <i>Service Support to STRATCOM - Global Strike</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	0.000	7.562	7.330	0.000	7.330	6.951	7.076	7.331	7.477	Continuing	Continuing
675368: <i>Global Data Integration (GDI)</i>	-	0.000	7.562	7.330	0.000	7.330	6.951	7.076	7.331	7.477	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note
 In FY 2024, PE 1201017SF, Global Sensor Integrated on Network [GSIN], Project 675368, GSIN [Global Integrated Sensor Network] efforts were transferred to PE 0101318F, Service Support to STRATCOM - Global Strike, Project 675368, Global Data Integration [GDI], in order to facilitate proper execution of funding.

A. Mission Description and Budget Item Justification

The mission of USSTRATCOM is to deter strategic attack through a safe, secure, effective, and credible, global combat capability and, when directed, is ready to prevail in conflict. The command enables Joint Force operations and is the combatant command responsible for Strategic Deterrence, Nuclear Operations, Nuclear Command, Control, and Communications (NC3) Enterprise Operations, Joint Electromagnetic Spectrum Operations, Global Strike, Analysis and Targeting, and Missile Threat Assessment.

USSTRATCOM integrates and coordinates the necessary command and control capability to provide support with the most accurate and timely information for the President, the Secretary of Defense, other national leadership and combatant commanders. The Nation's strategic C2 sensors, and mission planning programs cannot rapidly exchange information across multiple missions creating ambiguity that delays time critical national C2 decision making processes. GDI developed and established a unified schema that integrates disparate Missile Warning/Missile Defense (MW/MD), Technical Intelligence (TI) and other data into a single, exposed data set, providing redundant and unambiguous Situational Awareness data to national leadership. GDI also enables existing radars and sensors to provide data in net-centric formats consumable by other authorized systems and mission areas, thus reducing the need to acquire more systems. Activities also include studies and analysis to support current program planning, execution, and future program planning.

GDI directly supports USSTRATCOM and other Combatant Command and MAJCOM mission sets. GDI meshes together selected systems and sensors (from tactical to strategic), including the Nation's most modern and capable assets, taking advantage of their larger numbers, improved algorithms, mobility, and forward deployment to provide earlier cross-cueing and expanded decision space when every second counts. Repurposing these traditionally stove-piped systems and sensors, GDI enables the warfighter in several ways. GDI enables creation of a User Defined Operating Picture (UDOP) to provide a single, unambiguous missile event picture allowing real-time collaboration for nuclear C2 and improved senior leader situational awareness (SA) for effective decision-making. GDI also improves Space Situational Awareness (SSA) by tapping additional sensor capability and provides this data for the larger space order of battle capabilities. GDI dramatically improves the ingestion of non-traditional, but readily available, non-US government and commercial data to the United States Space Force (USSF) satellite catalog. GDI addresses NORTHCOM/STRATCOM's signed Joint Emergent Operational Need (JEON) ST-0010 request for uninterrupted traditional and non-traditional sensor data integration and the Global Threat Characterization Assessment (GTCA) Operational Planning Team report. Finally, GDI provides Data Analysis functions to optimize and operate situational awareness in the field, including units operating in Denied-Disconnected, Intermittent, Limited (D-DIL) and emissions controlled (EMCON) conditions.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101318F / <i>Service Support to STRATCOM - Global Strike</i>
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Leveraging the appropriate acquisition authorities and contract mechanisms to deliver capability sooner, USSTRATCOM will strategically execute experimentation, prototyping, risk reduction, and other efforts to develop new or repurpose capabilities.

GDI may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability but the civilian pay is expended from program element 0101890F. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	0.000	7.562	7.317	0.000	7.317
Current President's Budget	0.000	7.562	7.330	0.000	7.330
Total Adjustments	0.000	0.000	0.013	0.000	0.013
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.013	0.000	0.013

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: Radar, Sensor, Technical Intelligence [TI], and Allied Systems	-	0.500	0.500
Description: Designs, develops, exposes and integrates data from RADAR, sensors and technical intelligence systems in regions of the world where users may have limited and/or denied coverage. Provide real time data from systems that previously reported in hours or days after critical events. Conduct studies/surveys/meetings as necessary to continually identify systems meeting GDI user data exposure needs and develop implementation plans to mature data exposure capabilities.			
FY 2024 Plans:			
- Continue integration of foreign RADAR and other sensor systems to improve coverage in data sparse/denied regions			
- Rapidly implement system resiliency and situational awareness changes required to operate in the contested space domain			
FY 2025 Plans:			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0101318F / <i>Service Support to STRATCOM - Global Strike</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
- Continued net-centric exposure and integration of numerous Foreign sensor systems, with particular focus on INDOPACOM and EUCOM AORs.				
<p>Title: Global Data Integration [GDI] Development</p> <p>Description: Effort title changed from "Global Data Integration (GDI)" to "Global Data Integration [GDI] Development" to differentiate major thrust from new project title. This is not a new start. Develop common Extensible Markup Language [XML] net-enabled data schemas and configuration management processes and procedures for Missile Warning, Missile Defense, Space, MASINT/Technical Intelligence, and Sensor data to manage the XML schema and associated XML messaging and services. Develop technical outreach for potential new GDI data consumers and providers who require GDI sensor data. Continue modifications to data services. Support integration of GDI sensor data into appropriate registries/catalogs. Continue development of GDI data services to enable visualization in a common operating picture. Continue to expand and mature GDI's support to users operating in D-DIL/EMCON environments.</p> <p>FY 2024 Plans:</p> <p>-DATABAHN: Continue to develop and field a dedicated CDS, including geographically separated, redundant nodes, providing greater operational resiliency. Conduct tech refresh of existing hardware resources on UNCLAS, SECRET and TS/SCI domains. Provide capability to include new data consumers and providers who require GDI sensor data. Support integration of GDI sensor data into appropriate registries and catalogs. Continue development of GDI data services to enable visualization in a common operating picture.</p> <p>-Fusion Engine for All-Source Tracking (FEAST): Integrate additional Top Secret/Special Compartmentalized Information (TS/SCI) data sources and algorithms. Identify transition partner for sustainment of FEAST capability, post-FY 2024.</p> <p>-Analytic Collaboration Environment-Multi INT (ACE-M): Develop and integrate Data-as-a-Service and Analytics-as-a-Service capabilities, such as fused multi-domain geospatial information, Battle Management Aids, and Object-Based Analytics, into new and existing architectures for GDI users. Expand implementation of D-DIL/EMCON environment support. Integration of Data and Analytics in support of NC3 next-gen situational awareness and other NC3 enterprise needs.</p> <p>-Data Integrity (DI): Test and evaluate all GDI segments in support of data governance, provenance and discovery. Additionally, FY 2024 funding will allow the program to implement system resiliency and situational awareness necessary to operate in contested domains. Activities may include, but are not limited to: Studies, technical analysis, risk reduction experiments and prototyping, integration and test of command and control (C2), resiliency measures and mission partner interfaces, test/combat range events, and office support etc.</p> <p>FY 2025 Plans:</p>		-	7.062	6.830

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101318F / <i>Service Support to STRATCOM - Global Strike</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> - Continued development, accreditation, and fielding of a redundant dedicated CDS - Integration of Data and Analytics in support of NC3 next-gen - Continued expansion of D-DIL/EMCON environment support - Continued test and evaluation all GDI segments in support of data governance, provenance and discovery <p><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Decrease is due to a 60/40% ratio when redistributing funds into FY 2024 (60%) and FY 2025 (40%) to account for the availability of prior year execution balances</p>			
Accomplishments/Planned Programs Subtotals	-	7.562	7.330

D. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

E. Acquisition Strategy
GDI uses existing government contract vehicles whenever available to develop and modernize the combined SDA/MW/MD/MASINT/TI data exposure architecture and solution. When appropriate contracts do not exist or not available to GDI, USSTRATCOM awards new contracts in support of responsive and consistent GDI goals.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101318F / <i>Service Support to STRATCOM - Global Strike</i>	Project (Number/Name) 675368 / <i>Global Data Integration (GDI)</i>
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
GDI DATABAHN	Various	Altamira : Various	-	-		1.340	Aug 2024	1.380	Aug 2025	-		1.380	Continuing	Continuing	12.520
GDI FEAST	Various	SciTec : Various	-	-		0.400	Aug 2024	0.115	Aug 2025	-		0.115	Continuing	Continuing	11.100
GDI ACE-M	Various	Various : Offutt AFB, NE	-	-		3.055	Jul 2024	3.150	Jul 2025	-		3.150	Continuing	Continuing	49.680
GD DI	Various	MIT/LL : Various	-	-		2.120	Mar 2024	2.065	Mar 2025	-		2.065	Continuing	Continuing	4.750
Radar, Sensor, Technical Intelligence [TI], and Allied Systems	Various	Various : Various	-	-		0.647	Feb 2024	0.620	Feb 2025	-		0.620	Continuing	Continuing	-
Subtotal			-	-		7.562		7.330		-		7.330	Continuing	Continuing	N/A
Project Cost Totals			-	-		7.562		7.330		-		7.330	Continuing	Continuing	N/A

Remarks
 RADAR, Sensor, Technical Intelligence (TI), and Allied Systems work will focus on net-centric exposure and integration of numerous Foreign sensor systems, with particular focus on INDOPACOM and EUCOM AORs. Timelines and sensor prioritization are notional, based on emerging Warfighter priorities.

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101318F / <i>Service Support to STRATCOM - Global Strike</i>	Project (Number/Name) 675368 / <i>Global Data Integration (GDI)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>DATABAHN</i>				
Field and accredit redundant dedicated CDS	4	2024	3	2026
Tech Refresh of U/S/TS SCI domains	1	2024	3	2024
Tech Refresh of U/S/TS SCI domains (1)	1	2029	3	2029
New Sensor Integration (ongoing)	1	2023	4	2029
<i>FEAST</i>				
Integration of additional TS/SCI data sources and algorithms	1	2023	2	2024
Identify transition partner for sustainment	4	2023	4	2024
<i>ACE-M</i>				
Develop and integrate Data-as-a-Service and Analytics-as-a-Service capabilities	4	2023	4	2024
Expand implementation of D-DIL/EMCON environment support	4	2024	3	2025
Integration of Data and Analytics in support of NC3 next-gen	4	2024	2	2027
<i>DI</i>				
R&D Proof of Concept	1	2023	4	2029
<i>Radar, Sensor, Technical Intelligence [TI] and Allied Systems</i>				
Iterative multi-sensor exposure Design/Development/Production/Fielding	1	2023	4	2029

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101324F / <i>Integrated Strategic Planning & Analysis Network</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	31.043	0.000	0.000	0.000	0.000	0.002	0.002	0.002	0.002	0.000	31.051
675029: <i>ISPAN Increment 5</i>	-	31.043	0.000	0.000	0.000	0.000	0.002	0.002	0.002	0.002	0.000	31.051
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note

In FY 2024, efforts in PE 0101324F, Integrated Strategic Planning & Execution Network (ISPAN), Budget Program 675029, transferred to PE 0304100F, Strategic Mission Planning and Execution System (SMPES), Budget Program 675029; aligning legacy nuclear command and control (NC2) PEs under a single PE to initiate SMPES integration efforts.

A. Mission Description and Budget Item Justification

This budget line funds the ISPAN, Increment 5 (Inc5) program. Through Inc5, ISPAN provides full-spectrum global strike, and coordinated space, missile defense, and information operations capabilities to meet both deterrent and decisive national security objectives. ISPAN is one of the most complex classified computer systems in the Department of Defense (DoD), and the only national force level planning system. Located at U.S. Strategic Command (USSTRATCOM), ISPAN develops and delivers software for nuclear strategic deliberate and adaptive planning, as well as, supports the Nuclear Posture Review and Unified Command Plan. In coordination with other Combatant Commands, Services, and appropriate U.S. Government agencies, USSTRATCOM provides operational space support, integrated missile defense, global command, control, communications, computers, intelligence, surveillance, and reconnaissance, and specialized planning expertise to the joint warfighter to deter and detect strategic attacks against the U.S. and its allies.

Inc5 conducts continuous, ongoing agile software development activities to foster a secure software development environment. Inc5 funding enables the program office to purchase software licenses for developer tools and development environments for unclassified, secret, and top-secret agile software development. The agile software development staff maintains hardware, system configuration, storage, back-up and recovery for contractor development and systems integration. Inc5 supports agile processes including code repositories, configuration management, continuous integration/continuous delivery (CI/CD) pipelines, automated testing, automated validation and delivery. The agile developer environment meets classified security regulations/criteria and promotes competition.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver ISPAN Increment 5 capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 \$0.000M was expended for civilian pay expenses in this program element, and in FY24 \$0.000M is forecasted for civilian pay expenses in this program element

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101324F / <i>Integrated Strategic Planning & Analysis Network</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	32.062	0.000	0.000	0.000	0.000
Current President's Budget	31.043	0.000	0.000	0.000	0.000
Total Adjustments	-1.019	0.000	0.000	0.000	0.000
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-1.019	0.000			
• Other Adjustments	0.000	0.000	0.000	0.000	0.000

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: ISPAN Increment 5	31.043	0.000	0.000
Description: ISPAN Inc5 will modernize the Mission Planning and Analysis System (MPAS) that develops Joint Staff Level I through Level IV nuclear and conventional attack options for national and theater requirements.			
FY 2024 Plans: See PE 0304100F, SMPES			
FY 2025 Plans: See PE 0304100F, SMPES			
Accomplishments/Planned Programs Subtotals			
	31.043	0.000	0.000

D. Other Program Funding Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• OPAF 03 833560: <i>Integrated Strat Plan & Analy Network (ISPAN)</i>	4.740	-	-	-	-	-	-	-	-	0.000	4.740

Remarks

E. Acquisition Strategy
The Service Acquisition Executive designated ISPAN Increment 5 program a Middle Tier of Acquisition Rapid Fielding effort on 7 Aug 2018. On 26 Nov 18, the SAE delegated Milestone Decision Authority to the Air Force Program Executive Officer Digital.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force Date: March 2024

Appropriation/Budget Activity
3600: *Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development*

R-1 Program Element (Number/Name)
PE 0101324F / *Integrated Strategic Planning & Analysis Network*

ISPAN Inc5 will provide new capabilities of resiliency and consequence of execution analysis for the combatant commanders using an Agile DevOps CI/CD acquisition strategy with development contracts that are negotiated and awarded in a competitive environment. The program management office will consider the best contract options and contracting vehicles to implement the Agile DevOps CI/CD strategy and related activities. Ongoing agile software development activities will produce a secure software development environment. Inc5 software development will promote competition and collaboration while also meeting classification guidance and security regulations.

Program management for the ISPAN Inc5 program is under direction of PEO Digital, located at Hanscom AFB, MA. The Air Force Life Cycle Management Center (AFLCMC) located at Hanscom AFB, MA and the 55 Contracting Squadron at Offutt AFB, NE are the contracting authorities for the ISPAN Increment 5 program. AFLCMC provides contracting, legal, comptroller, programmatic, engineering, test, and logistics support.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101324F / <i>Integrated Strategic Planning & Analysis Network</i>	Project (Number/Name) 675029 / <i>ISPAN Increment 5</i>
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ISPAN Inc 5 - Global Strike and Air Vehicle Intelligence Product Development	Various	Various : Offutt AFB, NE	-	21.081	Jan 2023	-		-		-		-	0.000	21.081	-
Rogue Blue Software Factory	Various	Various : Offutt AFB, NE	-	3.309	Jan 2023	-		-		-		-	0.000	3.309	-
Subtotal			-	24.390		-		-		-		-	0.000	24.390	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
DevOps Support	Various	Various : Offutt AFB, NE	-	1.497	Jan 2023	-		-		-		-	0.000	1.497	-
Engineering and Technical Support	C/CPFF	Various : Offutt AFB, NE	-	3.526	Feb 2023	-		-		-		-	0.000	3.526	-
Subtotal			-	5.023		-		-		-		-	0.000	5.023	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Joint Interoperability Test Command	Various	Various : Offutt AFB, NE	-	0.086	Nov 2022	-		-		-		-	0.000	0.086	-
Subtotal			-	0.086		-		-		-		-	0.000	0.086	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering and Operations	Various	Various : Offutt AFB, NE	-	1.544	Nov 2022	-		-		-		-	0.000	1.544	-

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101324F / <i>Integrated Strategic Planning & Analysis Network</i>	Project (Number/Name) 675029 / <i>ISPAN Increment 5</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>ISPAN Increment 5</i>				
ISPAN Inc 5 section 804 Beta Development Phase	1	2023	1	2024
Interim Progress Review (IPR)	4	2023	4	2023
Bi-Weekly Software Releases	1	2023	2	2024
Sustainment Decision IPR - Full Deployment Milestone	1	2024	2	2024

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101328F / ICBM Reentry Vehicles
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	302.119	112.282	475.415	629.928	0.000	629.928	740.334	955.013	710.312	332.728	Continuing	Continuing
674920: <i>Mk21A Reentry Vehicle</i>	302.119	112.282	459.880	613.806	0.000	613.806	690.272	903.999	610.194	230.990	122.767	4,046.309
675920: <i>Next Generation Reentry Capabilities</i>	0.000	0.000	15.535	16.122	0.000	16.122	50.062	51.014	100.118	101.738	Continuing	Continuing

Program MDAP/MAIS Code: 576

Note

Project 674920, Mk21A Reentry Vehicle, changed from Mk21A/W87-1.
 Project 675920, Next Generation Reentry Capabilities, changed from Next Generation Reentry Vehicle.

A. Mission Description and Budget Item Justification

The Intercontinental Ballistic Missile (ICBM) Reentry Vehicles (RVs) activity will design, develop, produce, and deploy advanced countermeasures and integrated RV systems capable of delivering the W87-1 warhead and future warheads when released from the LGM-35A Sentinel weapon system.

The Mk21A program will meet the requirements laid out in the LGM-35A Sentinel weapon system Capability Development Document (CDD) as directed by Air Force Global Strike Command and will provide needed performance and security enhancements over the Mk21 RV to meet the upgraded requirements for the Department of Energy (DOE)/ National Nuclear Security Administration (NNSA) W87-1 warhead. The Mk21A RV includes: shape stable nose tip; high impulse transducer; arming and fuzing subsystem (AFS); aeroshell forward section, body section, and rear cover; radio frequency subsystem with antennas; RV spin subsystem; in-flight disconnect cable; and other electrical cables.

The Next Generation Reentry Capabilities (NGRC) program will ensure the LGM-35A Sentinel weapon system continues to meet CDD requirements in an evolving threat landscape by leveraging advanced technologies matured by the Research & Development (R&D) and ICBM Demonstration/Validation communities in support of the Air Force's Reentry Strategy. Future NGRC solutions will integrate Next Generation Reentry Vehicle (NGRV) with current and/or future warheads and includes acquisition of complementary advanced countermeasures, embracing the modular and adaptable tenets of the LGM-35A Sentinel weapon system.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, and 0606398F. In FY 2023 0.000M was expended for civilian pay expenses in this program element, and in FY 2024 2.388M is forecasted for civilian pay expenses in this program element. All FY 2024 civilian pay expenses will be executed on BPAC 675920 - Next Generation Reentry Capabilities.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101328F / <i>ICBM Reentry Vehicles</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	115.616	475.415	657.623	0.000	657.623
Current President's Budget	112.282	475.415	629.928	0.000	629.928
Total Adjustments	-3.334	0.000	-27.695	0.000	-27.695
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-3.334	0.000			
• Other Adjustments	0.000	0.000	-27.695	0.000	-27.695

Change Summary Explanation

FY25 decreased from the FY24 PB to the FY25 PB to better align Mk21A with the Sentinel program flight test requirements.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0101328F / ICBM Reentry Vehicles				Project (Number/Name) 674920 / Mk21A Reentry Vehicle			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
674920: Mk21A Reentry Vehicle	302.119	112.282	459.880	613.806	0.000	613.806	690.272	903.999	610.194	230.990	122.767	4,046.309
Quantity of RDT&E Articles	-	-	-	-	-	-	3	12	16	-		

Note

Project 674920, Mk21A Reentry Vehicle, changed from Mk21A/W87-1.

A. Mission Description and Budget Item Justification

The Mk21A Reentry Vehicle (RV) program will design, develop, produce, and deploy an integrated RV capable of delivering the W87-1 warhead when released from the LGM-35A Sentinel weapon system. The Mk21A program will provide needed performance and security enhancements over the Mk21 RV to meet the upgraded requirements for the Department of Energy (DOE)/ National Nuclear Security Administration (NNSA) W87-1 warhead, while ensuring the time certain delivery of both the W87-1 and Mk21A programs. The Mk21A will also meet the requirements laid out in the LGM-35A Sentinel weapon system Capability Development Document (CDD) as directed by Air Force Global Strike Command. The Mk21A RV includes: shape stable nose tip; high impulse transducer; arming and fuzing subsystem (AFS); aeroshell forward section, body section, and rear cover; radio frequency subsystem with antennas; RV spin subsystem; in-flight disconnect cable; and other electrical cables.

During the Engineering and Manufacturing Development (EMD) phase, the Mk21A program will include prime contractor development of a critical RV design, applicable support equipment, data, flight test hardware, infrastructure, and training materials while examining and mitigating weapon system integration risks, nuclear surety, hardness and certification, and system vulnerability assessments. Additionally, the program, in conjunction with the DOE/NNSA, will develop test assets to ensure the integration and qualification of the Mk21A and W87-1 on the LGM-35A Sentinel weapon system.

IAW 10 USC 4252, this program has not yet fully satisfied the certification requirement that the heatshield technology has been demonstrated in a relevant environment as required prior to Milestone B approval. The Mk21A uses similar materials and process as currently fielded and should have the necessary data to certify the demonstration in 1QFY25.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, and 0606398F. In FY 2023 0.000M was expended for civilian pay expenses in this budget program activity code (BPAC), and in FY 2024 0.000M is forecasted for civilian pay expenses in this BPAC.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Mk21A Technology Maturation and Risk Reduction (TMRR)	102.338	0.000	0.000
Description: The objectives of TMRR for Mk21A are as follows: (1) Deliver one preliminary design and three prototypes for flight testing to inform DOE/NNSA designs and further technology maturation			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101328F / ICBM Reentry Vehicles	Project (Number/Name) 674920 / Mk21A Reentry Vehicle
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>(2) Incorporate a modular, open systems architecture (3) Implement Model Based System Engineering (MBSE) enabling the government to own the technical baseline (4) Demonstrate performance of weapon system capabilities through prototyping, modeling, simulation, and testing (5) Conduct flight test of prototype RVs in an ICBM-like environment</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: N/A</p>			
<p>Title: Mk21A Engineering & Manufacturing Development (EMD)</p> <p>Description: The objectives of EMD for Mk21A are as follows: (1) Develop and build a Mk21A RV capable of delivering DOE/NNSA W87-1 (2) Incorporate a modular, open systems architecture (3) Implement MBSE enabling the government to own the technical baseline (4) Demonstrate performance of weapon system capabilities through modeling, simulation, and testing of the EMD design (5) Integrate Mk21A/W87-1 into the LGM-35A Sentinel weapon system</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> • Awarded EMD contract • Executed EMD contract to continue advancing Mk21A major activities to include systems engineering activities, information technology, data management, analytical capabilities and delivery of mature, low risk reentry vehicle design • Conducted delta preliminary design review from TMRR RV design • Developed and build test assets supporting the qualification of the Mk21A and W87-1 on the LGM-35A Sentinel weapon system in conjunction with the DOE/NNSA • Initiated LGM-35A Sentinel weapon system integration activities to support delivery of the Mk21A and W87-1 • Began ground testing and flight test planning with the LGM-35A Sentinel weapon system to collect relevant environmental data to feed W87-1 development at DOE/NNSA • Continued activities to mitigate RV development risks including prototype RV/heatshield flight test • Implemented and mature MBSE enabling the government to own the technical baseline • Continued to develop, mature, and execute a unified certification strategy which meets nuclear surety, cyber security, and nuclear safety requirements <p>FY 2025 Plans:</p>	9.944	459.880	613.806

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101328F / ICBM Reentry Vehicles	Project (Number/Name) 674920 / Mk21A Reentry Vehicle

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> Execute EMD contract to continue advancing Mk21A major activities to include systems engineering activities, information technology, data management, analytical capabilities and delivery of mature, low risk reentry vehicle design Conduct critical design review for RV hardware Develop and build test assets supporting the qualification of the Mk21A and W87-1 on the LGM-35A Sentinel weapon system in conjunction with the DOE/NNSA Continue LGM-35A Sentinel integration activities to support delivery of the Mk21A and W87-1 Continue ground testing and flight test planning with the LGM-35A Sentinel weapon system to collect relevant environmental data to feed W87-1 development at DOE/NNSA Continue activities to mitigate RV development risks including prototype RV/heatshield flight test Continue maturing MBSE enabling the government to own the technical baseline Continue to develop, mature, and execute a unified certification strategy which meets nuclear surety, cyber security, and nuclear safety requirements <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increase due to continued ramp up of EMD activities with the prime contractor and LGM-35A Sentinel integration and test activities.</p>			
Accomplishments/Planned Programs Subtotals	112.282	459.880	613.806

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• RDTE 05 PE 0605238F: <i>Ground Based Strategic Deterrent EMD</i>	3,434.623	3,746.935	3,721.024	-	3,721.024	3,791.551	3,568.798	2,890.209	2,012.009	7,557.200	30,722.349
• MPAF 01 MGBSD0: <i>GBSD</i>	0.000	539.300	0.000	-	0.000	1,634.097	4,131.827	5,073.777	5,697.755	69,015.349	86,092.105
• RDTE 04 0603851F: <i>Intercontinental Ballistic Missile - Dem/Val</i>	45.751	45.319	119.197	-	119.197	91.584	73.250	136.982	126.651	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Mk21A RV program acquisition strategy delivers an integrated RV capable of delivering the W87-1 warhead to target beginning in FY32. For the EMD phase, the Program Office awarded a sole-source cost plus incentive/award fee contract in October 2023. The Air Force is responsible for developing, producing, and maintaining the RV. The DOE/NNSA develops/modifies the nuclear weapon inside the RV, including the Weapon Electrical System, which is the firing set that interfaces with the DoD fuze. Mk21A includes the use of Mk21 Mod 6 aeroshells which were originally developed as test vehicles for the legacy Peacekeeper ICBM and must be modified

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
3600 / 7	PE 0101328F / <i>ICBM Reentry Vehicles</i>	674920 / <i>Mk21A Reentry Vehicle</i>

for use as war reserve aeroshells. Mk21A subsystems include the shape stable nose tip, high impulse transducer, arming and fuzing subsystem (AFS), aeroshell forward section/body section and rear cover, radio frequency subsystem, antennas, spin subsystem, and cables.

The objectives of EMD for Mk21A are as follows: (1) develop and build a Mk21A RV capable of delivering the W87-1 warhead; (2) incorporate a modular, open systems architecture; (3) implement MBSE enabling the government to own the technical baseline; (4) demonstrate performance of weapon system capabilities through prototyping, modeling, simulation, and testing of the EMD design; (5) integrate Mk21A/W87-1 into the LGM-35A Sentinel weapon system.

The EMD phase includes an EMD contractor update to the Preliminary Design Review, a Critical Design Review, and a Production Readiness Review. Testing includes ground and flight test vehicles which support the integration on LGM-35A Sentinel weapon system. The contractor will convert Mod 6 (Mk21) to Mod 3 (war reserve) RVs and perform integration of the W87-1 with the Mk21A and the LGM-35A Sentinel weapon system. The combined EMD and Production & Deployment contract is a thirteen year contract with EMD efforts through 3QFY29.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101328F / ICBM Reentry Vehicles	Project (Number/Name) 674920 / Mk21A Reentry Vehicle
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Mk21A EMD Contract	SS/CPIF	Lockheed Martin : King of Prussia, PA	0.000	9.944	Oct 2023	357.428	Oct 2023	466.024	Oct 2024	-		466.024	960.097	1,793.493	1,793.493
Mk21A LGM-35A Sentinel Integration Contract	C/CPIF	Northrop Grumman Sys Corp : El Segundo, CA	0.000	-		35.863	Jul 2024	87.093	Mar 2025	-		87.093	454.941	577.897	-
Mk21A TMRR Contract	C/CPFF	Lockheed Martin : King of Prussia, PA	201.557	71.068	Nov 2022	-		-		-		-	0.000	272.625	272.650
Subtotal			201.557	81.012		393.291		553.117		-		553.117	1,415.038	2,644.015	N/A

Remarks

- FY25 funding includes EMD and long-lead assets for initial operational test and evaluation units.
- The efforts within this cost category cover both TMRR and EMD phases of the program.
- Target value for the EMD contract is based on government estimates.
- Target value for Sentinel Integration contract will be listed after contract award occurs.
- The EMD contract includes options for low-rate initial production units used for initial operational test and evaluation.

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Mk21A Integration Support: ISC 2.0	C/CPAF	TBD : TBD	0.000	-		-		7.231	Oct 2024	-		7.231	42.310	49.541	-
Mk21A Other Support	Various	Various : Various	0.505	0.606	Nov 2022	0.652	Nov 2023	0.719	Nov 2024	-		0.719	6.585	9.067	-
Mk21A Integration Support: FFRDC/UARC	MIPR	Various : Various	1.648	0.874	Oct 2022	0.708	Nov 2023	0.729	Nov 2024	-		0.729	6.679	10.638	-
Mk21A Integration Support: ISC 1.0	C/FP	BAE : Hill AFB, UT	9.746	4.688	Oct 2022	6.633	Oct 2023	-		-		-	0.000	21.067	-
Mk21A Direct Cite Civilian Pay	Various	US Gov Civilians : Hill AFB, UT	5.211	-		-		-		-		-	0.000	5.211	-
Mk21A Fuze Trade Study (TMRR)	MIPR	Sandia National Lab : Albuquerque, NM	1.654	-		-		-		-		-	0.000	1.654	-
Subtotal			18.764	6.168		7.993		8.679		-		8.679	55.574	97.178	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101328F / ICBM Reentry Vehicles	Project (Number/Name) 674920 / Mk21A Reentry Vehicle
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Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks

- Mk21A Other Support includes cost estimation support, information technology support, and government furnished equipment
- The efforts within this cost category cover both TMRR and EMD phases of the program.

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Mk21A Test & Evaluation	Various	Various : Various	61.192	4.398	Nov 2022	37.183	Nov 2023	26.132	Nov 2024	-		26.132	998.849	1,127.754	-
Mk21A W87-1 Test and Integration	MIPR	DOE/NNSA : Various	1.865	19.335	Oct 2022	17.000	Oct 2023	19.197	Oct 2024	-		19.197	45.837	103.234	-
Mk21A Test Support	Various	Various : Various	0.658	1.044	Aug 2023	1.262	Oct 2023	1.458	Oct 2024	-		1.458	13.356	17.778	-
Mk21A Test & Evaluation: Air Force and DOE/NNSA Demonstrator Initiative (ANDI) (TMRR)	MIPR	Various : Various	13.966	-		-		-		-		-	0.000	13.966	-
Subtotal			77.681	24.777		55.445		46.787		-		46.787	1,058.042	1,262.732	N/A

Remarks

- Prior years Mk21A Test & Evaluation amount includes \$15.8M increase from Above Threshold Reprogramming (ATR) from ICBM Fuze Mod.
- The Mk21A Test Support line includes developing ground and flight test plans to support development of prototype test vehicles and conduct flight test(s). The test plans will support testing providing detailed, reliable data to inform EMD and informing Mk21A development and risk reduction, and DOE/NNSA for the W87-1 development.
- The Mk21A Test & Evaluation line includes incremental funding to launch RV prototypes on Rocket Systems Launch Program (RSLP) missiles. The incremental funding allows contracts to be established for support and the build-up of the flight test vehicles and missiles in order to meet Prototype RV Flight Tests #3 and #4.
- Prototype RV Flight Test #2 costs in FY23 were shared between the Mk21A and ICBM Demonstration/Validation program elements to meet combined interests.
- Mk21A Test & Evaluation: Air Force and DOE/NNSA Demonstrator Initiative (ANDI) is a former ICBM Demonstration/Validation study that was transitioned to the Mk21A program office. The ANDI effort spanned over FY20, FY21, and FY22.
- The efforts within this cost category cover both TMRR and EMD phases of the program.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101328F / ICBM Reentry Vehicles	Project (Number/Name) 674920 / Mk21A Reentry Vehicle
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	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Mk21A Reentry Vehicle (RV)	
TMRR Phase	
Milestone B (Oct 2023)	
EMD Phase	
EMD Contract Award (Oct 2023)	
Prototype RV Flight Test #2 (Jun 2024)	
Delta PDR (Dec 2024)	
Prototype RV Flight Test #3 (Sep 2025)	
Critical Design Review (Jan 2027)	
Milestone C (Jan 2027)	
Prototype RV Flight Test #4 (Feb 2027)	
Production and Deployment	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101328F / ICBM Reentry Vehicles	Project (Number/Name) 674920 / Mk21A Reentry Vehicle
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Mk21A Reentry Vehicle (RV)</i>				
TMRR Phase	1	2023	2	2024
Milestone B (Oct 2023)	1	2024	1	2024
EMD Phase	1	2024	4	2029
EMD Contract Award (Oct 2023)	1	2024	1	2024
Prototype RV Flight Test #2 (Jun 2024)	3	2024	3	2024
Delta PDR (Dec 2024)	1	2025	1	2025
Prototype RV Flight Test #3 (Sep 2025)	4	2025	4	2025
Critical Design Review (Jan 2027)	2	2027	2	2027
Milestone C (Jan 2027)	2	2027	2	2027
Prototype RV Flight Test #4 (Feb 2027)	2	2027	2	2027
Production and Deployment	2	2027	4	2029

Note

- TMRR Phase began in 1QFY20
- Flight test #2 was delayed to Jun 2024 (3QFY24)
- Flight Test #4 is currently scheduled for Feb 2027 (2QFY27) and is a rideshare on the Experimental Flight Test 2 funded by PE 0603851F, ICBM Demonstration/ Validation
- Due to differing level of complexity of the RV components, the program anticipates aeroshells will start production sooner, while subcomponents like the fuze may remain in development resulting in overlap of EMD and Production & Deployment (P&D). EMD phase ends 4QFY2029. P&D phase continues beyond FY2029.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0101328F / ICBM Reentry Vehicles				Project (Number/Name) 675920 / Next Generation Reentry Capabilities			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
675920: Next Generation Reentry Capabilities	0.000	0.000	15.535	16.122	0.000	16.122	50.062	51.014	100.118	101.738	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Project 675920, Next Generation Reentry Capabilities, changed from Next Generation Reentry Vehicle.

A. Mission Description and Budget Item Justification

The Next Generation Reentry Capabilities (NGRC) program will design, develop, produce, and deploy new payload system suites (reentry vehicles and/or countermeasures) and integrate them into the LGM-35A Sentinel weapon system. Key next generation payload attributes include enhancements in accuracy, lethality, and ICBM Reentry System/Reentry Vehicle (RS/RV) interoperable operations. Next Generation Reentry Vehicle (NGRV) and advanced countermeasure capabilities are based on emerging threats, AF priorities, and development capacity. Program activities will also include the employment of digital acquisitions through the application of digital engineering, agile software development, and open systems architectures. The NGRC program will leverage investments by the ICBM Demonstration/Validation program, the Science & Technology community, and Navy reentry systems application program.

FY2025 funding supports early acquisition activities that lead to competitive contract awards for a NGRV and advanced countermeasures to strengthen the atrophied industrial base, posturing the nation and the AF to counter adversary threats both projected and unforeseen. These efforts support Milestone A equivalent event in FY2026. This strategy enables a diverse pool of vendors to contribute in the development of materiel solutions which support mission requirements that combat future and immediate threats to drive ultimate effectiveness requirements for the weapon system. This funding includes program management support, operational concept exploration, technology trade studies, operational and system architecture development, maturation and risk reduction of RV/ Countermeasure related technologies including weapons systems and integrated system concept development/demonstration.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, and 0606398F. In FY 2023 0.000M was expended for civilian pay expenses in this budget program activity code (BPAC), and in FY 2024 2.388M is forecasted for civilian pay expenses in this BPAC.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: NGRC Early Acquisition Activities	0.000	15.535	16.122
Description: NGRV and countermeasure assessments and personnel requirements are critical to sufficiently standup the program management team and execute pre-Milestone A acquisition activities to avoid significant schedule risk. The NGRC			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101328F / ICBM Reentry Vehicles	Project (Number/Name) 675920 / Next Generation Reentry Capabilities

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Program Management Team will serve to integrate the results of the NGRC Requirements Study with a cogent acquisition strategy leading to a Milestone A equivalent event.</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> • Initiated NGRV and countermeasure market research • Supported DOE/NNSA NGRV Phase 1 study • Conducted pre-Milestone A operational assessments and integration studies • Conducted Materiel Development Decision (MDD) • Prepared for Milestone A equivalent event <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> • Continue NGRV and countermeasure market research • Continue supporting DOE/NNSA NGRV Phase 1 study • Conduct pre-Milestone A operational assessments and integration studies • Continue preparation for Milestone A equivalent event <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to inflationary adjustment.</p>			
Accomplishments/Planned Programs Subtotals	0.000	15.535	16.122

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025 Base</u>	<u>FY 2025 OCO</u>	<u>FY 2025 Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• RDTE 05 0605238F: <i>Ground Based Strategic Deterrent EMD</i>	3,434.623	3,746.935	3,721.024	-	3,721.024	3,791.551	3,568.798	2,890.209	2,012.009	7,557.200	30,722.349
• MPAF 01 MGBSD0: <i>Ground Based Strategic Deterrent</i>	0.000	539.300	0.000	-	0.000	1,634.097	4,131.827	5,073.777	5,697.755	69,015.349	86,092.105
• RDTE 04 0603851F: <i>Intercontinental Ballistic Missile - Dem/Val</i>	44.751	45.319	119.197	-	119.197	91.584	73.250	136.982	126.651	Continuing	Continuing
• RDTE 03 0603273F: <i>Science & Technology for Nuclear Re-entry Systems</i>	22.893	70.321	91.885	-	91.885	127.244	164.414	170.367	173.931	Continuing	Continuing

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101328F / ICBM Reentry Vehicles	Project (Number/Name) 675920 / Next Generation Reentry Capabilities

D. Acquisition Strategy

The NGRC acquisition strategy will include competitively awarded contracts, prototype demonstrations and continued engagement and synchronization with the Department of Energy (DOE)/ National Nuclear Security Administration (NNSA). The Air Force is responsible for developing, producing, and maintaining next generation payload systems. DOE/NNSA develops/modifies the nuclear weapon inside the RV and all internal systems and components of the nuclear weapon. Program objectives are to develop and build a next generation payload suite leveraging model based systems engineering (MBSE), Modeling & Simulation, and Open System Architecture (OSA).

The program will employ agile contracting strategies for the next generation RV and advanced countermeasures to fill capability gaps based on a rapidly evolving threat. This will include multiple competitive contract awards, rapid onboarding and offboarding of capabilities, and maintaining a constant link with DOE/NNSA to ensure continued weapon system effectiveness. Overall objectives are to bolster the LGM-35A Sentinel weapon system payload suite by continually leveraging MBSE, M&S, and OSA throughout the mission sets.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101328F / ICBM Reentry Vehicles	Project (Number/Name) 675920 / Next Generation Reentry Capabilities
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
NGRC Operational Assessments and Integration Studies	TBD	TBD : TBD	0.000	-		5.303	Feb 2024	3.158	Feb 2025	-		3.158	Continuing	Continuing	-
Subtotal			0.000	-		5.303		3.158		-		3.158	Continuing	Continuing	N/A

Remarks
Program plans to explore agile contract vehicle strategies to develop technology trade space for the program, to include countermeasure development, through a widely distributed pool of defense industrial base companies.

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
NGRC Direct Cite Civilian Pay	Various	US Gov Civilians : Hill AFB, UT	0.000	-		2.388	Oct 2023	4.875	Oct 2024	-		4.875	Continuing	Continuing	-
NGRC Integration Support: ISC 1.0	C/CPAF	TBD : TBD	0.000	-		4.114	Feb 2024	-		-		-	Continuing	Continuing	-
NGRC Integration Support: ISC 2.0	C/CPAF	TBD : TBD	0.000	-		-		4.238	Feb 2025	-		4.238	Continuing	Continuing	-
NGRC FFRDC/UARC Support	TBD	TBD : TBD	0.000	-		0.750	Feb 2024	0.773	Feb 2025	-		0.773	Continuing	Continuing	-
NGRC Mission Modeling Framework Support	MIPR	MSIC : Huntsville, AL	0.000	-		1.505	Feb 2024	1.559	Feb 2025	-		1.559	Continuing	Continuing	-
Subtotal			0.000	-		8.757		11.445		-		11.445	Continuing	Continuing	N/A

Remarks
• NGRC Integration Support: ISC 2.0; FY24 execution may occur on ISC 1.0 depending on contract award timelines; FY25 and out are planned on ISC 2.0.

Acronyms:
Missile and Space Intelligence Center (MSIC)

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force											Date: March 2024				
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0101328F / ICBM Reentry Vehicles					Project (Number/Name) 675920 / Next Generation Reentry Capabilities				

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total		Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
NGRC Program Support Costs	Various	Various : Various	0.000	-		1.475	Feb 2024	1.519	Feb 2025	-		1.519	Continuing	Continuing	-	
Subtotal			0.000	-		1.475		1.519		-		1.519	Continuing	Continuing	N/A	

Remarks

- Management services item NGRC Program Support Costs changed from NGRV PMA in the FY25 BES.
- Program support costs may fund Information Technology infrastructure.

Prior Years	FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		15.535		16.122		-	16.122	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101328F / <i>ICBM Reentry Vehicles</i>	Project (Number/Name) 675920 / <i>Next Generation Reentry Capabilities</i>

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

NGRC	
Early Acquisition Activities	
Milestone A Equivalent Event	
Technology Risk Reduction and Prototyping	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101328F / <i>ICBM Reentry Vehicles</i>	Project (Number/Name) 675920 / <i>Next Generation Reentry Capabilities</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
NGRC				
Early Acquisition Activities	1	2024	2	2026
Milestone A Equivalent Event	2	2026	2	2026
Technology Risk Reduction and Prototyping	3	2026	4	2029

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0102110F / MH-139A
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	597.858	15.805	25.737	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	639.400
672021: <i>MH-139A</i>	597.858	15.805	17.279	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	630.942
672023: <i>MH-139A PE/PI</i>	0.000	0.000	8.458	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8.458

Program MDAP/MAIS Code: 562

A. Mission Description and Budget Item Justification

The MH-139A Grey Wolf will replace the Air Force fleet of UH-1N aircraft, and offers a significant capability increase in areas of speed, range, endurance, payload, and survivability. Currently, funding is available to procure 42 MH-139A helicopters, training devices, and associated support equipment. The replacement aircraft will provide vertical airlift and support the requirements of five Air Force major commands and operating agencies: Air Force Global Strike Command (AFGSC), Air Force Reserve Command (AFRC), Air Education and Training Command (AETC), Air Force District of Washington (AFDW), and Air Force Materiel Command (AFMC). AFGSC is the Air Force lead command and operational capability requirements sponsor. This program is an element of the Air Force's nuclear enterprise reform initiatives.

This requirement supports performance of a full financial audit as required by title 10 U.S.C. Chapter 9A, Sec 240-D.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program's funds would be in addition to the civilian pay expenses budgeted in program elements 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, and 0606398F. In FY 2023, \$3.542 million was expended for civilian pay expenses in this program element, and in FY 2024 \$2.750 million is forecast for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0102110F / MH-139A
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	15.922	25.737	9.057	0.000	9.057
Current President's Budget	15.805	25.737	0.000	0.000	0.000
Total Adjustments	-0.117	0.000	-9.057	0.000	-9.057
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.117	0.000			
• Other Adjustments	0.000	0.000	-9.057	0.000	-9.057

Change Summary Explanation

FY 2025 funding request was decreased due to pausing of Performance Enhancement/Product Improvement (PE/PI) efforts for fiscal constraints.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0102110F / MH-139A				Project (Number/Name) 672021 / MH-139A			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
672021: MH-139A	597.858	15.805	17.279	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	630.942
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The MH-139A program will replace the Air Force fleet of UH-1N aircraft with modern helicopters that will close significant mission capability gaps associated with the current fleet of UH-1N aircraft. The replacement aircraft will provide vertical airlift and support the requirements of five Air Force major commands and operating agencies: Air Force Global Strike Command (AFGSC), Air Force Reserve Command (AFRC), Air Education and Training Command (AETC), Air Force District of Washington (AFDW), and Air Force Material Command (AFMC). AFGSC is the Air Force lead command and operational capability requirements sponsor. This program is an element of the Air Force's nuclear enterprise reform initiatives.

Program includes, but is not limited to, funding for four test aircraft and two System Demonstration Test Article (SDTA) aircraft, support equipment, Interim Contractor Support (ICS), training system devices, Type I training and course ware, extension of NDI integration as a result of Identification Friend or Foe (IFF) and security forces communication capability, cyber test articles, associated Government support activities, completion of Engineering and Manufacturing Development (EMD) Development Test (DT) and live-fire test and evaluation (LFT&E), and remedy of developmental test deficiencies.

The FY 2025 development efforts will conclude systems engineering efforts for civil certifications, systems engineering tasks, and management services. Execution begins for initial training, Initial Operational Test and Evaluation (IOT&E), and military type certificate. Government test and evaluations efforts will complete EMD DT and LFT&E, and transition to Phase 5 IOT&E and IOT&E support execution.

MH-139A funding also supports obsolescence solutions and innovation activities to include studies, analyses, requirements definition, and quick-reaction capability prototypes/demonstrations to accelerate planning for technology transition, technology insertion and future acquisition program.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program's funds would be in addition to the civilian pay expenses budgeted in program elements 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, and 0606398F. In FY 2023, \$3.542 million was expended for civilian pay expenses in this program element, and in FY 2024 \$2.750 million is forecast for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: MH-139A Development	9.005	11.279	0.000
Description: Development of MH-139A helicopter and integration of non-developmental item (NDI) hardware, software, and other capabilities into aircraft system, training systems, support elements and technical/manufacturing baselines to achieve MH-139A operational capability requirements.			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102110F / MH-139A	Project (Number/Name) 672021 / MH-139A

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>FY 2024 Plans: Will continue systems engineering efforts for civil certifications, systems engineering tasks, DT, LFT&E and management services. Includes extension of NDI integration as a result of Identification Friend or Foe (IFF) and security forces communication capability. Execution begins for initial training, IOT&E, and air worthiness certification.</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding request was decreased due to pausing of Performance Enhancement/Product Improvement (PE/PI) efforts for fiscal constraints.</p>			
<p>Title: MH-139A Government Test and Evaluation</p> <p>Description: System and subsystem test and evaluation and remedy of deficiencies of the MH-139A aircraft.</p> <p>FY 2024 Plans: Will conclude EMD DT, LFT&E, and transition to Phase 5 IOT&E and IOT&E support execution.</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding request was decreased due to pausing of Performance Enhancement/Product Improvement (PE/PI) efforts for fiscal constraints.</p>	6.800	6.000	0.000
Accomplishments/Planned Programs Subtotals	15.805	17.279	0.000

C. Other Program Funding Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• APAF 04 Line Item H0106O: <i>UH-1N Replacement</i>	186.192	228.807	294.095	-	294.095	159.817	177.854	146.696	79.876	0.000	1,273.337
• APAF 05 H01061: <i>MH-139A Mod</i>	0.000	0.000	5.010	-	5.010	5.011	5.010	5.010	5.010	0.000	25.051
• APAF 06 Line Item H0106O: <i>UH-1N Replacement Initial Spares/Repair Parts</i>	11.253	20.314	34.393	-	34.393	28.581	23.949	24.448	24.934	0.000	167.872
• MILCON 0: <i>UH-1N Replacement - Primary Facility</i>	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102110F / MH-139A	Project (Number/Name) 672021 / MH-139A
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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Remarks

D. Acquisition Strategy

The Air Force intends to procure an airworthiness-certified baseline helicopter that requires non-developmental item integration (e.g. Electro-Optical/Infrared Sensor, personnel recovery hoists, cockpit/cabin armor, etc.) and training systems to meet all operational capability requirements. The MH-139A acquisition approach is a single step to full capability. This provision is reflected in the acquisition strategy underpinning the basic contract and its pre-priced options. The current program scope is compliant with the requirements basis in the UH-1N Replacement Capability Production Document (CPD). The MH-139A program entered at pre-MS C to allow interested offerors an opportunity to integrate NDI into their existing, airworthiness-certified baseline Air Vehicle (AV) to meet all UH-1N Replacement requirements. The system will consist of non-proprietary or suitably licensed components and leverage non-developmental software to the extent possible within the constraints of the chosen system. Specific acquisition and contracting strategies for Research, Development, Test, and Evaluation (RDT&E) funded integration tasks and the test and evaluation program will be determined as part of the overall program strategy.

FAA certification approvals extended EMD DT schedule and pushed Operational Test into FY 2025. Performance Enhancements and Product Improvement (PE/PI) efforts are beginning to solve deficiencies found throughout testing.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102110F / MH-139A	Project (Number/Name) 672021 / MH-139A
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MH-139 weapon system integration and type/airworthiness certification	C/FFP	Boeing : Philadelphia, PA	480.816	4.208	Dec 2022	6.807	Dec 2023	-		-		-	0.000	491.831	-
Subtotal			480.816	4.208		6.807		-		-		-	0.000	491.831	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MH-139 Other Government Costs	C/Various	Various : TBD	21.702	1.255	Jan 2023	1.270	Jan 2024	-		-		-	0.000	24.227	-
MH-139 Direct Cite Authority CIV Pay	C/Various	Various : TBD	14.015	3.542	Jan 2023	2.750	Oct 2023	-		-		-	0.000	20.307	-
Subtotal			35.717	4.797		4.020		-		-		-	0.000	44.534	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MH-139 live fire, developmental, and operational test and evaluation, planning and technical support	Various	Various : TBD	39.841	6.800	Dec 2022	6.000	Dec 2023	-		-		-	0.000	52.641	-
Subtotal			39.841	6.800		6.000		-		-		-	0.000	52.641	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MH-139 Program Support Costs	Various	Various : TBD	8.013	0.000	Dec 2022	0.452	Dec 2023	-		-		-	0.000	8.465	-

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102110F / MH-139A	Project (Number/Name) 672021 / MH-139A
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>MH-139A Program</i>	
MH-139A NDI Contract	
Initial Operational Test and Evaluation	
Developmental Test and Evaluation	
Live Fire Test	
Milestone C	
Subsystem Integration and Air Worthiness	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102110F / MH-139A	Project (Number/Name) 672021 / MH-139A
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>MH-139A Program</i>				
MH-139A NDI Contract	1	2023	4	2025
Initial Operational Test and Evaluation	4	2024	3	2025
Developmental Test and Evaluation	1	2023	3	2024
Live Fire Test	1	2023	4	2024
Milestone C	2	2023	2	2023
Subsystem Integration and Air Worthiness	1	2023	4	2025

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0102110F / MH-139A				Project (Number/Name) 672023 / MH-139A PE/PI			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
672023: MH-139A PE/PI	0.000	0.000	8.458	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8.458
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The MH-139A program will replace the Air Force fleet of UH-1N aircraft with modern helicopters that will close significant mission capability gaps associated with the current fleet of UH-1N aircraft. The replacement aircraft will provide vertical airlift and support the requirements of five Air Force major commands and operating agencies: Air Force Global Strike Command (AFGSC), Air Force Reserve Command (AFRC), Air Education and Training Command (AETC), Air Force District of Washington (AFDW), and Air Force Material Command (AFMC). AFGSC is the Air Force lead command and operational capability requirements sponsor. This program is an element of the Air Force's nuclear enterprise reform initiatives.

The MH-139A Performance Enhancements and Product Improvements Program is for the development of solutions to solve capability gaps found during the development and test of the MH-139A to include communication and gun systems deficiencies, improve mission planning capability, resolve usability concerns, and other critical capabilities, and includes associated Government test and support activities.

The program office will continue flight testing in support of modernization efforts to address emerging threats and evolving mission needs.

During FY 2025 the MH-139A program plans to continue performance enhancement efforts to include gun system deficiencies, mission planning, capability improvements, resolving usability concerns and other critical capabilities, establishing government oversight, contractor and government systems engineering tasks, non-recurring engineering, and demonstrations on various capability upgrades. FY 2025 will also include the beginning of test planning in support of capability upgrade efforts.

MH-139A funding also supports obsolescence solutions and innovation activities to include studies, analyses, requirements definition, and quick-reaction capability prototypes/demonstrations to accelerate planning for technology transition, technology insertion and future acquisition programs.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program's funds would be in addition to the civilian pay expenses budgeted in program elements 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, and 0606398F. In FY 2023, \$0.000 million was expended for civilian pay expenses in this program element, and in FY 2024 \$0.000 million is forecast for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: MH-139A Performance Enhancements	-	6.458	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102110F / MH-139A	Project (Number/Name) 672023 / MH-139A PE/PI

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Description: Development and integration of MH-139A helicopter solutions to solve capability gaps found during development and test to include communication and gun system deficiencies, Mission Planning, improve capability, resolve usability concerns and other critical capabilities.</p> <p>FY 2024 Plans: Continue systems engineering, integration and retrofit efforts to include but not limited to communication and gun system deficiencies, Mission Planning, improve capability, resolve usability concerns and other critical capabilities. Will continue government oversight, contractor and government systems engineering and integration tasks, non-recurring engineering (NRE), test and evaluation and production cut-in on various capability upgrades.</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding request was decreased due to pausing of Performance Enhancement/Product Improvement (PE/PI) efforts for fiscal constraints.</p>			
<p>Title: MH-139A Government Test Planning, Test and Evaluation</p> <p>Description: Planning for system and subsystem test and evaluation and remedy of deficiencies found during testing of the Performance Enhancement and Product Improvement solutions.</p> <p>FY 2024 Plans: Will support continued expertise at lead DT organization, continue test planning, and begin test execution in support of capability upgrade efforts.</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding request was decreased due to pausing of Performance Enhancement/Product Improvement (PE/PI) efforts for fiscal constraints.</p>	-	2.000	0.000
Accomplishments/Planned Programs Subtotals	-	8.458	0.000

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• APAF 04 04 H0106O: MH-139A	186.192	228.807	294.095	-	294.095	159.817	177.854	146.696	79.876	0.000	1,273.337

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102110F / MH-139A	Project (Number/Name) 672023 / MH-139A PE/PI
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APAF 05 H01061: <i>MH-139A Mod</i>	0.000	0.000	5.010	-	5.010	5.011	5.010	5.010	5.010	0.000	25.051
• APAF 06 H01060: <i>UH-1N</i>	11.253	20.314	34.393	-	34.393	28.581	23.949	24.448	24.934	0.000	167.872
<i>Replacement Program</i>											
• MILCON UH-1N	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	-	0.000	0.000
<i>Replacement: Primary Facility</i>											

Remarks

D. Acquisition Strategy

Acquisition and contracting strategies for RDT&E funded integration tasks and the test and evaluation program to be pursued as follow on programs with the acquisition strategies deemed most appropriate. Critical capability improvements will be planned for installation in future production lots, or planned for integration into operational aircraft, and will include competitive selection for best value to the government.

FAA certification approvals extended EMD DT schedule and pushed Operational Test into FY 2025. Performance Enhancements and Product Improvement (PE/PI) efforts are beginning to solve deficiencies found throughout testing.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102110F / MH-139A	Project (Number/Name) 672023 / MH-139A PE/PI
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	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>MH-139A Performance Enhancements and Product Improvements</i>																												
Deficiency Reports Resolution																												
Test Planning																												
Gun Systems Upgrade Planning and Contract Award																												
Gun Systems Upgrade Development and Integration																												
Gun Systems T&E																												
Interim Gun Solution T&E																												
Mission Planning Upgrade Planning and Contract Award																												
Mission Planning Upgrade Development and Integration																												
Mission Planning Upgrade T&E																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102110F / MH-139A	Project (Number/Name) 672023 / MH-139A PE/PI
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>MH-139A Performance Enhancements and Product Improvements</i>				
Deficiency Reports Resolution	1	2023	4	2025
Test Planning	1	2024	4	2025
Gun Systems Upgrade Planning and Contract Award	1	2023	2	2024
Gun Systems Upgrade Development and Integration	2	2024	4	2025
Gun Systems T&E	1	2025	4	2025
Interim Gun Solution T&E	3	2024	1	2025
Mission Planning Upgrade Planning and Contract Award	1	2024	4	2024
Mission Planning Upgrade Development and Integration	1	2025	4	2025
Mission Planning Upgrade T&E	1	2025	4	2025

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0102326F / <i>Region/Sector Operation Control Center Modernization Program</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	0.389	0.831	0.852	0.000	0.852	0.873	0.891	0.923	0.941	0.000	5.700
674592: <i>BA7 0102326F 674592 R/SAOC Modernization</i>	-	0.389	0.831	0.852	0.000	0.852	0.873	0.891	0.923	0.941	0.000	5.700
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Regional/Sector Operation Center Modernization program supports the NORAD/NORTHCOM homeland defense and air sovereignty mission for fixed Air Defense Sectors.

BATTLE CONTROL SYSTEM-FIXED (BCS-F): BCS-F is a bi-national development program with Canada. The BCS-F Program is an AF Homeland Defense battle management command and control system with the capability to integrate data from existing and future civil and military defense surveillance systems into a comprehensive air picture. BCS-F provides tactical communications and data link capabilities with other military and civil systems responsible for planning, directing, coordinating and controlling forces for air surveillance, air defense, and control of sovereign US air space. This integrated air picture enhances the capability to conduct peacetime air sovereignty operations and transition to active air defense operations in the event of aggression.

BATTLE CONTROL SYSTEM-FIXED MODIFICATION ONE (BCS-F Modification 1): BCS-F Modification 1 effort will support the implementation of Automatic Dependent Surveillance-Broadcast (ADS-B) data feeds and Earth Center Earth Fixed (ECEF). The BCS-F Modification 1 effort will be executed as a Cooperative Development Program between the US and Canada.

NATIONAL CAPITOL REGION - INTEGRATED AIR DEFENSE SYSTEM (NCR-IADS): NCR-IADS is a post-September 11, 2001 rapidly fielded capability that provides ground-based air defense of the NCR airspace by delivering an integrated air picture, air defense weapons, enhanced regional situational awareness, and forensic data collection capabilities. Life cycle replacement will be required to prevent system obsolescence, account for new cyber security requirements, and posture the program to seamlessly integrate future capabilities.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY24 \$0.000M was expended for civilian pay expenses in this program element and in FY25 \$0.000M is forecasted for civilian pay expenses in this program element.

This program element may include necessary emergent or unanticipated civilian pay expenses required to manage, execute and deliver Battle Control Systems-Fixed Modification 1. The use of such programs would be in addition to the civilian pay expenses budgeted in program element 0102326F.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0102326F / <i>Region/Sector Operation Control Center Modernization Program</i>
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This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	0.406	0.831	0.850	0.000	0.850
Current President's Budget	0.389	0.831	0.852	0.000	0.852
Total Adjustments	-0.017	0.000	0.002	0.000	0.002
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.017	0.000			
• Other Adjustments	0.000	0.000	0.002	0.000	0.002

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: Battle Control System-Fixed Modification 1	0.389	0.831	0.852
Description: Continue systems engineering, development, risk reduction, integration, test & evaluation and fielding of the BCS-F Modification 1 effort. The BCS-F Modification 1 effort will be executed as a Cooperative Program between the US and Canada.			
FY 2024 Plans: Continued system engineering, testing and fielding on baseline 3.3.1			
FY 2025 Plans: Plan include but not limited to continued testing and fielding of 3.3.1 baseline			
FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to continued support of 3.3.1 baseline fielding and support			
Accomplishments/Planned Programs Subtotals	0.389	0.831	0.852

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0102326F / <i>Region/Sector Operation Control Center Modernization Program</i>
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D. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPAF 03 833030: <i>Battle Control System - Fixed</i>	1.409	1.867	3.377	-	3.377	3.449	3.571	3.648	3.721	0.000	21.042

Remarks

E. Acquisition Strategy

Acquisition Strategy: The Program Management Office (PMO) completed a full and open competition for BCS-F Modification 1 efforts. The BCS-F PMO finalized a Project Arrangement (PA) that established a cooperative development program with Canada. These efforts concluded with development and releases to the Air Defense Sectors.

Management Strategy: Program management for the BCS-F program is under direction of PEO Digital, located at Hanscom AFB, MA, in conjunction with PMO North, located in Ottawa, CA. The Air Force Life Cycle Management Center (AFLCMC) is the contracting authority for BCS-F.

Contracting Strategy: The BCS Capability modernization takes place under a variety of contract strategies including Other Transaction Authority.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102326F / <i>Region/Sector Operation Control Center Modernization Program</i>	Project (Number/Name) 674592 / BA7 0102326F 674592 R/SAOC Modernization

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Battle Control System-Fixed Modification 1	
Operational Test & Fielding Support	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102326F / <i>Region/Sector Operation Control Center Modernization Program</i>	Project (Number/Name) 674592 / BA7 0102326F 674592 R/SAOC Modernization

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Battle Control System-Fixed Modification 1</i>				
Operational Test & Fielding Support	3	2023	4	2025

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0102412F / <i>North Warning System (NWS)</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	231.884	0.102	0.103	0.000	0.103	0.105	0.108	0.112	0.114	Continuing	Continuing
674592: <i>Region/Sector Operations Modernization Center (R/SAOC)</i>	-	231.884	0.102	0.103	0.000	0.103	0.105	0.108	0.112	0.114	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Portions of this requirement are classified. Additional information is available upon request. FY 23 will fund development and fielding of HLD OTHR. OTHR will fill critical gaps to detecting threats to the Homeland at ranges far exceeding current sensors and enables situations awareness and tactical decision making for defense of North America.

This program element may include necessary civilian pay expenses required to manage execute and deliver weapon system capability. The use of such programs funds would be in addition to civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23, 1.00M was expended for civilian pay expenses in this program element, and in FY24, 0.00M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025 Base</u>	<u>FY 2025 OCO</u>	<u>FY 2025 Total</u>
Previous President's Budget	240.159	0.102	0.103	0.000	0.103
Current President's Budget	231.884	0.102	0.103	0.000	0.103
Total Adjustments	-8.275	0.000	0.000	0.000	0.000
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-8.275	0.000			
• Other Adjustments	0.000	0.000	0.000	0.000	0.000

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0102412F / <i>North Warning System (NWS)</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Title: North Warning System [NWS]</p> <p>Description: The details of this program are classified. Details are available upon request.</p> <p>FY 2024 Plans: FY24 funds continue RDT&E of Talon Archer sensors.</p> <p>No OCO plans.</p> <p>FY 2025 Plans: Continue RDT&E of Talon Archer sensors.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding decreased due to decrease in requirements</p>	231.884	0.102	0.103
Accomplishments/Planned Programs Subtotals	231.884	0.102	0.103

D. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

E. Acquisition Strategy

Contract type and method are still under assessment.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102412F / North Warning System (NWS)	Project (Number/Name) 674592 / Region/Sector Operations Modernization Center (R/SAOC)

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Talon Archer</i>																												
N/A																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102412F / <i>North Warning System (NWS)</i>	Project (Number/Name) 674592 / <i>Region/Sector Operations Modernization Center (R/SAOC)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Talon Archer</i>				
N/A	1	2023	4	2028

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0102417F / <i>Over-the-Horizon Backscatter Radar</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	4.400	428.754	383.575	0.000	383.575	74.101	27.269	33.040	33.692	0.000	984.831
674592: <i>HLD - OTHR</i>	-	0.000	423.643	371.751	0.000	371.751	74.101	27.269	33.040	33.692	0.000	963.496
674865: <i>TACMOR Development</i>	-	4.400	5.111	11.824	0.000	11.824	0.000	0.000	0.000	0.000	0.000	21.335

A. Mission Description and Budget Item Justification

In FY 2024, PE 0102412F North Warning System (NWS) HLD-OTHR funds were realigned to PE 0102417F Over-the-Horizon Backscatter Radar to report all Department of the Air Force OTHR efforts in one R-1 line.

Efforts funded in this PE focus on development, testing, and fielding, of a long-range early detection capability for airborne and surface targets of interest. Each line of effort acquires and fields a land based, high-frequency (HF) ionospheric backscatter radar for over the horizon detection and tracking of airborne and surface targets over wide geographic areas. Fielding of this capability will enable detection, tracking and reporting of airborne and surface targets that may be obscured from conventional line of sight radar systems by the curvature of the earth. Specific lines of effort funded include, but are not limited to, Tactical Multi-Mission Over the Horizon Radar (TACMOR), Homeland Defense Over the Horizon Radar (HLD-OTHR) and support for a classified EUCOM requirement.

TACMOR capability is being developed for employment in the Republic of Palau (RoP) to provide enhanced Air Domain Awareness in the USINDOPACOM area of responsibility. TACMOR will be located in the RoP and operated by the United States in agreement with the RoP. Development, test and evaluation, and acquisition of the system and associated components will provide warfighters with the capability to close gaps in surveillance coverage in key regions of the Pacific area of interest to the United States and its Allies. The total cost of the TACMOR Middle Tier of Acquisition effort is 243.4 million, including RDT&E and procurement of prototype units. TACMOR is not fully funded across the Future Years Defense Program. The Department of the Air Force is assessing all options to address the funding shortfalls for MTA programs including additional funding in a future budget request, performance trades based on technical maturity, or transition to alternative pathways.

HLD-OTHR efforts focus on the development, testing, and fielding of capabilities to extend current NWS surveillance of long-range early warning for North America in response to emerging threats. The primary mission of the new HLD-OTHR systems will be to provide long-range sensor coverage of potential air and cruise missile threats to North America, with secondary and tertiary capability against complex targets of interest (i.e, High Altitude Balloons) and maritime surface vessels and additional tasking as required. The system will be comprised of four OTHR systems and an Operational Control Center. HLD-OTHR data will be distributed and integrated into existing air, missile and maritime defense early warning networks, as applicable. This project will continue to focus investments to enhance capability for the Air and Cruise Missile Defense of the Homeland mission.

The FY 2025 funding request was reduced by \$1.647 million to account for the availability of prior year execution balances.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0102417F / <i>Over-the-Horizon Backscatter Radar</i>
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This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in PE 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY2023, \$4.2M was expended for civilian pay expenses in this program element, and in FY2024, \$4.3M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	12.210	428.754	74.056	0.000	74.056
Current President's Budget	4.400	428.754	383.575	0.000	383.575
Total Adjustments	-7.810	0.000	309.519	0.000	309.519
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-7.810	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	309.519	0.000	309.519

Change Summary Explanation

BPAC TACMOR Development provided \$7.810 million in FY23 as an Omnibus Reprogramming source.

Air Force internally realigned HLD OTHR \$309.519M of Procurement and MILCON funding in FY25 to RDT&E to support the acquisition strategy.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102417F / <i>Over-the-Horizon Backscatter Radar</i>	Project (Number/Name) 674592 / <i>HLD - OTHR</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
674592: <i>HLD - OTHR</i>	-	0.000	423.643	371.751	0.000	371.751	74.101	27.269	33.040	33.692	0.000	963.496
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Cost to complete for HLD - OTHR still in review. A draft Service Cost Position is developed but not finalized for the first increment to develop two radars, plus the operational control center. SAF/AQ intent is to establish the program baseline in Q3FY24 and will deliver the Selected Acquisition Report to Congress with cost to complete at that time.

A. Mission Description and Budget Item Justification

HLD-OTHR efforts focus on the development of a capability to extend current NWS surveillance to long range early warning for North America in response to emerging threats. The program will design, develop, test and field advanced 6th generation OTHR systems operating at levels of transmit power and receiver sensitivity far exceeding current OTHR systems in operation. Program activities include C2 interface design and integration, HF sensor and digital receiver technology advancement, ionospheric characterization research, remote sensor management capability development, and sensor data fusion research. HLD-OTHR data will be distributed and integrated into existing integrated air and missile defense (IAMD) early warning networks, to include the emerging DAF Battle Network and Cloud Based C2 architectures as applicable. Funds were added in FY24 to evaluate and develop improvements to the OTHR sensors tracking algorithms to increase probability of detection of high-altitude air vehicles such as stratospheric balloons and other unidentified aerial phenomena. Fielding involves land-based installation of Transmit and Receive site arrays for bi-static operations. Transmit sites require 140 acres of land and consist of vertical antennas in an array. Receive sites require 1350 acres of land and will consist of a 7-row, 2-dimensional antenna array. Additional development will include the establishment of an Operational Control Center (OCC) and associated Command and Control Battle Management capability to enable the dissemination of track data and other targets of interest for Air and Cruise Missile Defense of the Homeland (ACMD-H) air domain awareness requirements.

Program Element will also be utilized to fund any emerging or urgent joint operational OTHR needs as required.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY24 \$4.2M was expended for civilian pay expenses in this program element, and in FY25 \$4.3M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs (\$ in Millions)

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: Homeland Defense OTHR Development	0.000	423.643	371.751

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102417F / <i>Over-the-Horizon Backscatter Radar</i>	Project (Number/Name) 674592 / <i>HLD - OTHR</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Description: HLD-OTHR development focuses on radar system design, development, manufacture and acquisition of hardware and software for the Transmit and Receive Sites. The program will deliver a US variant of an existing Australian system for NORAD/NORTHCOM use in the northern ionosphere environment. Development of modeling and simulation tools, studies, and analyses to inform systems engineering, early developmental test activities. Modeling will validate key performance characteristics and metrics unique to each site's interaction with HF radar and the ionosphere. In addition, execution of risk reduction efforts for the development of advanced radar receivers as well as system integration design into the IAMD battle control system enterprise will be used to develop system requirements and technical specifications to inform Command and Control and Operation Control Center system acquisition.</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - Expanding site specific electromagnetic interference and ionospheric characterization work as access to additional land becomes available. -Initiating OTHR track data software interface and integration activities into existing Battle Control Centers/C2 nodes - Continuing the development, manufacture, and acquisition of Rx & Tx antennas, associated infrastructure, and material components necessary to support initial developmental testing as sites becomes available -Continuing advanced digital receiver signal processing development <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> -Will continue site-specific electromagnetic interference and ionospheric characterization work and begin adjusting mission system software to incorporate site-specific characterization work. -Will continue OTHR track data software interface and integration activities into existing Battle Control Centers/C2 nodes -Will continue manufacturing and acquisition of Rx & Tx antennas, radar subcomponents, associated infrastructure, and material components necessary to support initial installation and developmental testing as sites becomes available -Will begin installation of System 1 & 2 sounder and transponder subsystems -Will begin collecting northern ionosphere data for analyses, ionospheric model development, and tailoring of mission system software for US operational locations -Will begin C2 subsystem software development — adaptation of existing software baseline for US-specific mission -Will begin system development and build of main sub-systems and components by the manufacturer -Will begin sub-system and component test and checkout prior to ship and install at radar sites <p>FY 2024 to FY 2025 Increase/Decrease Statement: FY25 decrease aligns with fewer components to acquire and develop for increment 1 of the program.</p>			
Accomplishments/Planned Programs Subtotals	0.000	423.643	371.751

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102417F / <i>Over-the-Horizon Backscatter Radar</i>	Project (Number/Name) 674592 / <i>HLD - OTHR</i>

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2023	FY 2024	FY 2025	FY 2025	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Cost To	Total Cost
			Base	OCO	Total					Complete	
• OPAF 03 0102417F: <i>Over-the-Horizon Backscatter</i>	0.000	55.198	0.000	-	0.000	104.222	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

HLD-OTHR is executed by PEO Digital. The program is anticipated to be a pre-Milestone C, Major Capability Acquisition implementing an evolutionary capability development approach. It will be executed in three increments delivering a total of four radar systems and an operations control center (OCC). Increment 1 will deliver a single radar system with a 1-dimensional (1D) receive (Rx) array to provide Early Operational Capability 1 (EOC 1). Increment 2 will scale the System 1 Rx array to 2D, deliver System 2 with a 2D Rx array, and deliver the OCC to provide EOC 2. Systems 1 & 2 delivery is anticipated to be executed through a Government to Government (G2G) Australian Military Sales (AMS) arrangement under current international (binational) agreements. Increment 3 will deliver Systems 3 & 4 under a follow-on acquisition strategy based on the outputs of the ACMD-H Analysis of Alternatives.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102417F / <i>Over-the-Horizon Backscatter Radar</i>	Project (Number/Name) 674592 / <i>HLD - OTHR</i>
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Manufacture and acquisition of hardware components for HLD-OTHR Transmit and Receive sites.	TBD	AFLCMC/HBD : Hanscom, AFB, MA	-	-		360.143	Jan 2024	307.249	Jan 2025	-		307.249	Continuing	Continuing	-
Modeling/Simulation and ionospheric characterization activities.	TBD	AFLCMC/HBD : Hanscom, AFB, MA	-	-		15.500	Jan 2024	10.100	Jan 2025	-		10.100	Continuing	Continuing	-
Operational Control Center development and Battle Control Center Integration.	TBD	AFLCMC/HBD : Hanscom, AFB, MA	-	-		22.000	Jan 2024	34.140	Jan 2025	-		34.140	Continuing	Continuing	-
Not specified.	C/CPAF	Not specified. : TBD	-	-		-		-		-		-	Continuing	Continuing	-
Subtotal			-	-		397.643		351.489		-		351.489	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Travel	Various	AFLCMC/HBD : Hanscom, AFB, MA	-	-		2.000	Nov 2023	1.962	Nov 2024	-		1.962	Continuing	Continuing	-
Subtotal			-	-		2.000		1.962		-		1.962	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Integration, Validation and Verification	TBD	AFLCMC/HBD : Hanscom, AFB, MA	-	-		10.000	May 2024	-		-		-	Continuing	Continuing	-
Test Support 46th TS	C/CPAF	Not specified. : TBD	-	-		-		2.800	Feb 2025	-		2.800	Continuing	Continuing	-
Subtotal			-	-		10.000		2.800		-		2.800	Continuing	Continuing	N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102417F / <i>Over-the-Horizon Backscatter Radar</i>	Project (Number/Name) 674592 / <i>HLD - OTHR</i>

	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
HLD OTHR																												
Increment 1 & 2 - Requirements developments and system performance specification validation																												
Radar Rx risk-reduction design and technology advancement efforts																												
Increment 3 - Requirements developments and system performance specification validation																												
Model Based Systems Engineering Siting, ionospheric, modeling & simulation analyses																												
Component and material purchases, prototype antenna fabrication, and delivery (sites 1 & 2)																												
Factory assembly and checkout of Radar subsystems by integrator																												
Battle Control System integration-interface design, build, and test																												
Radar 1 Initial installation (transmit array, 1d receive array, and associated support subsystems)																												
Radar 1 Test and Evaluation																												
Radar 1 2d receive array installation (additional rows)																												
Radar 2 - Initial installation (transmit array, 1d receive array, and associated support subsystems)																												
Radar 2 Test and Evaluation																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102417F / <i>Over-the-Horizon Backscatter Radar</i>	Project (Number/Name) 674592 / <i>HLD - OTHR</i>
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	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Radar site 2 - 2d receive array installation (additional rows)	[REDACTED]																											

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102417F / <i>Over-the-Horizon Backscatter Radar</i>	Project (Number/Name) 674592 / <i>HLD - OTHR</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>HLD OTHR</i>				
Increment 1 & 2 - Requirements developments and system performance specification validation	1	2023	1	2025
Radar Rx risk-reduction design and technology advancement efforts	3	2023	1	2025
Increment 3 - Requirements developments and system performance specification validation	2	2024	4	2025
Model Based Systems Engineering Siting, ionospheric, modeling & simulation analyses	1	2023	4	2025
Component and material purchases, prototype antenna fabrication, and delivery (sites 1 & 2)	1	2024	1	2026
Factory assembly and checkout of Radar subsystems by integrator	1	2025	4	2026
Battle Control System integration-interface design, build, and test	1	2023	4	2026
Radar 1 Initial installation (transmit array, 1d receive array, and associated support subsystems)	1	2026	2	2028
Radar 1 Test and Evaluation	1	2028	4	2029
Radar 1 2d receive array installation (additional rows)	4	2028	4	2029
Radar 2 - Initial installation (transmit array, 1d receive array, and associated support subsystems)	3	2026	4	2028
Radar 2 Test and Evaluation	3	2028	4	2029
Radar site 2 - 2d receive array installation (additional rows)	1	2029	4	2029

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102417F / <i>Over-the-Horizon Backscatterer Radar</i>	Project (Number/Name) 674865 / <i>TACMOR Development</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
674865: <i>TACMOR Development</i>	-	4.400	5.111	11.824	0.000	11.824	0.000	0.000	0.000	0.000	0.000	21.335
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

TACMOR capability is being developed for employment in the Republic of Palau to provide enhanced Air Domain Awareness in the USINDOPACOM area of responsibility. TACMOR will be operated by the United States and located in the Republic of Palau, with the agreement of the government of Palau. Development, test and evaluation, and acquisition of the system and associated components will provide warfighters with the capability to close gaps in surveillance coverage in key regions of the Pacific area of interest to the United States and our Allies.

TACMOR radar system development, integration and test activities are delayed under the current funding profile. TACMOR efforts funded in this Program Element will include but are not limited to: A Transmit site consisting of fourteen elements and high-power amplifiers transmitting High Frequency [HF] Skywave Over-The-Horizon Radar [OTHR] waveforms. The transmit site will also consists of a HF vertical sounder antenna and a HF backscatter sounder providing ionosphere environmental information for optimizing frequency selection. Also includes a Receive site consisting of 128 dual-monopole antenna elements receiving the over-the-horizon reflected energy from the transmit site. The receive site also contains the secure facilities for signal processing of the received data and real-time target extraction information.

This effort will also fund the communications infrastructure necessary to enable the data flow from the Transmit and Receive sites to an off-site operations control center. The operations control center plans and executes missions in support of the Combatant Command [CCMD] and provides real-time, target tracking information to all-source information fusion and dissemination systems. TACMOR data will also be accessible to and exploited by the National Air and Space Intelligence Center [NASIC] for detailed, post-event analysis.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY2024 \$0 was expended for civilian pay expenses in this program element, and in FY2025 \$0 is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: TACMOR Development	4.400	5.111	11.824
Description: Will establish initial TACMOR prototype transition and development activities necessary to accept post production readiness system components and sub-components. Program re-phased to align with military construction schedule and site availability.			
FY 2024 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102417F / <i>Over-the-Horizon Backscatter Radar</i>	Project (Number/Name) 674865 / <i>TACMOR Development</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> - Completing development of a System Integration Lab [SIL] capability to allow for early test and integration of TACMOR unique hardware and software to run in a maintenance environment. Allows for initial training of TACMOR maintainers to gain familiarity with the major systems and subsystem components. - Begin integrating the Wideband Communications Architecture in the SIL environment to test, evaluate and verify the Primary, Alternate, Contingency, and Emergency communications architecture prior to fielding - Continue development and installation of communication infrastructure in support of offsite data transmission and dissemination. This includes associated authority to operate and cyber hardening. - Begin development of initial operations training material in support of Initial Operational Test and Evaluation [IOT&E] process <p><i>FY 2025 Plans:</i></p> <ul style="list-style-type: none"> - Will establish initial contract for prototype development of the radar system and sub-system components - Will deliver network services (terrestrial and SATCOM backup) infrastructure including management, on-island communications, off-island communications, and an integration facility to be used to ensure consistent interfaces and end-to-end service delivery is available once the radar is in place. <p><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i></p> <ul style="list-style-type: none"> - Restored funding decremented for prior year poor execution based on the project rephasing. 			
Accomplishments/Planned Programs Subtotals	4.400	5.111	11.824

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

TACMOR will be executed out of the PEO Digital. For contracting efforts, the program will seek approval for rapid prototyping Middle Tier Acquisition to transition the Joint Concept Technology Demonstration to a program of record.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102417F / <i>Over-the-Horizon Backscatter Radar</i>	Project (Number/Name) 674865 / <i>TACMOR Development</i>
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Support to JEON EC-0020 (see Remarks below)	TBD	AFLCMC/HBG : Robins, AFB, GA	-	4.400	Feb 2024	-		-		-		-	Continuing	Continuing	-
Component and material purchases, prototype antenna fabrication; Wide Area Communications network services	MIPR	AFLCMC/HBG : Robins, AFB, GA	-	-		-		11.224	Jan 2025	-		11.224	Continuing	Continuing	-
Initial Operations training material development; cyber security risk management frame work implementation	TBD	AFLCMC/HBG : Robins, AFB, GA	-	-		3.000	Feb 2024	-		-		-	Continuing	Continuing	-
Subtotal			-	4.400		3.000		11.224		-		11.224	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Travel	Various	AFLCMC/HBG : Robins, AFB, GA	-	0.000	Feb 2024	0.300	Nov 2023	0.300	Nov 2024	-		0.300	Continuing	Continuing	-
Subtotal			-	0.000		0.300		0.300		-		0.300	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Integration Validation and Verification	Various	AFLCMC/HBG : Robins, AFB, GA	-	0.000	Jan 2024	0.600	Dec 2023	-		-		-	Continuing	Continuing	-
Subtotal			-	0.000		0.600		-		-		-	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102417F / <i>Over-the-Horizon Backscatter Radar</i>	Project (Number/Name) 674865 / <i>TACMOR Development</i>
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Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering and Program Office Management	Various	AFLCMC/HBG : Robins, AFB, GA	-	0.000	Feb 2024	1.211	Nov 2023	0.300	Nov 2024	-		0.300	Continuing	Continuing	-
Subtotal			-	0.000		1.211		0.300		-		0.300	Continuing	Continuing	N/A
Project Cost Totals			-	4.400		5.111		11.824		-		11.824	Continuing	Continuing	N/A

Remarks
 The program is delayed due to MILCON land acquisition timelines making initial FY22 and FY23 funds early to need. The program offered \$7.8M FY23 funding for the FY23 Omnibus and \$4.4M as a source for funding JEON EC-0020.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102417F / <i>Over-the-Horizon Backscatter Radar</i>	Project (Number/Name) 674865 / <i>TACMOR Development</i>

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>TACMOR Development</i>	
Communication infrastructure development	[REDACTED]
System Integration Lab development	[REDACTED]
Network services delivery, communication on/off-island communications	[REDACTED]

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0102417F / <i>Over-the-Horizon Backscatter Radar</i>	Project (Number/Name) 674865 / <i>TACMOR Development</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
TACMOR Development				
Communication infrastructure development	1	2024	4	2025
System Integration Lab development	1	2024	4	2025
Network services delivery, communication on/off-island communications	1	2025	4	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0202834F / <i>Vehicles and Support Equipment - General</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	13.715	15.498	6.097	0.000	6.097	4.855	5.124	16.256	16.583	Continuing	Continuing
672800: <i>AVIATION SUPPORT EQUIPMENT MODERNIZATION</i>	-	13.715	15.498	6.097	0.000	6.097	4.855	5.124	16.256	16.583	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Aviation Support Equipment Modernization provides funding for the modernization of organizational and intermediate level support equipment for out-of-production and emerging aircraft, munitions and external stowage to maximize commonality of equipment, improve aircraft readiness/availability and to reduce life cycle sustainment costs. These items, common (used on more than one weapon system) and peculiar (unique to one weapon system), directly support aircraft maintenance, servicing, and sortie generation requirements.

To support aircraft generation requirements, support equipment may be studied, reviewed, modified and/or re-developed in order to maintain operational readiness. Examples of equipment under review and/or modernization includes, but not limited to, power generation, heating, ventilation, and air conditioning (HVAC), munition trailers/accessories, munition lifts/accessories, tow vehicles, munition test/maintenance stands, hydraulic equipment, and engine test stands. Any identified capability gaps may result in the design of new system. Additionally, modernization is a continuous, deliberate effort and is key to complete lifecycle management.

This program element also includes program administrative cost for the Support Equipment and Vehicles program office and funds the cost of studies and research to support the aviation support equipment fleet.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver Aviation Support Modernization capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 0.000M and in FY24 0.000M was expended for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0202834F / <i>Vehicles and Support Equipment - General</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	14.483	15.498	11.545	0.000	11.545
Current President's Budget	13.715	15.498	6.097	0.000	6.097
Total Adjustments	-0.768	0.000	-5.448	0.000	-5.448
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-0.296	0.000			
• SBIR/STTR Transfer	-0.472	0.000			
• Other Adjustments	0.000	0.000	-5.448	0.000	-5.448

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Title: Powered AGE Systems Modernization</p> <p>Description: Ensures powered aerospace ground equipment (AGE) remains available and suitable to meet the requirements of legacy and 5th generation aircraft and force employment/basing strategies while providing reduced lifecycle sustainment costs, reduce operational footprint in support of agile combat operations, and providing improved user safety by reducing system emissions and noise. Powered AGE includes hydraulic, generators, lighting, heating/air conditioning, compressors/bleed-air, aerial stores lift trucks and other electrically driven systems used in and around the flight line for the generation and maintenance of aircraft.</p> <p>FY 2024 Plans: Efforts include the continued study, research, development, and operational feasibility testing of emerging technologies/systems to provide reliable clean power such as, but not limited to, hybrid, fuel cell, power grid, and battery systems. One or more contracts may be awarded to support efforts such as the design and test of a new large aircraft generator system, battery "powerhead" systems to reduce diesel consumption and replace aging/unsupportable fleet, as well a combined aircraft power/flight line lighting system to support agile basing applications for remotely piloted aircraft. Small business innovative research (SBIR) contract may be awarded to mature technology. Budget includes funds for Program Support Costs, A&AS, travel and other equipment required to execute program activities as well as develop Air Force-wide system requirements.</p> <p>FY 2025 Plans: Efforts include the continued study, research, development, and operational feasibility testing of emerging technologies/systems to provide reliable clean power such as, but not limited to, hybrid, fuel cell, power grid, and battery systems. One or more contracts may be awarded to support efforts such as the design and test of a new large aircraft generator system, battery "powerhead"</p>	3.664	5.745	2.268

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0202834F / <i>Vehicles and Support Equipment - General</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>systems to reduce diesel consumption and replace aging/unsupportable fleet, as well a combined aircraft power/flight line lighting system to support agile basing applications for remotely piloted aircraft. Small business innovative research (SBIR) contract may be awarded to mature technology. Budget includes funds for Program Support Costs, A&AS, travel and other equipment required to execute program activities as well as develop Air Force-wide system requirements.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Decrease of funds due to leveraging 3010 funds to progress R&D projects to production.</p>				
<p>Title: Munitions Materiel Handling Equipment (MMHE) Modernization</p> <p>Description: Ensures aerial lift trucks (jammers) and munitions trailers continue to safely meet lift & carry requirements as well as fill capability gaps resulting from new/emerging weapons and aircraft stowage, and new force employment/ basing strategies. RDT&E supports emerging opportunities, such as but not limited to, development of semi-autonomous loading systems, alternative electrical power/drive systems and exploring & implementing a Family-of-Jammers concept to address low observable aircraft loading challenges, agile operations in contested environment, and heavy-weight lift capabilities resulting from emerging weapons. Equipment may be studied, reviewed, modified and/or re-developed in order to maintain operational readiness</p> <p>FY 2024 Plans: Efforts include the continued study, research, development, and operational feasibility testing of emerging technologies/systems to ensure MMHE equipment continue to meet current and future requirements. One or more contracts may be awarded to develop a Family-of-Jammer(s) to meet AF lift requirements across all weight classes and/or development of a semi-autonomous/ autonomous loading system to improve user safety and generation timelines. Small business innovative research (SBIR) contract may be awarded to mature technology. Budget includes funds for Program Support Costs, A&AS, travel and other equipment required to execute program activities as well as develop Air Force-wide system requirements.</p> <p>FY 2025 Plans: Efforts include the continued study, research, development, and operational feasibility testing of emerging technologies/systems to ensure MMHE equipment continue to meet current and future requirements. One or more contracts may be awarded to develop a Family-of-Jammer(s) to meet AF lift requirements across all weight classes and/or development of a semi-autonomous/ autonomous loading system to improve user safety and generation timelines. Small business innovative research (SBIR) contract may be awarded to mature technology. Budget includes funds for Program Support Costs, A&AS, travel and other equipment required to execute program activities as well as develop Air Force-wide system requirements.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Decrease of funds due to leveraging 3010 funds to progress R&D projects to production.</p>		6.607	7.824	1.665
<p>Title: Tow Systems Modernization</p>		3.444	1.929	2.164

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0202834F / <i>Vehicles and Support Equipment - General</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Description: New Common Tow Systems Modernization across the aircraft fleet. RDT&E efforts support development, testing, and producibility of Tow Bar and Tow Systems.</p> <p>FY 2024 Plans: Continuing to support mission generation Tow Systems Modernization requirements, support equipment may be studied, reviewed, modified and/or re-developed in order to maintain operational readiness. Examples of equipment under review include, but not limited to development of a Family-of-Tow Systems, "universal tow bar", aircraft positioners, emerging load limits, replace legacy (1955) tow systems, increase AGILE operations, reduction of deployment footprint and to reduce human and aircraft safety mishaps. Budget includes funds for Program Support Costs, A&AS, travel and other equipment required to execute program activities as well as develop Air Force-wide system requirements.</p> <p>FY 2025 Plans: Continuing to support mission generation Tow Systems Modernization requirements, support equipment may be studied, reviewed, modified and/or re-developed in order to maintain operational readiness. Examples of equipment under review include, but not limited to development of a Family-of-Tow Systems, "universal tow bar", aircraft positioners, emerging load limits, replace legacy (1955) tow systems, increase AGILE operations, reduction of deployment footprint and to reduce human and aircraft safety mishaps. Budget includes funds for Program Support Costs, A&AS, travel and other equipment required to execute program activities as well as develop Air Force-wide system requirements.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Decrease of funds due to leveraging 3010 funds to progress R&D projects to production.</p>			
Accomplishments/Planned Programs Subtotals	13.715	15.498	6.097

D. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• APAF 07 000071: <i>Aircraft Replacement Support Equip</i>	161.513	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

Remarks
 The Support Equipment and Vehicles program office is responsible for developing, acquiring and sustaining common aircraft generation support equipment for the United States Air Force (USAF).

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0202834F / <i>Vehicles and Support Equipment - General</i>
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E. Acquisition Strategy

The acquisition strategy for the Munitions Materiel Handling Equipment (MMHE) Modernization project is expected to maximize OTA non-traditional contracts for development, test, and user evaluation. This includes, but not limited to PIA, Consortium, SBIR, DLA TLS, TACFI, etc. and may award to multiple vendors.

The acquisition strategy for the Powered Aerospace Ground Equipment (AGE) Modernization project is expected to maximize OTA non-traditional contracts for development, test, and user evaluation. This includes, but not limited to PIA, Consortium, SBIR, DLA TLS, TACFI, etc. and may award to multiple vendors.

The acquisition strategy for Tow Systems Modernization project is expected to maximize OTA non-traditional contracts for development, test, and user evaluation. This includes, but not limited to PIA, Consortium, SBIR, DLA TLS, TACFI, etc. and may award to multiple vendors.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0202834F / Vehicles and Support Equipment - General	Project (Number/Name) 672800 / AVIATION SUPPORT EQUIPMENT MODERNIZATION
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MMHE Contract	C/TBD	Not specified. : TBD	-	8.073	Mar 2023	8.224	Mar 2024	1.349		-		1.349	Continuing	Continuing	-
Powered AGE Contract	C/TBD	Not specified. : TBD	-	2.027	Feb 2023	3.885	Feb 2024	1.829		-		1.829	Continuing	Continuing	-
Tow Systems Contract	C/TBD	Not specified. : TBD	-	2.608	Feb 2023	2.329	Feb 2024	1.749		-		1.749	Continuing	Continuing	-
Subtotal			-	12.708		14.438		4.927		-		4.927	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Contractor Support	PO	Not specified. : TBD	-	0.952	Mar 2023	1.000	Mar 2024	1.100	Mar 2025	-		1.100	Continuing	Continuing	-
Subtotal			-	0.952		1.000		1.100		-		1.100	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Office Management/Government Services	TBD	Not specified. : TBD	-	0.055	Feb 2023	0.060	Feb 2024	0.070	Feb 2025	-		0.070	Continuing	Continuing	-
Subtotal			-	0.055		0.060		0.070		-		0.070	Continuing	Continuing	N/A

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals		-	13.715	15.498	6.097	-	6.097	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0202834F / <i>Vehicles and Support Equipment - General</i>	Project (Number/Name) 672800 / AVIATION SUPPORT EQUIPMENT MODERNIZATION

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Aviation Support Equipment Mod</i>	
Powered AGE Development	
MMHE Development	
Tow Systems Development	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0202834F / <i>Vehicles and Support Equipment - General</i>	Project (Number/Name) 672800 / AVIATION SUPPORT EQUIPMENT MODERNIZATION

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Aviation Support Equipment Mod</i>				
Powered AGE Development	3	2023	3	2029
MMHE Development	2	2023	3	2029
Tow Systems Development	2	2023	4	2029

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0205219F / MQ-9 UAV
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	0.000	144.827	81.123	7.074	0.000	7.074	0.297	0.303	0.315	0.322	19.333	253.594
675212: <i>MQ-9 SLAM</i>	0.000	92.898	80.846	0.000	0.000	0.000	0.000	0.000	0.000	0.000	18.280	192.024
675247: <i>Squadron Operations Centers (SOC)</i>	0.000	0.268	0.277	0.260	0.000	0.260	0.297	0.303	0.315	0.322	1.053	3.095
675249: <i>MQ-9 Upgrade</i>	0.000	51.661	0.000	6.814	0.000	6.814	0.000	0.000	0.000	0.000	0.000	58.475

Program MDAP/MAIS Code: 424

A. Mission Description and Budget Item Justification

The basic MQ-9 Reaper system consists of the aircraft, sensors, Ground Control Station (GCS), communications equipment, weapon kits, support equipment, simulator and training devices, Readiness Spares Packages (RSP), technical data/training, and personnel required to operate, maintain, and sustain the system. The system is designed to be modular and open-ended. Mission-specific equipment is employed in a plug-and-play mission kit concept allowing specific aircraft and GCS configurations to be tailored to fit mission needs.

The MQ-9 Reaper system has three separate development programs. This PE includes:

1. MQ-9 System Lifecycle Agile Modernization (SLAM). This effort enables rapid fielding of new software, hardware, and sustainability for integration into the MQ-9 fleet with requirements from the Combat Capability List (CCL).
2. Squadron Operations Centers (SOC). This effort is for development and fielding of standardized operations centers. SOCs contain the equipment necessary for remote split operations, to provide mission data and tasking information to aircrew, and to disseminate and/or exchange mission data with decision-makers and the intelligence community.
3. MQ-9 Upgrade. This effort develops improvements for existing systems and fields new capabilities for the baseline MQ-9 fleet using an Agile Acquisition Strategy.

The Air Force established the MQ-9 Multi-Domain Operation (M2DO) aircraft configuration which consists of multiple projects intended to keep the platform viable in the wide-spectrum of armed conflict. The configuration includes Anti-Jam Global Positioning System, Enhanced Power, Link 16, Open Mission System/Stellar Relay, enhanced data processing, and Command and Control Resiliency. The number of M2DO aircraft, and final capabilities within this configuration, are subject to change as requirements and funding evolve.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY2023 \$2.314M was expended for civilian pay expenses in this program element and in FY2024 \$3.132M is forecasted for civilian pay expenses in this program element.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0205219F / MQ-9 UAV
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This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	145.499	81.123	44.938	0.000	44.938
Current President's Budget	144.827	81.123	7.074	0.000	7.074
Total Adjustments	-0.672	0.000	-37.864	0.000	-37.864
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	4.000	0.000			
• SBIR/STTR Transfer	-4.672	0.000			
• Other Adjustments	0.000	0.000	-37.864	0.000	-37.864

Change Summary Explanation

FY2023 Changes: (-\$0.672M) for -\$4.672M SBIR and \$4M BTR

FY2025 Changes: (-\$44.679M) for higher Air Force priorities

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0205219F / MQ-9 UAV				Project (Number/Name) 675212 / MQ-9 SLAM			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
675212: MQ-9 SLAM	0.000	92.898	80.846	0.000	0.000	0.000	0.000	0.000	0.000	0.000	18.280	192.024
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program is Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate 6.814M development funding in the current (FY25) or subsequent (FY26) fiscal year. Additional funding was allocated to support resilient C2 capability for the SLAM initiative. Due to a database error, the funding was incorrectly placed in the MQ-9 Upgrade BPAC (675249). Upon budget approval, the Air Force will correct this error and internally move the funding to the correct MQ-9 SLAM BPAC (675212).

The MQ-9 System Lifecycle Agile Modernization (SLAM) Program develops and integrates improvements for existing systems and fields new capabilities for the MQ-9 fleet through an Agile Acquisition Strategy to meet evolving mission needs. SLAM includes concept exploration.

The objective is to enable rapid fielding of new software, hardware, and sustainability for integration into the MQ-9 fleet with requirements from the Combat Capability List (CCL) that may include, but are not limited to, efforts to reduce system configurations; perform technology upgrades; increase pilot awareness and usability; improve reconnaissance targeting and exploitation; expand weapons system selection and lethality; enlarge suitability to varying operational theaters; improve security and self-protection; reduce logistics footprint; train the warfighter, and prototype.

Activities also include, but are not limited to, studies, analysis, simulations, demonstrations, prototyping and testing, use of subject matter experts agencies to develop and test all current and follow-on MQ-9 system capabilities which include, but are not limited to System Integration Laboratory (SIL)/ Hardware in the Loop Laboratory (HILL) and Detachment 3 (Det 3) improvements.

Funding may be used to address Diminishing Manufacturing Source (DMS) and Non-Recurring Engineering issues.

Where appropriate there will be cost sharing on joint efforts that are required by all programs to support new capabilities.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: MQ-9 SLAM	69.598	80.446	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0205219F / MQ-9 UAV	Project (Number/Name) 675212 / MQ-9 SLAM

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Description: Develops and integrates upgrade capabilities to support the MQ-9 modernization strategy. Development combines the rigor of an event driven development process (referred to as Technology Maturation Effort (TME)) with the expedited delivery of a schedule driven integration and fielding process. New capabilities include, but are not be limited to, upgrades of existing aircraft, Ground Control Station (GCS), communication, payload systems, software updates, and the resolution of Diminishing Manufacturing Sources (DMS) issues.</p> <p>Candidate Capabilities are determined by ACC and AFSOC direction and inputs from MQ-9 enterprise stakeholders and mission partners, to include Joint Urgent Operational Need (JUON) and Urgent Operational Need (UON) requests.</p> <p>Activities also include, but are not limited to, operator simulators, reliability and maintainability, test support, communications, and urgent services.</p> <p>During development, there will be cost sharing on joint efforts that are required by all programs to support new capabilities.</p> <p>Includes but is not limited to, program planning for concept exploration which explores Multi-Role UAS capabilities in a contested environment.</p> <p>FY 2024 Plans: Continue to develop M2DO capability upgrades for resilient C2 which includes PLEO, Open Mission System, and autonomy. Resolve DMS issues and continue upgrading mandated capabilities to include, but not limited to, Mode 5, data encryption, and weapons usability improvements.</p> <p>FY 2025 Plans: Due to a database error, the funding was incorrectly placed in the MQ-9 Upgrade BPAC (675249). Upon budget approval, the AF will correct this error and internally move \$6.414M to the correct MQ-9 SLAM BPAC (675212).</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding has decreased, however additional funding was allocated to support resilient C2 capability for the SLAM initiative. Due to a database error, the funding was incorrectly placed in the MQ-9 Upgrade BPAC (675249). Upon budget approval, the AF will correct this error and internally move \$6.414M to the correct MQ-9 SLAM BPAC (675212).</p>			
<p>Title: Reliability and Maintainability</p> <p>Description: Develops MQ-9 Reliability and Maintainability (R&M) improvements for aircraft and ground based infrastructure. Includes engineering change orders, studies, and general research. Addresses and resolves DMS issues.</p> <p>FY 2024 Plans:</p>	0.100	0.100	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0205219F / MQ-9 UAV	Project (Number/Name) 675212 / MQ-9 SLAM
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
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Continue to develop aircraft and ground based infrastructure to improve mission capable rates and reduce reliability and maintainability costs. Includes addressing and resolving DMS issues.

FY 2025 Plans:

Due to a database error, the funding was incorrectly placed in the MQ-9 Upgrade BPAC (675249). Upon budget approval, the AF will correct this error and internally move \$0.100M to the correct MQ-9 SLAM BPAC (675212).

FY 2024 to FY 2025 Increase/Decrease Statement:

Due to a database error, the funding was incorrectly placed in the MQ-9 Upgrade BPAC (675249). Upon budget approval, the AF will correct this error and internally move \$0.100M to the correct MQ-9 SLAM BPAC (675212).

Title: Test Support	0.100	0.100	0.000
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Description: Provides support for, but is not limited to, activities for MQ-9 testing of weapon system hardware/software testing in accordance with (IAW) contract standards, developmental testing of new capabilities, and R&M upgrades.

FY 2024 Plans:

Continue to provide government agencies support for MQ-9 testing to include continued acceptance testing of weapon system hardware/software IAW with contract standards, developmental testing of new capabilities, and R&M improvements.

FY 2025 Plans:

Due to a database error, the funding was incorrectly placed in the MQ-9 Upgrade BPAC (675249). Upon budget approval, the AF will correct this error and internally move \$0.100M to the correct MQ-9 SLAM BPAC (675212).

FY 2024 to FY 2025 Increase/Decrease Statement:

Due to a database error, the funding was incorrectly placed in the MQ-9 Upgrade BPAC (675249). Upon budget approval, the AF will correct this error and internally move \$0.100M to the correct MQ-9 SLAM BPAC (675212).

Title: Communications	0.100	0.100	0.000
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Description: Develops communications capabilities such as, but not limited to, network systems managers, SATCOM, and relay site upgrades. Includes drafting technical orders and support documentation, training materials, production drawings, and retrofit acceptance plans (e.g., Bandwidth Efficient Common Data Link (BE-CDL) Secure Voice Multi Level Security (MLS), ARC-210 Guard Squelch, and Secure Communications).

FY 2024 Plans:

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0205219F / MQ-9 UAV	Project (Number/Name) 675212 / MQ-9 SLAM		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>Continue to develop communications capabilities on encrypted data links, terminal, command and control, ISR transmission, GCS communications, SATCOM, integrated IP-based network interfaces, primary data links, network system managers, operational durability, remote split operations, and support equipment. Also includes associated technical orders and flight manuals.</p> <p>FY 2025 Plans: Due to a database error, the funding was incorrectly placed in the MQ-9 Upgrade BPAC (675249). Upon budget approval, the AF will correct this error and internally move \$0.100M to the correct MQ-9 SLAM BPAC (675212).</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Due to a database error, the funding was incorrectly placed in the MQ-9 Upgrade BPAC (675249). Upon budget approval, the AF will correct this error and internally move \$0.100M to the correct MQ-9 SLAM BPAC (675212).</p>				
<p>Title: Concept Exploration</p> <p>Description: Includes but is not limited to concept exploration to support Multi-Role UAS capabilities in a contested environment.</p> <p>FY 2024 Plans: There are no concept explorations activities funding or planned in FY24.</p> <p>FY 2025 Plans: There are no concept explorations activities funding or planned in FY25.</p>		23.000	0.000	0.000
<p>Title: Operator Simulator</p> <p>Description: Develop operator simulators for training and perform updates to keep operator simulators current with the aircraft and GCSs. Operator Simulator also includes, but is not limited to: JUONs, UONs, and support for emerging AFSOC configurations.</p> <p>FY 2024 Plans: Funding increased to implement updates to keep the operator simulator current with the aircraft and GCSs under SLAM program.</p> <p>FY 2025 Plans: Due to a database error, the funding was incorrectly placed in the MQ-9 Upgrade BPAC (675249). Upon budget approval, the AF will correct this error and internally move \$0.100M to the correct MQ-9 SLAM BPAC (675212).</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Due to a database error, the funding was incorrectly placed in the MQ-9 Upgrade BPAC (675249). Upon budget approval, the AF will correct this error and internally move \$0.100M to the correct MQ-9 SLAM BPAC (675212).</p>		-	0.100	0.000
Accomplishments/Planned Programs Subtotals		92.898	80.846	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0205219F / MQ-9 UAV	Project (Number/Name) 675212 / MQ-9 SLAM
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C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2023	FY 2024	FY 2025	FY 2025	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Cost To	
			Base	OCO	Total					Complete	Total Cost
• APAF 06 PRDTB1: MQ-9	14.078	0.000	0.000	-	0.000	0.000	0.000	0.000	-	0.000	14.078
• APAF 05 PRDTB2: MQ-9 Mods	211.507	98.063	12.325	-	12.325	71.530	29.226	29.834	30.425	0.000	482.910

Remarks

D. Acquisition Strategy

Acquisition of MQ-9 SLAM is accomplished via sole-source contracts with General Atomics-ASI, Raytheon, and L-3 Communications, prime contractors, and United States Government (USG) Labs. Management of development and fielding of new capabilities will be through an Agile Acquisition Strategy that combines the rigor of an event driven development process (referred to as a Technology Maturation Effort (TME)) with the expedited delivery of a schedule driven integration and fielding process. This will allow continued baseline improvements while rapidly integrating limited urgent needs.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0205219F / MQ-9 UAV	Project (Number/Name) 675212 / MQ-9 SLAM
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MQ-9 SLAM	SS/CPAF	GA-ASI : Poway, CA	0.000	58.118	Nov 2022	66.787	Nov 2023	0.000	Nov 2024	-		0.000	196.236	321.141	-
Reliability and Maintainability	SS/CPAF	GA-ASI : Poway, CA	0.000	0.100	Nov 2022	0.100	Nov 2023	0.000	Nov 2024	-		0.000	2.722	2.922	-
Communications	SS/CPAF	GA-ASI : Poway, CA	0.000	0.100	Jan 2023	0.100	Jan 2024	0.000	Nov 2024	-		0.000	0.934	1.134	-
Concept Exploration	Various	Various : Various	0.000	23.000	Mar 2023	-		-		-		-	0.000	23.000	-
Operator Simulator	MIPR	Various : Huntsville, AL	0.000	0.100	Jan 2023	0.100	Jan 2024	0.000	Nov 2024	-		0.000	0.000	0.200	-
Subtotal			0.000	81.418		67.087		0.000		-		0.000	199.892	348.397	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test Support	Various	Various : Various	0.000	0.100	Jun 2023	0.100	Jun 2024	0.000	Nov 2024	-		0.000	1.655	1.855	-
Subtotal			0.000	0.100		0.100		0.000		-		0.000	1.655	1.855	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Other Government Costs	Various	Various : Various	0.000	11.380	Apr 2023	13.659	Apr 2024	-		-		-	40.524	65.563	-
Subtotal			0.000	11.380		13.659		-		-		-	40.524	65.563	N/A

			Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	92.898	80.846	0.000	-	0.000	242.071	415.815	N/A

Remarks
 Due to a database error, the funding was incorrectly placed in the MQ-9 Upgrade BPAC (675249). Upon budget approval, the AF will correct this error and internally move \$6.414M to SLAM, \$.100M to Reliability/Maintainability, \$.100M to Test Support, \$.100M to Communications, \$.100M to Operator Simulator within the correct MQ-9 SLAM BPAC (675212).

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0205219F / MQ-9 UAV	Project (Number/Name) 675212 / MQ-9 SLAM
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

MQ-9 SLAM	
MQ-9 SLAM	
Reliability and Maintainability	
Communications	
Test Support	
Concept Exploration	
Operator Simulator	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0205219F / MQ-9 UAV	Project (Number/Name) 675212 / MQ-9 SLAM

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
MQ-9 SLAM				
MQ-9 SLAM	1	2023	4	2029
Reliability and Maintainability	1	2023	4	2029
Communications	2	2023	4	2029
Test Support	3	2023	4	2029
Concept Exploration	3	2023	4	2024
Operator Simulator	1	2023	4	2029

Note
FY25 funding should be in SLAM (675212) but it is incorrectly showing in Upgrade (675249).

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0205219F / MQ-9 UAV				Project (Number/Name) 675247 / Squadron Operations Centers (SOC)			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
675247: Squadron Operations Centers (SOC)	0.000	0.268	0.277	0.260	0.000	0.260	0.297	0.303	0.315	0.322	1.053	3.095
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The SOC is required to employ Remote Split Operations (RSO). It provides the communications, network, aircraft control and sensor distribution circuits to effectively execute RSO missions. The SOC provides CONUS-based aircrews mission data, tasking, and ability to disseminate and exchange mission data with decision-makers and intelligence entities. This effort defines component standards, develops and stands up a SOC Systems Integration Lab (SIL), and integrates new technologies to maintain currency with technological and platform advancements.

RPA SOC RDT&E funding also supports innovation activities to include studies, analyses, requirements definition, and quick-reaction capability prototypes/ demonstrations to accelerate planning for technology transition, technology insertion and future acquisition programs.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 0.0M was expended for civilian pay expenses in this program element and in FY24 0.0M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Squadron Operations Center	0.268	0.277	0.260
<p>Description: Development of a SOC common to Air Combat Command (ACC), Air Force Special Operations Command (AFSOC), and Air National Guard (ANG). Major capabilities include secure mission communications; data reception, recording, editing, analysis, dissemination, and exchange; mission planning, preparation, and support; mission execution (e.g., updates to threat tracking and targeting, weather tracking, mission status and capability; tactical situational awareness; etc.); and mission reconstruction and debriefing.</p> <p>FY 2024 Plans: Necessary for the continued Developmental/Operational Testing of the DT/OT SOC. This is required to develop and test new technologies to enable the Squadron Operation Centers to remain up to date with technological and platform advancements for use throughout the enterprise.</p> <p>FY 2025 Plans:</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0205219F / MQ-9 UAV	Project (Number/Name) 675247 / Squadron Operations Centers (SOC)

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Continued Developmental/Operational Testing of the DT/OT SOC. This is required to develop and test new technologies to enable the Squadron Operation Centers to remain up to date with technological and platform advancements for use throughout the enterprise.			
<i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Funding remains stable for completion of DT/OT.			
Accomplishments/Planned Programs Subtotals	0.268	0.277	0.260

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• OPAF 03 Line Item 837300: <i>Base Communications Infrastructure</i>	5.981	0.000	0.000	-	0.000	0.000	-	-	-	0.000	5.981

Remarks
 Since 2004, MQ-1/MQ-9 squadrons have acquired equipment, on an ad hoc basis, to provide the communications, network, aircraft control, and sensor distribution circuits needed to execute RSO missions. OPAF funding will be used to standardize and modernize existing RPA SOC capability, which is required to reduce security vulnerabilities, as well as address end of life/end of support issues of existing RPA SOC equipment. The Developmental Testing (DT) SOC will be used to further enhance the program's ability to update future RPA-SOC modernization efforts.

D. Acquisition Strategy
 AFLCMC/WII manages the SOC Program for ACC, AFSOC, and ANG through organic development at the 577 Software Engineering Squadron (SWES) / 578 SWES, and hardware/software procurement utilizing the installation contractor.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0205219F / MQ-9 UAV	Project (Number/Name) 675247 / Squadron Operations Centers (SOC)

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>DT/OT SOC Development , Testing, Installation and Maintenance</i>	
DT/OT SOC	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0205219F / MQ-9 UAV	Project (Number/Name) 675247 / Squadron Operations Centers (SOC)

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>DT/OT SOC Development , Testing, Installation and Maintenance</i>				
DT/OT SOC	2	2023	4	2029

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0205219F / MQ-9 UAV				Project (Number/Name) 675249 / MQ-9 Upgrade			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
675249: MQ-9 Upgrade	0.000	51.661	0.000	6.814	0.000	6.814	0.000	0.000	0.000	0.000	0.000	58.475
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Due to a database error, the funding was incorrectly placed in the MQ-9 Upgrade BPAC (675249). Upon budget approval, the Air Force will correct this error and internally move the funding to the correct MQ-9 SLAM BPAC (675212).

The MQ-9 Upgrade Program develops and integrates improvements for existing systems and fields new capabilities for the MQ-9 fleet through an Agile Acquisition Strategy.

The objective is to enable rapid fielding of new software, hardware, and sustainability measures for integration into the MQ-9 fleet. Per the Candidate Capability List (CCL) signed on 3 August 2023, capabilities may include, but are not limited to, address National Defense Strategy Directives, enable readiness, enable effective and reliable open architecture systems, reduce MX and ops logistics footprint, reduce impacts of multiple configurations, and enable airspace integration/access.

*Indicates efforts and solutions in support of the modernization MQ-9 Multi-Domain Operations (M2DO) configuration.

Activities also include studies, analysis, simulations, demonstrations, prototyping, and testing. The Upgrade Program may use subject matter experts and agencies to develop and test MQ-9 system capabilities and make improvements to System Integration Laboratory (SIL)/ Hardware in the Loop Laboratory (HILL) and Detachment 3 (Det 3).

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F.

This program is Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Funding may be used to address Diminishing Manufacturing Source (DMS) and Non-Recurring Engineering issues.

Where appropriate, there will be cost sharing on joint efforts that are required by all programs to support new capabilities.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: MQ-9 Upgrade	51.461	0.000	6.614

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0205219F / MQ-9 UAV	Project (Number/Name) 675249 / MQ-9 Upgrade

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Description: Develop and integrate upgrade capabilities in support of the MQ-9 Upgrade Strategy. Development will combine the rigor of an event driven development process (referred to as Technology Maturation Effort (TME)) with the expeditious delivery of a schedule driven integration and fielding process. New capabilities include, but are not limited to, upgrades of existing aircraft, Ground Control Stations (GCSs), communication capabilities, payload systems, and the Multi-Spectral Targeting System (MTS-B). Upgrade capabilities also include software updates, the addition of new capabilities and subsystems, and the resolution of DMS issues.</p> <p>Candidate capabilities are determined by Major Command (Air Combat Command (ACC), Air Force Special Operations Command (AFSOC)) direction and inputs that included Joint Urgent Operational Need (JUON) and Urgent Operational Need (UON) requests.</p> <p>Activities also include, but are not limited to, operator simulators, reliability and maintainability, test support, communications, and urgent services.</p> <p>There will be cost sharing on development, where appropriate, on joint efforts that are required by all programs to support the new capabilities.</p> <p>FY 2024 Plans: MQ-9 Upgrade Program is complete</p> <p>FY 2025 Plans: Continue to develop M2DO capability upgrades for resilient C2 which includes PLEO, Open Mission System, and autonomy. Resolve DMS issues and continue upgrading mandated capabilities to include, but not limited to, Mode 5, data encryption, and weapons usability improvements.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding was increased to support resilient C2 capability for the SLAM initiative. Due to a database error, the funding was incorrectly placed in the MQ-9 Upgrade BPAC (675249). Upon budget approval, the AF will correct this error and internally move the funding to the correct MQ-9 SLAM BPAC (675212).</p>			
<p>Title: Operator Simulator</p> <p>Description: Develop operator simulators for training and perform updates to keep operator simulators current with the aircraft and GCSs. Operator Simulator also includes, but is not limited to: JUONs, UONs, and support for emerging AFSOC configurations.</p> <p>FY 2024 Plans:</p>	0.100	0.000	0.100

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0205219F / MQ-9 UAV	Project (Number/Name) 675249 / MQ-9 Upgrade
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
MQ-9 Upgrade Program is complete FY 2025 Plans: Continue to develop operator simulators for training and perform updates to keep operator simulators current with the aircraft and GCSs. Operator Simulator also includes, but is not limited to: JUONs, UONs, and support for emerging AFSOC configurations. FY 2024 to FY 2025 Increase/Decrease Statement: FY25 funding should be in SLAM (675212) but it is incorrectly showing in Upgrade (675249).			
Title: Test Support Description: MQ-9 Upgrade testing provides support including, but not limited to: activities for MQ-9 testing of weapon system hardware and software IAW contract standards, developmental testing of new capabilities, and R&M upgrades. FY 2024 Plans: MQ-9 Upgrade Program is complete FY 2025 Plans: Continue to provide test support including, but not limited to: activities for MQ-9 testing of weapon system hardware and software IAW contract standards, developmental testing of new capabilities, and R&M upgrades. FY 2024 to FY 2025 Increase/Decrease Statement: FY25 funding should be in SLAM (675212) but it is incorrectly showing in Upgrade (675249).	0.100	0.000	0.100
Title: Communications Description: Develop MQ-9 communications capabilities including, but not limited to: network system managers, SATCOM, and relay site upgrades. MQ-9 Upgrade Communications also includes drafting technical orders, support documentation, training materials, production drawings, and retrofit acceptance plans (i.e., BE CDL, Secure Voice Multi-Level Security (MLS), ARC-210 Guard Squelch, and Secure Communications). FY 2024 Plans: MQ-9 Upgrade Program is complete FY 2024 to FY 2025 Increase/Decrease Statement: N/A	0.000	0.000	-
Accomplishments/Planned Programs Subtotals	51.661	0.000	6.814

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0205219F / MQ-9 UAV	Project (Number/Name) 675249 / MQ-9 Upgrade
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APAF 06 PRDTB1: MQ-9 UAV	14.078	0.000	0.000	-	0.000	0.000	0.000	0.000	-	0.000	14.078
• APAF 05 PRDTB2: MQ-9 Mods	211.507	98.063	12.325	-	12.325	12.175	29.226	29.834	30.425	0.000	423.555

Remarks

PMA costs are included in Other Government Costs.
 FY25 funding should be in SLAM (675212) but it is incorrectly showing in Upgrade (675249).

D. Acquisition Strategy

Acquisition of MQ-9 Upgrade is accomplished via sole-source contracts with General Atomics-ASI, Raytheon, and L-3 Communications, prime contractors, and Other Government Agencies. Management of development and fielding of new capabilities will be through an Agile Acquisition Strategy that combines the rigor of an event driven development process (referred to as a Technology Maturation Effort (TME)) with the expedited delivery of a schedule driven integration and fielding process. This will allow continued baseline improvements while rapidly integrating limited urgent needs fleet-wide.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0205219F / MQ-9 UAV	Project (Number/Name) 675249 / MQ-9 Upgrade
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	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

MQ-9 ACAT II Development	
MQ-9 Upgrade	
Operator Simulator	
Test Support	
Communications	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0205219F / MQ-9 UAV	Project (Number/Name) 675249 / MQ-9 Upgrade
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>MQ-9 ACAT II Development</i>				
MQ-9 Upgrade	1	2023	4	2025
Operator Simulator	1	2023	4	2025
Test Support	1	2023	4	2025
Communications	1	2023	4	2023

Note
FY25 funding should be in SLAM (675212) but it is incorrectly showing in Upgrade (675249).

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development	R-1 Program Element (Number/Name) PE 0205671F I Joint Counter RCIED Electronic Warfare
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	3.901	2.303	3.372	0.000	3.372	3.458	3.528	3.656	3.728	0.000	23.946
674518: JCREW VEHICLE INTEGRATION	-	3.901	2.303	3.372	0.000	3.372	3.458	3.528	3.656	3.728	0.000	23.946
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Program funds Counter Radio-Controlled Improvised Explosive Device Electronic Warfare (CREW) Mounted, Dismounted, and Fixed systems. CREW devices are self-protection systems critical to Mine Resistant, Ambush Protected (MRAP) vehicle mounted, Joint Light Tactical Vehicle (JLTV) mounted, Explosive Ordinance Disposal and Tactical Air Control Party (TACP) dismounted and Security Forces (SF) Entry Control Point fixed operations. Includes integration of the devices into currently fielded systems.

The FY 2024 funding request was increased by \$1.59M to account for the Air Force fair share of the Navy-led joint program.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 \$0.00M was expended for civilian pay expenses in this program element, and in FY24 \$0.00M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	1.747	2.303	3.366	0.000	3.366
Current President's Budget	3.901	2.303	3.372	0.000	3.372
Total Adjustments	2.154	0.000	0.006	0.000	0.006
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	2.154	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.006	0.000	0.006

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0205671F <i>I Joint Counter RCIED Electronic Warfare</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Title: JCREW Vehicle Integration</p> <p>Description: Program funds Counter Radio-Controlled Improvised Explosive Device Electronic Warfare (CREW) Mounted, Dismounted, and Fixed systems.</p> <p>FY 2024 Plans: Program continues to fund Counter Radio-Controlled Improvised Explosive Device Electronic Warfare (CREW) Mounted, Dismounted, and Fixed systems.</p> <p>No associated OCO funds for this requirement programmed in PE.</p> <p>FY 2025 Plans: Program continues to fund Counter Radio-Controlled Improvised Explosive Device Electronic Warfare (CREW) Mounted, Dismounted, and Fixed systems.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased relative to FY24 as a result of the one year reduction from FY24. FY25 funding is back to the baseline Air Force contribution to the Navy-led joint program.</p>	3.901	2.303	3.372
Accomplishments/Planned Programs Subtotals	3.901	2.303	3.372

D. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• OPAF 04 Line Item 845100: <i>Engineering and EOD Equipment</i>	0.000	0.000	-	-	-	-	-	-	-	0.000	0.000

Remarks
Program funds Counter Radio-Controlled Improvised Explosive Device Electronic Warfare (CREW) Mounted, Dismounted, and Fixed systems. CREW devices are self-protection systems critical to Mine Resistant, Ambush Protected (MRAP)& Joint Light Tactical Vehicle (JLTV) mounted, Explosive Ordinance Disposal and Tactical Air Control Party dismantled and Entry Control Point operations. Includes software update integration into currently fielded systems.

E. Acquisition Strategy
Contracts will be competitively awarded when possible.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0205671F / Joint Counter RCIED Electronic Warfare	Project (Number/Name) 674518 / JCREW VEHICLE INTEGRATION
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Engineering Services	C/CPFF	NAVSEA PMS-408 : Washington, DC	-	3.901	Nov 2022	2.303	Nov 2023	3.372	Nov 2024	-		3.372	Continuing	Continuing	-
Subtotal			-	3.901		2.303		3.372		-		3.372	Continuing	Continuing	N/A
Project Cost Totals			-	3.901		2.303		3.372		-		3.372	Continuing	Continuing	N/A

Remarks
 Funds Air Force fair share of research and development efforts to update software for fielded CREW systems, supporting EOD, Security Forces, and TACP Airmen. Software updates ensure mounted, dismounted, and fixed site CREW systems remain effective against evolving commercially available technologies.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0205671F / <i>Joint Counter RCIED Electronic Warfare</i>	Project (Number/Name) 674518 / <i>JCREW VEHICLE INTEGRATION</i>

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>J CREW Integration</i>	
JCREW Vehicle Integration	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0205671F / <i>Joint Counter RCIED Electronic Warfare</i>	Project (Number/Name) 674518 / <i>JCREW VEHICLE INTEGRATION</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>J CREW Integration</i>				
JCREW Vehicle Integration	1	2023	4	2028

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207040F / <i>Multi-Platform Electronic Warfare Equipment</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	44.264	7.312	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	51.576
670400: <i>SPECTRUM WARFARE ATTACK CAPABILITY</i>	-	44.264	7.312	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	51.576
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note

In FY 2025, AKCS projected for completion.

A. Mission Description and Budget Item Justification

The Angry Kitten Combat System (AKCS) program will further develop electronic attack capabilities supporting USAF fighter and attack platforms. The current 4th generation electronic warfare (EW) pods have diminishing manufacturing sources and require advanced capabilities. The AKCS program will develop prototype EW systems for 4th/5th generation aircraft that improve threat detection techniques, incorporate open system architecture, and advance rapid reprogramming capabilities. Funds are required to leverage existing EW pod components and develop a relevant EW system supporting fighter and attack platforms.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 0.0M was expended for civilian pay expenses in this program element, and in FY24 0.0M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development	R-1 Program Element (Number/Name) PE 0207040F I Multi-Platform Electronic Warfare Equipment
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	45.895	7.312	0.000	0.000	0.000
Current President's Budget	44.264	7.312	0.000	0.000	0.000
Total Adjustments	-1.631	0.000	0.000	0.000	0.000
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	-1.631	0.000	0.000	0.000	0.000

Change Summary Explanation

No significant changes.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: Spectrum Warfare Attack Capability	44.264	7.312	0.000
Description: Spectrum Warfare Attack Capability will rapidly develop a prototype electronic warfare system for 4th/5th generation aircraft with open system architecture capability of addressing 21st century threats.			
FY 2024 Plans: Continue to prototype and demonstrate EW technologies to close capability gaps in Electromagnetic Spectrum (EMS) warfighting capabilities			
FY 2025 Plans: N/A			
FY 2024 to FY 2025 Increase/Decrease Statement: Funds decreased due to program completion.			
Accomplishments/Planned Programs Subtotals	44.264	7.312	0.000

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207040F / <i>Multi-Platform Electronic Warfare Equipment</i>
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D. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APAF 07 000075: <i>Other Production Charges</i>	0.000	0.000	-	-	-	-	-	-	-	0.000	0.000

Remarks

E. Acquisition Strategy

Angry Kitten Combat System (AKCS) is a Middle Tier of Acquisition (MTA) program using Section 804 authority in accordance with AFGM2019-63-01, Air Force Guidance Memorandum for Rapid Acquisition Activities, 27 Jun 2019. Strategic goals are to rapidly develop and test advanced prototype electronic warfare systems with open system architecture, rapidly re-programmable capability, modular design, software-defined functionality, and cognitive technology. The acquisition strategy will include support from the following: University Academic Research Center (UARC), Other Transaction Authorities (OTA), and Industry Consortiums. The total cost of the AKCS Middle Tier of Acquisition effort is \$51.576 million. Project AKCS is scheduled for completion in FY2025.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force												Date: March 2024				
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)								
3600 / 7				PE 0207040F / Multi-Platform Electronic Warfare Equipment				670400 / SPECTRUM WARFARE ATTACK CAPABILITY								
Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
OA Software	SS/CPFF	GTRI : Atlanta, GA	-	16.069	Aug 2023	-		-		-		-	0.000	16.069	-	
AI/ML Cognitive EA	SS/CPFF	AFRL/DTIC : Dayton, OH	-	11.945	Aug 2023	2.362	Dec 2023	-		-		-	0.000	14.307	-	
EW Testbed	SS/CPFF	AFRL : Dayton, OH	-	10.000	Aug 2023	-		-		-		-	0.000	10.000	-	
Subtotal			-	38.014		2.362		-		-		-	0.000	40.376	N/A	
Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
AC&SI Support	SS/CPFF	HII : Dayton, OH	-	2.300	Jun 2023	1.500	Jun 2024	-		-		-	0.000	3.800	-	
Subtotal			-	2.300		1.500		-		-		-	0.000	3.800	N/A	
Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
System Testing	SS/CPFF	GTRI : Atlanta, GA	-	2.000	Jun 2023	1.500	Dec 2023	-		-		-	0.000	3.500	-	
Subtotal			-	2.000		1.500		-		-		-	0.000	3.500	N/A	
Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
A&AS Support/Travel	SS/CPFF	PE Systems : Fairfax, VA	-	1.950	Jun 2023	1.950	Feb 2024	-		-		-	0.000	3.900	-	
Subtotal			-	1.950		1.950		-		-		-	0.000	3.900	N/A	

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207040F / <i>Multi-Platform Electronic Warfare Equipment</i>	Project (Number/Name) 670400 / <i>SPECTRUM WARFARE ATTACK CAPABILITY</i>

	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
AKCS Increment 2																												
Development	█																											
Test/Experiments	██████████																											
AKCS Increment 3																												
Development				██████████████████																								
Test/Experiments									██████																			

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207040F / <i>Multi-Platform Electronic Warfare Equipment</i>	Project (Number/Name) 670400 / <i>SPECTRUM WARFARE ATTACK CAPABILITY</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
AKCS Increment 2				
Development	1	2023	1	2023
Test/Experiments	1	2023	1	2024
AKCS Increment 3				
Development	4	2023	1	2025
Test/Experiments	1	2025	2	2025

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207131F / A-10 Squadrons
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	52.797	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	52.797
674809: <i>A-10 Squadrons</i>	-	52.797	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	52.797
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

A-10 conducts close air support (CAS), combat search and rescue (CSAR) and special operations missions. The A-10 must conduct around-the-clock air operations under various weather conditions against numerous and varied enemy threats. Funds may be used, but not limited to, resolve emerging safety of flight and diminishing manufacturing sources issues, and fulfill Federal Aviation Administration or other mandates necessary to ensure continued aircrew safety and mission effectiveness.

Operational Flight Program (OFP) development addresses user requirements to employ advanced weapons, smart munitions, targeting systems, increase situational awareness and enhance targeting capabilities. These computer processing and avionics upgrades are critical to building an architecture that promotes current open, agile, and digital concepts to enable the A-10's operational capabilities.

The A-10 program's current Central Interface Control Unit (CICU) with a modern central processor (software and hardware) is unable to incorporate Open Mission System/Universal Command and Control Interface (OMS/UCI) and Universal Armament Interface (UAI) architecture standards mandates. The new processor is referred to as the Central Interface Control System (CICS) and improves communications, situational awareness, data management, weapons management and targeting, and sensor management.

This program element includes funding to manage, execute, and deliver enhanced A-10 capabilities, and may include funding to support emerging modifications and other government support costs.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program's funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In PY23 \$0.000M was expended for civilian pay expenses in this program element, and in CY24 \$0.000M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207131F / A-10 Squadrons
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	64.593	0.000	0.000	0.000	0.000
Current President's Budget	52.797	0.000	0.000	0.000	0.000
Total Adjustments	-11.796	0.000	0.000	0.000	0.000
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-9.999	0.000			
• SBIR/STTR Transfer	-1.797	0.000			
• Other Adjustments	0.000	0.000	0.000	0.000	0.000

Change Summary Explanation

\$9.999M reduction due to a Below Threshold Reprogramming (BTR) to F-15EX

\$1.797M reduction due to SBIR

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
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Title: Operational Flight Program (OFP) Development	20.703	0.000	0.000
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Description: The OFP effort includes but was not limited to the Software Capability Upgrade (SCU) program, which fields software updates via an agile, incremental cadence of 1-2 years and address efforts required to maintain current code, integrate new precision weapons, advanced targeting pods, and improved avionics to meet DoD mandates in order to modernize the A-10's architecture.

OFP development funds also ensure concurrency with systems impacted by Operational Flight Program (OFP) development, including but not limited to the Full Mission Trainer (FMT), mission planning and support equipment, as well as required upgrades to the Software Integration Laboratory (SIL).

This OFP effort also contains Program Management Administration (PMA) support activities to include travel, office supplies, training courses, Video Teleconferencing (VTC) and support contractors.

FY 2024 Plans:

N/A

FY 2025 Plans:

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0207131F / A-10 Squadrons		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
N/A				
FY 2024 to FY 2025 Increase/Decrease Statement: OFP is not funded in FY24 and FY25.				
Title: ARC-210 Gen 6		0.785	0.000	0.000
Description: The ARC-210 Gen 6 and Mobile User Objective System (MUOS) capable High Power Amplifier/Low Noise Amplifier (HPA/LNA) provides multiple upgraded capabilities to the existing generation 4 radio including NSA-mandated cryptographic compliance updates and Air-Force-mandated MUOS capability. The ARC-210 Gen 6 upgrade also enables the Second Generation Anti-Jam Tactical Ultra-High Frequency Radio (SATURN), which is required for secure communication with ground forces in the contested battlespace.				
FY 2024 Plans: N/A				
FY 2025 Plans: N/A				
FY 2024 to FY 2025 Increase/Decrease Statement: ARC-210 Gen 6 is not funded in FY24 and FY25.				
Title: Central Interface Control System (CICS)		31.309	0.000	0.000
Description: A-10 Central Interface Control System (CICS) replaces the aging Central Interface Control Unit (CICU) that suffers from high failure rates, Diminishing Manufacturing Sources and Materiel Supply (DMSMS) issues, and insufficient data processing capacity. The RDT&E effort would encompass software and hardware development, Software Integration Laboratory (SIL) test stand, support equipment, software and cyber security testing.				
CICS is a foundational enabler for numerous upgrades to the A-10 which include, but are not limited to: 3D Audio, HRDS, JRG, 2GES, HOBIT, Link 16, SDB 1 and 2, FliteScene, LITENING Digital Pod, MUOS, SATURN and ARC-210 Gen VI. The CICS will utilize modern single board computers that have increased computing capacity, operate in high temperature environments and are available to support timely repair and replacement. Additionally, it converts selected analog systems outputs on the aircraft to digital and meet USAF mandated upgrades.				
FY 2024 Plans: N/A				
FY 2025 Plans:				

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207131F / A-10 Squadrons
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
N/A			
<i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> CICS is not funded in FY24 and FY25.			
Accomplishments/Planned Programs Subtotals	52.797	0.000	0.000

D. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• APAF 05 Line Item A01000: <i>A-10 Squadrons, PE 0207131F</i>	83.972	0.000	0.000	-	0.000	0.000	-	-	-	0.000	83.972

Remarks

E. Acquisition Strategy

A-10 OFP development efforts is conducted organically by the 309th Software Engineering Groupe (309th SWEG) at Ogden Air Logistics Complex, Hill AFB UT. The ARC-210 radio Crypto Mandate, smart munitions and targeting systems for the Small Diameter Bomb (SDB) missionization efforts will be conducted by the contractor and organically by the 309th SWEG. The A-10 FMT simulator OFP is managed by the Simulator Division at Wright-Patterson Air Force Base and is currently contractor-developed and integrated. The A-10 CICS software is developed in collaboration with the 309th SWEG.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207131F / A-10 Squadrons	Project (Number/Name) 674809 / A-10 Squadrons
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
OFP Development 1st Qtr FY22 (309 SWEG)	PO	309 SWEG : Hill AFB, UT	-	-		-		-		-		-	0.000	0.000	-
OFP Development 2nd Qtr FY22 (309 SWEG)	PO	309 SWEG : Hill AFB, UT	-	-		-		-		-		-	0.000	0.000	-
OFP Development 3rd Qtr FY22 (309 SWEG)	PO	309 SWEG : Hill AFB, UT	-	-		-		-		-		-	0.000	0.000	-
OFP Development 4th Qtr FY22 (309 SWEG)	PO	309 SWEG : Hill AFB, UT	-	-		-		-		-		-	0.000	0.000	-
OFP Development 1st Qtr FY23 (309 SWEG)	PO	309 SWEG : Hill AFB, UT	-	2.875	Oct 2022	-		-		-		-	0.000	2.875	-
OFP Development 2nd Qtr FY23 (309 SWEG)	PO	309 SWEG : Hill AFB, UT	-	2.875	Jan 2023	-		-		-		-	0.000	2.875	-
OFP Development 3rd Qtr FY23 (309 SWEG)	PO	309 SWEG : Hill AFB, UT	-	-		-		-		-		-	0.000	0.000	-
OFP Development 4th Qtr FY23 (309 SWEG)	PO	309 SWEG : Hill AFB, UT	-	5.165	Apr 2024	-		-		-		-	0.000	5.165	-
CICS Development Contract	C/FFP	Raytheon : McKinney, TX	-	31.309	Sep 2023	-		-		-		-	0.000	31.309	-
Subtotal			-	42.224		-		-		-		-	0.000	42.224	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
USAF (Multiple)	Various	Various : Various	-	1.037		-		-		-		-	0.000	1.037	-
USAF (JEON)	Various	Various : Various	-	-		-		-		-		-	0.000	0.000	-
Subtotal			-	1.037		-		-		-		-	0.000	1.037	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207131F / A-10 Squadrons	Project (Number/Name) 674809 / A-10 Squadrons
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Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Not specified.	C/CPAF	Not specified. : TBD	-	-		-		-		-		-	0.000	0.000	-
USAF (OFF)	Various	Various : Various	-	3.300	Nov 2022	-		-		-		-	0.000	3.300	-
Subtotal			-	3.300		-		-		-		-	0.000	3.300	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Management Services	C/CPAF	Not specified. : TBD	-	-		-		-		-		-	0.000	0.000	-
PMA	Various	Various : Various	-	6.236		-		-		-		-	0.000	6.236	-
Subtotal			-	6.236		-		-		-		-	0.000	6.236	N/A

	Prior Years	FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract										
		Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost													
Project Cost Totals											-	52.797		-		-		-		-	0.000	52.797	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207131F / A-10 Squadrons	Project (Number/Name) 674809 / A-10 Squadrons
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

OFFP	
OFFP 11 Fields FY2023 Qtr 2	
CICS	
CICS Design Development	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207131F / A-10 Squadrons	Project (Number/Name) 674809 / A-10 Squadrons

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>OFP</i>				
OFP 11 Fields FY2023 Qtr 2	1	2023	3	2023
<i>CICS</i>				
CICS Design Development	1	2023	2	2023

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207133F / <i>F-16 Squadrons</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	241.482	98.633	106.952	0.000	106.952	199.054	185.414	112.794	115.020	0.000	1,059.349
672671: <i>F-16 Squadrons</i>	-	241.482	98.633	106.952	0.000	106.952	199.054	185.414	112.794	115.020	0.000	1,059.349
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The F-16 is a multi-role fighter that comprises roughly 40% of the USAF fighter fleet with over 850 aircraft supporting a variety of air-to-air and air-to-surface missions, such as offensive and defensive counter-air, close air support, forward air control, air interdiction (day/night and all-weather) and Suppression of Enemy Air Defenses (SEAD)/Destruction of Enemy Air Defenses (DEAD). F-16 posture and readiness combined with low operating costs deliver affordable capacity for the USAF and partner nations. Its capabilities continue to evolve, capitalizing upon advancements made in computers, avionics systems, engines, and structural technologies. These advancements meet emerging warfighter requirements to combat current and evolving enemy threats. Funding described in this document provides upgrades to the F-16 platform necessary for the delivery of joint lethality in the coming decades. These computer processing and avionics upgrades are critical to a modernized architecture compatible with current open, agile, and digital concepts that will maintain platform viability into the 2040s. Pending the delivery of the force structure plan required by the 2024 NDAA, the expected tail count will be reduced to 704 by the end of FY27. Initial divestments reduce the Pre-Block fleet (Blocks 30 & 32) to 100 aircraft and retain 604 of the Post-Block aircraft (Block 40, 42, 50 & 52). Post-Block and Pre-Block F-16s have similar capabilities and are interoperable but require some independent modernization and sustainment of hardware, software, and training. The F-16 Foreign Military Sales (FMS) Program is one of the largest in DoD, providing assurance to 28 partners and growing. F-16 remains in production in South Carolina and additional nations continue to commit to new aircraft purchases through the FYDP and beyond.

RDT&E efforts include, but are not limited to, enduring programs for Operational Flight Program (OFF) Software (SW) development, Integrated Test activities, hardware (HW) mods, Engineering Manufacturing and Design (EMD) Hardware/Advanced capability improvements, and Diminishing Manufacturing Sources (DMS); programs ending funded development activities for Active Electronically Scanned Array (AESA) Radar Software, Integrated Viper Electronic Warfare Suite (IVEWS), Training Simulator OFF development concurrency, and M-Code; and programs nearing full development completion for Modular Mission Computer (MMC) Upgrade/Programmable Display Generator (PDG) Upgrade, Comm Suite Radio Upgrade (CSU), Multi-functional Information Distribution System-Joint Tactical Radio System (MIDS-JTRS), and Advanced Identification Friend or Foe (AIFF-Mode 5) APX-127.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program's funds would be in addition to the civilian pay expenses budgeted in program element 0207133F, 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23, 7.070M was expended for civilian pay expenses in this program element, and in FY24 7.686M is forecasted for civilian pay expenses in this program element.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207133F / <i>F-16 Squadrons</i>
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This program element may include necessary emergent or unanticipated civilian pay expenses required to manage, execute, and delivery F-16 modifications for emergent or unanticipated weapon system capability. The use of such program funds would be in addition to civilian pay expenses budgeted in program element 0605828F.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	247.536	98.633	117.307	0.000	117.307
Current President's Budget	241.482	98.633	106.952	0.000	106.952
Total Adjustments	-6.054	0.000	-10.355	0.000	-10.355
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-0.544	0.000			
• SBIR/STTR Transfer	-5.510	0.000			
• Other Adjustments	0.000	0.000	-10.355	0.000	-10.355

Change Summary Explanation

FY23 reductions comprised of -\$5.510M for Small Business Innovative Research (SBIR) reduction; -\$4.103 for FY23-42PA reprogramming; -\$0.573 for UPAD and +\$4.132M for Internal Reprogramming FY23-35IR
 FY25 reduced -10.355M for M Code Device repurpose

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
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Title: OFP Updates on all F-16 aircraft	74.952	79.201	98.915
Description: OFP versions are updated continually to integrate new mission capabilities, weapons, targeting pods, and improved avionics. F-16 OFPs are developed 100% organically by the 309th Software Engineering Group (SWEG) at Hill AFB, UT. Increment 2 OFP is comprised of annual OFP production releases consisting of pre-block called "SCU" and post-block "M-Series" software releases. Main thrusts will integrate new precision weapons, advanced targeting pods, and improved avionics to meet DoD mandates in order to modernize the F-16's architecture. Systems Integration Labs (SILs) are required to integrate software into the various hardware, validate user requirements, and review system safety and security prior to release to flight test. These labs require annual upgrades to increase development and test efficiencies which also includes Development-Security-Operations (DevSecOps) technologies. The OFP effort also contains Program Management Administration (PMA) support activities to			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0207133F / <i>F-16 Squadrons</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
include, but are not limited to, travel, office supplies, training courses, Video Teleconferencing (VTC), support contractors, and to support flight test personnel and equipment in order to keep facilities active.				
FY 2024 Plans: Finalize candidates and begin fielding Increment 2 releases (spans FY24-FY27) M7.4 and SCU 12 capability while maintaining and upgrading portions of the SIL. Bolster Cyber Security defenses and implement secure network infrastructure to enable large data transfers between CONUS and OCONUS bases. Provide secure data management/cloud services for storage of large amounts of flight test/operational data.				
FY 2025 Plans: Develop requirements and field Increment 2 (spans FY24-FY27) SCU 13 OFP with the following software candidates: Comm Suite MUOS integration, M-Code, AESA radar function on tactical awareness display (TAD), threat correlation, JASSM Dynamic Targeting Phase II while maintaining and upgrading portions of the SIL. Develop requirements and Field Increment 2(INC 2) M-Series M8.1 (Phase 1) OFP with the following major candidates: AESA phase III, Comm Suite upgrade, JASSM Dynamic Targeting Phase II, MIDS-JTRS queuing, common flexible weapons ICD integration, and Enhanced Data Link (EDL) while maintaining and upgrading portions of the SIL to the M8.1 OFP baseline. Continue bolstering Cyber Security defenses and implementation of secure network infrastructure to enable large data transfers between CONUS and OCONUS bases. Execute secure data management/cloud services for storage of large amounts of flight test/operational data to allow rapid agile OFP software fixes to meet crucial operational CONUS and OCONUS needs.				
FY 2024 to FY 2025 Increase/Decrease Statement: Increase due to Increment 2 requirements ramping up in FY25 for testing and fielding and initiate standup of Cyber Software Integration Labs (SILs)				
Title: F-16 Integrated Test		15.964	11.997	8.037
Description: Description: Flight Test previously justified under F-16 Other Mods has been separated to an additional program code "F-16 Integrated Test" Mod EDP000. F-16 Integrated Test provides Developmental and Operational flight testing (DT/OT) for programs across the USAF F-16 programs. Integrated Test funding includes scheduling, managing, and performing sorties, providing test infrastructure (including chase aircraft), facilities, range support, aircraft maintenance, test aircraft modifications, instrumentation, test planning, analysis and test reports required to complete F-16 OFP software and hardware development. Supports F-16 DT/OT infrastructure, facilities (including Special Access Program Facilities (SAP-F)) and communications, contractor support and personnel to enable all other F-16 flight testing and required modifications at Eglin, Edwards and Nellis AFBs. Continued test aircraft instrumentation updates and relocation due to support current and future program displacement. Procurement of captive carry and live fire weapon integration assets and other weapons for F-16 OFP DT/OT.				

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0207133F / <i>F-16 Squadrons</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>FY 2024 Plans: Completion of F-16 Systems Integration Unit (SIU), SCU-12 and M7.4 Operational flight Program (OFP), Active Electronically Scanned Array (AESA) radar Phase 3.2, Comm Suite Upgrade (CSU), and Multifunctional Information Distribution System (MIDS)/ Joint Tactical Radio System (JTRS) firmware updates DT/OT at Eglin, Edwards, and Nellis AFBs. F-16 OFP DT/OT flight test support for Viper Experimentation and Next-gen Operations Model (VENOM) technology development, Integrated Viper Electronic Warfare System (IVEWS), APG-83 radar Combat IDentification (CID) and maritime capabilities requested by ACC, and M8.1 OFP Rehost: Modular Mission Computer (MMC) upgrade, Programmable Display Generator (PDG) upgrade, High Speed Data Network (HSDN), Secure Mission Data System (SMDS) including Auto Ground Collision Avoidance System (A-GCAS) DT/OT to enable Ethernet comms. Start of Wide-Angle Convention (WAC) Heads Up Display (HUD) qualification testing.</p> <p>FY 2025 Plans: Completion of F-16 SCU-13 DT/OT, SCU 14 DT/OT, and M-Series 8.06 / AESA Phase 3.3 DT addressing new radar CID and other classified requirements. Completion of SMDS with A-GCAS DT. Completion of Standby Attitude Indicator (SAI), WAC HUD qualification testing, and Advanced Central Air Data Communications Converter (ACADCC) re-qual. Continuation of M8.1 DT/OT for Rehost of OFP enabling Ethernet. Support for F-16 OFP DT/OT flight test of cybersecurity upgrades, VENOM, IVEWS, MMC, PDG, HSDN, and SMDS with A-GCAS OT. Initial DT/OT of F-16 M8.2 OFP as well as various hardware subsystem upgrades. DT for Brake Controller System (BCS), Advanced Programmable Signal Processor (APSP), Digital flight Control Computer (DFLCC) power supply, and preliminary integration of Advanced Anti-Radiation Guided Missile-Extended Range (AARGM-ER). Significant instrumentation re-design and installation for aged Flight Sciences aircraft for Eglin SEEK EAGLE DT to enable F-16 SEEK EAGLE certification requirements DT.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Decrease due to the completion of F-16 SCU-13 DT/OT, SCU 14 DT/OT, and M-Series 8.06 / AESA Phase 3.3 DT addressing new radar CID and other classified requirements.</p>				
<p>Title: EMD HW/Advanced Capabilities Improvements</p> <p>Description: Advanced Capability Improvements include, but are not limited to, sensor upgrades, radar updates and other self- protection/electronic protection (EP) enhancements, 4th/5th gen fighter network communications, Radio Frequency (RF) compatibility, requirements and studies analysis, lab, and/or on-aircraft evaluation of potential subsystem changes / capability improvements, and battery replacement.</p> <p>FY 2024 Plans:</p>		4.817	0.000	0.000

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force / BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0207133F / <i>F-16 Squadrons</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
EMD HW/Advanced Capabilities Improvements funded efforts complete. FY 2025 Plans: N/A FY 2024 to FY 2025 Increase/Decrease Statement: N/A				
Title: Modular Mission Computer (MMC) / Programmable Display Generator (PDG) Upgrade on F-16 aircraft Description: The MMC upgrade on the F-16 post-block aircraft, (Blk 40, 42, 50, 52) resolves shortfalls in mission computer processing, memory and throughput. MMC upgrade also incorporates new cybersecurity protection for avionics sub-systems and is the key component to support full AESA Radar capability. Funding includes development, design, integration, and ground/flight test for fielding of improved MMC capabilities with the Increment 1 OFP. The PDG upgrade allows a fully integrated multifunction display solution including Hands On Throttle and Stick (HOTAS) integration with Sensor of Interest (SOI), format swapping, and high definition video on 4x4 displays, and provides a sustainable approach to address growing DMS concerns with the current PDG. Both programs require the addition of an Ethernet based High Speed Data Network (HSDN) that facilitates future increments of combat capability with higher data bandwidth rates for system compatibility and interoperability. This program is a critical element to a modernized F-16 technology digital backbone and necessary to modernize the F-16 beyond its current computing capability. Additionally this effort enables the F-16 to effectively communicate with advanced platforms to improve battlefield situational awareness. Without it, all current and future F-16 modernization efforts cannot be supported. FY 2024 Plans: MMC will complete cybersecurity protection implementation, code rehost support for AESA radar candidates, software testing and code validation for the post-rehost supportable software. PDG will complete software testing and code validation for the post-rehost supportable software. FY 2025 Plans: F-16 Modular Mission Computer (MMC) / Programmable Display Generator (PDG) Upgrade development efforts complete. FY 2024 to FY 2025 Increase/Decrease Statement: Conclude development activities.		1.246	0.986	0.000
Title: Simulator Trainers Program (STP) Description: F-16 STP supports the development, acquisition, fielding, and integration of F-16 Simulators. It enables the USAF to exercise and train using the latest F-16 capabilities available to multiple aircraft configurations, while reducing the overall cost of maintenance and aircrew training. In order to maintain concurrency with the aircraft OFP, this funding supports development, test, and integration of simulator upgrades. Funds may be used to address emerging and short notice Diminishing Manufacturing		13.844	0.100	0.000

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0207133F / <i>F-16 Squadrons</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
Sources and Material Shortage (DMSMS) issues. This program element implements requirements and standards defined under the Simulator Common Architecture Requirements and Standards (SCARS) initiative and may include necessary civilian pay expenses required to manage, execute, and deliver F-16 weapon system simulator capabilities.				
FY 2024 Plans: Complete M7.5 concurrency development.				
FY 2025 Plans: N/A				
FY 2024 to FY 2025 Increase/Decrease Statement: Conclude funded development activities.				
Title: AIFF Mode 5		29.517	0.100	0.000
Description: AIFF/Mode 5 provides hardware and software/firmware updates required to comply with DoD mandates for Advanced Identify Friend or Foe (AIFF) Mode 5. AIFF provides positive identification for Air Traffic Control reporting, combat targeting, and fratricide prevention. This funding request will support potential DMS and obsolescence solutions, to include, if optimal, life of type buys, or bridge buys limited to the program of record quantity. This also supports flight testing and technical data updates, as required.				
FY 2024 Plans: Complete development efforts for Operation Ground and Flight Testing, ECOs, and AIMS certification.				
FY 2025 Plans: F-16 AIFF Mode 5 development efforts complete.				
FY 2024 to FY 2025 Increase/Decrease Statement: Conclude development activities.				
Title: AESA Radar		28.947	0.100	0.000
Description: The AESA Program provides an upgrade from the current, mechanically scanned APG-68 system to an APG-83 electronically scanned AESA radar that offers advanced targeting and electronic protection capabilities as well as improved reliability and maintainability. Ongoing radar Operational Flight Program (OFF) development includes the full Phase III capability development document (CDD) implementation. AESA Phase 3.3 radar software capabilities include additional Maritime detection, combat identification and track; additional classified A-A and A-G Combat Identification; and Enhanced missile Data Link capabilities from the RMP CDD.				

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0207133F / <i>F-16 Squadrons</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>FY 2024 Plans: Completion of AESA Phase 3.3 radar development.</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Conclude funded development activities.</p>				
<p>Title: Comm Suite Radio Upgrade Aircraft</p> <p>Description: Provides mandatory CJCS updates to the ARC-210 satellite communication (SATCOM) radios on F-16 aircraft including Second Generation Anti-Jam Tactical radio for NATO (SATURN) with Mobile User Objective System (MUOS) and improved crypto capability with the addition of a Cockpit Communication Control Panel (C3PO), and Digital Comm Matrix (DCM).</p> <p>FY 2024 Plans: F-16 Comm Suite Radio Upgrade Aircraft development efforts complete.</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A</p>		0.532	0.000	0.000
<p>Title: Integrated Viper Electronic Warfare Suite (IVEWS)</p> <p>Description: Integrated Viper Electronic Warfare System (IVEWS) previously justified as a sub-program under DRWR Cost Category as NGEW has been renamed and separated to an IVEWS Cost Category to continue development efforts. IVEWS is a Section 804 Middle Tier Acquisition program providing improved Digital Radar Warning Receiver performance and Active Jamming capability, with future growth upgrades, in an internal suite. This rapid acquisition program was initiated to design, develop, test, and produce a mature electronic warfare system that is internal to the F-16, interoperable with the Active Electronically Scanned Array radar, designed to Open Missions Systems Tier II requirements, and provisioned for long-term growth capability to support future upgrades such as Fiber Optic Towed Decoy, and Adaptive Processing.</p> <p>FY 2024 Plans: Conclude Minimum Viable Product (MVP) development and assessment activities towards Operational Assessment (OA).</p> <p>FY 2025 Plans:</p>		71.613	0.100	0.000

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0207133F / <i>F-16 Squadrons</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
N/A				
FY 2024 to FY 2025 Increase/Decrease Statement: Conclude funded development activities.				
Title: Multifunctional Information Distribution System Joint Tactical Radio System (MIDS-JTRS)		0.000	0.100	0.000
Description: Multifunctional Information Distribution System Joint Tactical Radio System (MIDS-JTRS) provides real time, jam-resistant and secure information system for the transfer of combat data, voice, and navigation information between widely dispersed battle elements. MIDS-JTRS's enhanced capabilities provide concurrent multi-netting which enables Link 16 by adding capability to receive four messages in a single time slot and allows for greater network design flexibility along with concurrent receive capabilities and J-voice. The F-16 MIDS-JTRS effort is developing Ethernet connectivity within the terminal.				
FY 2024 Plans: Complete IB8.2.1.1 lab integration testing and conclude RDT&E efforts for the program.				
FY 2025 Plans: N/A				
FY 2024 to FY 2025 Increase/Decrease Statement: Conclude development activities.				
Title: M Code		0.050	5.949	0.000
Description: The current aircraft Embedded GPS/INS (EGI) system suffers from Diminishing Manufacturing Sources (DMS) shortfalls. New security requirements and mandated M-code hardware support drive the need for a new EGI solution to support modern resilient weaponry and mission systems.				
FY 2024 Plans: Development activities for design, integration, and delivery of test assets for SIL events.				
FY 2025 Plans: N/A				
FY 2024 to FY 2025 Increase/Decrease Statement: Funding reduced in FY 2025 due to delays in pre-requisite M-Code development efforts. (F-16 GPS M-Code / R-EGI funding provides for the capability's integration on the F-16 platform.)				
Accomplishments/Planned Programs Subtotals		241.482	98.633	106.952

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207133F / <i>F-16 Squadrons</i>
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D. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• APAF 05 Line Item F01600: <i>F-16 Aircraft Modifications</i>	724.944	297.342	217.235	-	217.235	528.942	530.110	364.998	326.756	0.000	2,990.327
• APAF 07 F01600: <i>F-16</i>	0.000	0.000	11.501	-	11.501	12.000	8.765	5.575	5.575	0.000	43.416
• APAF 07 Line Item F0160P: <i>F-16 Post Production Support</i>	4.704	1.075	867.000	-	867.000	6.472	9.447	0.000	0.000	0.000	888.698
• APAF 06 Line Item <i>F01600: F-16 Initial Spares</i>	20.482	8.271	8.356	-	8.356	1.078	0.000	7.896	8.051	0.000	54.134

Remarks

E. Acquisition Strategy

OFP SW development effort is completely developed organically at Hill AFB (309th SWEG). Numerous Integration contracts (CPFF, FFP) are required to allow for Improved Avionics, Weapon, AIFF Mode 5, MIDS-JTRS integration to successfully field with each OFP.

Integrated Test requires both organic test range support and contract support for modification integration testing of F-16 programs and subsystems.

MMC provides the necessary architecture upgrades for the modernization of the F-16 post-block fleet. Raytheon is the Prime with Cost Plus Fixed Fee contract for development, and a Firm Fixed Priced contract for Production.

PDG will provide a platform for video enhancements, add Ethernet connectivity, increase high-speed data, memory, and throughput, and support OFP growth through the remaining service life of the F-16. General Dynamics is the Prime with Cost Plus Fixed Fee contract for development, and a Firm Fixed Priced contract for Production.

AIFF Mode 5 program uses numerous contracts for DMS resolution, integration, production, support, and installs. Funding will be awarded on the following contracts: Harness IDIQ, Bracket IDIQ, Lockheed Martin Falcon Enterprise, and BAE Mode 5 IDIQ.

The Active Electronically Scanned Array (AESA) Joint Emergent Operational Need (JEON) contract for development and production of the APG-83 radar awarded to Northrop Grumman on 31 May 2017. The US Government is the prime integrator and a separate contract is established for Lockheed Martin to provide integration support. AESA JEON completed Mar 22. Remaining RDT&E effort is to fulfill radar software capabilities from the RMP CDD.

MIDS-JTRS terminal firmware updates will be tested at Hill AFB by the 309 SWEG OFP SW development team to ensure compatibility between the two software baselines.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity
3600: *Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development*

R-1 Program Element (Number/Name)
PE 0207133F / *F-16 Squadrons*

The EMD HW/Advanced capability improvements uses various contract types (Cost Plus and Fixed Price).

IVEWS is Section 804 Middle Tier Acquisition prototyping Other Transaction Authority (OTA) contract was awarded on 25 September 2019. The IVEWS program is being developed by Northrop Grumman (Rolling Meadows, IL). The Electronic Warfare Radar Frequency Compatibility (EWRFC) awarded on Mar 9, 2022, extends development beyond the OTA with a period of performance end date of Mar 30, 2025. EWRFC provides continued rapid prototyping efforts and procurement of Engineering Manufacturing and Design (EMD) hardware used in flight test aircraft.

M-Code is managed by AFLCMC/WNY. The development is contracted to Integrated Solutions for Systems (IS4S).

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207133F / F-16 Squadrons	Project (Number/Name) 672671 / F-16 Squadrons
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
OFP Updates on F-16 aircraft	Various	309th SMG : Hill AFB, UT	-	59.016	Oct 2022	62.107	Oct 2023	80.673	Oct 2024	-		80.673	Continuing	Continuing	-
MMC Upgrade / Display Generator Upgrade	Various	Various : Various	-	1.246	Nov 2022	0.986	Feb 2024	-		-		-	0.000	2.232	-
Simulator Trainers	Various	Various : Various	-	13.844	Oct 2022	0.100	Mar 2024	-		-		-	0.000	13.944	-
AIFF Mode 5	Various	Various : Various	-	29.517	Nov 2022	0.100	Apr 2024	-		-		-	0.000	29.617	-
AESA Radars	Various	Various : Various	-	28.947	Jun 2023	0.100	Mar 2024	-		-		-	0.000	29.047	-
Comm Suite Radio Upgrade	Various	Various : Various	-	0.532	Jul 2023	-		-		-		-	0.000	0.532	-
MIDS JTRS	Various	Various : Various	-	-		0.100	Apr 2024	-		-		-	0.000	0.100	-
EMD HW/Advanced Capabilities Improvements	Various	Various : Various	-	4.817	Jul 2024	-		-		-		-	0.000	4.817	-
IVEWS	Various	Various : Various	-	71.613	Mar 2023	0.100	Mar 2024	-		-		-	0.000	71.713	-
M-Code	Various	Various : Various	-	0.050	Mar 2024	5.949	Jun 2024	-		-		-	Continuing	Continuing	-
Subtotal			-	209.582		69.542		80.673		-		80.673	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Direct Cite Authority	Reqn	Various : Various	-	7.070	Oct 2022	7.686	Oct 2023	7.917	Oct 2024	-		7.917	Continuing	Continuing	-
Subtotal			-	7.070		7.686		7.917		-		7.917	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Integrated Tests	Various	Various : Various	-	15.964	Jan 2023	11.997	Jan 2024	8.037	Jan 2025	-		8.037	0.000	35.998	-
Subtotal			-	15.964		11.997		8.037		-		8.037	0.000	35.998	N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207133F / <i>F-16 Squadrons</i>	Project (Number/Name) 672671 / <i>F-16 Squadrons</i>
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	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<i>F-16 Development Efforts</i>																												
AESA Radar OFP Capability Development																												
OFP Inc 1 & 2 M7.4/M8.0.4 OFP Fielding																												
OFP Inc 2 M8.1 OFP Fielding																												
OFP Inc 2 M8.2 OFP Fielding																												
OFP Inc 3 Fielding																												
AIFF Mode 5 Flight Test																												
IVEWS Flight Test Start																												
IVEWS Fielding Recommendation																												
OFP Inc 1 SCU 12 DT/OT																												
OFP Inc 1 SCU 12 OFP Fielding (Inc 2)																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207133F / <i>F-16 Squadrons</i>	Project (Number/Name) 672671 / <i>F-16 Squadrons</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>F-16 Development Efforts</i>				
AESA Radar OFP Capability Development	1	2023	4	2024
OFP Inc 1 & 2 M7.4/M8.0.4 OFP Fielding	1	2023	3	2024
OFP Inc 2 M8.1 OFP Fielding	1	2023	1	2027
OFP Inc 2 M8.2 OFP Fielding	1	2027	1	2028
OFP Inc 3 Fielding	1	2028	4	2029
AIFF Mode 5 Flight Test	1	2025	3	2025
IVEWS Flight Test Start	1	2023	3	2024
IVEWS Fielding Recommendation	4	2024	4	2024
OFP Inc 1 SCU 12 DT/OT	1	2023	2	2024
OFP Inc 1 SCU 12 OFP Fielding (Inc 2)	1	2024	2	2024

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207134F / <i>F-15E Squadrons</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	0.000	193.307	50.965	178.603	0.000	178.603	202.168	298.351	138.559	172.172	Continuing	Continuing
676020: <i>F-15 Modernization</i>	0.000	193.307	50.965	178.603	0.000	178.603	202.168	298.351	138.559	172.172	Continuing	Continuing

A. Mission Description and Budget Item Justification

The F-15C continues to provide air superiority with an undefeated and unmatched aerial combat record. The F-15E retains this air superiority capability and adds systems, such as conformal fuel tanks (CFTs), advanced imaging and targeting systems, to meet the requirement for all-weather, deep-penetration, and night/under-the-weather, air-to-surface attack.

Upgrades to F-15 aircraft are critical to maintaining combat viability (lethality, survivability, and supportability) in support of the National Defense Strategy. With newer F-15E aircraft projected to remain in service past 2040, avionics modernization is key to long-term weapon system viability. Major avionics upgrades include radar modernization (both hardware and software) and capability enhancements via precision timing, data delivery and processing technology, precision registration systems, display optimization, instrumentation digitization and modernization, central computer processing power increases, digital mission event recording systems, and an infrared (IR)-based fire control system. The proliferation of fourth-generation enemy aircraft and sophisticated "double-digit" anti-aircraft missile systems pose a significant threat to F-15 survivability. A fully integrated electronic warfare suite holds the promise of providing improved survivability as well as expanded electronic attack capability. Nearly all improvements are linked to an agile aircraft Operational Flight Program (OFP) software update schedule. OFP updates integrate and deploy new capabilities on an annual basis, as well as incorporate technology/equipment improvements for support equipment, mission planning systems, and training device upgrades which enhance performance, supportability, and aircrew training.

Funds may be used to resolve issues among the F-15 fleet (e.g., emerging safety of flight issues and diminishing manufacturing sources), to accommodate technology insertion, and to fulfill Federal Aviation Administration (FAA) or other mandates necessary to ensure continued aircrew safety and mission effectiveness. This includes technical and acquisition-related studies to ensure F-15 lethality and survivability beyond 2040.

The program office projects that development efforts for F-15 Infrared Search and Track (IRST), Mobile User Objective System (MUOS)/Second Generation Anti-jam Tactical UHF Radio for NATO (SATURN), and Multifunctional Information Distribution System - Joint Tactical Radio System (MIDS-JTRS) will complete with FY 2023 funding.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY 2023 3.498M was expended for civilian pay expenses in this program element, and in FY 2024 1.524M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207134F / <i>F-15E Squadrons</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	200.139	50.965	92.149	0.000	92.149
Current President's Budget	193.307	50.965	178.603	0.000	178.603
Total Adjustments	-6.832	0.000	86.454	0.000	86.454
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-6.832	0.000			
• Other Adjustments	0.000	0.000	86.454	0.000	86.454

Change Summary Explanation

FY 2023 adjustment due to -6.832M for Small Business Innovative Research (SBIR).
 FY 2025 increase is for OFP development and restoration of support funding for flight test aircraft.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0207134F / F-15E Squadrons				Project (Number/Name) 676020 / F-15 Modernization			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
676020: F-15 Modernization	0.000	193.307	50.965	178.603	0.000	178.603	202.168	298.351	138.559	172.172	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

F-15 Modernization development efforts continue the weapon system's evolution in support of the National Defense Strategy (NDS), ensuring the fleet can meet urgent and future capability needs, as well as compliment 5th-generation aircraft by bringing substantial capacity for long-range fires, sensors, and electronic warfare (EW) capabilities. The programs below provide the F-15 fleet with electronic protection (EP) improvements, electronic attack (EA) improvements, advanced capabilities, threat and vulnerability mitigation, continued nuclear mission certification, and integration of new and upgraded weapons.

Operational Flight Program (OFP) funding provides for ongoing software and hardware upgrades needed to meet and defeat emerging threats; integrate new and changing weapons, offensive and defensive avionics capabilities, and sensor capabilities; and support nuclear certification and aircraft subsystems. Funds also provide for resolution of emerging safety of flight issues, technology insertion, training system updates, and compliance with Federal, Department of Defense, or Air Force mandates that are necessary to ensure continued aircrew safety and mission effectiveness. Funds may also help resolve diminishing manufacturing sources issues. In 2023, the OFP program transitioned to a Continuous Development and Integration (CD&I) approach to deliver annual software releases via agile development techniques. This approach has already demonstrated the ability to combat the speed of adversary technology evolution and ensure the F-15 fleet maintains a competitive advantage. At any one time there will be up to three OFP upgrades in work: one in requirements definition, one in code writing and test, and one in flight test and release preparation. In FY 2025, the OFP budget request is restored to pre-FY 2024 levels given OFP's criticality to the F-15 fleet's future.

Flight Test funding supports ongoing F-15 Modernization by providing baseline infrastructure and personnel support for developmental test (DT) and operational test (OT) operations. In FY 2025, the Flight Test budget request includes funds for upgrading test jets to meet DT & OT requirements.

Radar Enhancements (RE) will continue the upgrade for digital Active Electronic Scanned Array (AESA) radar capabilities to counter sophisticated electronic threats and provide other capability improvements. OFP updates are required to ensure radar EP and EA improvements, and advanced capabilities, are seamlessly integrated into the F-15 fleet.

Infrared Search and Track (IRST) system provides air to air detection, tracking, and ranging capabilities in a radar-contested environment.

Multifunctional Information Distribution System - Joint Tactical Radio System (MIDS-JTRS) integrates a new Link 16 system that complies with an National Security Agency (NSA) mandate on cryptographic modernization and a Federal Aviation Administration (FAA) mandate on frequency remapping. The FAA mandate requires all fielded Link-16 terminals incorporate the frequency re-mapping capability by 2025.

Data Transfer Module II (DTM II) is an upgraded replacement for the existing low-memory data transfer system. This system improves and supports mission planning capability and weapons employment, increases storage, replaces the aging mapping system, updates interfaces, provides data encryption, and delivers improved cybersecurity.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207134F / F-15E Squadrons	Project (Number/Name) 676020 / F-15 Modernization
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GPS M-Code / Resilient-Embedded GPS Inertial Navigation System (R-EGI) will provide enhanced Position, Navigation, and Timing (PNT) capabilities and improved resistance to existing and emerging threats to GPS, such as jamming and spoofing.

Mobile User Objective System (MUOS)/Second Generation Anti-jam Tactical UHF Radio for NATO (SATURN) will provide Satellite Communications (SATCOM) capable Air Force F-15 aircraft the ability to communicate on the MUOS constellation in support of a NORTHCOM Airspace Control Alert (ACA) requirement. SATURN will replace the Have Quick II and comply with the NSA lease key mandated dates.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
<p>Title: Operational Flight Program (OFP) Development Efforts</p> <p>Description: The OFP program provides software and hardware updates required to integrate and operationally implement new capabilities on F-15C, F-15D, F-15E, and F-15EX aircraft.</p> <p>FY 2024 Plans: Funding provides the following scope at reduced levels (compared to pre-FY 2024 average): Platform software development and integration of major line items supporting Avionics, Weapons, and Support Equipment; ongoing Problem Report (PR) and Deficiency Report (DR) resolution; organic software development; Special Projects development; maintenance of developmental labs, technical and acquisition related studies; and financial support for organizations required to develop, test, field, and maintain OFPs.</p> <p>FY 2025 Plans: FY 2025 funding restores OFP development capabilities and continues annual OFP updates for the F-15 fleet; addresses any identified or emergent problems with OFP Release 24; updates F-15 common OFPs to include the latest capabilities for IRST, various weapons, EPAWSS, the radar and sensors; and initiates planned updates to F-15 training systems to bring concurrent with the F-15 fleet by 4Q FY2027.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased/restored to pre-FY 2024 levels, supporting continuous OFP development requirements.</p>	110.800	28.428	129.752
<p>Title: Flight Test</p> <p>Description: Flight Test funding supports test capability modernization and continuance; provides baseline infrastructure and personnel for F-15 Developmental Test (DT) and Operational Test (OT) operations; and procures long-lead test support assets, unique lab and test aircraft instrumentation.</p> <p>FY 2024 Plans: Utilizing additional FY 2023 funds during FY 2024, Flight Test will continue at reduced levels (compared to the pre-FY 2024 average). The Flight Test program provides: contractor support cadre at Eglin and Nellis AFBs for DT/OT support, avionics integration, lab operations & maintenance, Combined Test Force operations & maintenance, and long-lead test-unique equipment</p>	32.994	0.000	34.500

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207134F / F-15E Squadrons	Project (Number/Name) 676020 / F-15 Modernization

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>(i.e., program specific aircraft instrumentation, weapons instrumentation kits, data reduction/handling equipment); replacement of obsolete test aircraft instrumentation, Richter Lab modernization and sustainment, and resources needed to maintain a robust integration and test capability for the F-15 Test enterprise (which includes supporting the weapons roadmap); support to 896 TSS, maintaining manpower for F-15 Test fleet modification activity; and flying hour program and maintenance support for F-15 loaner aircraft.</p> <p>FY 2025 Plans: FY 2025 funding restores Flight Test support to pre-FY 2024 levels and adds funding to upgrade test jets and meet DT & OT requirements. FY 2025 Flight Test funding provides: contractor support cadre at Eglin and Nellis AFBs for DT/OT support, avionics integration, lab operations & maintenance, Combined Test Force operations & maintenance, and long-lead test-unique equipment (i.e., program specific aircraft instrumentation, weapons instrumentation kits, data reduction/handling equipment); replacement of obsolete test aircraft instrumentation, Richter Lab modernization and sustainment, and resources needed to maintain a robust integration and test capability for the F-15 Test enterprise (which includes supporting the weapons roadmap); support to 896 TSS, maintaining manpower for F-15 Test fleet modification activity; and flying hour program and maintenance support for F-15 loaner aircraft.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased/restored to pre-FY 2024 levels and funding added to upgrade test jets and meet DT & OT requirements.</p>			
<p>Title: F-15 Radar Enhancements (RE)</p> <p>Description: Improves F-15 radar capabilities. This includes technical and acquisition related studies as well as future capability enhancements.</p> <p>FY 2024 Plans: Utilizing additional FY 2023 funds during FY 2024, the RE program will continue the following scope at reduced levels (compared to the pre-FY 2024 average): development of F-15 radar capability enhancements, continuation of technical and acquisition-related studies and analyses of F-15 radar performance and utilization against current and future threat baselines, and development and test of radar technology candidates for future integration in accordance with ACC's F-15 roadmap and threat analyses (which may include EP and/or EA candidates).</p> <p>FY 2025 Plans: Continues development of F-15 capability enhancements, weapons integration, and future capability development. Continues implementation of EP/EA into OFPs, in addition to Combat ID candidate, interoperability, and risk reduction activities for future OFP integration. Continues study efforts to ensure the F-15 radar maintains superiority over current threats.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement:</p>	15.697	0.000	7.526

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207134F / F-15E Squadrons	Project (Number/Name) 676020 / F-15 Modernization		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
Funding increased in FY 2025 to meet RE requirements.				
<p>Title: F-15 Infrared Search and Track (IRST)</p> <p>Description: The Infrared Search and Track (IRST) project will complete with FY 2023 funding. The IRST system provides the F-15 the ability to detect and track objects by infrared radiation. This capability complements the radar to enhance survivability and lethality against air-to-air threats, and enhances air-to-ground targeting. It provides a passive infrared sensor system that searches for and detects infrared radiation, and provides the aircraft mission computer track file data on infrared targets.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A</p>		21.039	0.000	0.000
<p>Title: F-15 Multifunctional Information Distribution System - Joint Tactical Radio System (MIDS JTRS)</p> <p>Description: MIDS-JTRS development activities are projected to complete with FY 2023 funding. This upgrade integrates and installs a new Link 16 system on the F-15, complying with an NSA mandate on cryptographic modernization and an FAA mandate on frequency remapping. The FAA mandate requires all fielded Link-16 terminals incorporate the frequency re-mapping capability by 2025.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A</p>		0.444	0.000	0.000
<p>Title: F-15E Data Transfer Module II</p> <p>Description: The Data Transfer Module II (DTM II) is an upgraded replacement to the current, low-memory data transfer system. It improves and supports mission planning capabilities and weapons employment, increases storage, replaces an aging mapping system, updates interfaces, provides data encryption, and delivers improved cybersecurity.</p> <p>FY 2024 Plans:</p>		2.748	0.000	5.000

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207134F / F-15E Squadrons	Project (Number/Name) 676020 / F-15 Modernization		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
Utilizing FY 2023 funding, during FY 2024 the program will complete Engineering & Manufacturing Development. FY 2025 Plans: Funding supports technical refresh activities for the DTM II Removable Memory Module (DRMM), specifically providing for prototyping, integrating, and testing technical refresh solutions. FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased in FY 2025 to support technical refresh activities for the system's Removable Memory Module.				
Title: GPS M-Code / R-EGI Description: GPS M-Code / Resilient-Embedded GPS Inertial Navigation System (R-EGI) will provide enhanced Position Navigation & Timing (PNT) capabilities and improved resistance to existing and emerging threats to GPS, such as jamming and spoofing. The Air Force's PNT program office manages R-EGI development, which will yield an M-Code enabled, Government-owned solution, leveraging Open System Architecture. Thus, R-EGI will provide a modular and adaptive PNT solution when integrated into the F-15E and F-15EX fleets. Funding requested in this exhibit specifically supports R-EGI integration on the F-15 platform. FY 2024 Plans: Continues F-15 R-EGI design support and risk mitigation; supports software integration for the F-15E and F-15EX platforms; and supports preliminary A-Kit design drawings and Time-Compliance Technical Orders (TCTOs). FY 2025 Plans: Continues software integration with R-EGI prototypes from the PNT office's design/development effort; supports testing and follow-on F-15 non-recurring engineering activities. FY 2024 to FY 2025 Increase/Decrease Statement: Funding reduced in FY 2025 due to delays in pre-requisite M-Code development efforts.		8.485	22.537	1.825
Title: Mobile User Objective System (MUOS)/Second Generation Anti-Jam Tactical UHF Radio for NATO (SATURN) Description: MUOS/SATURN development activities are projected to complete with FY 2023 funding. This MUOS/SATURN program provides Satellite Communications-capable F-15 aircraft, able to communicate on the MUOS constellation. This system replaces the current UHF satellite system (the Have Quick II), achieves the new NATO communications standard, and complies with the NSA lease key mandates. FY 2024 Plans: N/A FY 2025 Plans:		1.100	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207134F / F-15E Squadrons	Project (Number/Name) 676020 / F-15 Modernization

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
N/A			
FY 2024 to FY 2025 Increase/Decrease Statement: N/A			
Accomplishments/Planned Programs Subtotals	193.307	50.965	178.603

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• APAF 05 F015EX: F-15EX	2,735.768	2,898.039	1,808.472	-	1,808.472	60.714	-	-	-	0.000	7,502.993
• RDTE 07 0207146F: F-15EX	91.178	100.006	56.228	-	56.228	-	-	-	-	0.000	247.412
• APAF 07 000075: Other Production Charges - EX	-	-	40.084	-	40.084	-	-	-	-	0.000	40.084
• APAF 07 000075 (3)...: Other Production Charges - F-15E Squadrons	-	-	12.876	-	12.876	-	-	-	-	0.000	12.876
• APAF 05 Line Item F01500: F-15 Modification of In- Service Aircraft, PEs 0207130, 0207134, 0207445, 0809731	192.394	34.830	45.829	-	45.829	118.303	47.944	20.753	21.827	Continuing	Continuing
• APAF 06 Line Item 000999: Initial Spares/Repair Parts (BP16)	13.836	14.081	2.861	-	2.861	17.729	18.130	18.507	18.876	Continuing	Continuing
• APAF 07 Line Item F0150P: F-15 Post Production Support	2.764	-	-	-	-	-	-	-	-	0.000	2.764

Remarks

D. Acquisition Strategy

Program is a continuation of effort which includes development for all F-15 models. Funds are executed in support of equipment improvement, study, analysis, and test. Acquisition and management strategies for each program are independently developed and use a variety of contract methods and types to accomplish program objectives.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207134F / F-15E Squadrons	Project (Number/Name) 676020 / F-15 Modernization
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
OFP Suite 8/9/CD&I Development and Test	SS/ Various	Boeing : St Louis, MO	0.000	107.728	Jan 2023	26.062	Jan 2024	119.321	Jan 2025	-		119.321	Continuing	Continuing	-
F-15 Radar Enhancement	SS/ Various	Boeing : St Louis, MO	0.000	15.257	Jan 2023	0.000	Jan 2024	7.526	Jan 2025	-		7.526	Continuing	Continuing	-
F-15 Infrared Search and Track	SS/ Various	Boeing : St Louis, MO	0.000	16.120	Feb 2023	-		-		-		-	0.000	16.120	-
F-15E Data Transfer Module II	SS/ Various	Mercury : Torrance, CA	0.000	2.748	Feb 2023	-		5.000	Feb 2025	-		5.000	0.000	7.748	-
GPS M-Code	SS/ Various	Boeing : St Louis, MO	0.000	4.606	Nov 2023	20.503	Nov 2024	1.825	Mar 2025	-		1.825	Continuing	Continuing	-
Mobile User Objective System (MUOS) /Second Generation Anti-jam Tactical UHF Radio for NATO (SATURN)	SS/ Various	Boeing : St. Louis, MO	0.000	1.100	Nov 2023	-		-		-		-	0.000	1.100	-
Subtotal			0.000	147.559		46.565		133.672		-		133.672	Continuing	Continuing	N/A

Remarks
The individual program reference to "various" contract methods addresses other government costs for trainers, test, hardware, special studies, telemetry kits, etc. that are required to meet each program's objectives. The execution vehicles between these DoD entities vary by effort.

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Direct Cite Authority	Allot	Various : Various	0.000	3.498	Oct 2022	1.524	Oct 2023	1.702	Oct 2024	-		1.702	Continuing	Continuing	-
Subtotal			0.000	3.498		1.524		1.702		-		1.702	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207134F / F-15E Squadrons	Project (Number/Name) 676020 / F-15 Modernization
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Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Contractor Test Support	SS/CPFF	Boeing : St. Louis, MO	0.000	32.994	Aug 2023	0.000	May 2024	33.107	May 2025	-		33.107	Continuing	Continuing	-
Subtotal			0.000	32.994		0.000		33.107		-		33.107	Continuing	Continuing	N/A

Remarks
The individual program reference to "various" contract methods addresses other government costs for trainers, test, hardware, special studies, telemetry kits, etc. that are required to meet each program's objectives. The execution vehicles between these DoD entities vary by effort.

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Mgt Support Costs	Various	Various : Various	0.000	9.256	Dec 2023	2.876	Dec 2024	10.122	Dec 2025	-		10.122	Continuing	Continuing	-
Subtotal			0.000	9.256		2.876		10.122		-		10.122	Continuing	Continuing	N/A

Remarks
The individual program reference to "various" contract methods addresses other government costs for trainers, test, hardware, special studies, telemetry kits, etc. that are required to meet each program's objectives. The execution vehicles between these DoD entities vary by effort.

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	193.307	50.965	178.603	-	178.603	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207134F / F-15E Squadrons	Project (Number/Name) 676020 / F-15 Modernization
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

F-15	
OFP Suite 9.2	██████████
OFP CD&I Release 24	████████████████████
OFP CD&I Release 25	██
OFP CD&I Release 26	██
Radar Enhancements (Field with OFP)	██
Infrared Search and Track Integration and Test	████████████████████
Data Transfer Module II: EMD	██
Data Transfer Module II: DRMM Technical Refresh	██
GPS M-Code	██

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207134F / <i>F-15E Squadrons</i>	Project (Number/Name) 676020 / <i>F-15 Modernization</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>F-15</i>				
OFP Suite 9.2	3	2023	2	2024
OFP CD&I Release 24	1	2023	3	2024
OFP CD&I Release 25	1	2024	1	2026
OFP CD&I Release 26	1	2025	1	2027
Radar Enhancements (Field with OFP)	1	2023	1	2027
Infrared Search and Track Integration and Test	1	2023	1	2024
Data Transfer Module II: EMD	1	2023	4	2024
Data Transfer Module II: DRMM Technical Refresh	1	2025	4	2026
GPS M-Code	2	2024	4	2027

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207136F / <i>Manned Destructive Suppression</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	9.540	16.543	16.182	0.000	16.182	17.925	18.293	18.245	18.605	Continuing	Continuing
674595: <i>F-16 HARM Targeting Sys</i>	-	9.540	16.543	16.182	0.000	16.182	17.925	18.293	18.245	18.605	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Manned Destructive Suppression (MDS) program funds the development and sustainment of the Air Force's Suppression of Enemy Air Defenses (SEAD) and Destruction of Enemy Air Defenses (DEAD) capabilities. The F-16 High-speed Anti-Radiation Missile (HARM) Targeting System (HTS) is currently the only programmed reactive SEAD/DEAD capability and enables targeting the HARM missile in its most lethal 'range known' mode. The program provides F-16 Block 50/52 and Block 40/42 aircraft with the ability to employ the AN/ASQ-213 targeting Pod. With the introduction of Pre-Planned Product Improvement (P3I) HTS Revision 7 in 2007, the AN/ASQ-213 Pod now has a precision geo-location capability to target Precision Guided Munitions (PGMs) to destroy fixed and mobile enemy air defense elements. Additionally, by relocating the AN/ASQ-213 HTS R7 Pod on the aircraft, the F-16 can simultaneously carry the HTS R7 Pod and an Advanced Targeting Pod (ATP). HTS R7 fielding is complete and represents the Air Force's near-term solution for reactive time-critical targeting for DEAD until this mission can be transferred to the F-35. HTS R7 derived precision targeting data can be provided to all Joint Forces via Link-16. This effort continues upgrades for the HTS and applies technologies similar to those demonstrated in the Advanced Tactical Targeting Technologies (AT3) program and HTS R7 development.

Funds may be used to address emerging and short-notice Diminishing Manufacturing Sources and Material Shortage (DMSMS) issues.

HTS leverages Digital acquisition tenets of open, agile and digital. This may include providing funds to prime contractors; program office contract support; facility, security and IT upgrades; common component development with other weapon systems to reduce redundant costs.

The FY2025 funding request was reduced by \$1.305 million to account for the availability of prior year execution balances.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program elements 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In PY \$0.00M was expended for civilian pay expenses in this program element, and in CY \$0.00M is forecasted for civilian pay expenses in this program.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207136F / <i>Manned Destructive Suppression</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	16.695	16.543	17.458	0.000	17.458
Current President's Budget	9.540	16.543	16.182	0.000	16.182
Total Adjustments	-7.155	0.000	-1.276	0.000	-1.276
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-6.600	0.000			
• SBIR/STTR Transfer	-0.555	0.000			
• Other Adjustments	0.000	0.000	-1.276	0.000	-1.276

Change Summary Explanation

FY23 adjustments due to -\$3.373M on FY23-29PA and below threshold reprogrammings for -\$0.581M for Future Advanced Weapon Analysis and Prog (FAWAP) and -\$2.646M for SDB II and -\$0.555M for Small Business Innovative Research (SBIR)
 FY25 funding reduced by -\$1.305M to account for the availability of prior year execution balances and inflation adjustments

C. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: P3I R7 Software Upgrade (SWUP)	7.440	14.443	14.082	0.000	14.082
Description: HTS SWUP risk reduction and software development Engineering and Manufacturing Development (EMD) efforts include software updates in support of F-16 Operational Flight Profile (OFP) releases. These releases improve the capability of the pod in an evolving threat environment.					
FY 2024 Plans: Continue SWUP 4 iterative software development, EMD, and preparation for SWUP 4 flight testing. Mission support (i.e., program management for administrative and technical support) will continue. Continue SWUP Agile.					
FY 2025 Base Plans: Continue software upgrade risk reduction, iterative software development, preparation for software upgrade, and flight testing. Mission support (i.e., program management for administrative and technical support) will continue. Continue agile software upgrades.					
FY 2025 OCO Plans:					

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207136F / <i>Manned Destructive Suppression</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
N/A					
FY 2024 to FY 2025 Increase/Decrease Statement: Funding decreased due to updated pricing on new contract for software upgrade effort					
Title: Flight Test Description: Conducts test planning, requirements derivation, and post-test data analysis and reporting. Provides test organization support to include test aircraft operations, threat/test range control and associated support, air refueling, and post-mission support. Ground testing, such as anechoic chamber testing, will also be accomplished as necessary. FY 2024 Plans: Government flight test operations will continue for SWUP 4 activities. This funding also includes baselining requirements from actual test data during recent flight testing. FY 2025 Base Plans: Government flight test operations will continue for SWUP 4 activities. This funding also includes baselining requirements from actual test data during recent flight testing. FY 2025 OCO Plans: N/A FY 2024 to FY 2025 Increase/Decrease Statement: No funding increase or decrease. Efforts continuing.	1.200	1.200	1.200	0.000	1.200
Title: Joint Mission Planning System (JMPS) Description: JMPS includes continued development and testing of candidate upgrades and incremental engineering releases in support of HTS SWUP fielding. FY 2024 Plans: Continue mission planning in support of future SWUP 4 efforts and other future SWUP requirements. FY 2025 Base Plans: Continue mission planning in support of future SWUP 4 efforts and other future SWUP requirements. FY 2025 OCO Plans:	0.900	0.900	0.900	0.000	0.900

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207136F / <i>Manned Destructive Suppression</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
N/A					
<i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> No funding increase or decrease. Efforts continuing.					
Accomplishments/Planned Programs Subtotals	9.540	16.543	16.182	0.000	16.182

D. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

E. Acquisition Strategy
The HTS P3I R7 Software Update Program (SWUP) is underway to keep the HTS pod capable in a growing threat environment. The SWUP 3 Engineering & Manufacturing Development (EMD) and SWUP 4 Risk Reduction (RR) contract awarded in April 2019 as a Cost Plus Fixed Fee (CPFF) contract type and is a 36 month effort. The initial SWUP 4 EMD contract awarded in July 2021 for four months with three one year options. SWUP 3 included plans for two releases to the field: Builds A and B. SWUP 4 adopts a more agile approach with three potential releases to the field: Builds A, B, and C.

Future SWUP RR portion will mature candidates for future software builds by addressing findings from the field, incorporating requested improvements from the warfighter, and implementing other software changes to keep the HTS pod updated and mission capable. A follow on mod to the contract was accomplished in November 2021 for one year. Future SWUP RR efforts to begin in FY24.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force												Date: March 2024			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
3600 / 7				PE 0207136F / Manned Destructive Suppression				674595 / F-16 HARM Targeting Sys							
Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
HTS R7 SWUP/P3I	SS/CPFF	Raytheon Systems Co. : Tucson, AZ	-	5.290	Nov 2022	12.193	Nov 2023	14.082	Nov 2024	-		14.082	Continuing	Continuing	-
JMPS	SS/CPIF	Multiple : Multiple	-	0.900	May 2023	0.900	May 2024	0.900	May 2025	-		0.900	Continuing	Continuing	-
Subtotal			-	6.190		13.093		14.982		-		14.982	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Flight Test	PO	412 and 96 TW, NAWCWD : Edwards,Eglin, CLake	-	1.200	Nov 2022	1.200	Nov 2023	1.200	Nov 2024	-		1.200	Continuing	Continuing	-
Subtotal			-	1.200		1.200		1.200		-		1.200	Continuing	Continuing	N/A
Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration	C/Various	Multiple : Eglin AFB Robins AFB	-	2.150	Feb 2023	2.250	Mar 2024	0.000	Mar 2025	-		0.000	Continuing	Continuing	-
Subtotal			-	2.150		2.250		0.000		-		0.000	Continuing	Continuing	N/A
Project Cost Totals			-	9.540		16.543		16.182		-		16.182	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207136F / <i>Manned Destructive Suppression</i>	Project (Number/Name) 674595 / <i>F-16 HARM Targeting Sys</i>

	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Manned Destructive Suppression</i>	
Continuous SWUP 4 development	
Future SWUP Risk Reduction	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207136F / <i>Manned Destructive Suppression</i>	Project (Number/Name) 674595 / <i>F-16 HARM Targeting Sys</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Manned Destructive Suppression</i>				
Continuous SWUP 4 development	1	2023	4	2029
Future SWUP Risk Reduction	2	2024	4	2029

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207138F / <i>F-22A Squadrons</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	0.000	542.659	725.889	768.561	0.000	768.561	647.983	474.352	582.879	594.387	0.000	4,336.710
674785: <i>F-22</i>	0.000	542.659	725.889	768.561	0.000	768.561	647.983	474.352	582.879	594.387	0.000	4,336.710
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The F-22 Raptor is a multi-mission fighter aircraft that combines low observability, supercruise, maneuverability and integrated avionics providing air superiority to the Joint Force, access in highly contested environments, as well as homeland and cruise missile defense into the 2040s. To maintain operational relevance, the program continues planned, incremental modernization efforts that enhance both F-22 air superiority and strike capabilities. The F-22 modernization enterprise develops, tests, and fields hardware/software of the air vehicle, engine, Operational Flight Program (OFP), and training systems to improve F-22 weapons, communications, navigation, pilot-vehicle interface, and electronic warfare suite.

Funds may be used to resolve emerging safety of flight and diminishing manufacturing sources issues, accommodate technology insertion and fulfill Federal Aviation Administration (FAA) or other mandates necessary to ensure continued aircrew safety and mission effectiveness.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY2023, \$4.488M was expended for civilian pay expenses in this program element, and in FY2024, \$6.300M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207138F / <i>F-22A Squadrons</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	559.709	725.889	682.082	0.000	682.082
Current President's Budget	542.659	725.889	768.561	0.000	768.561
Total Adjustments	-17.050	0.000	86.479	0.000	86.479
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-17.050	0.000			
• Other Adjustments	0.000	0.000	86.479	0.000	86.479

Change Summary Explanation

FY23 decrease of \$17.050M reflects Small Business Innovation Research (SBIR) reduction.

FY25 increase of \$86.479M reflects the continued investment in Engineering, Manufacturing, and Development (EMD) activities for the Controlled Reception Pattern Antenna (CRPA), Embedded GPS/Inertial Navigation Systems (INS) Modernization (EGI-M), Link 16 (L16) and Open System Architecture (OSA) Improvements, and Viability programs.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: Infrastructure	198.140	221.629	235.538
Description: This major thrust is comprised of, but not limited to: Combined Test Force (CTF), Laboratory Test and Operations (LTO), F-22 Small Projects, Operational Software Development and Reliability and Maintainability Program (RAMP) projects.			
Labs and CTF are continuous activities that plan and conduct development, integration, test, and verification of Operational Flight Programs (OFPs) and other software and hardware in support of the F-22 Raptor. Labs provide test and certification support, maintenance, staffing, with operation of 16 development labs including four unique major System Integration Laboratories (SILs): Agile Integration Lab (AIL) with the Flying Test Bed (FTB), Ogden Test Enterprise (OTE) Lab, Air Combat Simulation (ACS) Lab, and the Vehicle System Simulator (VSS) Lab. The F-22 CTF located at Edwards Air Force Base, CA, is the hub for developmental test efforts for the entire F-22 enterprise. It conducts full-up weapons system testing to assess the effect of the F-22 combined characteristics of stealth, speed, maneuverability, and integrated avionics upon mission accomplishment. The CTF uses operationally significant ground and flight test scenarios to identify system performance deficiencies early before they are more difficult and costly to resolve. Engines on CTF aircraft are supported under Infrastructure as well. F-22 Infrastructure efforts include the technological refresh of the entire F-22 developmental test enterprise.			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207138F / <i>F-22A Squadrons</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>F-22 Small Projects provides technology studies, demonstrations and integration of capabilities to include, but not limited to, Low Observable (LO) signature management, threat modeling support, Developmental Test (DT) weapon assets, weapons, Pilot Training (PT), Pilot Vehicle Interface (PVI), countermeasures, helmet, future crypto upgrades, and Open System Architecture (OSA) / Open Systems Enclave (OSE) activities. Additionally, Small Projects include program requirements associated with dynamic Synthetic Aperture Radar (SAR), cyber security, flight test engine refurbishment, support equipment development, Government Furnished Equipment (GFE), Engine Enhancements (or similar), and Electronic Warfare (EW) system enhancements to counter evolving threats.</p> <p>Operational Software Development utilizes commercially available agile and lean best practices to transform and accelerate the F-22 OFP upgrade process. This includes, but is not limited to, the expansion of a cloud-based software development environment and partnering with commercial companies to adopt industry product development best practices.</p> <p>The Reliability, Availability, and Maintainability Program (RAMP) provides solutions to improve reliability, availability and maintainability (RAM) for the F-22 fleet. The associated RAMP implementation efforts (O&S funded) develop candidate initiatives, which are down-selected by Air Combat Command, based on development maturity and impact on the F-22 life cycle costs.</p> <p>RDT&E funding within Infrastructure may be used to improve RAM on F-22 test aircraft as part of the overarching F-22 RAMP effort.</p> <p>Program mission support costs are included in this major thrust.</p> <p><i>FY 2024 Plans:</i> Provide support to the SILs for faster testing and assessment of F-22 enhancements. Continue to update critical systems required to support new aircraft configurations and capabilities. Further continue Lab test planning using agile methods for the following programs: Mode 5 Identification Friend or Foe Challenge (IFFC), Link 16 (L16), OFP releases, Sensor Systems and Advanced Technology Development (ATD) to hand off to the CTF for testing. Continue to update critical systems to include technology refresh and laboratory optimization improvements.</p> <p>Small projects continues technology planning studies and demonstrations for DT weapon assets, threat modeling support, test support, test aircraft modifications, Common Range Integrated Instrumentation System (CRIIS) integration, cyber security, engine enhancements, End Cryptographic Unit (ECU) Upgrade, dynamic SAR, GFE, PT, EW enhancements, Quick Reaction Instrumentation Package (QRIP) development, OSA/OSE activities, Data Management Solution (DMS) development, Technology Enabler-Raptor Environment Cloud Compute Services (TE-RECCS), and FoX Tablet integration.</p>			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207138F / <i>F-22A Squadrons</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Operational Software Development continues maturing and scaling cloud-based computing environment to leverage commercially-based agile software and hardware development best practices and tools to increase the speed and quality of product delivery to the warfighter.</p> <p>RAMP continues retrofit modifications on F-22 test aircraft in order to improve system/component reliability, maintainability and reduce F-22 weapon system life cycle costs.</p> <p>FY 2025 Plans: Provide support to the SILs for faster testing and assessment of F-22 enhancements. Continue to update critical systems required to support new aircraft configurations and capabilities. Further continue Lab test planning using agile methods for the following programs: Mode 5 IFFC, L 16, OFP releases, Sensor Systems and ATD to hand off to the CTF for testing. Continue to update critical systems to include technology refresh and laboratory optimization improvements.</p> <p>Small projects continue transformational projects through technology planning studies and demonstrations for DT weapon assets, threat modeling support, test support, DT aircraft modifications, cyber security, End Cryptographic Unit (ECU) Upgrade, engine enhancements, QRIP development, DMS development, TE-RECCS integration, FoX Tablet, OSA / OSE / Open Mission System (OMS) integration, and other advanced capability projects to improve the effectiveness of the F-22.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Increase of \$13.909M from FY24 to FY25 supports design and delivery of multiple sets of special test equipment required for upgrades to the radar, weapons, sensors and the airworthiness certification of the OFP. New equipment reduces unscheduled maintenance, improves the throughput and performance of F-22 labs and CTF, improves the quality of overall product, reduces risk to flight test, and accelerates delivery of capabilities to Operational Test (OT) for eventual fielding.</p>			
<p>Title: Advanced Technology Development (ATD)</p> <p>Description: Technology maturation, risk reduction, studies, demonstrations and prototypes of classified F-22 development efforts. The F-22 Advanced Technology Development (ATD) program is conducted using a rapid acquisition construct allowing the F-22 Raptor enterprise to develop, test, and field software/hardware from multiple programs (product lines) using a scheduled cadence for capabilities as they mature.</p> <p>FY 2024 Plans: Finalize technology maturation and risk reduction (TMRR) for the Low Drag Tanks and Pylons capabilities. Continued development and flight test demonstrations of advanced radar Electronic Protection (EP) capabilities for inclusion into future aircraft OFP. Project Keystone - Perform studies and prototyping for an advanced threat warning receiver technology development</p>	44.454	49.030	20.230

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0207138F / <i>F-22A Squadrons</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
to include vendor hardware and software assessments. Project Geyser - Continue to mature hardware and software designs through flight demonstrations and integration studies to assess fielding configuration options of this advanced capability. FY 2025 Plans: Continue technology maturation, development, and risk reduction projects in support of various F-22 development efforts. Examples include, but are not limited to, continued development of advanced radar Electronic Protection (EP) capabilities. Begin integration and lab testing with aircraft OFP to demonstrate EP maturity and for insertion consideration into a future software update such as EP Suite 2 (EPS2). Project Keystone - Finalize studies and complete development and perform vendor(s) down select for EMD. Project Geyser - continued flight demonstrations and begin test fleet modification into planned production configuration. FY 2024 to FY 2025 Increase/Decrease Statement: Decrease of \$28.800M from FY24 to FY25 reflects the planned completion of Keystone requirements.				
Title: Sensor Systems Description: Sensor Systems improves sensor capabilities to maintain air superiority and preserve first look, first shot, and first kill capability. This includes developing and maturing advanced Infrared Search & Track (IRST) sensor capabilities. FY 2024 Plans: Continue Sensor Enhancements software and hardware development for future fleet release. Continue lab, system, and airframe integration, as well as logistics standup. Continue Group A kit installations on DT/OT aircraft. FY 2025 Plans: Continue Sensor Enhancements software and hardware integration with the sensor test assets. Receive the first DT/OT asset, execute first DT flight test, and continue lab, system, and airframe integration. Continue technology maturation and manufacturing readiness. Complete Group A kit installations on DT/OT aircraft. FY 2024 to FY 2025 Increase/Decrease Statement: Decrease of \$98.190M from FY24 to FY25 reflects the ramp down of the hardware purchases for the development program as it transitions from design and prototyping to flight test and continued software development efforts.		154.822	207.890	109.700
Title: Navigation Systems Description: The Navigation Systems will include the integration of Embedded GPS/Inertial Navigation System (INS) Modernization (EGI-M) (in compliance with M-Code Mandate Public Law 111-383), replacement of the legacy GPS antenna with a robust Controlled Reception Pattern Antenna (CRPA), as well as other capabilities, working together to prevent exploitation of the weapon system by adversaries and to provide an anti-jam, anti-spoof PNT solution.		19.214	0.000	0.000

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0207138F / <i>F-22A Squadrons</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>FY 2024 Plans: As of FY24, this major thrust is closed and has been replaced by CRPA and EGI-M.</p> <p>FY 2025 Plans: FY 2025 base plans are documented in the CRPA and EGI-M major thrusts.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A</p>				
<p>Title: Controlled Reception Pattern Antenna (CRPA)</p> <p>Description: IAW CDGM 09-22-03 for Resilient Position, Navigation, and Timing (PNT), the Controlled Reception Pattern Antenna (CRPA) product line will replace the F-22's legacy Fixed Reception Pattern Array (FRPA) antenna. CRPA provides advanced antenna technologies which will dramatically reduce an adversary's ability to jam or otherwise interfere with GPS signals.</p> <p>FY 2024 Plans: Six of CRPAs SW capabilities will complete development and most scheduled integration activity in the F-22 Labs. CRPA also plans to complete development of its two remaining SW capabilities towards the end of the FY. CRPA's HW will demonstrate its anti-jam capabilities in NAVFEST 2024, leading to completion of Developmental and Operational Flight Test (DT/OT) by the end of the calendar year. Pending NAVFEST performance outcome, Milestone C planned NLT June 2024.</p> <p>FY 2025 Plans: CRPA HW will achieve Fleet Release. Six CRPA SW capabilities will finish DT/OT, and the remaining two SW capabilities should complete integration in the F-22 Labs.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Decrease of \$5.990M from FY24 to FY25 due to development and flight test of hardware decreasing in FY25.</p>		0.000	31.340	25.350
<p>Title: Embedded GPS/Inertial Navigation System (INS) Modernization (EGI-M)</p> <p>Description: In compliance with M-Code Mandate Public Law 111-383, EGI-M will provide an M-Code compliant, anti-spoofing PNT solution to prevent exploitation of the weapon system by adversaries, enable more accurate tracking of GPS satellites, and support a more secure and flexible cryptography architecture.</p> <p>This effort covers the M-Code Weapons product line, consisting of the integration, test, and fielding of software updates necessary to ensure the F-22's ability to employ M-Code configured weapons on F-22s without M-Code capability. The AF Weapons Program Office is scheduled to field M-Code-enabled weapons prior to the availability of an M-Code GPS solution for the F-22.</p>		0.000	5.100	23.950

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0207138F / <i>F-22A Squadrons</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>FY 2024 Plans: Perform integration activities with the Engineering Development Models (EDM).</p> <p>FY 2025 Plans: F-22 will begin development of M-Code Weapons software solution and continue integration and software development activities to support EGI-M and M-Code Weapons into FY26.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Increase of \$18.850M from FY24 to FY25 is due to the ramp up in the integration software development effort.</p>				
<p>Title: Communication Systems</p> <p>Description: Communication Systems consists of software and hardware development, firmware updates, test, and certifications necessary to field Link 16 (L16) Transmit Receive and tactical Mode 5 Identify Friend or Foe Challenge (IFFC).</p> <p>L16 Receive & Transmit is implemented via an Open System Architecture (OSA) solution integrated with F-22 legacy avionics to enable tactical data sharing between the F-22 and 4th generation aircraft. The OSA implementation will provide a pathway to more competitive and open F-22 modernization. Mode 5 IFF is a Joint Requirements Oversight Council-mandated Blue Force identification capability that improves Raptor survivability and reduces fratricide risk DoD-wide. This capability brings significantly enhanced combat identification quality and security.</p> <p>FY 2024 Plans: As of FY24, this major thrust is closed and has been replaced by the Link 16 and OSA improvements and Mode 5 Challenge major thrusts.</p> <p>FY 2025 Plans: No change.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A</p>		78.368	0.000	0.000
<p>Title: Link 16 (L16) and Open System Architecture (OSA) Improvements</p> <p>Description: Develop, enhance, and field L16, OSA, and Multifunction Information Distribution System Joint Tactical Radio System (MIDS JTRS) hardware/software/firmware capabilities to enable tactical data sharing between 5th generation and 4th generation aircraft. The OSA implementation provides a pathway to a more competitive and open F-22 modernization.</p> <p>FY 2024 Plans:</p>		0.000	35.090	49.430

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0207138F / <i>F-22A Squadrons</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>Continue firmware and software development, integration, test, and incremental upgrade activities for Link 16 messages. Continue development, integration, and flight test of J12.6 technical debt, Classified Capability Phase 2, and L 16 dual voice receive and transmit capability. Retrofit developmental and operational test aircraft common integrated processor (CIP) Low latency signal processor firmware. Incorporate open mission systems/communication suite requirements as well as enhancements of OSA interoperability with different Computer Software Configuration Items (CSCI) and improve system fault reporting. Complete BU3 feasibility and roadmap study. Begin post BU3 study development efforts.</p> <p>FY 2025 Plans: Continue software development, enhancements, firmware upgrades, integration, test, and incremental upgrade activities for L16 messages. Submit fielding decision for J12.6 technical debt, Classified Capability Phase 2, and L16 dual voice receive and transmit capability. Incorporate open mission systems/communication suite requirements as well as enhancements of OSA interoperability with different Computer Software Configuration Items (CSCI) and improve system fault reporting. Continue BU3 design and architecture developmental activities.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Increase of \$14.340M from FY24 to FY25 is due to the increased MIDS JTRS BU3 software development and increased defect burndown of L 16 and OSA capabilities to meet warfighter interoperability requirements.</p>				
<p>Title: Mode 5 IFF Challenge (IFFC)</p> <p>Description: Mode 5 IFFC is a Joint Requirements Oversight Council-mandated Blue Force identification capability that improves Raptor survivability and reduces fratricide risk DoD-wide. The Mode 5 IFFC capability incorporates new and updated hardware and software to add a new waveform, new cryptography, and additional data.</p> <p>FY 2024 Plans: Continue software development and lab testing of Mode 5 capabilities. Continue integration activities of Mode 5 Challenge circuit cards and crypto card hardware. Continue Air Traffic Control Radar Beacon System/IFF/Mark XII/Mark XIIA, System IFF (AIMS) platform certification activities for Selective Identification Feature (SIF) Modes and Mode 5. Continue spectrum certification activities to obtain a Stage 3 Radio Frequency Authorization (RFA).</p> <p>FY 2025 Plans: Finalize software development and lab testing of Mode 5 Level 1 capabilities. Continue software development and lab testing of Mode 5 classified capabilities. Continue integration and validation activities of Mode 5 Challenge circuit cards and crypto card hardware. Continue hardware modification and integration activities on test aircraft. Begin flight testing in conjunction with Release 5 flight testing. Obtain AIMS platform certification for initial Mode 5 software. Continue spectrum certification activities to obtain</p>		0.000	95.080	36.110

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0207138F / <i>F-22A Squadrons</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
a Stage 3 (developmental) RFA for Mode 5 classified capabilities. Continue spectrum certification activities to obtain a Stage 4 (operational) RFA for Mode 5 combat Air Forces operations.				
FY 2024 to FY 2025 Increase/Decrease Statement: Decrease of \$58.970M from FY24 to FY25 is attributable to the ramp down in peak software development, and completion of development activities for AEU Retrofit on test jets from FY24.				
Title: Low Drag Tanks and Pylons		47.661	34.240	23.200
Description: The F-22 Low Drag Tanks and Pylons (LDTP) are advanced technological designs providing increased persistence and range while maintaining lethality and survivability. The low drag tanks are intended to minimally increase drag for external tank carriage, facilitate supersonic flight with external tanks and extend the range of the F-22. The pylons are equipped with smart rack pneumatic technology to accurately control ejection performance and minimize drag without stores.				
LDTP risk reduction activities are captured under the ATD major thrust. Documentation of the development and integration components as part of the EMD program is captured under the LDTP major thrust.				
FY 2024 Plans: Finalize technology maturation and risk reduction while continuing EMD program. EMD objectives include the procurement of LDTP assets, to include support equipment, evaluation of designs for improvement, flight test execution for threshold envelope, and LDTP qualification and certification. Additionally, the development and formalization of software requirements to support Operational Flight Program (OFP) integration will be accomplished in FY24. The analysis, flight test and non-recurring engineering activities will ensure the program's transition to production to support required asset available (RAA) fielding with threshold capabilities.				
FY 2025 Plans: Continue with the EMD Program (Hardware and Threshold). Complete Flight Test for LDTP up to Threshold envelope. Verification and Validation of safety of flight certification testing of Low Drag Pylon design change enabling Low Drag Tank jettison flight testing. The software requirements to support Operational Flight Program (OFP) integration will be implemented in FY25. Transition to production to support first delivery of Lot 1 Assets. DT/OT efforts to continue.				
FY 2024 to FY 2025 Increase/Decrease Statement: Decrease of \$11.040M from FY24 to FY25 reflects reduced hardware development costs due to program maturation.				
Title: Viability		0.000	18.130	147.023

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0207138F / <i>F-22A Squadrons</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>Description: Viability includes the Infrared Defensive System (IRDS), Keystone, and other programs to address future threats. IRDS is the Missile Launch Detector (MLD) modernization effort that improves missile launch detection capabilities. Keystone increases radar warning capabilities, pilot situational awareness, and effectiveness for certain countermeasures.</p> <p>Viability reflects the continuation of work that began as risk reduction and technology maturation activities in the ATD major thrust. Documentation of the development and integration components as part of the EMD program will be captured under the Viability major thrust.</p> <p>FY 2024 Plans: Continue efforts that began in the ATD project to develop IRDS software and hardware for future fleet release. Begin software integration activities and start initial purchasing of test assets.</p> <p>FY 2025 Plans: Increase IRDS group A and group B test asset purchases for developmental and operational test jets. Increasing engineering and design activities. Continuation of software integration development per the systems requirement document (SRD). Begin EMD for Keystone.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Increase of \$128.893M from FY24 to FY25 reflects the increased development and integration activities for IRDS GEN III, which ramps up in FY25.</p>				
<p>Title: Cryptographic Modernization</p> <p>Description: The Cryptographic Modernization program will update F-22 radios with revised interoperability and cryptographic security requirements as mandated by the Second Generation Anti-Jam Tactical UHF Radio for NATO (SATURN), U.S. Procurement Specification SS103118. This major thrust also covers F-22 program activities required to update Tactical Secure Voice Cryptographic Interoperability Specification (TSVCIS) 2.1 to version 3.1.1, a key component of Cryptographic Modernization Planning as directed by CJCSI-6510.02D and IAW with guidance from the National Cryptographic Solution Management Office (NSCMO), dated August 2020.</p> <p>Cryptographic Modernization program activities in FY23 were previously documented within the Communication Systems major thrust. This program has been separated into its own major thrust beginning in FY24.</p> <p>FY 2024 Plans:</p>		0.000	28.360	98.030

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207138F / <i>F-22A Squadrons</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
FY24 efforts include the development of SATURN and TSVICIS solutions and the certification process with NSA.			
<i>FY 2025 Plans:</i> FY25 efforts include the ramp up in the EMD program activities for the SATURN and TSVICIS solutions. These efforts will include the development of new KOV-28 cryptographic module to enable it to handle the increased processing power required with the implementation of NSA Silver Linings mandate. Work will also be done on the redesign of the current Communication Navigation and Identification rack to provide growth space for current and future communication and cryptographic upgrades. Software requirements and hardware changes will continue to be formalized and developed. Lab testing should start for the SATURN software. Will continue working with NSA to ensure all certification requirements are met.			
<i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Increase of \$69.670M from FY24 to FY25 reflects the increased development and integration activities started in FY24.			
Accomplishments/Planned Programs Subtotals	542.659	725.889	768.561

D. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APAF 05 Line Item F02200: <i>F-22A Squadrons, PE 0207138F*</i>	795.969	899.187	975.739	-	975.739	1,058.828	1,125.064	910.927	867.403	0.000	6,633.117

Remarks
NOTES:

*F-22A Squadrons, APAF/PE 0207138F, includes funding for F-22A Squadrons BPs 11 (Aircraft Modifications), 13 (Post-Production Support), 16 (Initial Spares), and 19 (Depot Activation).

E. Acquisition Strategy
The F-22 utilized Sec 804 Middle Tier of Acquisition (MTA) to rapidly develop and field advanced capability. Development efforts were conducted under a Rapid Prototyping MTA, which concluded at the end of FY23 with the exception of the Sensor Enhancements program, which received a 10-month extension to enable the completion of a technical demonstration on the F-22. The following programs transitioned to a Major Capability Acquisition (MCA): Mode 5 Identify Friend or Foe - Challenge (IFFC), Link 16 and Open System Architecture Improvements, Controlled Reception Pattern Antenna (CRPA), Embedded Global Positioning System (GPS)/ Inertial Navigation System (INS) - Modernized (EGI-M), Low Drag Tanks and Pylons. Sensor Enhancement Group B kit procurement, including an advanced Infrared Search and Track (IRST) sensor, is dependent on a successful Rapid Prototyping MTA demonstration. The programs will use the same Indefinite Delivery Indefinite Quantity (IDIQ) contract vehicles established under the MTA in order to maximize flexibility to start, stop, accelerate and decelerate projects as required and provide

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207138F / <i>F-22A Squadrons</i>
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maximum flexibility to manage various modernization projects. In conjunction with the Raptor Enhancement Development & Integration II (REDI II) IDIQ ordering contract, the new Advanced Raptor Enhancement and Sustainment (ARES) IDIQ is a follow-on contract that began taking orders in FY22.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207138F / F-22A Squadrons	Project (Number/Name) 674785 / F-22
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Infrastructure	Various	Various : Various	0.000	193.652	Oct 2022	215.329	Oct 2023	229.102	Oct 2024	-		229.102	Continuing	Continuing	-
Advanced Technology Development	Various	Various : Various	0.000	44.454	Nov 2022	49.030	Nov 2023	20.230	Nov 2024	-		20.230	Continuing	Continuing	-
Sensor Systems	SS/CPFF	Lockheed Martin : Fort Worth, TX	0.000	154.822	Mar 2023	207.890	Feb 2024	109.700	Nov 2024	-		109.700	Continuing	Continuing	-
Navigation Systems	SS/CPFF	Lockheed Martin : Fort Worth, TX	0.000	19.214	Feb 2023	-		-		-		-	Continuing	Continuing	-
CRPA	SS/CPFF	Lockheed Martin : Fort Worth, TX	0.000	-		31.340	Oct 2023	25.350	Nov 2024	-		25.350	Continuing	Continuing	-
EGI-M	SS/TBD	Lockheed Martin : Fort Worth, TX	0.000	-		5.100	Oct 2023	23.950	Nov 2024	-		23.950	Continuing	Continuing	-
Communication Systems	SS/ Various	Lockheed Martin : Fort Worth, TX	0.000	78.368	Oct 2022	-		-		-		-	Continuing	Continuing	-
L 16 and OSA Improvements	SS/CPAF	Lockheed Martin : Fort Worth, TX	0.000	-		35.090	Oct 2023	49.430	Nov 2024	-		49.430	Continuing	Continuing	-
Mode 5 IFFC	SS/CPFF	Lockheed Martin : Fort Worth, TX	0.000	-		95.080	Nov 2023	36.110	Nov 2024	-		36.110	Continuing	Continuing	-
Low Drag Tanks and Pylons	SS/CPFF	Lockheed Martin : Fort Worth, TX	0.000	47.661	Mar 2023	34.240	Nov 2023	23.200	Nov 2024	-		23.200	Continuing	Continuing	-
Viability	SS/TBD	Lockheed Martin : Fort Worth, TX	0.000	-		18.130	Aug 2024	147.023	Nov 2024	-		147.023	Continuing	Continuing	-
Cryptographic Modernization	SS/TBD	Lockheed Martin : Fort Worth, TX	0.000	-		28.360	Aug 2024	98.030	Nov 2024	-		98.030	Continuing	Continuing	-
Subtotal			0.000	538.171		719.589		762.125		-		762.125	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Direct Cite Civilian Pay	Various	Not specified. : TBD	0.000	4.488	Oct 2022	6.300	Oct 2023	6.436	Oct 2024	-		6.436	0.000	17.224	-
Subtotal			0.000	4.488		6.300		6.436		-		6.436	0.000	17.224	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207138F / F-22A Squadrons	Project (Number/Name) 674785 / F-22
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	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	542.659	725.889	768.561	-	768.561	Continuing	Continuing	N/A

Remarks

Target Value of Contract is not discrete due to the number of programs within the Indefinite Delivery, Indefinite Quantity (IDIQ) construct.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207138F / F-22A Squadrons	Project (Number/Name) 674785 / F-22
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	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
F-22 Squadrons																												
Advanced Technology Development Demonstrations																												
Advanced Technology Development Studies & Analysis																												
Keystone - Tech Maturity Risk Reduction																												
Navigation Systems CRPA Development, Integration, and Test																												
CRPA - Development, Integration, and Test																												
CRPA - Release 5 (Software Development)																												
CRPA - Release 6 (Software Development)																												
CRPA - Release 5 (DT/OT)																												
CRPA - Release 6 (DT/OT)																												
Navigation Systems EGI-M Development, Integration, and Test																												
EGI-M - Development, Integration, and Test																												
EGI-M - Software (DT/OT)																												
EGI-M - Software Development (M-Code Weapons)																												
Sensor Systems - Technical Demo/Group B Production Decision																												
Sensor Systems - DT/OT Flight Test																												
Sensor Systems - Fleet Authorization																												
Sensor Systems - RAA																												
L16/OSA - Release 4 (J-Voice functionality)																												
L16/OSA - Release 5 (Continue defect burndown)																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207138F / F-22A Squadrons	Project (Number/Name) 674785 / F-22
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	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Cryptographic Modernization - SATURN/ TSVCIS Testing in F-22 Systems Labs																																
Cryptographic Modernization - SATURN/ TSVCIS Flight Test																																
Viability - IRDS Group A Design																																
Viability - IRDS Phase 1 Integration																																
Viability - IRDS Phase 2 Integration																																
Viability - IRDS Flight Test at CTF																																
Viability - IRDS DT/OT Unit Procurement																																
Viability - Keystone - Engineering, Manufacturing and Development																																

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207138F / <i>F-22A Squadrons</i>	Project (Number/Name) 674785 / <i>F-22</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>F-22 Squadrons</i>				
Advanced Technology Development Demonstrations	1	2023	4	2029
Advanced Technology Development Studies & Analysis	1	2023	4	2029
Keystone - Tech Maturity Risk Reduction	3	2024	4	2025
Navigation Systems CRPA Development, Integration, and Test	1	2023	4	2023
CRPA - Development, Integration, and Test	4	2023	2	2027
CRPA - Release 5 (Software Development)	4	2023	3	2024
CRPA - Release 6 (Software Development)	3	2024	2	2025
CRPA - Release 5 (DT/OT)	2	2025	2	2026
CRPA - Release 6 (DT/OT)	2	2026	2	2027
Navigation Systems EGI-M Development, Integration, and Test	1	2023	4	2023
EGI-M - Development, Integration, and Test	4	2023	3	2028
EGI-M - Software (DT/OT)	3	2026	2	2028
EGI-M - Software Development (M-Code Weapons)	3	2024	1	2026
Sensor Systems - Technical Demo/Group B Production Decision	2	2024	3	2024
Sensor Systems - DT/OT Flight Test	3	2024	4	2027
Sensor Systems - Fleet Authorization	3	2027	3	2027
Sensor Systems - RAA	4	2028	4	2028
L16/OSA - Release 4 (J-Voice functionality)	2	2023	2	2025
L16/OSA - Release 5 (Continue defect burndown)	4	2023	2	2026
L16/OSA - Release 6 (Cont. Capability development/enhancements, defect burndown,1 & additional transmit capabilities and test)	1	2024	2	2027

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207138F / F-22A Squadrons	Project (Number/Name) 674785 / F-22
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
L16/OSA - Release 7 (Cont. Capability development/enhancements, defect burndown, and test)	4	2024	2	2028
Communication Systems - Release 2 (additional Link 16 capability) Development, Integration, & Test	1	2023	4	2023
Communication Systems - Release 3 (additional Link 16 & IFF Reply capability) Development, Integration, & Test	1	2023	4	2023
Mode 5 IFFC - Release 5 Development, Integration, & Test	1	2024	2	2026
Mode 5 IFFC - Release 6 Development, Integration, & Test	3	2025	2	2027
Mode 5 IFFC - Mode 5 Challenge HW qualification complete	3	2023	3	2024
Low Drag Tanks and Pylons - Milestone Decision Authority Technical Demonstration	4	2023	4	2023
Low Drag Tanks and Pylons - Critical Design Review	2	2023	2	2023
Low Drag Tanks and Pylons - Full Pylon Qualification	3	2025	3	2025
Low Drag Tanks and Pylons - RAA	2	2026	2	2026
Cryptographic Modernization - SATURN/TSVCIS Development Contract Award	3	2024	4	2024
Cryptographic Modernization - SATURN/TSVCIS System Design & Development	3	2024	2	2026
Cryptographic Modernization - SATURN/TSVCIS Testing in F-22 Systems Labs	3	2025	2	2026
Cryptographic Modernization - SATURN/TSVCIS Flight Test	1	2026	4	2026
Viability - IRDS Group A Design	2	2024	2	2025
Viability - IRDS Phase 1 Integration	1	2025	2	2027
Viability - IRDS Phase 2 Integration	2	2026	3	2028
Viability - IRDS Flight Test at CTF	1	2026	1	2026
Viability - IRDS DT/OT Unit Procurement	4	2024	1	2028
Viability - Keystone - Engineering, Manufacturing and Development	4	2025	1	2029

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207142F / <i>F-35 Squadrons</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	409.503	60.501	97.231	47.132	0.000	47.132	49.156	47.709	49.561	50.539	Continuing	Continuing
675346: <i>F-35</i>	17.234	24.091	76.083	25.521	0.000	25.521	27.233	25.523	26.573	27.096	0.000	249.354
675349: <i>HPSI</i>	36.779	15.517	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	52.296
676011: <i>JSF DUAL CAPABLE AIRCRAFT</i>	355.490	20.893	21.148	21.611	0.000	21.611	21.923	22.186	22.988	23.443	Continuing	Continuing

Program MDAP/MAIS Code: 198

Note

In FY2025, PE 0207142F, F-35 Squadrons, Project 675346, Joint Simulation Environment/Virtual Test and Training Center (JSE/VTTC) efforts were transferred to PE 0207606F, JSE, Project 642407, Joint Simulation Environment (JSE), in order to consolidate all JSE funding under one PE (PE 0207606F).

A. Mission Description and Budget Item Justification

The F-35 Joint Strike Fighter (JSF) Program will develop and field an affordable, highly common family of next generation strike aircraft for the United States Air Force (USAF), United States Navy, United States Marine Corps and International Partners countries. There are three variants: the F-35A Conventional Takeoff and Landing (CTOL) variant; the F-35B Short Take Off and Vertical Landing (STOVL) variant; and the F-35C Carrier Variant (CV). Maximum commonality among the variants, consistent with National Disclosure Policy, will minimize total air system life cycle costs.

PE 0207142F funding supports USAF-unique on-going User Information Data Exchange Service (UIDES), SEEK EAGLE, Quick Reaction Instrumentation Package (QRIP), Joint Simulation Environment/Virtual Test and Training Center (JSE/VTTC), Hybrid Product Support Integrator (HPSI), and Dual Capable Aircraft (DCA) requirements. These continuing efforts are not new starts.

The F-35A UIDES effort develops a system that supports Information Exchange Requirement (IER) data transfer. UIDES allows F-35 operations, maintenance, training, and financial data to be integrated within existing Air Force enterprise systems. The Autonomic Logistics Information System (ALIS) UIDES will transition to an Operational Data Integrated Network (ODIN) effort.

The Air Force SEEK EAGLE Office (AFSEO) delivers warfighting capability through aircraft/store compatibility testing and evaluation while providing accurate combat weapon delivery and mission planning software. Beginning in FY2020, the USAF supported Flight Test Instrumentation (FTI) wiring and weapons integration tasks related to SEEK EAGLE requests. These tasks include, but are not limited to, envelope expansion, mixed loads testing, adding additional stores, and F-35A specific risk reduction efforts and studies.

The QRIP system is a government off-the-shelf solution from the 59th Test and Evaluation Squadron (59 TES) for F-35A high-capacity data recording needs. Designed for operational test and evaluation, the system can serve multiple emerging needs for data collection. By capturing crowd sourced flight data (CSFD) from operational

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force Date: March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207142F / <i>F-35 Squadrons</i>
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aircraft, QRIP reduces the need for deliberate regression flight testing and allows the test enterprise to focus on Block 4 and future capability development. In FY2025, the 59 TES will produce/install 25 QRIP data recording devices on F-35A aircraft and continue with approximately 25 QRIP devices annually thereafter. Also in FY2025, the Knowledge Management (KM) system for data processing and storage will be deployed at Eielson AFB and RAF Lakenheath. A team of sixteen contractors at each base are required to sustain QRIP associated hardware and software. Cost share funding for this effort is in PE0604840F while the F-35A USAF-unique costs are located in this PE.

The F-35 HPSI's primary role is to integrate support across the supply chain, maintenance, sustainment engineering, logistics information technology and training disciplines. It will deliver enduring, global support for fielded F-35s while preparing for future force expansion. USAF funding supports additional Program Management Activities (PMA) to transition to a final HPSI, which will support sustainment analysis with product support managers, focused on long-term strategic planning, and transition to a final integrated support plan. Funding eliminated in FY2024 and beyond due to the completion of transitioning personnel to the HPSI organization at Wright-Patterson AFB, OH.

The F-35 JSF Operational Requirements Document (ORD) calls for the F-35A to have the capabilities and provisions for DCA operations in the first post-System Development and Demonstration (SDD) block upgrade. DCA is a NATO and US priority which is a critical capability in our collective defense and credible deterrence. The USAF F-35A achieved operational certification on October 12, 2023, earlier than the need date of January 2024. DCA refers to the capability to carry and deliver conventional and non-conventional weapons. DCA operations for the F-35A is internal carriage of up to two B61-12s. Due to extensive certification requirements, the DCA capability planning and design, testing and certification will continue throughout Block 4. Funding in this PE will resource the following F-35A DCA activities: development, analysis, test, integration, certification and risk-reduction activities necessary to field and maintain F-35A DCA capabilities throughout post-SDD block upgrades; assessment of DCA weapon integration and certification impacts on the F-35 aircraft; identification and mitigation of potential technical and cost risks; definition of integration and certification trade-space to field the DCA capability with the B61-12 weapon; follow-on risk reduction efforts to ensure future integration alignment with the earliest feasible post-SDD block upgrade; and full integration efforts pending Service decisions.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY2023 \$3.4M was expended for civilian pay expenses in this program element, and in FY2024 \$3.4M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207142F / <i>F-35 Squadrons</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	65.730	97.231	78.548	0.000	78.548
Current President's Budget	60.501	97.231	47.132	0.000	47.132
Total Adjustments	-5.229	0.000	-31.416	0.000	-31.416
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-5.000	0.000			
• SBIR/STTR Transfer	-0.229	0.000			
• Other Adjustments	0.000	0.000	-31.416	0.000	-31.416

Change Summary Explanation

FY2023 funding reduced by \$5M due to reprogramming to PE 0207179F, Autonomous Collaborative Platforms, Project 647123: Autonomous Collaborative Technologies.

FY2025 funding reduced due to transfer of JSE/VTTC funding to PE 0207606F, Joint Simulation Environment, Project 642407: Joint Simulation Environment

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons				Project (Number/Name) 675346 / F-35			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
675346: F-35	17.234	24.091	76.083	25.521	0.000	25.521	27.233	25.523	26.573	27.096	0.000	249.354
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY2025, PE 0207142F, F-35 Squadrons, Project 675346, Joint Simulation Environment/Virtual Test and Training Center (JSE/VTTC) efforts were transferred to PE 0207606F, JSE, Project 642407, Joint Simulation Environment (JSE), in order to consolidate all JSE funding under one PE (PE 0207606F).

A. Mission Description and Budget Item Justification

The F-35A UIDES effort develops a system that supports IER data transfer. UIDES allows F-35A operations, maintenance, training and financial data to be integrated within existing Air Force enterprise systems.

The AFSEO delivers warfighting capability through aircraft/store compatibility testing and evaluation and provides accurate combat weapon delivery and mission planning software. Beginning in FY2020, the USAF supported FTI wiring and weapons integration tasks related to SEEK EAGLE requests. These tasks include, but are not limited to, envelope expansion, mixed loads testing, adding additional stores, and F-35A specific risk reduction efforts and studies.

The QRIP / CSFD system is a government-owned, off-the-shelf solution from the 59 TES for F-35 high-capacity data recording needs. Designed for operational test and evaluation, the system serves multiple emerging needs for data collection. By capturing CSFD from operational aircraft, QRIP reduces the need for deliberate regression flight testing and allows the test enterprise to focus on Block 4 and future capability development. In FY2025, the 59 TES will produce and install 25 QRIP data recording devices on F-35A aircraft. Also in FY2025, data ingest capable systems will be utilized to support the data processing, storage, and transmission of all F-35 generated CSFD sources. Tyndall AFB (FL) is scheduled for modifications and KM in FY2025. These bases are prioritized in accordance with the CSFD Program Roadmap. A team of sixteen contractors at each base are required to sustain CSFD associated hardware and software at Full Operating Capability. Meanwhile, the 59 TES will continue studying means to increase the operational viability of CSFD, including the use of data science teams, artificial intelligence, and machine learning algorithms.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY2023 \$3.4M was expended for civilian pay expenses in this program element, and in FY2024 \$3.4M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Autonomic Logistics Information System (ALIS) User Information Data Exchange Service (UIDES)	0.000	2.821	0.000
Description: Beginning in FY2020, the USAF unique ALIS UIDES requirement was broken out separately from the remaining systems engineering. USAF F-35 UIDES provides for Air Force development of a F-35 ALIS - UIDES that supports IER data			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons	Project (Number/Name) 675346 / F-35

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>transfer capability from the F-35 ALIS into existing Air Force enterprise systems. Activities also include studies and analysis to support both current program/project planning and execution and future program/project planning.</p> <p>FY 2024 Plans: Resume ALIS UIDES efforts to prepare for the ODIN baseline transition. ALIS UIDES efforts were postponed in FY23 until the new ODIN baseline was ready.</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding decreased due to completion of effort.</p>			
<p>Title: Air Force SEEK EAGLE Office and Low Observable Sustainability Over Time</p> <p>Description: Integrated Test activities in support of Block 4, to include Lockheed Martin and Pratt & Whitney support at all test sites. Non-recurring engineering required to plan for the service life extension of existing Developmental Test (DT) aircraft and modification necessary to bring DT aircraft fleet to a more production representative and sustainable configuration, and to develop flight test instrumentation and release test software to meet Block 4 requirements. Additional upgrades required to support development and evaluation of improvements driven by changes in the threat environment and as identified in the Electronic Warfare Initial Capability Document (ICD), the Fifth Generation Fighter Modernization ICD, and the Block 4 Capability Development Document (CDD).</p> <p>Beginning in FY2020, the USAF has supported FTI wiring and weapons integration tasks related to AFSEO requests. These tasks include, but are not limited to, envelope expansion, mixed loads testing, adding additional stores and F-35A specific risk reduction efforts and studies.</p> <p>As an alternative to flight test, AFSEO will procure 1/6th scale models of the F-35A to be tested in wind tunnels at Arnold Engineering Development Complex (AEDC) to fulfill F-35A weapons integration objectives. Wind tunnel testing would increase AFSEO throughput three hundred percent.</p> <p>To ensure the F-35A fleet's Low Observable Sustainability Over Time (LOSOT), 12 F-35A aircraft must undergo radar cross section (RCS) testing annually. The only facility at NAS Patuxent River does not have the capacity to support LOSOT test requirements. The National Radar Test Facility (NRTF) at White Sands Missile Range (WMSR) has the capability, but must procure and install Multifunction Advanced Data Link (MADL) antennae to adapt the range for F-35A testing. These MADL antennae capture F-35A time, space, and position information to direct their radar.</p>	4.591	5.079	7.180

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons	Project (Number/Name) 675346 / F-35
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p><i>FY 2024 Plans:</i> USAF only funding will continue supporting AFSEO requests by providing FTI wiring and supporting weapons integration tasks initiated in FY2021, in addition to emergent AFSEO tasks. Procure 1/6th scale models of F-35A and conduct wind tunnel testing for weapons integration. Procure, install, and sustain MADL antennae at NRTF in support of LOSOT testing.</p> <p><i>FY 2025 Plans:</i> USAF only funding will continue supporting AFSEO requests by providing FTI wiring and supporting weapons integration tasks initiated in FY2021, in addition to emergent AFSEO tasks. Procure 1/6th scale models of F-35A and conduct wind tunnel testing for weapons integration. Procure, install, and sustain MADL antennae at NRTF in support of LOSOT testing.</p> <p><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Increase from FY2024 to FY2025 is due to cost growth and increased MADL antennae acquisition efforts.</p>			
<p><i>Title:</i> Quick Reaction Instrumentation Package (QRIP) / Crowd Sourced Flight Data (CSFD)</p> <p><i>Description:</i> The QRIP / Crowd Sourced Flight Data (CSFD) system is a government-owned, off-the-shelf solution from the 59 TES for F-35 high-capacity data recording needs. Designed for operational test and evaluation, the system serves multiple emerging needs for data collection. By capturing CSFD from operational aircraft, QRIP reduces the need for deliberate regression flight testing and allows the test enterprise to focus on Block 4 and future capability development.</p> <p><i>FY 2024 Plans:</i> In FY2024, the 59 TES will produce and install 25 QRIP data recording devices on F-35A aircraft. Also in FY2024, the KM system for data processing and storage will be procured and deployed at RAF Lakenheath (UK) and continued support at Nellis AFB (NV), Hill AFB (UT), MCAS Yuma (AZ), Edwards AFB (CA), and Eielson (AK). FY2024 will continue to increase the required contractors toward the FOC objective of 16 as more F-35As become modified and KM nodes stand-up.</p> <p><i>FY 2025 Plans:</i> In FY2025, the 59 TES will produce and install 25 QRIP data recording devices on F-35A aircraft and continue producing/ installing approximately 25 QRIP devices annually. Also, in FY2025, data-ingest capable processing and storage systems will be developed, procured and deployed to support all F-35 CSFD requirements. These data-ingest capable systems will be utilized to support the data processing, storage, and transmission of all F-35 generated Crowd Source Flight Data (CSFD) sources including QRIP and Tactical Data Recorder (TDR). Additionally, FY2025 will require continued CSFD support at Nellis AFB (NV), Hill AFB (UT), MCAS Yuma (AZ), Edwards AFB (CA), and Eielson (AK).</p> <p><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Decrease from FY2024 to FY2025 is in the development of capability upgrades, while installations of the current QRIP configuration continue as planned.</p>	19.500	25.927	18.341
<p><i>Title:</i> Joint Simulator Environment (JSE) / Virtual Test and Training Center (VTTC)</p>	0.000	42.256	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / <i>F-35 Squadrons</i>	Project (Number/Name) 675346 / <i>F-35</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Description: The VTTC campus connects 5th Generation / 4th Generation fighter, C2ISR, and bomber simulators in a TS/SCI/ SAR virtual battlespace that provides opportunities for high end advanced tactics and training. In FY2024, this will fund F-35 FIAB, a digital version of the F-35 aircraft and sensors for JSE integration at the VTTC. This capitalizes on investments made by Air Force and Navy in high fidelity sims for 5th Generation fighters and leverages the architecture and development made for test purposes setting the stage to connect Air Force and Navy JSE based sims for joint training.</p> <p>FY 2024 Plans: Procured, integrated, and sustained 8x F-35 Fighter In-A-Box (FIABs) and required human system interface components in support of JSE training at the VTTC.</p> <p>FY 2025 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding decreased due to transfer of funding to PE 0207606F, JSE, Project 642407, Joint Simulation Environment (JSE).</p>			
Accomplishments/Planned Programs Subtotals	24.091	76.083	25.521

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• RDTE 07 PE 0604840F: <i>F-35A Continuous Capability Development and Delivery</i>	994.924	1,275.268	1,124.207	0.000	1,124.207	1,192.420	1,160.610	975.101	989.293	Continuing	Continuing
• RDTE 07 PE 0207142F <i>6011: Dual Capable Aircraft (DCA), BPAC 676011</i>	20.893	21.148	21.611	0.000	21.611	21.923	22.186	22.988	23.443	Continuing	Continuing
• RDTE 07 PE 0604840N 2936: <i>F-35C Continuous Capability Development and Delivery (CV)</i>	478.430	543.834	466.186	0.000	466.186	493.186	466.798	428.356	417.407	Continuing	Continuing
• RDTE 07 PE 0604840M 3410: <i>F-35B Continuous Capability Development and Delivery (STOVL)</i>	514.462	544.625	480.759	0.000	480.759	517.621	460.787	449.975	439.567	Continuing	Continuing
• RDTE 07 International: <i>International Continuous Capability Development and Delivery</i>	346.820	306.563	265.912	0.000	265.912	215.209	193.862	-	-	0.000	1,328.366

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons	Project (Number/Name) 675346 / F-35

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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Remarks

D. Acquisition Strategy

The C2D2 acquisition strategy employs both Cost and Fixed Price Incentive contracts for the Block 4 engineering and development efforts. A new modernization contract structure will be established for all post SDD Block 4 efforts. In addition, a separate Basic Ordering Agreement or Indefinite Quantity/Indefinite Delivery contract is planned to provide a long term approach to upgrading and maintaining laboratories and test aircraft and supporting technology maturation for future C2D2 capabilities.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / <i>F-35 Squadrons</i>	Project (Number/Name) 675346 / <i>F-35</i>
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>F-35 SEEK EAGLE and LOSOT</i>	
Ongoing support activities	
<i>F-35 UIDES</i>	
Ongoing support activities	
<i>F-35A QRIP / CSFD</i>	
Ongoing support activities	
<i>JSE/VTTC F35 FIAB</i>	
Ongoing support activities	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / <i>F-35 Squadrons</i>	Project (Number/Name) 675346 / <i>F-35</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>F-35 SEEK EAGLE and LOSOT</i>				
Ongoing support activities	1	2023	4	2029
<i>F-35 UIDES</i>				
Ongoing support activities	1	2024	4	2024
<i>F-35A QRIP / CSFD</i>				
Ongoing support activities	2	2023	4	2029
<i>JSE/VTTC F35 FIAB</i>				
Ongoing support activities	2	2024	4	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons				Project (Number/Name) 675349 / HPSI			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
675349: HPSI	36.779	15.517	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	52.296
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The F-35 HPSI is the sustainment execution arm of the F-35 Program Office. The HPSI's primary role is to integrate sustainment support across the supply chain, maintenance, sustaining engineering, logistics information technology and training disciplines. HPSI personnel are from the US Services, F-35 Partners, Lockheed Martin, Pratt & Whitney, Rolls Royce, BAE Systems, and Northrop Grumman. USAF funding supports additional PMA to transition to a final HPSI, which will support sustainment analysis with product support managers, focused on long-term strategic planning, and transition to a final integrated support plan.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY2023 \$3.4M was expended for civilian pay expenses in this program element, and in FY2024 \$3.4M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Management Services	15.517	0.000	0.000
Description: This funding supports the transition of the F-35 HPSI from multiple locations to Wright-Patterson Air Force Base (AFB), Ohio (OH). The funding supports HPSI AFLCMC civilian pay, contractor support, and travel.			
FY 2024 Plans: Funding not required in FY2024 and beyond due to the completion of transitioning personnel to the HPSI organization at Wright-Patterson AFB, OH.			
FY 2025 Plans: N/A			
FY 2024 to FY 2025 Increase/Decrease Statement: N/A			
Accomplishments/Planned Programs Subtotals	15.517	0.000	0.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / <i>F-35 Squadrons</i>	Project (Number/Name) 675349 / <i>HPSI</i>

D. Acquisition Strategy

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons	Project (Number/Name) 675349 / HPSI
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Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
AFLCMC Civilian Pay	Allot	AFLCMC : TBD	23.438	8.339		-		-		-		-	0.000	31.777	-
Other Core Contractor Support	Various	Various : TBD	11.852	6.465		-		-		-		-	0.000	18.317	-
Travel	Various	Various : TBD	1.489	0.713		-		-		-		-	0.000	2.202	-
Subtotal			36.779	15.517		-		-		-		-	0.000	52.296	N/A
Project Cost Totals			36.779	15.517		-		-		-		-	0.000	52.296	N/A

Remarks
 Prior years reflects funding in FY20 through FY22. HPSI funding prior to FY20 was programmed under PE 0207142F, Project 675346.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons	Project (Number/Name) 675349 / HPSI
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Hybrid Product Support Integrator	
Management Support Activities	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / <i>F-35 Squadrons</i>	Project (Number/Name) 675349 / <i>HPSI</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Hybrid Product Support Integrator</i>				
Management Support Activities	1	2023	4	2023

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons				Project (Number/Name) 676011 / JSF DUAL CAPABLE AIRCRAFT			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
676011: JSF DUAL CAPABLE AIRCRAFT	355.490	20.893	21.148	21.611	0.000	21.611	21.923	22.186	22.988	23.443	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The F-35 Joint Strike Fighter (JSF) Operational Requirements Document (ORD) calls for the F-35A variant to have the capabilities and provisions for Dual Capable Aircraft (DCA) operations in the first post System Development and Demonstration (SDD) block upgrade. DCA refers to the capability to carry and deliver conventional and non-conventional weapons. DCA operation for the F-35A is internal carriage of up to two B61-12 weapons.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY2023 \$3.4M was expended for civilian pay expenses in this program element, and in FY2024 \$3.4M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: Dual Capable Aircraft (DCA) (F-35 JSF)	20.893	21.148	21.611
Description: This effort provides for the assessment of DCA weapon integration and certification impacts on the F-35A aircraft. It identifies and mitigates potential technical and cost risks, as well as defines the integration and certification trade-space to field the DCA capability with the B61-12 weapon. This effort also supports follow-on risk reduction efforts that will ensure future integration alignment with the earliest feasible post-SDD block upgrade, and is expected to include full integration efforts pending Service decisions.			
Integrated Test activities in support of Block 4, to include Lockheed Martin and Pratt & Whitney support at all test sites. Non-Recurring engineering required to plan for the service life extension of existing DT aircraft and modification necessary to bring DT aircraft fleet to a more production representative and sustainable configuration.			
FY 2024 Plans: Continued execution of the Phase 2 C2D2 contract: DCA Software Regression Testing, Flyable Test Assets Testing, DCA Propulsion Mission Support for Flight Test Operations, Mission System Flight Testing, and Aircraft Monitor and Control (AMAC) Testing. Updated the Nuclear Safety Analysis Report (NSAR), Technical Nuclear Safety Analysis (TNSA), Mechanical Interface Control Drawing (MICD), and Electrical Interface Control Drawing (EICD) documentation for the initial TR-3 nuclear certification. Delta Nuclear Certification activities continued in order to certify TR-2 F-35As (30P08 and 30P09 software), that contain additional DCA hardware and software, as well as Lot 15 F-35As with TR-3. Continued initial TR-3 nuclear certification hardware and			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons	Project (Number/Name) 676011 / JSF DUAL CAPABLE AIRCRAFT

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
software development and testing by the prime contractor, Lockheed Martin. In addition, received Military Flight Release (MFR) for TR-3. Initiated AMAC on TR-3 production aircraft as well as AMAC graduation event on production aircraft. Initiated interim operational plan data documents, and completed the final aircraft NSAR. Delta Nuclear Certification activities continued in order to certify Lot 16 F-35As, NSAR, TNSA, MICD, and EICD documentation for nuclear certification.			
FY 2025 Plans: Continue execution of the Phase 2 C2D2 contract: DCA Software Regression Testing, Flyable Test Assets Testing, DCA Propulsion Mission Support for Flight Test Operations, Mission System Flight Testing, and AMAC Testing. Continue updating the NSAR, TNSA, MICD, and EICD documentation for the initial TR-3 nuclear certification. Delta Nuclear Certification activities continue in order to certify TR-2 F-35As (30P08 and 30P09 software), that contain additional DCA hardware and software, as well as Lot 15 F-35As with TR-3. Continue initial TR-3 nuclear certification hardware and software development and testing by the prime contractor, Lockheed Martin. Continue AMAC on TR-3 production aircraft as well as AMAC graduation event on production aircraft. Delta Nuclear Certification activities continue in order to certify Lot 16 F-35As, NSAR, TNSA, MICD, and EICD documentation for nuclear certification.			
FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to inflation.			
Accomplishments/Planned Programs Subtotals	20.893	21.148	21.611

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• RDTE 07 PE 0207142F 5346: JSF Follow on Modernization, BPAC 675346	24.091	76.083	25.521	-	25.521	27.233	25.523	26.573	27.096	Continuing	Continuing
• RDTE 07 PE 0604840F: F-35A Continuous Capability Development and Delivery	994.924	1,275.268	1,124.207	-	1,124.207	1,192.420	1,160.610	975.101	989.293	Continuing	Continuing
• RDTE 07 PE 0604840N 2936: F-35C Continuous Capability Development and Delivery (CV)	478.430	543.834	466.186	-	466.186	493.186	466.798	428.356	417.407	Continuing	Continuing
• RDTE 07 PE 0604840M 3410: F-35B Continuous Capability Development and Delivery (STOVL)	514.462	544.625	480.759	-	480.759	517.621	460.787	449.975	439.567	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons	Project (Number/Name) 676011 / JSF DUAL CAPABLE AIRCRAFT
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• RDTE 07 International: <i>International Continuous Capability Development and Delivery</i>	346.820	306.563	265.912	-	265.912	215.209	193.862	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

The DCA effort will leverage contracting vehicles for the overall Block 4 F-35 C2D2 effort. The C2D2 acquisition strategy employs both Cost and Fixed Price Incentive contracts for the Block 4 engineering and development efforts. A new modernization contract structure will be established for all post SDD Block 4 efforts. In addition, a separate Basic Ordering Agreement or Indefinite Quantity/Indefinite Delivery contract is planned to provide a long term approach to upgrading and maintaining laboratories and test aircraft and supporting technology maturation for future C2D2 capabilities.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons	Project (Number/Name) 676011 / JSF DUAL CAPABLE AIRCRAFT
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Block 4 Phase 2.3 - DCA to DT Complete	SS/CPFF	Lockheed Martin : Ft. Worth, TX	90.717	1.500	Feb 2023	2.000	Mar 2024	2.419	Mar 2025	-		2.419	Continuing	Continuing	-
DCA Prime PW Propulsion	SS/CPFF	Pratt Whitney - East : Hartford, CT	2.000	0.300	Feb 2023	0.310	Mar 2024	0.310	Mar 2025	-		0.310	0.000	2.920	-
DCA TE Prime LM DT AC Viability	C/CPFF	Lockheed Martin : Ft. Worth, TX	7.020	0.900	Mar 2023	1.000	Dec 2023	1.000	Dec 2024	-		1.000	Continuing	Continuing	-
DCA TE Prime LM Developmental Foundation Contract	C/CPFF	Lockheed Martin : Ft. Worth, TX	19.024	2.000	Mar 2023	1.000	Dec 2023	1.000	Dec 2024	-		1.000	Continuing	Continuing	-
Delta Certification	SS/CPFF	Lockheed Martin : Ft. Worth, TX	36.889	2.000	Feb 2023	2.000	Feb 2024	2.000	Feb 2025	-		2.000	Continuing	Continuing	-
Block Four Contract (BFC)	SS/CPAF	Not specified : TBD	0.000	0.000	Oct 2022	1.500	Oct 2023	1.500	Oct 2024	-		1.500	0.000	3.000	-
Block 4 Phase 1 DCA Requirements Decomposition	SS/CPFF	Lockheed Martin : Ft. Worth, TX	21.572	-		-		-		-		-	0.000	21.572	-
Block 4 Phase 2.1 DCA to PDR	SS/CPFF	Lockheed Martin : Ft. Worth, TX	28.070	-		-		-		-		-	0.000	28.070	-
Prior Year - no longer funded in FYDP	Various	Not specified: TBD : TBD	1.739	-		-		-		-		-	0.000	1.739	-
Prior Year - Block 4 Realignment	Various	Not specified: TBD : TBD	14.676	-		-		-		-		-	0.000	14.676	-
Subtotal			221.707	6.700		7.810		8.229		-		8.229	Continuing	Continuing	N/A

Remarks

SEI&T: Accounts for DCA share of Systems Engineering Integration and Test (SEI&T) contract.

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
B61-12/F-35 Certification	Various	Various : TBD	83.327	0.500	Feb 2023	-		-		-		-	Continuing	Continuing	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons	Project (Number/Name) 676011 / JSF DUAL CAPABLE AIRCRAFT
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Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
B61-12 AUR/Tail-kit Program Office	MIPR	AUR/TKA SPO : Kirtland/Eglin AFB, NM	14.080	1.800	Dec 2022	2.500	Dec 2023	2.500	Dec 2024	-		2.500	Continuing	Continuing	-
AFNWC/AFSEC Support	MIPR	Various : TBD	19.030	6.000	Nov 2022	8.974	Nov 2023	9.018	Nov 2024	-		9.018	Continuing	Continuing	-
Prior Year - no longer funded in FYDP	Various	Various : TBD	0.791	-		-		-		-		-	0.000	0.791	-
Subtotal			117.228	8.300		11.474		11.518		-		11.518	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test and Evaluation Edwards & OGC	MIPR	Testing : Edwards, CA	4.400	1.193	Mar 2023	0.250	Feb 2024	0.250	Feb 2025	-		0.250	Continuing	Continuing	-
Air Force SEEK EAGLE Office (Combat Weapons Delivery Software)	MIPR	Testing : Eglin, FL	1.000	0.000	Oct 2022	0.100	Feb 2024	0.100	Feb 2025	-		0.100	Continuing	Continuing	-
Prior Year - no longer funded in FYDP	Various	TBD : TBD	0.824	-		-		-		-		-	0.000	0.824	-
Subtotal			6.224	1.193		0.350		0.350		-		0.350	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Management Services	C/CPAF	Not specified. : TBD	10.131	4.500	Dec 2022	1.000	Mar 2024	1.000	Mar 2025	-		1.000	Continuing	Continuing	-
AFLCMC Civilian Pay	Allot	Not specified. : TBD	0.000	0.000	Oct 2022	0.314	Oct 2023	0.314	Oct 2024	-		0.314	Continuing	Continuing	-
Travel	Various	Not specified. : TBD	0.200	0.200	Feb 2023	0.200	Oct 2023	0.200	Oct 2024	-		0.200	Continuing	Continuing	-
Subtotal			10.331	4.700		1.514		1.514		-		1.514	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force								Date: March 2024					
Appropriation/Budget Activity 3600 / 7				R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons				Project (Number/Name) 676011 / JSF DUAL CAPABLE AIRCRAFT					
	Prior Years	FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	355.490	20.893		21.148		21.611		-		21.611	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons	Project (Number/Name) 676011 / JSF DUAL CAPABLE AIRCRAFT

	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

676011: JSF Dual Capable Aircraft	
Nuclear Certification - NNSA & B61-12 AUR/TKA SPO	
Phase 1 (Nuclear Certification Tasks) Requirements Decomposition	
Phase 2.1 (Nuclear Certification Tasks) DCA to Preliminary Design Review (PDR)	
Phase 2.3 (Nuclear Certification Tasks) DCA to DT Complete	
Delta Certification of Hardware/Software Upgrades/DT Prime Contractor Support/SEI&T	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / <i>F-35 Squadrons</i>	Project (Number/Name) 676011 / <i>JSF DUAL CAPABLE AIRCRAFT</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
676011: JSF Dual Capable Aircraft				
Nuclear Certification - NNSA & B61-12 AUR/TKA SPO	1	2023	4	2029
Phase 1 (Nuclear Certification Tasks) Requirements Decomposition	1	2023	4	2023
Phase 2.1 (Nuclear Certification Tasks) DCA to Preliminary Design Review (PDR)	1	2023	4	2023
Phase 2.3 (Nuclear Certification Tasks) DCA to DT Complete	1	2023	4	2024
Delta Certification of Hardware/Software Upgrades/DT Prime Contractor Support/ SEI&T	1	2023	4	2029

Note
Schedule details reflect fiscal years

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207146F / F-15EX
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	91.178	100.006	56.228	0.000	56.228	0.000	0.000	0.000	0.000	0.000	247.412
670131: <i>F-15EX</i>	-	91.178	100.006	56.228	0.000	56.228	0.000	0.000	0.000	0.000	0.000	247.412
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The F-15EX is based on the 2-seat F-15QA (Qatar) configuration upgraded with USAF-only capabilities, including the Eagle Passive Active Warning and Survivability System (EPAWSS) and the F-15 Operational Flight Program (OFP) software. With two seats, it is multirole-capable and operable by one or two aircrew. F-15EX logistics, maintenance, and training will heavily leverage the existing F-15 infrastructure. Initially, F-15EX will replace F-15C and F-15D aircraft which were first produced in 1979, many of which are beyond their service life and have serious structures risks, wire chafing issues, and obsolete parts. As the replacement for the F-15C and F-15D, the F-15EX will be used predominantly in defensive and offensive counter-air missions.

The FY 2025 funding request for RDT&E supports continuing incremental funding of development activities started in prior years as well as completion of Follow-On Operational Test & Evaluation (FOT&E) test events.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY 2023, \$9.485M was expended for civilian pay expenses in this program element, and in FY 2024, \$13.324M is forecasted for civilian pay expenses in this program element.

FY 2020 Prior Years RDT&E funding of \$385.0M was executed in PE 0207134F (F-15E Squadrons) and is not included in this exhibit. FY 2020 RDT&E funded two F-15EX test aircraft. In FY 2021, F-15EX RDT&E efforts were continued in PE 0207146F (F-15EX).

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207146F / F-15EX
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	83.830	100.006	56.129	0.000	56.129
Current President's Budget	91.178	100.006	56.228	0.000	56.228
Total Adjustments	7.348	0.000	0.099	0.000	0.099
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	9.999	0.000			
• SBIR/STTR Transfer	-2.651	0.000			
• Other Adjustments	0.000	0.000	0.099	0.000	0.099

Change Summary Explanation

FY 2023 reduction of -\$2.651M for Small Business Innovative Research (SBIR) and increase of \$9.999M for Automatic Ground Collision Avoidance System (AGCAS) Below Threshold Reprogramming (BTR).

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
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Title: F-15EX	91.178	100.006	56.228
Description: F-15EX will refresh the F-15C and F-15D fleet with new aircraft based on the F-15QA Foreign Military Sales (FMS) configuration being sold to Qatar. The program also incorporates USAF-only capabilities, including the Eagle Passive Active Warning and Survivability System (EPAWSS), the F-15 Operational Flight Program (OFF) software, and other mandates (such as, but not limited to, Global Positioning System (GPS) M-Code, Multi-Functional Information Distribution System-Joint Tactical Radio System (MIDS-JTRS), Mobile User Objective System (MUOS)/Second Generation Anti-jam Tactical UHF Radio for NATO (SATURN), and Mode V Identification Friend or Foe (IFF)).			
FY 2024 Plans: Continue aircraft test activities for military flight release of integrated weapons and cybersecurity test events. Continue non-recurring engineering (NRE) and integration development efforts, including continued incremental funding for the Automatic Ground Collision Avoidance System (AGCAS) and Flight Control Computer (FCC) development. Continue software development integration efforts, including merging F-15EX-unique software into the common F-15 OFF. Continue upgrading existing F-15 training systems and systems integration labs for F-15EX unique capabilities. Continue other non-recurring engineering activities to reduce integration risks and pursue technology insertion opportunities. Provide program support to manage and execute F-15EX efforts.			
FY 2025 Plans:			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207146F / F-15EX
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Conduct Follow-On Operational Test & Evaluation (FOT&E) on new capabilities fielding on Lot 2 and Lot 3 F-15EX aircraft (including, but not limited to, MUOS/SATURN, DTM II, and Anti-jam GPS). Continue cybersecurity test events. Continue non-recurring engineering (NRE) and integration development efforts, including continued incremental funding for the Automatic Ground Collision Avoidance System (AGCAS) and Flight Control Computer (FCC) development. Continue software development integration efforts, including merging F-15EX-unique software into the common F-15 OFP. Continue upgrading existing F-15 training systems and systems integration labs for F-15EX-unique capabilities. Provide program support to manage and execute F-15EX efforts. FY 2024 to FY 2025 Increase/Decrease Statement: Funding decreased due to fewer requirements in F-15EX development, Direct Cite Authority (DCA), and Program Management and Administration.			
Accomplishments/Planned Programs Subtotals	91.178	100.006	56.228

D. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• APAF F015EX: F-15EX	2,735.768	2,898.039	1,808.472	-	1,808.472	60.714	-	-	-	0.000	7,502.993
• APAF 07 000075: <i>Other Production Charges</i>	-	-	40.084	-	40.084	-	-	-	-	0.000	40.084

Remarks

E. Acquisition Strategy
 The Air Force initiated the F-15EX program under the Middle Tier of Acquisition Pathway to rapidly field aircraft, meeting the urgent requirement to recapitalize the divesting F-15C and F-15D fleet. In September 2022, the F-15EX program transitioned to a Major Capability Acquisition Pathway program to enable procurement of Lots 3 and beyond. As part of this transition, all assets and activities transitioned to the new Major Capability Acquisition program.

The aircraft and engine acquisitions utilize delivery order contracts with annual procurement orders; the Air Force provides F110-GE-129 General Electric Engines, APG-82 Raytheon Radars, and many Avionics Line Replaceable Units (LRUs) to the prime contractor as government furnished equipment. RDT&E efforts are primarily contracted through those same delivery order contracts.

The F-15EX design is based on the F-15QA (Qatar) configuration upgraded with USAF-only capabilities like the Eagle Passive Active Warning and Survivability System (EPAWSS) and the F-15 Operational Flight Program (OFP) software. To rapidly field the F-15EX, the USAF is focusing engineering activities on integrating existing systems and ramping up the production line capacity. Finally, logistics, maintenance, and training activities will heavily leverage the existing F-15 infrastructure.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207146F / <i>F-15EX</i>
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To rapidly field the F-15EX, the Air Force based its design on the F-15QA (Qatar) configuration, upgrading it with USAF-only capabilities. Thus, the Air Force is focusing engineering activities on integrating existing systems and ramping up the production line capacity. Finally, logistics, maintenance, and training activities will heavily leverage the existing F-15 infrastructure.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207146F / F-15EX	Project (Number/Name) 670131 / F-15EX
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
F-15EX Development	Various	Boeing : St Louis, MO	-	65.760	Mar 2023	63.022	Dec 2023	31.311	Dec 2024	-		31.311	0.000	160.093	-
Subtotal			-	65.760		63.022		31.311		-		31.311	0.000	160.093	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Direct Cite Authority Civilian Pay	Various	AFLCMC CIV PAY : WPAFB & Robins AFBs	-	9.485	Oct 2022	13.324	Oct 2023	6.500	Oct 2024	-		6.500	0.000	29.309	-
Subtotal			-	9.485		13.324		6.500		-		6.500	0.000	29.309	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government Flight Test	Various	Various : Various	-	3.502	Mar 2023	6.304	Jan 2024	8.571	Nov 2024	-		8.571	0.000	18.377	-
Subtotal			-	3.502		6.304		8.571		-		8.571	0.000	18.377	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Administration	Various	Various : Various	-	12.431	Feb 2023	17.356	Jan 2024	9.846	Nov 2024	-		9.846	0.000	39.633	-
Subtotal			-	12.431		17.356		9.846		-		9.846	0.000	39.633	N/A

			Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	91.178	100.006	56.228	-	56.228	0.000	247.412	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207146F / F-15EX	Project (Number/Name) 670131 / F-15EX
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	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
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Remarks
 FINANCIAL PERFORMANCE: F-15 EX is evaluated against traditional Research and Development (R&D) program expenditure benchmarks. Unlike many traditional R&D programs, however, the F-15 EX Development contract is a Fixed Price contract with progress payments. Twenty percent of incurred costs are withheld until the end of the contract, when they are liquidated. Mandatory funding obligations and progress payment withholds will cause the program to lag traditional expenditure benchmarks, painting an inaccurate portrait of overall program health.

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207146F / F-15EX	Project (Number/Name) 670131 / F-15EX

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
F-15EX				
F-15EX Non-Recurring Engineering (NRE) and Integration	1	2023	4	2025
F-15EX Initial Operational Test & Evaluation (IOT&E)	1	2023	4	2023
F-15EX Full Rate Production Decision (FRPD)	3	2024	3	2024
F-15EX Required Assets Available (RAA) for Initial Operating Capability (IOC)	3	2024	3	2024
F-15EX Follow-on Operational Test & Evaluation (FOT&E)	2	2025	3	2025

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207161F / <i>Tactical AIM Missiles</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	286.786	33.365	41.958	34.932	0.000	34.932	16.146	16.478	17.074	17.412	67.931	532.082
674132: <i>AIM-9 Product Improvement</i>	286.786	33.365	41.958	34.932	0.000	34.932	16.146	16.478	17.074	17.412	67.931	532.082
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Program MDAP/MAIS Code: 442

A. Mission Description and Budget Item Justification

The AIM-9X Block II Sidewinder (AIM-9X Blk II) continues the evolution of the AIM-9 series of missiles. This missile program delivers a launch and leave, air combat munition that uses passive Infrared (IR) energy to acquire and track enemy air targets and complements the radar guided Advanced Medium Range Air-to-Air Missile (AMRAAM). The missile provides fighter aircrew with the first shot, first kill opportunities that are essential for survival during air combat maneuvering in the visual arena. The AIM-9X delivers these opportunities with unmatched offensive and defensive capabilities against inner boundary threats, even when IR countermeasures are employed.

The AIM-9X also supports air superiority in the Beyond Visual Range air-to-air battle. Anti-tamper features have been incorporated to protect improvements inherent in this design. The AIM-9X Block II missile provides the Joint Force with fighter aircraft lethality and survivability necessary to counter threats identified in the National Defense Strategy.

AIM-9X is a Post Milestone C, Acquisition Category IC joint service program led by the Department of the Navy. The Block II program has completed independent operational testing and was found to be operationally effective and suitable. The program achieved Initial Operational Capability in March 2015 and received Full Rate Production decision in August 2015.

This budget line item continues technical refresh hardware and software and develops advanced capabilities to meet requirements of the Capability Production Document against evolving threat aircraft countermeasures.

This program element leverages Digital acquisition tenets of open, agile and digital. This may include providing funds to prime contractors; program office contract support; facility, security and IT upgrades; common component development with other weapon systems to reduce redundant costs.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, or 0606398F. In FY 2024, \$0.00 were expended for civilian pay expenses in this program element, and in FY 2025, \$0.00 are forecasted for civilian pay expenses in this program element.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207161F / <i>Tactical AIM Missiles</i>
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This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	34.536	41.958	34.871	0.000	34.871
Current President's Budget	33.365	41.958	34.932	0.000	34.932
Total Adjustments	-1.171	0.000	0.061	0.000	0.061
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-1.171	0.000			
• Other Adjustments	0.000	0.000	0.061	0.000	0.061

Change Summary Explanation

In FY 2023 funding request was reduced by \$1.171 million for SIBR.
 In FY 2025 funding request was increased by \$0.061 million for inflation.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: AIM- 9X Product Development	31.565	40.158	27.432
Description: Continuation of Primary Hardware Development/Pre-Planned Product Improvement (technical refresh) efforts for the AIM-9X weapon system. This includes systems engineering and program management, as well as support required to ensure AIM-9X missile integration with US military aircraft platforms. This also includes efforts to redesign Block II missile components to mitigate obsolescence, ensure producibility and increase reliability. It will incorporate anti-tamper and cyber security technology improvements, and address hardware and software improvements to facilitate follow-on capability. In addition, the program will evaluate and begin risk reduction efforts that will address hardware and software improvements to facilitate follow-on capability and mitigate obsolescence.			
FY 2024 Plans: Continue software development and test efforts including OFS v9.5X, OFS v10.4X, and OFS v10.5X for performance improvements against increasingly challenging threat platforms. Continue SIP IV Hardware development of an advanced sensor and upgraded electronics, and OFS v11.5X software development to accompany hardware updates.			
FY 2025 Plans:			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207161F / <i>Tactical AIM Missiles</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Continue software development and test efforts on OFS v10.5X. Complete OFS v9.5X and OFS v10.4X software releases. Continue SIP IV Hardware development of an advanced sensor and upgraded electronics, and OFS v11.5X to accompany hardware updates. FY 2024 to FY 2025 Increase/Decrease Statement: Funding decrease in FY 2025 aligns with completion of OFS v9.5X and OFS v10.5X software release and with progression of SIP IV hardware and OFS v11.5X development.			
Title: AIM-9X, Test and Evaluation Description: Test and Evaluation (T&E) and associated governmental support required to ensure the AIM-9X missile integration with US Air Force aircraft platforms. Developmental and Operational testing of OFS. FY 2024 Plans: Execute and plan joint testing efforts for DT and IT flight test of OFS v9.5X and OFS v10.4X. FY 2025 Plans: Execute and plan joint testing efforts for DT, IT, and OT of OFS v10.4X, OFS v10.5X, and OFS v11.5X. FY 2024 to FY 2025 Increase/Decrease Statement: Funding increase to execute joint testing efforts on OFS v10.5X and OFS v11.5X.	1.800	1.800	7.500
Accomplishments/Planned Programs Subtotals	33.365	41.958	34.932

D. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• MPAF 02 Line Item M09HAI: <i>Sidewinder (AIM-9X)</i>	111.855	95.643	106.871	-	106.871	127.617	129.813	132.580	135.208	918.593	1,758.180
• MPAF 04 Line Item 000999: <i>Replen Spares, USAF</i>	4.641	6.420	6.583	-	6.583	6.659	6.774	6.918	7.055	45.394	90.444
• MPAF 04 Line Item 000999 <i>(2)....: Inital Spares, USAF</i>	3.546	2.023	2.075	-	2.075	2.098	2.134	4.166	4.342	29.925	50.309
• RDTE 07 PE 0207161N: <i>Tactical AIM Missile</i>	29.236	31.353	34.862	-	34.862	16.114	16.444	17.039	17.377	61.764	224.189
• WPN Line Item 2209: <i>Sidewinder</i>	62.288	78.165	85.994	-	85.994	107.945	109.701	113.452	115.835	1,442.481	2,115.861

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207161F / <i>Tactical AIM Missiles</i>
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D. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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Remarks

Navy RDT&E and WPN Line Items reflect FY25 data.

E. Acquisition Strategy

Milestone C decision for LRIP was held June 24, 2011. The Block II program received USN Initial Operational Capability (IOC) in March 2015 and FRP Approval in August 2015. The Air Force achieved IOC in September 2016. In February 2019, the Acquisition Program Baseline (APB) for SAF was revised to increase total missile procurements and extend missile procurements through 2035. The program awarded FRP-8 in March 2022, and FRP-9 awarded in December 2022.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207161F / <i>Tactical AIM Missiles</i>	Project (Number/Name) 674132 / <i>AIM-9 Product Improvement</i>
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Software/OFP Upgrade/Hdw Development	SS/CPFF	RMD : Tucson, AZ	218.907	29.491	Oct 2022	37.634	Oct 2023	24.608	Oct 2024	-		24.608	109.031	419.671	325.836
Flight Termination System	MIPR	NAWC WD : China Lake, CA	4.934	-		-		-		-		-	0.000	4.934	10.578
Munitions Improvement Study (USG)	MIPR	NAWC WD : China Lake, CA	12.443	-		-		-		-		-	0.000	12.443	-
Systems Engineering (USG)	MIPR	NAWC WD : China Lake, CA	8.412	1.600	Feb 2023	2.050	Feb 2024	2.050	Feb 2025	-		2.050	13.861	27.973	-
Aircraft Integration	SS/CPFF	Boeing : St. Louis, MO	1.238	0.100	May 2023	0.100	May 2024	0.100	May 2025	-		0.100	0.400	1.938	2.624
Subtotal			245.934	31.191		39.784		26.758		-		26.758	123.292	466.959	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
DT&E/OT&E	Various	Various : Eglin, FL	29.737	1.500	Jan 2023	1.500	Jan 2024	7.500	Jan 2025	-		7.500	20.372	60.609	-
IT/OT Support F-15	SS/CPAF	RMD : Tuscon, AZ	0.900	0.300	May 2023	0.300	May 2024	0.300	May 2025	-		0.300	1.200	3.000	3.370
Subtotal			30.637	1.800		1.800		7.800		-		7.800	21.572	63.609	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PMA	Various	Eglin AFB : Eglin, FL	10.215	0.374	Jan 2023	0.374	Jan 2024	0.374	Jan 2025	-		0.374	7.161	18.498	7.285
Subtotal			10.215	0.374		0.374		0.374		-		0.374	7.161	18.498	N/A

			Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			286.786	33.365	41.958	34.932	-	34.932	152.025	549.066	N/A

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207161F / <i>Tactical AIM Missiles</i>	Project (Number/Name) 674132 / <i>AIM-9 Product Improvement</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>AIM-9X Block II Tech Refresh (SIP III)</i>				
SIP III Hardware (IMU, Dome, Processor)	1	2023	3	2023
SIP III Hardware ECP	4	2023	4	2023
OFS v9.5 Development	1	2023	4	2024
OFS v9.5 Release	2	2025	2	2025
OFS v10.4 (Rehost) Development	1	2023	2	2025
OFS v10.4 Release	2	2025	2	2025
OFS v10.5 Development	1	2023	3	2026
OFS v10.5 Release	1	2027	1	2027
<i>AIM-9X Block II Tech Refresh (SIP IV)</i>				
SIP IV Hardware (Sensor, Electronics Unit)	1	2023	4	2026
SIP IV Hardware ECP	4	2026	4	2026
OFS v11.5 Development	1	2023	4	2027
OFS v11.5 Release	4	2027	4	2027
OFS v11.6 Development	1	2026	4	2029
OFS v11.6 Release	4	2029	4	2029

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207163F / <i>Advanced Medium Range Air-to-Air Missile (AMRAAM)</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	809.391	36.055	53.679	53.593	0.000	53.593	51.994	53.062	54.982	56.069	374.952	1,543.777
673777: <i>AMRAAM</i>	809.391	36.055	53.679	53.593	0.000	53.593	51.994	53.062	54.982	56.069	374.952	1,543.777
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Program MDAP/MAIS Code: 185

A. Mission Description and Budget Item Justification

The Advanced Medium Range Air-to-Air Missile (AMRAAM) is a joint Air Force/Navy, Acquisition Category 1C program with Air Force as lead service. AMRAAM is the premier all-weather, all-environment, radar guided missile with improved capabilities against very low and high-altitude targets in an electronic attack environment. The current AMRAAM variant, the AIM-120D, delivers improved performance via Global Positioning System (GPS) aided navigation; two way datalink capability for enhanced aircrew survivability and improved network compatibility; and incorporates new guidance software that improves kinematic performance and weapon effectiveness.

This Air Force/Navy program is structured in response to the Joint Service Operational Requirement Document and Mission Element Need Statement to develop an air superiority air-to-air missile with significant improvements in operational utility and combat effectiveness. The development program enhances AMRAAM capability and operational flexibility against current and projected threats, incorporates high payoff technology development, performs risk reduction activities, and investigates new variants and/or alternate missions that may use AMRAAM attributes. To maximize effectiveness of existing inventory and address findings from the field, the Navy and Air Force also develop, test, and field improvements via software upgrades into fielded missiles and/or hardware upgrades inserted into the production line.

This program supports the integration of the Advanced Medium Range Air-to-Air Missile (AMRAAM) into Air Force aircraft with analysis of Air Force unique applications, aircraft missile integration tasks, product improvement efforts including missile software upgrade development and procurement of hardware to support Air Force test and evaluation tasks.

Leverages Digital acquisition tenets of open, agile and digital. This may include providing funds to prime contractors; program office contract support; facility, security and IT upgrades; common component development with other weapon systems to reduce redundant costs.

The FY 2025 funding request was reduced by \$0.542 million to account for the availability of prior year execution balances.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, or 0606398F. In FY 2023, \$0.00 were expended for civilian pay expenses in this program element and in FY 2024, \$0.00 are forecasted for civilian pay expenses in this program element.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207163F / <i>Advanced Medium Range Air-to-Air Missile (AMRAAM)</i>
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This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	52.704	53.679	54.041	0.000	54.041
Current President's Budget	36.055	53.679	53.593	0.000	53.593
Total Adjustments	-16.649	0.000	-0.448	0.000	-0.448
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-15.009	0.000			
• SBIR/STTR Transfer	-1.640	0.000			
• Other Adjustments	0.000	0.000	-0.448	0.000	-0.448

Change Summary Explanation

FY 2023 - adjustments include -8.640M on FY23-29PA reprogramming; Below threshold reprogrammings (BTR) of -5M for AIM-9X and -1.359M for Future Advanced Weapon Analysis & Prog (FAWAP) along with minor Unfunded adjustments; -1.640M for Small Business Innovative Research (SBIR)
 FY 2025 - funding request was reduced by -0.542 million to account for the availability of prior year execution balances and inflation adjustments

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: System Improvement Program (SIP)	12.547	28.998	31.578
Description: Continuation of System Improvement Program (SIP) / Risk Reduction (RR) efforts for the AMRAAM weapons system. These include systems engineering, program management, missile software and/or hardware upgrades to increase capability, survivability, lethality, as well as aircraft Operational Flight Program (OFP) updates on a recurring basis. SIP-3F will host AIM-120D SIP-3 software on AIM-120D3 hardware. AIM-120D3 SIP 4 will exploit new Form, Fit, Function (F3R) hardware to maximize missile performance. AIM-120D SIP 3 Tape 2 will address newly matured capabilities, emerging threats, and Operational Test (OT) deficiencies. AIM-120D3 SIP-5 will increase heart of the envelope performance and address an expanded threat space. Candidate Selection Process (CSP) analyzes warfighter priority deficiencies and enhancements to feed risk reduction efforts and future SIP efforts.			
FY 2024 Plans:			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0207163F / <i>Advanced Medium Range Air-to-Air Missile (AMRAAM)</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>Continue CSP. Continue SIP-4 software development. Complete SIP-3 Tape 2 software development with Minimum Viability Capability Release (MVCR) and enter integrated test.</p> <p>FY 2025 Plans: Continue CSP. Complete SIP-4 software development with MVCR and enter integrated test. Field SIP-3 Tape 2 software. Begin SIP-5 software development.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Cost increase from FY 2024 to FY 2025 due to correction of SIP contractual Test & Fielding activities previously being accounted for in the Test and Evaluation Major Thrust.</p>				
<p>Title: Test and Evaluation</p> <p>Description: Provides support to flight test efforts; develops test resources and equipment necessary to complete test events; provides contractor field team support personnel and services.</p> <p>FY 2024 Plans: Continue to develop and procure test resources required to meet test requirements and provide support personnel to complete AIM-120 test events.</p> <p>FY 2025 Plans: Continue to develop and procure test resources required to meet test requirements and provide support personnel to complete AIM-120 test events.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Cost decrease from FY 2024 to FY 2025 due to correction of SIP contractual Test & Fielding activities previously being accounted for in the Test and Evaluation Major Thrust.</p>		19.258	20.347	17.673
<p>Title: Aircraft Integration</p> <p>Description: Supports the integration of AIM-120 on multiple aircraft platforms as AIM-120 software/hardware is updated and as aircraft OFPs are updated.</p> <p>FY 2024 Plans: Continue integration and testing of AIM-120 on multiple aircraft platforms.</p> <p>FY 2025 Plans: Continue integration and testing of AIM-120 on multiple aircraft platforms.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement:</p>		4.250	4.334	4.342

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207163F / <i>Advanced Medium Range Air-to-Air Missile (AMRAAM)</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Cost increase from FY 2024 to FY 2025 due to inflation. Requirements remain unchanged.			
Accomplishments/Planned Programs Subtotals	36.055	53.679	53.593

D. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• MPAF 02 Line Item MAMRA0: <i>Missile Procurement, Air Force</i>	371.104	701.459	446.257	-	446.257	666.014	115.480	39.889	0.000	0.000	2,340.203
• MPAF 04 Line Item 000999: <i>Initial Spares/Repair Parts</i>	3.165	2.286	2.331	-	2.331	2.359	2.400	2.451	2.499	6.080	23.571
• MPAF 04 Line Item 000999 <i>Replen: Replen Spares/Repair Parts</i>	0.925	0.950	0.971	-	0.971	0.981	0.998	1.020	1.040	0.000	6.885
• MPAF 02 Line Item 2206: <i>Weapons Procurement, Navy</i>	335.900	439.153	279.715	-	279.715	69.591	69.699	17.109	17.468	0.000	1,228.635

Remarks

E. Acquisition Strategy
AMRAAM Acquisition Strategy Report (ASR) was updated on 16 May 2018.

System Improvement Program (SIP) development efforts continually mature capabilities through software and/or hardware upgrades to maximize missile performance to address current and emerging threats. These missile performance improvements are incrementally fielded ensuring inventory viability into the future. SIP development contracts are cost type contract efforts.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207163F / <i>Advanced Medium Range Air-to-Air Missile (AMRAAM)</i>	Project (Number/Name) 673777 / <i>AMRAAM</i>
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Electronic Protection Improvement Program (EPIP)	Various	Raytheon : Tucson, AZ	86.959	-		-		-		-		-	0.000	86.959	86.959
F-22 Aircraft Integration	MIPR	Wright-Patterson AFB : Dayton, OH	114.890	-		-		-		-		-	0.000	114.890	114.890
System Improvement Program (SIP)	Various	Raytheon : Tucson, AZ	276.427	8.297	Jun 2023	25.610	Jun 2024	28.090	Jun 2025	-		28.090	271.480	609.904	626.987
Aircraft Integration Support	SS/CPFF	Raytheon : Tucson, AZ	26.626	4.250	May 2023	4.335	May 2024	4.342	May 2025	-		4.342	59.792	99.345	99.345
Subtotal			504.902	12.547		29.945		32.432		-		32.432	331.272	911.098	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government Test	Various	Various : Various	106.030	6.048	Jan 2023	6.878	Jan 2024	7.172	Jan 2025	-		7.172	81.611	207.739	24.552
Test Support	SS/CPFF	Raytheon : Various	171.428	13.210	Jan 2023	13.469	Jan 2024	10.501	Jan 2025	-		10.501	131.140	339.748	339.748
Subtotal			277.458	19.258		20.347		17.673		-		17.673	212.751	547.487	N/A

Remarks
 Total Cost amount consists of test cost other government agencies and small contracts not associated with the prime vendor, Raytheon. Test cost for manpower at Test Wing. Small various contracts such as Dept of Energy, MANTRAC, SURVICE, and DOTC.
 The Target Value of Contract amount consists of the small various contracts such as Dept of Energy, MANTRAC, SURVICE, and DOTC. This amount does not include the various costs sent to Test Wing for government test.

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Administration	Various	Various : Various	27.031	4.250	Jan 2023	3.387	Jan 2024	3.488	Jan 2025	-		3.488	46.599	84.755	0.000
Subtotal			27.031	4.250		3.387		3.488		-		3.488	46.599	84.755	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force							Date: March 2024				
Appropriation/Budget Activity 3600 / 7			R-1 Program Element (Number/Name) PE 0207163F / <i>Advanced Medium Range Air-to-Air Missile (AMRAAM)</i>				Project (Number/Name) 673777 / <i>AMRAAM</i>				
	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract		
Project Cost Totals	809.391	36.055	53.679	53.593	-	53.593	590.622	1,543.340	N/A		

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207163F / <i>Advanced Medium Range Air-to-Air Missile (AMRAAM)</i>	Project (Number/Name) 673777 / AMRAAM

	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
AMRAAM Development Program																												
AIM-120C CET IOC	■																											
AIM-120D SIP-3 Tape 2 Development	■																											
AIM-120D SIP-3 Tape 2 Test									■																			
AIM-120D SIP-3 Tape 2 FCA									■																			
AIM-120D SIP-3 Tape 2 IOC									■																			
AIM-120D3 SIP-3F FCA	■																											
AIM-120D3 SIP-3F IOC					■																							
AIM-120D3 SIP-4 Development	■																											
AIM-120D3 SIP-4 Test									■																			
AIM-120D3 SIP-4 FCA									■																			
AIM-120D3 SIP-4 IOC									■																			
AIM-120D3 SIP-5 Development									■																			
AIM-120D3 SIP-5 Test													■															
AIM-120D3 SIP-5 FCA													■															
AIM-120D3 SIP-5 IOC													■															
AIM-120D3 SIP-6 Development													■															

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207163F / <i>Advanced Medium Range Air-to-Air Missile (AMRAAM)</i>	Project (Number/Name) 673777 / AMRAAM

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
AMRAAM Development Program				
AIM-120C CET IOC	1	2023	1	2023
AIM-120D SIP-3 Tape 2 Development	1	2023	2	2025
AIM-120D SIP-3 Tape 2 Test	4	2024	2	2025
AIM-120D SIP-3 Tape 2 FCA	1	2025	1	2025
AIM-120D SIP-3 Tape 2 IOC	2	2025	2	2025
AIM-120D3 SIP-3F FCA	2	2023	2	2023
AIM-120D3 SIP-3F IOC	1	2024	1	2024
AIM-120D3 SIP-4 Development	1	2023	1	2026
AIM-120D3 SIP-4 Test	1	2025	1	2026
AIM-120D3 SIP-4 FCA	4	2025	4	2025
AIM-120D3 SIP-4 IOC	1	2026	1	2026
AIM-120D3 SIP-5 Development	1	2025	3	2028
AIM-120D3 SIP-5 Test	3	2027	3	2028
AIM-120D3 SIP-5 FCA	1	2028	1	2028
AIM-120D3 SIP-5 IOC	3	2028	3	2028
AIM-120D3 SIP-6 Development	3	2027	4	2029

Note

Actual Dates:

AIM-120-D SIP-3 Tape 2 began 15 Sep 2022.

AIM-120-D3 SIP-4 Development began 01 Oct 2021.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207227F I <i>Combat Rescue - Pararescue</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	0.863	0.726	0.743	0.000	0.743	0.763	0.779	0.776	0.791	Continuing	Continuing
675352: <i>Guardian Angel RDT&E</i>	-	0.863	0.726	0.743	0.000	0.743	0.763	0.779	0.776	0.791	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Guardian Angel (GA) is an Air Force non-aircraft weapon system within the overarching Special Warfare Modernization program. GA is a Family of Systems (FoS) based in both human and equipment capabilities formulated to execute Air Force Personnel Recovery (PR) across the full spectrum of military operations. Established by the Air Force Chief of Staff in 2003 and officially captured in AFPD 10-9, the GA FoS is employed by three distinct Air Force specialties: Pararescuemen (PJ), Combat Rescue Officer (CRO), and Survival, Evasion, Resistance, Escape (SERE). The GA FoS is comprised of nine critical mission areas: Precision Aerial Insertion, Information Management, Force Application, Visual Augmentation, Maritime Recovery, Ground Mobility, Technical Rescue, Medical, and SERE. GA focus is on maintaining legacy weapon system capability while modernizing/improving subsystems for better mission effectiveness.

Mission Description and Budget Item Justification To stay aligned with SECAF Operational Imperatives, with OSD Focus Area C2, logistics mobility (land/water), funds will be used to obtain significant improvements in operational capability and develop items within the GA FoS to include but not limited to: Maritime Recovery (open ocean boat), Ground Mobility, Technical Recovery, Precision Aerial Insertion (cargo & personnel parachutes), Medical (Simulators), Information Management, SERE, Visual Augmentation (night vision, augmented reality) and Force Protection. This may be conducted through industry technology demonstrations, prototypes, and associated engineering support to posture the GA program for technology insertion. The Guardian Angel weapon system development activities also include studies, analysis, requirements development and developmental testing to support both current and future program planning and execution. Funding will deliver enhanced capability for the dismounted Guardian Angel Operators in terms of dramatic weight reduction and increased mission effectiveness across the conflict spectrum. This funding request will support potential DMS and obsolescence solutions, to include if optimal, life of type buys or bridge buys limited to the program of record quantity.

Guardian Angel funding also supports innovation activities to include studies, analyses, requirements definition, and quick-reaction capability prototypes/demonstrations to accelerate planning for technology transition, technology insertion and future acquisition programs

This program element may include necessary civilian pay expenses required to manage, execute, and deliver Guardian Angel weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605831F, 0605827F, 0605828F, 0605829F, 0605832F, 0605833F, 0605898F, 0606398F. In FY24 0.720M was expended for civilian pay expenses in this program element, and in FY25 0.736M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207227F / <i>Combat Rescue - Pararescue</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	0.863	0.726	0.742	0.000	0.742
Current President's Budget	0.863	0.726	0.743	0.000	0.743
Total Adjustments	0.000	0.000	0.001	0.000	0.001
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.001	0.000	0.001

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: Guardian Angel Family of Systems (FoS)	0.863	0.726	0.743
Description: Standardize, modernize and develop additional capability for the Guardian Angel (GA) weapon system used by Combat Rescue Officers and Pararescuemen. Development efforts provide enhanced and improved capabilities for execution of Air Force combat search and rescue and personnel recovery. This weapon system is utilized across the full spectrum of Personnel Recovery (PR) military operations to include patient treatment, extrication, surface/underwater search and recovery, airborne infil/exfil, and ground recovery operations.			
FY 2024 Plans: Will continue to complete studies, strategic planning, and development activities for increased capability. Will continue necessary software upgrades to Special Warfare Assault Kit (SWAK) information management system. Will conduct testing for SECAF OI & OSD Focus Area for Resilient Basing (Agile Combat Employment) Will conduct development and system enhancements on existing and future systems through incorporating test feedback and user inputs into subsequent iterations for better capability and mission success. Will meet with AFRL periodically to monitor ongoing RDT&E efforts and determine the best use of such funds.			
FY 2025 Plans: Will continue to complete studies, strategic planning, and development activities for increased capability. Will continue necessary software upgrades to Special Warfare Assault Kit (SWAK) information management system. Will conduct testing for SECAF OI & OSD Focus Area for Resilient Basing (Agile Combat Employment) Will conduct development and system enhancements on existing and future systems through incorporating test feedback and user inputs into subsequent iterations for better capability and mission success.			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207227F I <i>Combat Rescue - Pararescue</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Will meet with AFRL periodically to monitor ongoing RDT&E efforts and determine the best use of such funds.			
<i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> Current increase to funding allows for the development to continue with the family of systems contacts and civilian pay expenses.			
Accomplishments/Planned Programs Subtotals	0.863	0.726	0.743

D. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• OPAF 04 Line Item 842990: <i>Items Less than \$5M (Safety)</i>	23.509	24.480	25.820	-	25.820	25.304	25.860	26.377	-	Continuing	Continuing
• OPAF 02 Line Item 823230: <i>Security and Tactical Vehicles</i>	0.287	0.268	0.300	-	0.300	0.310	0.317	0.317	-	Continuing	Continuing
• WPN test: <i>test</i>	0.000	-	-	-	-	-	-	-	-	0.000	0.000

Remarks

E. Acquisition Strategy
 The Guardian Angel (GA) program will address warfighter immediate needs to standardize, modernize, and develop additional capability for the weapon system used by Combat Rescue Officers and Pararescuemen. The program will also address future requirements for the weapon system that will encompass the needs of all three GA career fields.

The GA program is an incremental evolutionary acquisition effort in which requirements are fulfilled through further sub-system development and integration. These are being identified through updates to the Core Function Support Plan and GA Concept of Employment by HQ Air Combat Command. The program has been divided into phases to more rapidly meet the user's immediate need to standardize and modernize the weapon system.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207227F / <i>Combat Rescue - Pararescue</i>	Project (Number/Name) 675352 / <i>Guardian Angel RDT&E</i>

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Events By Sub Project																												
Information Management Software																												
Test Support																												
GA Equipment Upgrades																												
Human Performance Organization Support (POTFF)																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207227F / <i>Combat Rescue - Pararescue</i>	Project (Number/Name) 675352 / <i>Guardian Angel RDT&E</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Events By Sub Project				
Information Management Software	1	2023	4	2029
Test Support	1	2023	4	2029
GA Equipment Upgrades	1	2023	4	2029
Human Performance Organization Support (POTFF)	1	2023	4	2029

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207238F / E-11A
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	0.000	64.888	64.127	0.000	64.127	26.580	29.184	26.957	28.340	Continuing	Continuing
671201: <i>E-11 Development</i>	-	0.000	34.587	37.319	0.000	37.319	0.224	0.000	0.000	0.000	Continuing	Continuing
675383: <i>BATTLEFIELD AIRBORNE COMM NODE (BACN)</i>	-	0.000	30.301	26.808	0.000	26.808	26.356	29.184	26.957	28.340	Continuing	Continuing

Note

This program, BA 7, PE 0207238F, project 675383, BACN Resiliency Solutions, is a new start.
 This program, BA 7, PE 0207238F, project 675383, BACN Payload Operations and Maintenance Trainer, is a new start.

A. Mission Description and Budget Item Justification

Budget Program Activity Code (BPAC) 671201 is primarily focused on Operational Systems Development for the E-11 BACN platform, and Budget Program Activity Code (BPAC) 675383 is primarily focused on BACN payload weapon system components.

Battlefield Airborne Communication Node (BACN) enables tactical edge Joint and Coalition information interoperability via air, space, and surface systems, to include a Backbone Network for high-capacity data transfer. As requirements emerge, BACN will integrate new hardware and software capabilities that improve system performance, interoperability, availability, prototyping of activities in line with department approach of system development upgrades to support current/future Open Mission System "OMS" technologies. Efforts may include onboard enhancements such as datalink receiving capability in platform cockpit to include but not limited to Link-16, as well as analysis and developmental efforts to explore feasibility of onboard operators to support onboard payload control capabilities. Efforts include, but are not limited to, expansion of external time reference capabilities, development/integration of additional communications systems/subsystems and components; Ka-Band Satellite Communications (Ka-SATCOM), Integrated Broadcast System (IBS), Protected Tactical Satellite Communications (PTS), enhancements to Military Global Positioning System (MilGPS), integration of advanced antennas and waveforms, development efforts enabling integration of Advanced Battle Management System (ABMS)/ Joint All Domain Command and Control (JADC2) capabilities, enhancements to ground support capabilities. Additionally, safety of flight considerations, to include weapon system performance, aircraft structural integrity, availability, continuity of service requirements will be addressed, aircraft avionics upgrades, as well as early system engineering assessments and risk reduction activities associated with weapon system "payload" & "platform" survivability in non-contested through contested environments. Efforts include, if needed, long lead items required for successful integration of subsystems (Ka-Band SATCOM, IBS, PTS, Mil-GPS), required non-recurring engineering and Diminishing Manufacturing Sources "DMS" issues, the development of simulators/trainers, development of training materials, the development of future waveforms that are backwards compatible with existing communications, and technical publications as well as the assimilation of any mandates levied on the BACN weapon system. Execute risk reduction activities for development of future capabilities on BACN payload/aircraft efforts. This includes future development and/or modification initiatives for payload form factor updates, integration efforts with other aerial gateway systems such as Roll on Beyond Line of Sight Enhancement (ROBE), as well as analysis and redesign efforts for improved data/voice range extension and translation.

*This program element 0207238F is a continuation of legacy program element 0207610F. The program element transition was effective in FY 2024.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207238F / E-11A
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This program element may include necessary civilian pay expenses required to manage, execute, and deliver BACN for emergent or unanticipated weapon system capability. The use of such program's funds would be in addition to the civilian pay expenses budgeted in program element 0605829F. In FY2023, \$1.110M was expended for civilian pay expenses in program element 0604281F, and in FY2024, \$1.326M is forecasted for civilian pay expenses in program element 0207238F.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	0.000	64.888	159.851	0.000	159.851
Current President's Budget	0.000	64.888	64.127	0.000	64.127
Total Adjustments	0.000	0.000	-95.724	0.000	-95.724
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-95.724	0.000	-95.724

Change Summary Explanation

Program Element consolidation resulted in funding excess. Realigned to higher DAF priorities.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0207238F / E-11A				Project (Number/Name) 671201 / E-11 Development			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
671201: E-11 Development	-	0.000	34.587	37.319	0.000	37.319	0.224	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Budget Program Activity Code (BPAC) 671201 is primarily focused Operational Systems Development for the E-11 BACN platform.

Battlefield Airborne Communication Node (BACN) enables tactical edge Joint and Coalition information interoperability via air, space, and surface systems, to include a network for high-capacity data transfer. As requirements emerge, BACN will integrate new hardware and software capabilities that improve system performance, interoperability, availability, prototyping of activities in line with department approach of system development upgrades to support current/future Open Mission System (OMS) technologies. Efforts may include onboard enhancements such as datalink receiving capability in platform cockpit to include but not limited to Link-16, as well as analysis and developmental efforts to explore feasibility of onboard operators to support onboard payload control capabilities. Efforts include, but are not limited to, expansion of external time reference capabilities, development/integration of additional communications systems/subsystems and components such as Military Global Positioning System (MilGPS), M-code or future software and integration of advanced antennas and waveforms, development efforts enabling integration of ABMS/ JADC2 capabilities, enhancements to ground support capabilities.

Additionally, safety of flight considerations, to include weapon system performance, aircraft structural integrity, availability, continuity of service requirements will be addressed, as well as aircraft avionics upgrades, early system engineering assessments and risk reduction activities associated with weapon system "payload" and "platform" survivability in non-contested through contested environments.

Efforts include required non-recurring engineering and Diminishing Manufacturing Sources (DMS) issues, the development of simulators/trainers, development of training materials, the development of future waveforms that are backwards compatible with existing communications, and technical publications as well as the assimilation of any mandates levied on the BACN weapon system. Execute risk reduction activities for development of future capabilities on BACN payload/aircraft efforts.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program's funds would be in addition to the civilian pay expenses budgeted in program element 0604281F. In FY2023, 1.110M was expended for civilian pay expenses in program element 0207238F, and in FY2024, 1.325M is forecasted for civilian pay expenses in this program element 0207238F.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: M-Code Military Global Positioning System (MilGPS)	0.000	32.338	34.962	0.000	34.962

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207238F / E-11A	Project (Number/Name) 671201 / E-11 Development

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>Description: Effort enhances MilGPS, including development and integration of emerging GPS and/or PNT technologies such as M-Code, testing, & complete certification. Funds engineering and integration of M-Code GPS capabilities within the E-11 aircraft avionics suite. All E-11s existing and procured are required to have M-Code GPS and this effort will provide enhanced military grade GPS capabilities to the full BACN fleet. Substantial analysis, design, systems engineering, and developmental activities are required to integrate capabilities onboard existing E-11s as the aircraft are civilian derivative aircraft.</p> <p>FY 2024 Plans: -Complete the required design artifacts to enable approval for airworthiness prior to flight testing. This requires Federal Aviation Administration (FAA) certification of the Supplemental Type Certificate (STC) for airworthiness due to aircraft being civilian derivative.</p> <p>FY 2025 Base Plans: -Start test and integration of MILGPS M-Code technology into the BACN E-11A platform and integration with payload Common Data Link (CDL). Due to the aircraft being civilian derivative, integration efforts will require extensive testing to assure/maintain airworthiness.</p> <p>FY 2025 OCO Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Increase due to MilGPS testing and certification efforts, in order to demonstrate safe operation of system prior to FAA certification and TAA airworthiness approval in FY 2025.</p>					
<p>Title: Program Support Costs (PSC)</p> <p>Description: Various support costs to include: Direct Cite Authorization FFRDC A&AS</p> <p>FY 2024 Plans: -Provide essential program support for management and oversight required to gather, evaluate, execute, and manage program requirements. Activity is essential for continued research, development, test, and evaluation of the E-11A.</p> <p>FY 2025 Base Plans:</p>	0.000	2.249	2.357	0.000	2.357

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207238F / E-11A	Project (Number/Name) 671201 / E-11 Development
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
-Will provide essential program support for management and oversight required to gather, evaluate, execute, and manage program requirements. Activity is essential for continued research, development, test, and evaluation of the E-11A. FY 2025 OCO Plans: N/A FY 2024 to FY 2025 Increase/Decrease Statement: FY2025 increase due to inflation.					
Accomplishments/Planned Programs Subtotals	0.000	34.587	37.319	0.000	37.319

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

Acquisition strategies varied by effort that provide research, development, integration and interoperability of the BACN platform, payload, supporting systems and equipment and will utilize all contracting options and mechanisms available.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207238F / E-11A	Project (Number/Name) 671201 / E-11 Development
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
M-Code MilGPS	SS/ Various	Northrop Grumman : San Diego, CA	-	-		32.338	Jun 2024	34.962	Dec 2024	-		34.962	Continuing	Continuing	-
Subtotal			-	-		32.338		34.962		-		34.962	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Direct Cite Authorization	TBD	Civilian Pay : TBD	-	-		0.663	Dec 2023	0.783	Dec 2024	-		0.783	Continuing	Continuing	-
Travel	TBD	Not specified. : TBD	-	-		0.044	Jan 2024	0.041	Jan 2025	-		0.041	Continuing	Continuing	-
Assessments	C/TBD	Not specified. : TBD	-	-		0.453	Jan 2024	0.456	Jan 2025	-		0.456	Continuing	Continuing	-
FFRDC	SS/CPAF	MITRE Corp. : Bedford, MA	-	-		0.884	Oct 2023	0.866	Oct 2024	-		0.866	Continuing	Continuing	-
A&AS	C/CPAF	ARS, Inc. : Beavercreek, OH	-	-		0.205	Mar 2024	0.211	Mar 2025	-		0.211	Continuing	Continuing	-
Subtotal			-	-		2.249		2.357		-		2.357	Continuing	Continuing	N/A

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract		
Project Cost Totals		-	-	34.587	37.319	-	-	37.319	Continuing	Continuing	N/A

Remarks
 The requirement in FY24 to buy down the design risk on an E-11A flight simulator was deemed too costly after engagement with industry partners. We are moving forward with the simulator procurement in FY25 with BACN/HAG 3010. This balance will be used to support the M-Code development effort.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207238F / E-11A	Project (Number/Name) 671201 / E-11 Development
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

E-11 Development	
M-Code MilGPS	[REDACTED]

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207238F / E-11A	Project (Number/Name) 671201 / E-11 Development

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
E-11 Development				
M-Code MilGPS	3	2024	4	2025

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0207238F / E-11A				Project (Number/Name) 675383 / BATTLEFIELD AIRBORNE COMM NODE (BACN)			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
675383: BATTLEFIELD AIRBORNE COMM NODE (BACN)	-	0.000	30.301	26.808	0.000	26.808	26.356	29.184	26.957	28.340	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This program, BA 7, PE 0207238F, project 675383, BACN Resiliency Solutions, is a new start.
 This program, BA 7, PE 0207238F, project 675383, BACN Payload Operations and Maintenance Trainer, is a new start.

A. Mission Description and Budget Item Justification

Budget Program Activity Code (BPAC) 675383 is primarily focused on BACN payload weapon system components.

Battlefield Airborne Communication Node (BACN) enables tactical edge Joint and Coalition information interoperability via air, space, and surface systems, to include a network for high-capacity data transfer. As requirements emerge, BACN will integrate new hardware and software capabilities that improve system performance, interoperability, availability, prototyping of activities in line with department approach of system development upgrades to support current/future Open Mission System (OMS) technologies. Efforts may include onboard enhancements such as datalink receiving capability in platform cockpit to include but not limited to Link-16, as well as analysis and developmental efforts to explore feasibility of onboard operators to support onboard payload control capabilities. Efforts include, but are not limited to, expansion of external time reference capabilities, development/integration of additional communications systems/subsystems and components such as Ka-Band Satellite Communications (Ka-SATCOM), Integrated Broadcast System (IBS), Protected Tactical Waveform (PTW). Integration of advanced antennas and waveforms, development efforts enabling integration of ABMS/ JADC2 capabilities, enhancements to ground support capabilities. Additionally, safety of flight considerations, to include weapon system performance, aircraft structural integrity, availability, continuity of service requirements will be addressed, aircraft avionics upgrades, as well as early system engineering assessments and risk reduction activities associated with weapon system payload & platform survivability in non-contested through contested environments. Efforts include required non-recurring engineering and Diminishing Manufacturing Sources (DMS) issues, the development of simulators/trainers, development of training materials, the development of future waveforms that are backwards compatible with existing communications, and technical publications as well as the assimilation of any mandates levied on the BACN weapon system. Execute risk reduction activities for development of future capabilities on BACN payload/ aircraft efforts.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program's funds would be in addition to the civilian pay expenses budgeted in program element 0604281F. In FY2023, \$1.110M was expended for civilian pay expenses in program element 0604281F, and in FY2024, \$1.325M is forecasted for civilian pay expenses in this program element 0207238F.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207238F / E-11A	Project (Number/Name) 675383 / BATTLEFIELD AIRBORNE COMM NODE (BACN)

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>Title: Beyond Line of Sight (BLOS) Communications Waveform Enhancement</p> <p>Description: This development effort focuses on integrating a SATCOM (Ka-SATCOM) system into the BACN aircraft/payload for use in contested and semi-contested environments for tactical users as well as permit BLOS payload operations. This effort supports interoperability among U.S., NATO & Coalition/International partners. It ensures the ability to connect tactical users operating in contested and semi contested environments with a communications medium to enable the exchange of tactical information (e.g., threat warnings, time sensitive tracks, mission updates) by incorporating future protected waveforms and robust Anti-Jamming (AJ) enhancements.</p> <p>FY 2024 Plans: -Complete Ka SATCOM development. Previous work was completed with FY 2022 3600 funding under PE 0207610F. Funding/effort provides for the cabling, software, hardware design work, and systems engineering necessary for Ka-SATCOM solution and required testing and airworthiness certification necessary for the military configuration.</p> <p>-Develop anti-jam system to provide additional resiliency to Ka-SATCOM capability for future integration.</p> <p>FY 2025 Base Plans: No requirement in FY 2025.</p> <p>FY 2025 OCO Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Decrease due to no requirement in FY 2025.</p>	0.000	1.262	0.000	0.000	0.000
<p>Title: BACN Resiliency Solutions</p> <p>Description: Effort enhances BACN information processing and communications capabilities including but not limited to development and integration of Low Earth Orbit SATCOM (Starlink or equivalent), Common Tactical Edge Network (CTEN), and replacement of the Airborne Executive Processor (AEP). This effort includes improvements to BACN resiliency such as the addition of new emerging waveforms and communication systems and design efforts to change the form, fit, and function of the capability such as but not limited to roll on roll off and modular OMS. Funds for design, development, integration, testing and certification of modifications are required to incorporate these capabilities as well as meet cybersecurity certification requirements across the</p>	-	0.000	0.850	-	0.850

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207238F / E-11A	Project (Number/Name) 675383 / BATTLEFIELD AIRBORNE COMM NODE (BACN)

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>BACN payload and ground support systems. These efforts are required to support emerging communications requirements for highly contested environments and sophisticated threats.</p> <p>FY 2024 Plans: New Start in FY2025</p> <p>FY 2025 Base Plans: -Initiate design and development of modifications to incorporate resiliency capabilities as well as meet cybersecurity certification requirements across the BACN payload and ground support systems.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Increase in FY2025 due to effort being a new start in FY 2025.</p>					
<p>Title: MIDS JTRS BU3 Integration</p> <p>Description: MIDS JTRS BU3 fields MIDS MOD Increment 2 software along with current enhancements CCR, CMN, and LET. In addition, data link efficiencies (i.e., Timeslot Reallocation (TSR), External Time Reference (ETR), and Link 16 (Voice)) provide the tools necessary for modernized network designs in support of COCOM information exchange requirements.</p> <p>FY 2024 Plans: -Provide engineering design and integration methods for new MIDS-JTRS BU3 technology on new and existing E-11A payloads. Effort includes test and integration into the BACN E-11A payload. Due to aircraft being civilian derivative, integration efforts will require testing to assure/maintain airworthiness and complete certifications as required.</p> <p>FY 2025 Base Plans: -Will begin testing compatibility with other payload systems following initial integration and aircraft-level compatibility testing.</p> <p>-Will produce post-test documentation to support authority to operate upgraded system.</p> <p>FY 2025 OCO Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement:</p>	0.000	4.024	1.335	0.000	1.335

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207238F / E-11A	Project (Number/Name) 675383 / BATTLEFIELD AIRBORNE COMM NODE (BACN)

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Decrease in FY2025 is the result of reduction in budget request in FY 2025 due to bulk of design and integration work occurring in FY24, with FY25 representing a reduced workload to finalize testing and complete documentation.					
<p>Title: BACN Weapon System Open Mission Systems (OMS)</p> <p>Description: Developmental enhancements to the BACN weapon system capability required for integration of updated enterprise terminals as well as advanced capabilities under development but not yet available. These enhancements may include small scale enhancements to BACN weapon system payload, aircraft, and/or ground sites to enable increased operational effectiveness and/or efficiencies.</p> <p>OMS is the standard for system design that provides significant cost savings / avoidance, ensures rapid deployment of new technologies and preserves interoperability within fielded or future systems-of systems. OMS is the leading-edge plug-n-play technology to rapidly meet warfighter requirements.</p> <p>FY 2024 Plans: -Begin Open Mission System (OMS) development efforts to modify the current BACN system's payload software and other components to ensure the weapon system can incorporate and interface with OMS equipment, such as but not limited to the Common Tactical Edge Network (CTEN) or a comparable OMS interface. -Developmental efforts may include but are not limited to analysis, early system engineering, and early developmental/prototype activities as well as full scale fielded developments necessary to transform the BACN weapon system such that it incorporates an OMS compliant interface with a more modular design that ensures major system components interface with widely supported standards and allows capabilities to be incrementally added/removed/replace throughout system lifecycle.</p> <p>FY 2025 Base Plans: No funding requested.</p> <p>FY 2025 OCO Plans: Decrease due to no funding requirement in FY 2025.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A</p>	0.000	0.733	0.000	0.000	0.000
<p>Title: M-Code Military Global Positioning System (MilGPS)</p>	0.000	0.650	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207238F / E-11A	Project (Number/Name) 675383 / BATTLEFIELD AIRBORNE COMM NODE (BACN)

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>Description: Effort enhances MilGPS, including development and integration of emerging GPS and/or PNT technologies such as M-Code, testing, & complete certification. Funds engineering and integration of M-Code GPS capabilities that will replace P-Y code, which is already in use the payload. All E-11s existing and procured are required to have M-Code GPS and this effort will provide enhanced military grade GPS capabilities to the full BACN fleet. Substantial analysis, design, systems engineering, and developmental activities are required to integrate capabilities onboard existing E-11s as the aircraft are civilian derivative aircraft.</p> <p>FY 2024 Plans: -Provide engineering and integration for MilGPS M-Code technology on new and existing E-11s. Effort includes test and integration into the BACN E-11A payload. Due to aircraft being civilian derivative, integration efforts will require extensive testing to assure/maintain airworthiness and complete certifications as required.</p> <p>FY 2025 Base Plans: N/A</p> <p>FY 2025 OCO Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Decrease due to no requirement in FY 2025.</p>					
<p>Title: BACN Software Upgrades</p> <p>Description: BACN has a continuous need for software upgrades. Effort enhances BACN information processing and communications capabilities including but not limited to development and integration of Multi-User Objective System (MUOS), Protected Tactical Waveform (PTW), Low Earth Orbit SATCOM, Common Tactical Edge Network (CTEN) incorporation of software updates for new radios, and replacement of the Airborne Executive Processor (AEP). Funds for design, development, integration, testing and certification of modifications are required to incorporate these capabilities as well as meet cybersecurity certification requirements and resolve risk and identified software deficiencies across the BACN payload and ground support systems. These efforts are required to support emerging communications requirements in complex and secure military environments.</p> <p>This thrust is a roll-up of all software efforts. The major software effort service pack upgrade 3.3.3 completes in FY 2024. In FY2025, efforts will continue with systems engineering, design, development, and integration to</p>	-	21.382	21.365	0.000	21.365

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207238F / E-11A	Project (Number/Name) 675383 / BATTLEFIELD AIRBORNE COMM NODE (BACN)

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>support incorporation of AEP replacement, PTW, and other advanced communications waveforms and radio interfaces.</p> <p>FY 2024 Plans: -Provide software updates and integration to incorporate advanced processing equipment, communications waveforms and radio interfaces.</p> <p>-Provide systems engineering, design, development, and integration to support incorporation of MUOS. This is a two-year effort.</p> <p>FY 2025 Base Plans: -Will continue to provide software updates and integration to incorporate advanced processing equipment, communications waveforms and radio interfaces. Continuation of MUOS effort to include testing, certification and deployment.</p> <p>-Will provide additional systems engineering, design, development, and integration to support incorporation of AEP replacement, PTW, and other advanced communications waveforms and radio interfaces. This is a three-year effort.</p> <p>FY 2025 OCO Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Decrease between FY2024 and FY2025 is negligible.</p>					
<p>Title: BACN Payload Operations and Maintenance Trainer</p> <p>Description: This effort supports development and installation of a Payload Maintenance Trainer (PMT) at the BACN Main Operating Base (MOB). The BACN PMT will support organic, "Blue Suit" BACN familiarization and BACN Payload maintenance training. The PMT will be representative of the on-aircraft BACN Payload installation and also include maintenance training for associated BACN Payload ground systems. The PMT will facilitate transition from Contractor Logistics Support (CLS) to organic BACN Payload system maintenance.</p> <p>FY 2024 Plans: No requirement in FY 2024.</p> <p>FY 2025 Base Plans:</p>	-	0.000	0.900	-	0.900

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207238F / E-11A	Project (Number/Name) 675383 / BATTLEFIELD AIRBORNE COMM NODE (BACN)

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
-Initiate the development and installation of a Payload Maintenance Trainer (PMT) at the Robins AFB that will be representative of the on-aircraft BACN Payload installation and also include maintenance training for associated BACN Payload ground systems. The requirement will facilitate the transition from Contractor Logistics Support (CLS) to organic BACN Payload system maintenance. FY 2024 to FY 2025 Increase/Decrease Statement: Increase due to New Start in FY2025					
Title: Program Support Costs (PSC) Description: Various support costs to include: Direct Cite Authorization Travel Assessments FFRDC A&AS FY 2024 Plans: -Provide essential support for management and oversight required to gather, evaluate, execute, and manage program requirements. This support is essential for continued research, development, test, and evaluation of BACN. FY 2025 Base Plans: -Will provide essential support for management and oversight required to gather, evaluate, execute, and manage program requirements. This support is essential for continued research, development, test, and evaluation of BACN. FY 2025 OCO Plans: N/A FY 2024 to FY 2025 Increase/Decrease Statement: Increase in FY2025 due to inflation.	0.000	2.250	2.358	0.000	2.358
Accomplishments/Planned Programs Subtotals	0.000	30.301	26.808	0.000	26.808

C. Other Program Funding Summary (\$ in Millions) N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207238F / E-11A	Project (Number/Name) 675383 / BATTLEFIELD AIRBORNE COMM NODE (BACN)

C. Other Program Funding Summary (\$ in Millions)

Remarks

D. Acquisition Strategy

Acquisition strategies varied by effort that provide research, development, integration and interoperability of the BACN platform, payload, supporting systems and equipment and will utilize all contracting options and mechanisms available.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207238F / E-11A	Project (Number/Name) 675383 / BATTLEFIELD AIRBORNE COMM NODE (BACN)
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
BACN Resiliency Solutions	TBD	Not specified. : TBD	-	-		0.000		0.850	May 2025	-		0.850	Continuing	Continuing	-
BLOS Communications Waveforms Enhancements	TBD	Northrop Grumman : San Diego, CA	-	-		1.262	Mar 2024	0.000	Jul 2025	-		0.000	Continuing	Continuing	-
MIDS JTRS BU3 Integrations	SS/CPFF	Northrop Grumman : San Diego, CA	-	-		4.024	Mar 2024	1.335	Jan 2025	-		1.335	Continuing	Continuing	-
OMS	SS/CPFF	Not specified. : TBD	-	-		0.733	Mar 2024	0.000	Jul 2025	-		0.000	Continuing	Continuing	-
M-Code MiIGPS	SS/CPFF	Northrop Grumman : San Diego, CA	-	-		0.650	Jun 2024	0.000	Jul 2025	-		0.000	Continuing	Continuing	-
BACN Payload Operations and Maintenance Trainer	SS/CPFF	Northrop Grumman : San Diego, CA	-	-		0.000		0.900	Apr 2025	-		0.900	Continuing	Continuing	-
BACN Software Upgrades	SS/CPFF	Northrop Grumman : San Diego, CA	-	-		21.382	Jan 2024	21.365	Nov 2024	-		21.365	Continuing	Continuing	-
Subtotal			-	-		28.051		24.450		-		24.450	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Direct Cite Authorization	TBD	Civilian Pay : TBD	-	-		0.663	Dec 2023	0.783	Dec 2024	-		0.783	Continuing	Continuing	-
Travel	TBD	Not specified. : TBD	-	-		0.046	Jan 2024	0.046	Jan 2025	-		0.046	Continuing	Continuing	-
Assessments	C/TBD	TBD : TBD	-	-		0.448	Jan 2024	0.406	Jan 2025	-		0.406	Continuing	Continuing	-
FFRDC	SS/CPAF	MITRE Corp. : Bedford, MA	-	-		0.888	Oct 2023	0.912	Oct 2024	-		0.912	Continuing	Continuing	-
A&AS	C/CPAF	ARS, Inc. : Beavercreek, OH	-	-		0.205	Mar 2024	0.211	Mar 2025	-		0.211	Continuing	Continuing	-
Subtotal			-	-		2.250		2.358		-		2.358	Continuing	Continuing	N/A

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		-	-	30.301	-	26.808	-	26.808	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force							Date: March 2024		
Appropriation/Budget Activity 3600 / 7			R-1 Program Element (Number/Name) PE 0207238F / E-11A			Project (Number/Name) 675383 / BATTLEFIELD AIRBORNE COMM NODE (BACN)			

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
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Remarks
 BACN Payload Maintenance Trainer and BACN Resiliency Solutions budget requests in FY 2025 are to initiate the transition of contractor logistics support (CLS) of payload training to Air Force personnel and start the development and integration of new waveforms and communications systems to the capability.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207238F / E-11A	Project (Number/Name) 675383 / BATTLEFIELD AIRBORNE COMM NODE (BACN)

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

BACN Systems	
BACN Resiliency Solutions	[REDACTED]
BACN Payload Operations and Maintenance Trainer	[REDACTED]
BLOS Communications Waveform Enhancements	[REDACTED]
MIDS JTRS BU3 Integration	[REDACTED]
OMS	[REDACTED]
M-Code MilGPS	[REDACTED]
BACN Software Upgrades	[REDACTED]

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207238F / E-11A	Project (Number/Name) 675383 / BATTLEFIELD AIRBORNE COMM NODE (BACN)

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>BACN Systems</i>				
BACN Resiliency Solutions	3	2025	4	2029
BACN Payload Operations and Maintenance Trainer	3	2025	4	2029
BLOS Communications Waveform Enhancements	4	2024	4	2025
MIDS JTRS BU3 Integration	2	2024	4	2025
OMS	3	2024	3	2025
M-Code MilGPS	3	2024	4	2025
BACN Software Upgrades	2	2024	4	2029

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207247F / AF TENCAP
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	28.809	25.749	50.263	0.000	50.263	52.666	45.959	51.078	51.590	Continuing	Continuing
670001: <i>Air Force TENCAP</i>	-	28.809	25.749	50.263	0.000	50.263	52.666	45.959	51.078	51.590	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Air Force Tactical Exploitation of National Capabilities (TENCAP) increases warfighter effectiveness through the exploitation of national capabilities and promotes cross-domain integration of these capabilities into military operations/training and intelligence, surveillance and reconnaissance (ISR) activities.

AF TENCAP exploits existing National, global, and Non-Traditional ISR in air, space, and cyber domains for operational and tactical applications by rapidly prototyping and providing capability demonstrations. The program consists of multiple small projects supporting the Air Force warfighter. Projects are designed to transition to warfighters or national intelligence agencies for operational use and to appropriate acquisition Programs of Record for sustainment and further development. AF TENCAP projects influence the design and operation of current and future National, global, and Non-Traditional systems in air, space, and cyber while providing situational awareness to warfighters and intelligence organizations.

AF TENCAP requirements and existing resources may be rapidly re-prioritized in response to emerging warfighter needs.

This program element received \$3.00M Ukraine Supplemental Funds in FY2023.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 \$0.00M was expended for civilian pay expenses in this program element, and in FY24 \$00.00M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207247F / AF TENCAP
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	25.559	25.749	23.968	0.000	23.968
Current President's Budget	28.809	25.749	50.263	0.000	50.263
Total Adjustments	3.250	0.000	26.295	0.000	26.295
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	3.250	0.000	26.295	0.000	26.295

Change Summary Explanation

FY23: \$2.5M Below Threshold Reprogrammings (BTR) into Exploitation Applications. \$750K due to FY24 PB database error that did not reflect full Ukraine Supplemental increase.

FY25: \$26.2M is requested to fund an initiative to provide capabilities in support of the Department of the Air Force (DAF) Operational Imperative to provide moving target engagement at scale through the identification, tracking, and engagement of numerous moving or mobile targets in a highly contested, time-compressed, multi-domain environment.

C. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Exploitation Applications	27.949	24.499	24.069	0.000	24.069
Description: Exploiting existing National, global, and Non-Traditional ISR in air, space, and cyber for operational and tactical applications by rapidly prototyping and demonstrating capabilities. National capabilities are exploited to deliver rapid, cost-effective and innovative warfighting solutions. Project activities support Intelligence Surveillance and Reconnaissance requirements and the application of combat effects; Battlespace Awareness and Command and Control; support to Space; and support to Special Operations Forces and Advanced Capabilities. Activities also influence the design and operation of future National, global, and non-Traditional ISR systems in air, space, and cyber for tactical users.					
FY 2024 Plans:					
- Continues to rapidly prototype projects and focus warfighter support and resource allocation based on AFTENCAP mission/investment areas					

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207247F / AF TENCAP
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
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- Continues focused efforts to increase Air Domain Awareness and Command and Control; support to Special Operations Forces and Advanced Capabilities; support to Space; and support to ISR and Combat Applications to meet Air Force and Joint Warfighter requirements

FY 2025 Base Plans:

- Will continue to rapidly prototype projects and focus warfighter support and resource allocation based on AF TENCAP mission/investment areas
- Will continue to rapidly prototype projects and focus warfighter support and resource allocation based on AF TENCAP's focused efforts to increase Air Domain Awareness and Command and Control, support to Special Operations Forces and Advanced Capabilities, support to Space, and support to ISR and Combat Applications to meet Air Force and Joint Warfighter requirements

FY 2025 OCO Plans:

None.

FY 2024 to FY 2025 Increase/Decrease Statement:

Funding decreased due to reprioritization of program requirements to meet emerging warfighter needs.

Title: Moving Target Engagement

Description: A portfolio to provide capabilities in support of the DAF Operational Imperative to provide moving target engagement (MTE) at scale through the identification, tracking, and engagement of numerous moving or mobile targets in a highly contested, time-compressed, multi-domain environment. Initiative development will provide rapid, effective processing of key adversary signals of interest (SOIs) and optimize data flows to provide actionable data to the warfighter.

The MTE portfolio will include three lines of effort (LOEs) to provide rapid, effective processing of signals of interest and to optimize data flows to provide actionable data to the warfighter. LOE 1 will focus on the data acquisition and data conditioning of the signals of interest. LOE 2 will focus on enhancing data processing capabilities by identifying and developing supporting technologies and processes. LOE 3 will focus on defining and enhancing the necessary infrastructure to support the MTE portfolio efforts. MTE will focus on enhancing Enterprise capabilities and infrastructure.

FY 2024 Plans:

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Moving Target Engagement	0.860	1.250	26.194	0.000	26.194

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207247F / AF TENCAP
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>- Continues development, demonstration, and transition of activities focused on SOI data acquisition and conditioning to provide MTE at scale through the identification, tracking, and engagement of numerous moving or mobile targets in a highly contested, multi-domain environment</p> <p>- Conducts planning, requirements definition, and acquisition strategy development for activities focused on additional SOI data acquisition and conditioning, enhancing Enterprise data processing capabilities, and enhancing the MTE infrastructure to provide rapid, effective processing of key adversary SOIs and optimize data flows to provide actionable data to the warfighter</p> <p>FY 2025 Base Plans:</p> <p>- Will continue and significantly expand initiative development, demonstration, and transition activities focused on SOI data acquisition and conditioning to provide MTE at scale through the identification, tracking, and engagement of numerous moving or mobile targets in a highly contested, multi-domain environment</p> <p>- Will initiate development, demonstration, and transition for activities focused on enhancing Enterprise data processing capabilities to meet tactically-relevant MTE requirements</p> <p>- Will initiate development, demonstration, and transition for activities focused on the MTE infrastructure to provide rapid, effective processing of key adversary SOIs and optimize data flows to provide actionable data to the warfighter</p> <p>FY 2025 OCO Plans:</p> <p>None.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement:</p> <p>Funding increased due to expansion of data acquisition and conditioning development, demonstration and transition activities and progression from requirements definition and planning to development, demonstration and transition for enhanced processing and MTE infrastructure activities. Further details can be provided at a higher classification level.</p>					
Accomplishments/Planned Programs Subtotals	28.809	25.749	50.263	0.000	50.263

D. Other Program Funding Summary (\$ in Millions)
N/A

Remarks
N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207247F / AF TENCAP	

E. Acquisition Strategy

Projects are selected based upon needs identified by the program's customers - DOD Departments, Combatant Commands, Components, and/or MAJCOMs. Projects are mainly executed via AF TENCAP-owned single-award, multi- performer Indefinite Delivery/Indefinite Quantity contract or via existing contracts maintained by other agencies. The U.S. Government organization sponsoring a project is responsible for assuming acquisition, deployment, logistics, sustainment and budgetary responsibilities for the developed capability after it has been successfully demonstrated by AF TENCAP.

AF TENCAP projects typically use an incremental acquisition strategy. AF TENCAP utilizes a disciplined systems engineering approach that allows program teams to solve problems through a series of segments. Each segment must meet the defined success criteria before progressing to the next segment, mitigating cost and schedule risk.

Contracts funded in this program element will be awarded using competitive procedures to the maximum extent possible.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207247F / AF TENCAP	Project (Number/Name) 670001 / Air Force TENCAP
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>Exploitation Applications</i>	
Exploitation Applications Developed, Evaluated, and Released	
<i>Moving Target Engagement</i>	
Line of Effort 1	
Line of Effort 2	
Line of Effort 3	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207247F / AF TENCAP	Project (Number/Name) 670001 / Air Force TENCAP

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Exploitation Applications</i>				
Exploitation Applications Developed, Evaluated, and Released	1	2023	4	2029
<i>Moving Target Engagement</i>				
Line of Effort 1	1	2023	4	2029
Line of Effort 2	2	2024	4	2029
Line of Effort 3	2	2024	4	2029

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207249F / <i>Precision Attack Systems Procurement</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	12.284	11.872	12.723	0.000	12.723	13.659	13.940	14.234	14.516	Continuing	Continuing
675347: <i>Advanced Targeting Pod</i>	-	12.284	11.872	12.723	0.000	12.723	13.659	13.940	14.234	14.516	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Advanced Targeting Pod (ATP) program includes, but is not limited to, modifying and upgrading LITENING and Sniper precision targeting pods supporting F-15E, F-16, A-10, B-1B, and B-52. Each targeting pod provides long-range target acquisition and expanded weapon delivery envelopes during day, night, and all-weather conditions. ATPs are imperative in supporting Long Range Kill Chain in support of Operational Imperative 3, as well as target identification, reduction in collateral damage, and fratricide prevention. Targeting pods are equipped with infrared (IR) sensor, laser designator, digital video, and real-time video data link for connectivity with ground forces. Funds will support integrating ATP advanced technology with aircraft Operational Flight Programs, upgrading pod capability, technical analysis, and testing.

The FY2025 funding request was reduced by \$.604 million to account for the availability of prior year execution balances

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 \$0.310M was expended for civilian pay expenses in this program element, and in FY24 \$0.357M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development	R-1 Program Element (Number/Name) PE 0207249F I Precision Attack Systems Procurement
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	12.722	11.872	13.304	0.000	13.304
Current President's Budget	12.284	11.872	12.723	0.000	12.723
Total Adjustments	-0.438	0.000	-0.581	0.000	-0.581
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.438	0.000			
• Other Adjustments	0.000	0.000	-0.581	0.000	-0.581

Change Summary Explanation

No significant Changes

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Advanced Targeting Pod-Technical Insertion (ATP-TI) Increment 1	12.284	11.872	12.723	0.000	12.723
Description: ATP-TI serves as a continuation effort of the ATP-SE program. Efforts include upgrading Operational Flight Program for the Sniper and LITENING precision targeting pods, testing, and aircraft integration.					
FY 2024 Plans: Accomplish ATP Operational Flight Program (OFF) requirements, and further technology improvements, requirements definition, studies, analysis and assessments.					
FY 2025 Base Plans: Accomplish ATP Operational Flight Program (OFF) user requirements and provided improved long-range target detection/identification and continuous stabilized surveillance in support of ground forces with Digital Video Interface and Large Aperture kits.					
FY 2025 OCO Plans: N/A					
FY 2024 to FY 2025 Increase/Decrease Statement:					

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207249F / <i>Precision Attack Systems Procurement</i>

C. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Funding increased because FY25 Operational Flight Program requirements increased for LITENING and Sniper pods to accurately reflect ATP advanced technology OFP Cost, technical analysis, and testing.					
Accomplishments/Planned Programs Subtotals	12.284	11.872	12.723	0.000	12.723

D. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025 Base</u>	<u>FY 2025 OCO</u>	<u>FY 2025 Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• APAF 05 Line Item 057: <i>Other Aircraft, Precision Attack Systems Modifications</i>	9.476	53.374	54.351	-	54.351	55.243	56.439	-	-	Continuing	Continuing
• APAF 06 Line Item 000999: <i>Initial Spares/Repair Parts</i>	2.292	3.659	3.725	-	3.725	3.786	3.869	-	-	Continuing	Continuing

Remarks

E. Acquisition Strategy

The Advanced Targeting Pod (ATP) acquisition strategy consists of several development contracts that use a competitive/ Firm Fixed Price (C/FFP) approach.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207249F / Precision Attack Systems P rocurement	Project (Number/Name) 675347 / Advanced Targeting Pod
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ATP: OFP, Technology Improvement, Tech Analysis, Studies & Assessments	C/FFP	NGC, LM, AFRL : AFRL, WPAFB	-	12.204	Oct 2022	11.372	Oct 2023	12.223	Oct 2024	-		12.223	Continuing	Continuing	-
Subtotal			-	12.204		11.372		12.223		-		12.223	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Support	C/CPAF	Not specified. : TBD	-	-		-		-		-		-	Continuing	Continuing	-
DCA Civ Pay	Allot	Allotment: Wright Patt : Wright Patterson, OH	-	-		0.304	Jan 2024	0.357	Jan 2025	-		0.357	Continuing	Continuing	-
Subtotal			-	-		0.304		0.357		-		0.357	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ATP: Risk Reduction	C/FFP	Multiple : Various	-	0.080	Nov 2022	0.196	Nov 2023	0.143	Nov 2024	-		0.143	Continuing	Continuing	-
Subtotal			-	0.080		0.196		0.143		-		0.143	Continuing	Continuing	N/A

			Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	12.284	11.872	12.723	-	12.723	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207249F / Precision Attack Systems Procurement	Project (Number/Name) 675347 / Advanced Targeting Pod

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

ATP-SE	
FY21 OFP Integration	
FY22 OFP Integration	
ATP-TI	
FY23 OFP Integration	
FY24 OFP Integration	
FY25 OFP Integration	
FY26 OFP Integration	
FY27 OFP Integration	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207249F / <i>Precision Attack Systems Procurement</i>	Project (Number/Name) 675347 / <i>Advanced Targeting Pod</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
ATP-SE				
FY21 OFP Integration	2	2023	2	2024
FY22 OFP Integration	2	2023	2	2023
ATP-TI				
FY23 OFP Integration	2	2023	2	2024
FY24 OFP Integration	2	2024	2	2025
FY25 OFP Integration	2	2025	2	2026
FY26 OFP Integration	2	2026	2	2027
FY27 OFP Integration	2	2027	4	2027

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207253F / <i>Compass Call</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	54.758	66.932	132.475	0.000	132.475	107.766	101.785	108.169	109.544	Continuing	Continuing
674804: <i>Compass Call</i>	-	54.758	66.932	132.475	0.000	132.475	107.766	101.785	108.169	109.544	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Compass Call is the Air Force's wide-area, standoff, Airborne Electromagnetic Attack (AEA) Command and Control Warfare/Information Operations (C2W/IO) weapon system. The employment of this weapon system interrupts the adversary's use of the electromagnetic battlespace and is a key active component in the information battlespace and prosecution of current ground and airborne threats. Compass Call's sophisticated electromagnetic attack system is capable of surgical denial and/or disruption of adversary Radio Frequency (RF) communications, radar and sensor systems.

Due to rapid advances in Electromagnetic Attack (EA) techniques and technology, Compass Call is designed to be adaptable, making it well-suited for a continuous modernization strategy. Such a strategy ensures Compass Call techniques evolve at a pace capable of addressing adversary tactics and emerging technologies. The Compass Call weapon system is continuously improved using a rapid development and acquisition process supporting a Baseline upgrade strategy. User needs and technology insertion opportunities are continuously reviewed. As a result of technology refresh initiatives, including incorporation of open architectures, "plug and play" systems, software defined radios, and modular software development, Compass Call is implementing agile processes to support weapon system development activities.

In FY2017, the Compass Call re-host program was initiated prompting transition of mission capabilities from the legacy EC-130H airframe to an EA-37B airframe. The re-hosted Compass Call platform is based on a commercial derivative G550 aircraft holding Federal Aviation Administration (FAA) Supplemental Type Certificates (STCs) for airworthiness. The platform will undergo modifications to host Compass Call's Prime Mission Equipment (PME) and antenna arrays and will receive additional STCs and Military Type Certificates (MTCs). The EA-37B aircraft will re-use PME from the EC-130H aircraft that will be upgraded to the latest Baseline. Due to the age of the EC-130H fleet, re-hosting of the PME is crucial to ensuring the longevity of this critical capability. In an effort to put capability into the warfighter's hands as soon as possible, the EA-37B program pursues concurrent developmental and production activities.

EA-37B Baseline 3 (BL3) updates fielded EC-130H Mid-Baseline 2 (MBL2) capabilities, while significantly increasing operating altitude and standoff distances through re-host onto the EA-37B airframe. Baseline 4 (BL4) transitions the software baseline to an agile software framework and implements System-Wide Open Reconfigurable Dynamic Architecture (SWORD-A) to enable rapid integration of new capabilities offering increased target capacity. Requirements for Baseline 5 (BL5) are currently being determined and are intended to focus on external communications systems to improve connectivity across the battlespace.

FY25 RDT&E efforts continues BL3 test and evaluation, BL4 development activities, maturation of AEA technologies, and trade studies for future Baseline efforts. Activities encompassed within the BL3 and BL4 PME upgrade may include, but are not limited to, aircraft system integration; assembly, test and checkout; mission system upgrades; obsolescence resolution; software development; systems engineering; test and evaluation; flight test; training systems; training events; support equipment; and Program Support Costs (PSC).

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207253F / <i>Compass Call</i>
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Specific mission system developmental activities may include, but are not limited to, studies and analyses for future capabilities and baselines; preparation of white papers and technical reports; maturation of Technology Readiness Level (TRL) capabilities for future insertion; development of QRC applications for integration into Compass Call Software Defined Radios (SDRs); technology roadmap development; power expansion; transmit and receive development; size, weight, power and cooling (SWAP-C) reductions; transition of Compass Call PME to open architecture compliant standards; and continued migration of the Compass Call Operating System (CCOS) to an agile software construct.

Compass Call funding also supports innovation activities to include studies, analyses, requirements definition, and QRC prototypes/demonstrations to accelerate planning for technology transition, technology insertion, and future acquisition programs.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 \$0.002M was expended for civilian pay expenses in this program element, and in FY24 \$0.000M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025 Base</u>	<u>FY 2025 OCO</u>	<u>FY 2025 Total</u>
Previous President's Budget	50.000	66.932	82.229	0.000	82.229
Current President's Budget	54.758	66.932	132.475	0.000	132.475
Total Adjustments	4.758	0.000	50.246	0.000	50.246
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	6.589	0.000			
• SBIR/STTR Transfer	-1.831	0.000			
• Other Adjustments	0.000	0.000	50.246	0.000	50.246

Change Summary Explanation

FY25: Funding request increased to support upgraded software integration lab (SIL) capability which will enable more advanced developmental testing of technologies in the SIL, thus decreasing "on aircraft" required test time at ranges.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207253F / <i>Compass Call</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
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Title: Baseline Upgrade Development	54.758	66.932	132.475
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Description: Development and test of upgraded PME baseline (BL), other subsystem, and platform upgrades in order to ensure Compass Call capabilities remain ahead of emerging adversary tactics, techniques, and technologies.

FY 2024 Plans:

Supports PME development, integration, and test on platform upgrades and associated simulators/trainers, address PME anomalies as required, and future baseline and capability development activities.

Specific efforts include, but are not limited to, the following:

- Continues platform and PME engineering, upgrade, and test activities
- Continues advancing Electronic Attack offensive capabilities and expanding frequency coverage
- Continues studies and analysis for current/future baseline development planning
- Develops future capabilities to combat emerging and modern threats
- Develops future external communications upgrades
- Develops training systems/simulator upgrades
- Continues Program Support Costs (PSC), advisory & assistance service, and systems engineering support

FY 2025 Plans:

Will continue PME development, integration, and test on platform upgrades and associated simulators/trainers, address PME discrepancies as required, and future baseline and capability development activities.

Specific efforts include, but are not limited to, the following:

- Will continue platform and PME engineering, upgrade, and test activities
- Will continue advancing Electronic Attack offensive capabilities and expanding frequency coverage
- Will continue studies and analysis for current/future baseline development planning
- Will develop future capabilities to combat emerging and modern threats
- Will develop future external communications upgrades
- Will develop training systems/simulator upgrades
- Will upgrade existing Software Integration Lab (SIL) to include advanced testing capability
- Will continue Program Support Costs (PSC), advisory & assistance service, and systems engineering support

FY 2024 to FY 2025 Increase/Decrease Statement:

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207253F / <i>Compass Call</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Funding increased to provide upgraded software integration lab (SIL) capability which will enable more advanced developmental testing of technologies in the SIL, thus decreasing "on aircraft" required test time at ranges. Additionally, this advanced SIL test capability will rapidly mature core technologies/capabilities required for future baseline upgrades and accelerate delivery of capabilities to the warfighter.			
Accomplishments/Planned Programs Subtotals	54.758	66.932	132.475

D. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• APAF 04 Line item CALL00: <i>Compass Call Aircraft</i>	553.700	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	553.700
• APAF 05 Line item CALL00: <i>Compass Call Mods</i>	330.200	144.686	94.654	-	94.654	126.803	214.492	216.548	221.612	0.000	1,348.995
• APAF 06 Line item CALL00: <i>Compass Call Mod Spares</i>	11.343	68.555	13.949	-	13.949	22.396	17.464	17.827	18.181	0.000	169.715

Remarks

E. Acquisition Strategy
 Due to rapid advances in Electromagnetic Attack (EA) techniques and technology, Compass Call was designed to be adaptable, making it well-suited to a continuous modernization strategy. Such a strategy ensures Compass Call techniques evolve at a pace capable of addressing adversary tactics and emerging technologies. The Compass Call weapon system is continuously improved using a rapid development and acquisition process supporting a spiral baseline upgrade strategy. User needs and technology insertion opportunities are continuously revised. As a result of technology refresh initiatives, including incorporation of open architectures, "plug and play" systems, software defined radios, and modular software development, Compass Call is implementing agile processes to support weapon system development activities. QRCs are used to address urgent warfighter requests that must be delivered prior to a Baseline release. Due to rapidly changing threat environment and operational demand leveraging Compass Call capabilities, the acquisition program manager may redirect funding as necessary to meet current stated and emerging/evolving Combatant Commander requirements.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207253F / <i>Compass Call</i>	Project (Number/Name) 674804 / <i>Compass Call</i>
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Compass Call Baseline Upgrade Development Primary Mission Equipment	SS/CPFF	BAE Systems : Nashua, NH	-	38.820	Oct 2022	40.798	Oct 2023	112.849	Oct 2024	-		112.849	Continuing	Continuing	-
Subtotal			-	38.820		40.798		112.849		-		112.849	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Compass Call Sim & Trainer	Various	Not specified. : TBD	-	0.946	Sep 2023	-		-		-		-	0.000	0.946	-
Subtotal			-	0.946		-		-		-		-	0.000	0.946	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Compass Call Test and Evaluation	Various	Not specified. : TBD	-	14.469	Dec 2022	25.545	Dec 2023	18.993	Dec 2024	-		18.993	Continuing	Continuing	-
Subtotal			-	14.469		25.545		18.993		-		18.993	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Compass Call Program Support Costs (PSC)	Various	AFCLCMC : WPAFB, OH	-	0.523	Apr 2023	0.589	Apr 2024	0.633	Apr 2025	-		0.633	Continuing	Continuing	-
Subtotal			-	0.523		0.589		0.633		-		0.633	Continuing	Continuing	N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207253F / <i>Compass Call</i>	Project (Number/Name) 674804 / <i>Compass Call</i>
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	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Compass Call EA-37B Re-host (BL3)	
Capability Development, Test, and Evaluation	
Compass Call EA-37B BL4	
Capability Development, Test, and Evaluation	
Advanced Capability Development	
Future Advanced Capability Development, Test, and Evaluation	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207253F / <i>Compass Call</i>	Project (Number/Name) 674804 / <i>Compass Call</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Compass Call EA-37B Re-host (BL3)</i>				
Capability Development, Test, and Evaluation	1	2023	4	2025
<i>Compass Call EA-37B BL4</i>				
Capability Development, Test, and Evaluation	1	2023	3	2028
<i>Advanced Capability Development</i>				
Future Advanced Capability Development, Test, and Evaluation	1	2023	4	2029

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207268F / <i>Aircraft Engine Component Improvement Program</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	131.325	55.223	68.743	0.000	68.743	55.424	91.426	94.735	96.608	Continuing	Continuing
671012: <i>Aircraft Engine Component Improvement Program</i>	-	91.776	45.301	68.743	0.000	68.743	55.424	57.993	60.595	61.754	Continuing	Continuing
675365: <i>F135 Aircraft Engine Component Improvement Program</i>	-	39.549	9.922	0.000	0.000	0.000	0.000	33.433	34.140	34.854	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Aircraft Engine Component Improvement Program (CIP) provides the only source of critical sustaining engineering support for in-service Air Force engines to maintain flight safety (highest priority), correct deficiencies, improve system Operational Readiness (OR), Reliability & Maintainability (R&M), reduce engine Life Cycle Cost (LCC), and sustain engines throughout their service lives. It also serves as the primary vehicle to implement emerging technology solutions (e.g., additive manufacturing and digital engineering) to resolve these issues, and improve engine performance. Past investments have reduced warfighter Class A rates, decreased Engine Related Loss of Aircraft (ERLOA) and generated significant returns on investments. Priority requirements for FY24 and FY25 include Accelerated Mission Testes (AMTs) required for complex redesigns. The AMT provides early identification of safety/reliability issues prior to the operational fleets discovering unknown safety and/or reliability issues. Ongoing tasks for this year support eliminating critical safety concerns, addressing obsolescence and Diminishing Manufacturing Sources and Material Shortage (DMSMS), developing critical repairs, and extending life limited parts.

Engines are accepted into the CIP program after the first procurement-funded engine, and support continues over the engine's life, gradually decreasing to a minimum level (safety/depot repairs) sufficient to keep older engines operational. Engine CIP testing identifies and addresses engine-related problems before operational impacts materialize. R&M related Engine CIP efforts significantly reduce out year Operations and Maintenance (O&M) and spares costs.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 \$0.0M was expended for civilian pay expenses in this program element, and in FY24 \$0.858M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207268F / <i>Aircraft Engine Component Improvement Program</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	136.087	55.223	68.626	0.000	68.626
Current President's Budget	131.325	55.223	68.743	0.000	68.743
Total Adjustments	-4.762	0.000	0.117	0.000	0.117
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-4.762	0.000			
• Other Adjustments	0.000	0.000	0.117	0.000	0.117

Change Summary Explanation

FY23 decrease of -\$4.762M for Small Business Innovative Research (SBIR). FY25 adjustment of \$0.117M for inflation rate increase.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0207268F / Aircraft Engine Component Improvement Program				Project (Number/Name) 671012 / Aircraft Engine Component Improvement Program			
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
671012: Aircraft Engine Component Improvement Program	-	91.776	45.301	68.743	0.000	68.743	55.424	57.993	60.595	61.754	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Aircraft Engine Component Improvement Program (CIP) provides the only source of critical sustaining engineering support for in-service Air Force engines to maintain flight safety (highest priority), correct deficiencies, improve system Operational Readiness (OR), Reliability & Maintainability (R&M), reduce engine Life Cycle Cost (LCC), and sustain engines throughout their service lives. It also serves as the primary vehicle to implement emerging technology solutions (e.g., additive manufacturing and digital engineering) to resolve these issues and improve engine performance. Past investments have reduced warfighter Class A rates and decreased Engine Related Loss of Aircraft (ERLOA) and generated significant returns on investments. Priority requirements for FY24 and FY25 includes Accelerated Mission Testes (AMTs) required for complex redesigns. The AMT provides early identification of safety/reliability issues prior to the operational fleets discovering unknown safety and/or reliability issues. Ongoing tasks for this year support eliminating critical safety concerns, addressing obsolescence and Diminishing Manufacturing Sources and Material Shortage (DMSMS), developing critical repairs, and extending life limited parts.

Service-related engine deficiencies occur throughout the engine lifecycle. Given the uncertainty with regard to the number and timing of engine-related deficiencies, it is essential for the USAF to have adequate engineering capability and test capacity to rapidly respond to problems as they occur. Engine CIP funding is driven by field events and engine type/maturity, not by the total quantity of fielded engines.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: F100 Aircraft Engine Component Improvement Program	8.472	3.998	6.197
Description: The F100-220 and F100-229 Engine CIP provides critical developmental engineering support to maintain flight safety, to address parts obsolescence, to improve OR and R&M, and to reduce engine LCC throughout their service lives. Funds may be used to address emerging and short-notice DMSMS.			
FY 2024 Plans:			
- Will execute multiple tasks to address engine issues associated with the F-15 and F-16 aircraft			
- Address engine component redesign, repair/rework procedures, engine maturation and life limit/mission analysis			
- Validate redesigned parts and new repair procedures			
- Maintain engine flight safety, address obsolescence deficiencies, improve OR and R&M, reduce LCC, and sustain engines throughout their service life			

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207268F / Aircraft Engine Component Improvement Program	Project (Number/Name) 671012 / Aircraft Engine Component Improvement Program		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>- Conduct F100 AMT</p> <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> - Will execute multiple tasks to address engine issues associated with the F-15 and F-16 aircraft - Address engine component redesign, repair/rework procedures, engine maturation and life limit/mission analysis - Validate redesigned parts and new repair procedures - Maintain engine flight safety, address obsolescence deficiencies, improve OR and R&M, reduce LCC, and sustain engines throughout their service life - Complete F100 AMT <p>FY 2024 to FY 2025 Increase/Decrease Statement: FY24-FY25 increase due to F-100 Accelerated Mission Testing</p>				
<p>Title: F110 Aircraft Engine Component Improvement Program</p> <p>Description: Engine CIP provides critical developmental engineering support for multiple engines to maintain flight safety, to address parts obsolescence, and to improve OR and R&M, to reduce engine LCC, and to sustain engines throughout their service life. Funds may be used to address emerging and short-notice DMSMS issues.</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - Will execute multiple tasks to address engine issues associated with the B1, B-2, F-15, F-16, and U-2 aircraft - Address safety of flight, engine component redesign, repair/rework procedures, engine maturation and life limit/mission analysis - Validate redesigned parts and new repair procedures - Conduct F110 AMT - Maintain engine flight safety, address obsolescence deficiencies, improve OR and R&M, reduce engine LCC, and sustain engines throughout their service life <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> - Will execute multiple tasks to address engine issues associated with the B1, B-2, F-15, F-16, and U-2 aircraft - Address safety of flight, engine component redesign, repair/rework procedures, engine maturation and life limit/mission analysis - Validate redesigned parts and new repair procedures - Complete F110 AMT - Maintain engine flight safety, address obsolescence deficiencies, improve OR and R&M, reduce engine LCC, and sustain engines throughout their service life <p>FY 2024 to FY 2025 Increase/Decrease Statement:</p>		16.893	10.972	12.355

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207268F / Aircraft Engine Component Improvement Program	Project (Number/Name) 671012 / Aircraft Engine Component Improvement Program		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
FY24-FY25 increase due to F-110 Accelerated Mission Testing				
<p>Title: F119 Aircraft Engine Component Improvement Program</p> <p>Description: Engine CIP provides critical developmental engineering support for approximately 471 engines to maintain flight safety, to address parts obsolescence, and to improve OR and R&M, to reduce engine LCC, and to sustain engines throughout their service life. Funds may be used to address emerging and short-notice DMSMS issues.</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - Will execute multiple tasks to address engine issues associated with the F-22 aircraft - Address engine component redesign, repair/rework procedures, engine maturation and life limit/mission analysis - Validate redesigned parts and new repair procedures - Maintain engine flight safety, address obsolescence deficiencies, improve OR and R&M, reduce engine LCC, and sustain engines throughout their service life <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> - Will execute multiple tasks to address engine issues associated with the F-22 aircraft - Address engine component redesign, repair/rework procedures, engine maturation and life limit/mission analysis - Validate redesigned parts and new repair procedures - Maintain engine flight safety, address obsolescence deficiencies, improve OR and R&M, reduce engine LCC, and sustain engines throughout their service life <p>FY 2024 to FY 2025 Increase/Decrease Statement: FY24-FY25 increase due to validation of redesigns and life limits efforts increase</p>		24.263	8.450	17.880
<p>Title: Other Aircraft Engine Component Improvement Program</p> <p>Description: CIP provides critical developmental engineering support for approximately 8,000+ engines (e.g., TF33, TF34, T53, T56, T700, T400, J85, F107), over 16,000 APU/SPS Propulsion-CORE (P-CORE) units, and critical developmental engineering support for future engines (e.g., F404, F130). This also includes, engine issues associated with the C-130, T38, UH-1N/HH-60G/HH-60W, A-10, B-52, AWACS, and JSTARS aircraft, cruise missiles and aircraft APUs. To sustain engines throughout their service lives. P-CORE provides specialized Propulsion trained personnel to effectively support flight safety, reliability, supportability, and affordability for emerging diminishing manufacturing, additive manufacturing, digital transformation, and other Propulsion Technology Office (PTO) priorities.</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - Address engine component redesign, repair/rework procedures, engine maturation and life limit/mission analysis - Validate redesigned parts and new repair procedures 		42.148	21.881	32.311

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207268F / Aircraft Engine Component Improvement Program	Project (Number/Name) 671012 / Aircraft Engine Component Improvement Program		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>- Maintain engine flight safety, address obsolescence deficiencies, improve system OR and R&M, reduce engine LCC, and sustain engines throughout their service life</p> <p>- Funds will also be used to stand up any new Engine CIP Type Model Series (TMS) programs</p> <p>FY 2025 Plans:</p> <p>- Address engine component redesign, repair/rework procedures, engine maturation and life limit/mission analysis</p> <p>- Validate redesigned parts and new repair procedures</p> <p>- Maintain engine flight safety, address obsolescence deficiencies, improve OR and R&M, reduce engine LCC, and sustain engines throughout their service life</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement:</p> <p>FY24-FY25 increase due to additive manufacturing and digital transformation efforts increase</p>				
Accomplishments/Planned Programs Subtotals		91.776	45.301	68.743
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
Other APPN RELATED ACTIVITIES				
(U) - PEs 0203752A and 0205633N, Army/Navy Aircraft Engine CIPs				
D. Acquisition Strategy				
Sole Source Indefinite Delivery/Indefinite Quantity (IDIQ) contracts to Original Equipment Manufacturers (OEMs) and DoD agencies with a 8-year ordering period and 10-year delivery period. Supports multiple tasks to accomplish CIP for more than 23 engine models.				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207268F / Aircraft Engine Component Improvement Program	Project (Number/Name) 671012 / Aircraft Engine Component Improvement Program
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Aircraft Engine CIP: Develop aircraft engine improvements - F110/F101/F118	SS/CPFF	GE : Evendale, OH	-	16.893	Nov 2022	10.972	Oct 2023	12.355	Oct 2024	-		12.355	Continuing	Continuing	-
Aircraft Engine CIP: Develop aircraft engine improvements-F100/F119/TF33/T400	SS/CPFF	Pratt & Whitney : Hartford, CT	-	38.683	Nov 2022	15.254	Oct 2023	28.427	Oct 2024	-		28.427	Continuing	Continuing	-
Aircraft Engine CIP: Develop aircraft engine improvements-TF34/J85/T700	SS/CPFF	GE : Lynn, MA	-	7.072	Nov 2022	3.479	Oct 2023	5.392	Oct 2024	-		5.392	Continuing	Continuing	-
Aircraft Engine CIP: Develop aircraft engine improvements-T56	SS/CPFF	Rolls Royce : Indianapolis, IN	-	0.170	Nov 2022	0.080	Oct 2023	0.124	Oct 2024	-		0.124	Continuing	Continuing	-
Aircraft Engine CIP: Develop aircraft engine improvements-T53	SS/CPFF	Ozark : Springfield, MO	-	0.000	Nov 2022	0.142	Nov 2023	0.220	Nov 2024	-		0.220	Continuing	Continuing	-
Aircraft Engine CIP: Develop aircraft Auxiliary Power Unit improvements	SS/CPFF	Various : Various	-	1.644	Nov 2022	0.776	Oct 2023	1.202	Oct 2024	-		1.202	Continuing	Continuing	-
Aircraft Engine CIP: Develop engine improvements-F107	SS/CPFF	Williams Intl : Pontiac, MI	-	1.548	Nov 2022	0.730	Oct 2023	1.132	Oct 2024	-		1.132	Continuing	Continuing	-
Subtotal			-	66.010		31.433		48.852		-		48.852	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Aircraft Engine CIP: Non-OEM CIP Tasks	Various	Various : Various	-	1.224	Nov 2022	0.578	Nov 2023	0.895	Nov 2024	-		0.895	Continuing	Continuing	-
Subtotal			-	1.224		0.578		0.895		-		0.895	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207268F / Aircraft Engine Component Improvement Program	Project (Number/Name) 671012 / Aircraft Engine Component Improvement Program
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Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
Non-OEM engine CIP tasks include: blade and rotor inspections to identify potential defects or needed repairs.

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Aircraft Engine CIP: Ground test and validate engine improvements	PO	AEDC : Arnold AFB, TN	-	12.798	Dec 2022	6.039	Dec 2023	9.360	Dec 2024	-		9.360	Continuing	Continuing	-
Subtotal			-	12.798		6.039		9.360		-		9.360	Continuing	Continuing	N/A

Remarks
Fuel costs for contractor-performed T&E are included in the applicable contract.

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Aircraft Engine CIP: PMA	Various	Various : Various	-	2.946	Dec 2022	3.099	Dec 2023	3.201	Dec 2024	-		3.201	Continuing	Continuing	-
Propulsion Center of Excellence (PCOE)	Various	Various : Various	-	8.798	Dec 2022	4.152	Dec 2023	6.435	Dec 2024	-		6.435	Continuing	Continuing	-
Subtotal			-	11.744		7.251		9.636		-		9.636	Continuing	Continuing	N/A

Remarks
PMA Description: Program Management support, travel, and A&AS.

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	91.776	45.301	68.743	-	68.743	Continuing	Continuing	N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207268F / Aircraft Engine Component Improvement Program	Project (Number/Name) 671012 / Aircraft Engine Component Improvement Program

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

CIP Legacy Activities	
F-100 Engine CIP Activities	
F-110 Engine CIP Activities	
F-119 Engine CIP Activities	
Other Legacy Engine/Future and P-CORE CIP Activities	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207268F / Aircraft Engine Component Improvement Program	Project (Number/Name) 671012 / Aircraft Engine Component Improvement Program

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>CIP Legacy Activities</i>				
F-100 Engine CIP Activities	1	2023	4	2029
F-110 Engine CIP Activities	1	2023	4	2029
F-119 Engine CIP Activities	1	2023	4	2029
Other Legacy Engine/Future and P-CORE CIP Activities	1	2023	4	2029

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force										Date: March 2024		
Appropriation/Budget Activity 3600 / 7				R-1 Program Element (Number/Name) PE 0207268F / Aircraft Engine Component Improvement Program				Project (Number/Name) 675365 / F135 Aircraft Engine Component Improvement Program				
COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
675365: F135 Aircraft Engine Component Improvement Program	-	39.549	9.922	0.000	0.000	0.000	0.000	33.433	34.140	34.854	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The F135 Aircraft Engine Component Improvement Program (CIP) supports the F-35 single-engine fighter propulsion system and provides critical sustaining engineering support for the F135 engine. F135 CIP maintains flight safety (highest priority), corrects service revealed deficiencies, improves system Operational Readiness (OR) and Reliability & Maintainability (R&M), reduces propulsion system Life Cycle Cost (LCC), and sustains the propulsion system throughout its service life. Past investments have reduced warfighter Class A rates and decreased Engine Related Loss of Aircraft (ERLOA) and generated significant returns on investments. F135 CIP, through "Lead the Fleet" operational use and accelerated mission testing, identifies and fixes propulsion-related problems ahead of operational impacts. F135 CIP ensures continued improvements in R&M, which reduce out year support costs.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
Title: F135 Aircraft Engine Improvement Program	39.549	9.922	0.000
Description: The Aircraft Engine CIP provides critical developmental engineering support for F-35 propulsion systems to maintain flight safety for this single-engine fighter, correct service revealed deficiencies, improve system OR and R&M, reduce engine LCC, and sustain engines throughout their service life. Funds may be used to address emerging and short-notice DMSMS issues.			
FY 2024 Plans: - Execute approximately 80+ AF-funded F135 engine tasks supporting F-35 flying operations. - Conduct accelerated mission test and analytical condition inspection. - Address safety of flight, engine component redesign, repair/rework procedures and life limit/mission analysis. - Validate redesigned parts and new repair procedures. - Maintain/improve engine flight safety, improve OR and R&M, reduce engine LCC, and sustain engine throughout service life. - Funds may be used to address emerging and short-notice DMSMS issues.			
FY 2025 Plans: N/A			
FY 2024 to FY 2025 Increase/Decrease Statement: Concluded all testing activities.			
Accomplishments/Planned Programs Subtotals	39.549	9.922	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207268F / <i>Aircraft Engine Component Improvement Program</i>	Project (Number/Name) 675365 / <i>F135 Aircraft Engine Component Improvement Program</i>

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

Program Element 0205633N provides US Navy funding support for the F135 propulsion system.

D. Acquisition Strategy

Contracts within this program are projected to be awarded sole source to each engine manufacturer. F-135 Engine CIP tasks are generally assigned to the original engine manufacturer based on available funding and prioritization of candidates.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207268F / Aircraft Engine Component Improvement Program	Project (Number/Name) 675365 / F135 Aircraft Engine Component Improvement Program
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Aircraft Engine CIP: Develop F135 engine improvements	SS/CPFF	Pratt & Whitney : Hartford, CT	-	39.337	Jan 2023	9.702	Jan 2024	-		-		-	Continuing	Continuing	-
Subtotal			-	39.337		9.702		-		-		-	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Aircraft Engine CIP: PMA	Various	Various : Various	-	0.212	Dec 2022	0.220	Dec 2023	-		-		-	Continuing	Continuing	-
Subtotal			-	0.212		0.220		-		-		-	Continuing	Continuing	N/A

Remarks
PMA Description: Program Management support, travel, and A&AS.

			Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	39.549	9.922	-	-	-	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207268F / Aircraft Engine Component Improvement Program	Project (Number/Name) 675365 / F135 Aircraft Engine Component Improvement Program

	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

CIP JSF Activities	
F-135 Engine CIP Tasks	
F-135 Engine CIP Tasks FY27-29	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207268F / Aircraft Engine Component Improvement Program	Project (Number/Name) 675365 / F135 Aircraft Engine Component Improvement Program

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>CIP JSF Activities</i>				
F-135 Engine CIP Tasks	1	2023	4	2024
F-135 Engine CIP Tasks FY27-29	1	2027	4	2029

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207325F <i>Joint Air-to-Surface Standoff Missile (JASSM)</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	482.581	123.852	132.937	183.532	0.000	183.532	41.017	17.941	21.858	22.289	225.769	1,251.776
675356: <i>JASSM Extended Range (JASSM-ER)</i>	482.581	123.852	132.937	183.532	0.000	183.532	41.017	17.941	21.858	22.289	225.769	1,251.776
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Program MDAP/MAIS Code: 555

A. Mission Description and Budget Item Justification

The Joint Air-to-Surface Standoff Missile (JASSM) family of missiles includes: JASSM Baseline (JASSM-BL/AGM-158A) and JASSM Extended Range (JASSM-ER/AGM-158B, AGM-158B-2, AGM-158B-3, and AGM-158D). JASSM-ER provides a long range, conventional air-to-surface, autonomous, precision-guided, low observable, standoff cruise missile compatible with fighter and bomber aircraft. JASSM-ER provides the capability to attack a variety of high value fixed or relocatable targets with precision, through preplanned missions or target-of-opportunity, deeper into enemy territory than JASSM-BL, all while minimizing the threat to launch aircraft. Aircraft integration of JASSM-ER/AGM-158B is complete on the B-1, F-15E, F-16, B-2, and B-52. Threshold aircraft is the B-1 and Objective aircraft are F-15E, F-16, B-52, B-2, and F-35.

The AGM-158A, AGM-158B, and AGM-158B-2 are fielded. The AGM-158B-3 and AGM-158D are in development and will gradually insert into the production line as the new missile builds are approved and ready. Missiles accepted by the Air Force will not be returned for modification to the newest variant.

Threats to JASSM survivability are being rapidly developed and fielded by peer-to-peer adversaries. JASSM continued development is critical to maintaining day one war capability and to fulfill Combatant Commanders Operational Plan objectives. Continued development enhances capability and provides operational flexibility against current and projected threats. This is accomplished by evaluating high payoff technology development, performing risk reduction activities, and investigating new variants and/or alternate missions that may use JASSM attributes. To maximize effectiveness of existing inventory and address findings from the field, the Air Force also develops, tests, and fields improvements via software upgrades into fielded missiles and/or hardware upgrades inserted into the production line.

The AGM-158B-2 is an upgrade to the existing JASSM-ER/AGM-158B, incorporating multiple development initiatives to respond to rapidly changing threats. The AGM-158B-2 replaces obsolete components and provides a new electronic fuze, a new Global Positioning System (GPS) receiver, an upgraded Missile Control Unit (MCU), and enhanced software. The AGM-158B-2 has begun a gradual production cut-in starting in Lot 19/FY21 funding year. The AGM-158B-3 provides M-code capability and has begun a gradual production cut-in starting in Lot 22/FY24 funding year. The AGM-158D provides Weapon Data Link (WDL) capability to re-target the missile, post-launch, against relocatable or higher priority targets during mission execution. The AGM-158D has begun a gradual production cut-in starting in Lot 22/ FY24 funding year.

Test assets encompass AGM-158B in prior, and AGM-158B-2 and AGM-158D in FY23-25.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207325F <i>Joint Air-to-Surface Standoff Missile (JASSM)</i>
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This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23, 0.760M was allocated for civilian pay expenses in this program element and in FY24, 1.360M is forecasted for civilian pay expenses in this program element.

The FY25 funding request was reduced by \$5.965 million to account for the availability of prior year execution balances.

Implements tenets of Open, Agile, and Digital acquisition for any new subsystem hardware or software development. Integrates the system in weapon portfolio tradespace studies by conducting trade studies, system engineering, test activities, and system modeling and simulation. Builds and refines a mission modeling framework by incorporating higher-fidelity weapon system designs and updates to the threat landscape to conduct ongoing assessment of weapon system performance against the authoritative threat. Leverages common component development, in collaboration with other weapon systems, to reduce redundant costs between systems with similar subsystems requirements. Invests in analytical, data management, digital environments, networks, facilities, and security infrastructure upgrades supporting development of this program's capabilities, while leveraging DoD and DAF enterprise IT solutions.

This requirement supports performance of a full financial audit as required by title 10 U.S.C. Chapter 9A, Sec 240-D.

Funding may be used to address Diminishing Manufacturing Sources and Material Shortage (DMSMS) issues.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	117.198	132.937	57.141	0.000	57.141
Current President's Budget	123.852	132.937	183.532	0.000	183.532
Total Adjustments	6.654	0.000	126.391	0.000	126.391
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	10.000	0.000			
• SBIR/STTR Transfer	-3.346	0.000			
• Other Adjustments	0.000	0.000	126.391	0.000	126.391

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207325F <i>I Joint Air-to-Surface Standoff Missile (JASSM)</i>
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Change Summary Explanation

FY25: FY23 Service Cost Position (SCP) and following Non-Advocate Cost Assessment (NACA) reflect updated Air Combat Command (ACC) requirement for an improved AGM-158D JASSM variant and an escalated timeline to a Milestone C decision. Increases are for new hardware and software, internal and external reconfiguration, weight reduction, and increased testing requirements arising from these changes.

FY23: SBIR Reduction of \$3.346M. BTR increase of \$10.000M to help fund an increase in the Contractor's projected cost of the WDL radios to facilitate expedited testing schedule.

C. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024	FY 2025
<p>Title: Warfighting Capability Enhancement</p> <p>Description: Design and development of software and mission planning changes to ensure the missile maintains operational effectiveness in classified scenarios.</p> <p>FY 2024 Plans: Continue flight tests and update classified software accordingly based on flight test results. Continue modification of classified software to enable the missile to maintain operational effectiveness in classified scenarios. FY24 includes completion of 54.0.02 software build and associated flight tests for verification of system updates.</p> <p>FY 2025 Plans: Continue lab development, lab/flight testing and update classified software accordingly based on test results. Continue modification of classified software to enable the missile to maintain operational effectiveness in classified scenarios. FY25 will include agile C++ missile operational flight program releases in the 54.0.xx series software family and associated testing for verification of system updates.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding decreased due to the initial release of the 54.0.xx series software family.</p>	26.310	30.124	28.500
<p>Title: Advanced Survivability, Integration, and Test</p> <p>Description: This effort includes development, integration and testing and will continue to enhance missile survivability through subsystem updates including cyber security implementation. The AGM-158B-2 will include a new Electronic Safe and Arm Fuze (ESAF), JASSM Anti-Jam Global Positioning System (GPS) Receiver with Selective Availability Anti-Spoofing Module (JAGR-S V5), an upgraded Missile Control Unit (MCU), Gigabit Ethernet Connector, and enhanced C++ software. This missile variant leverages LRASM coatings, Power Converter Assembly (PCA), Aft Cover and Power and Engine Control Unit (PECU) for improved production commonality.</p> <p>FY 2024 Plans:</p>	23.614	15.244	0.000

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0207325F <i>Joint Air-to-Surface Standoff Missile (JASSM)</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>Continue and finalize developmental testing for AGM-158B-2 which will include full release missions. Additional efforts to support this development will include program protection and cyber security efforts in support of IATT and ATO requirements.</p> <p>FY 2025 Plans: Development effort will be complete resulting in production of a fully qualified AGM-158B-2.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding decreased due to conclusion of AGM-158B-2 Qualification and Production cut-in activities and completion of development test activities.</p>				
<p>Title: Weapon Data Link (WDL)</p> <p>Description: This effort includes development of the Weapon Data Link (WDL), as well as integration and testing efforts. The WDL allows warfighters to retarget the weapons via line-of-sight and beyond-line-of-sight, allowing the missile to attack relocatable and/or time sensitive targets post aircraft release. The WDL program is designed to use an open-system architecture standard with outside communication nodes. The WDL effort reflected in PB24 consisted of the addition of a radio to the existing AGM-158B-2/3 variant. As of PB25, the JPO received additional requirements from ACC resulting in a new AGM-158D JASSM variant and driving a significant increase in the level of effort required to deliver capability. The scope increase includes antenna development and integration, fuel tank redesign and integration, terminal sensor integration, development and testing of C2 capability and 158D-specific C++ software, weight reduction, a complete test plan, and an expedited schedule to meet FY27 need.</p> <p>FY 2024 Plans: Continued development effort to include Preliminary Design review and Critical Design review. Procurement of long lead hardware required to support FY25 test events. Begin subsystem hardware testing and demonstrations.</p> <p>FY 2025 Plans: Continue sub-system and system-level hardware demonstrations and qualification. Begin system level testing and qualification activities required for flight testing that begins in FY25. FY25 Funding (\$150.550M) is comprised of the WDL contract (\$136.587M), Government Test support (\$7.852M), and Program Management Administration (\$6.111M).</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to the requirement to ramp up of test and evaluation efforts in support FY27 production readiness.</p>		71.043	82.083	150.550
<p>Title: Other Development/Safety/Survivability</p> <p>Description: This system improvement program (SIP) focuses on maintaining and upgrading capability and includes development, integration, and testing and will continue to enhance missile survivability through subsystem updates, including cyber security implementation. The SIP will explore and exploit new form, fit, function hardware to maximize missile performance and address newly matured capabilities and emerging threats. These updates will be incorporated via engineering change</p>		2.885	5.486	4.482

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207325F <i>I Joint Air-to-Surface Standoff Missile (JASSM)</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>proposals (ECPs). Potential efforts could include development and integration of advanced Precision, Navigation, and Timing (PNT) capabilities (e.g. Global Positioning System (GPS), non-GPS, optical, passive, active, etc.), evaluations (study analysis), survivability enhancements, safety certifications, Intelligent Test Instrumentation Kit (iTik) Warhead Replacement, flight testing, and Diminishing Manufacturing Sources and Material Shortage (DMSMS). A GPS Military (M) Code receiver is being developed to enable the missile to meet National Defense Authorization Act requirements.</p> <p>FY 2024 Plans: Continue evaluation activity addressing JASSM's obsolescence plan. Directed activities to include safety and survivability studies. Continue GNC and autopilot software allocations and updates.</p> <p>FY 2025 Plans: Continue evaluation activity addressing JASSM's obsolescence plan. Directed activities to include safety and survivability studies. Continue GNC effort and autopilot software allocations and updates.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to ongoing iTik Warhead Replacement requirement and continued Diminishing Manufacturing Sources and Material Shortage.</p>			
Accomplishments/Planned Programs Subtotals	123.852	132.937	183.532

D. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• MPAF 02 0207325F: JASSM	834.971	1,685.668	825.051	-	825.051	821.193	829.091	850.810	867.157	0.000	6,713.941

Remarks

E. Acquisition Strategy
The JASSM Acquisition Strategy was amended and approved on September 8, 2017. This amendment enables the JASSM program to introduce upgrades which ensure its viability as the threat environment evolves. All current development contracts use a Cost Plus type contract.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207325F / Joint Air-to-Surface Standoff Missile (JASSM)	Project (Number/Name) 675356 / JASSM Extended Range (JASSM-ER)
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Warfighting Capability Enhancement	SS/CPAF	Lockheed Martin : Orlando, FL	83.826	26.310	Nov 2022	30.124	Nov 2023	28.500	Nov 2024	-		28.500	38.040	206.800	208.920
Advanced Survivability, Integration, and Test	SS/CPFF	Lockheed Martin : Orlando, FL	132.032	23.614	Nov 2022	15.244	Nov 2023	0.000	Dec 2024	-		0.000	0.000	170.890	179.591
Weapon Data Link	SS/CPFF	Various : Orlando, FL	40.282	67.338	Dec 2022	76.989	Dec 2023	136.587	Nov 2024	-		136.587	442.238	763.434	763.434
Other Development/Safety/Survivability	Various	Lockheed Martin : Orlando, FL	177.571	2.885	Mar 2023	5.486	Mar 2024	4.482	Feb 2025	-		4.482	0.000	190.424	225.745
Subtotal			433.711	120.147		127.843		169.569		-		169.569	480.278	1,331.548	N/A

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Support	C/CPAF	Not specified. : TBD	0.250	2.695	Mar 2023	2.094		-		-		-	0.000	5.039	-
Subtotal			0.250	2.695		2.094		-		-		-	0.000	5.039	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government Test Support. Includes flight test equipment, targets, 96th Test Wing and Range Support, AEDC	Various	96 TW, Eglin AFB : TBD	38.920	-		-		7.852	Feb 2025	-		7.852	0.000	46.772	-
Subtotal			38.920	-		-		7.852		-		7.852	0.000	46.772	N/A

Remarks
-Arnold Engineering Development Complex (AEDC)

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207325F / Joint Air-to-Surface Standoff Missile (JASSM)	Project (Number/Name) 675356 / JASSM Extended Range (JASSM-ER)

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

RDT&E Schedule Details																												
Warfighter Capability Enhancement																												
Advanced Survivability, Integration, and Test																												
Weapon Data Link																												
Diminishing Manufacture Sources and Obsolescence Evaluation/Development																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207325F / <i>Joint Air-to-Surface Standoff Missile (JASSM)</i>	Project (Number/Name) 675356 / <i>JASSM Extended Range (JASSM-ER)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>RDT&E Schedule Details</i>				
Warfighter Capability Enhancement	1	2023	4	2029
Advanced Survivability, Integration, and Test	1	2023	3	2024
Weapon Data Link	1	2023	4	2026
Diminishing Manufacture Sources and Obsolescence Evaluation/Development	1	2023	4	2029

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207327F I <i>Small Diameter Bomb (SDB)</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	37.988	37.518	29.910	0.000	29.910	24.918	25.419	25.817	26.326	0.000	207.896
675191: <i>SDB Increment II</i>	-	37.988	37.518	29.910	0.000	29.910	24.918	25.419	25.817	26.326	0.000	207.896
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

GBU-53/B Small Diameter Bomb Increment II (SDB II) StormBreaker is a joint interest United States Air Force (USAF) and Department of Navy (DoN) Acquisition Category (ACAT) IC program, with the USAF as the lead service. SDB II addresses the following warfighter requirements: attack moving and stationary targets; adverse weather operations; multiple ordnance carriage; precision munitions capability; reduced munitions footprint; increased weapons effectiveness; minimized potential for collateral damage; reduced susceptibility of munitions to countermeasures; and provides a network-enabled weapon capability via Link-16 and Ultra High Frequency (UHF) weapon data link. SDB II is a key component of the Air Force Global Strike Task Force Concept of Operations (CONOPs). The threshold aircraft for the USAF is the F-15E, and the threshold aircraft for the DoN are the F-35B and F-35C. Objective aircraft include the F-22, F-16, F-35A, B-2, A-10, MQ-9, B-1, B-52, AC-130 and the F/A-18E/F. SDB II is compatible with the Bomb Rack Unit-61 (BRU-61) miniature munitions carriage, Type II carriage systems, the Container Numerical Unit-660/E (CNU-660/E) carriage system, the Common Munitions Built In Test (BIT)/Reprogramming Equipment (CMBRE), and the Joint Mission Planning System (JMPS). SDB II will develop and field a single weapon storage container (USAF) and a dual weapon storage container (DoN).

SDB II completed a competitive Risk Reduction in October 2009 and entered Milestone B Engineering and Manufacturing Development (EMD) in August 2010. A Fixed Price Incentive Firm EMD contract with five options for annual Low Rate Initial Production (LRIP) lots (FY15-FY19) was awarded in August 2010. SDB II received Milestone C approval to enter LRIP in June 2015 and completed an Acquisition Program Baseline (APB) update. Contract options for LRIP Lots 1-5 have been exercised. Initial Operational Test and Evaluation (IOT&E) started June 2018 and completed December 2019. SDB II was fielded for the F-15E in September 2020. DoN's first production lot (Lot 4/FY19) supports F/A-18E/F Initial Operating Capability (IOC). The Milestone Decision Authority approved an APB update May 2022 to incorporate the new Air Force inventory objective and adjust for new F-35B/C software schedules.

Implements tenets of Open, Agile, and Digital acquisition for any new subsystem hardware or software development. Integrates the system in weapon portfolio trade space studies by conducting trade studies, system engineering, test activities, and system modeling and simulation. Builds and refines a mission modeling framework by incorporating higher-fidelity weapon system designs and updates to the threat landscape to conduct ongoing assessment of weapon system performance against the authoritative threat. Leverages common component development, in collaboration with other weapon systems, to reduce redundant costs between systems with similar subsystems requirements. Invests in analytical, information management, data management, digital environments, networks, facilities, and security infrastructure upgrades directly supporting development and sustainment of this program's capabilities, while leveraging Department of Defense (DoD) and Department of Air Force (DAF) enterprise Information Technology (IT) solutions.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207327F / <i>Small Diameter Bomb (SDB)</i>
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This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In PY (FY2023) \$0.604M was expended for civilian pay expenses in this program element, and CY (FY2024) \$0.855M is forecasted for civilian pay expenses in this program element.

This program element may include necessary emergent or unanticipated civilian pay expenses required to manage, execute, and deliver Small Diameter Bomb Increment II (SDB II) for emergent or unanticipated weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program 0207327F.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	32.713	37.518	29.857	0.000	29.857
Current President's Budget	37.988	37.518	29.910	0.000	29.910
Total Adjustments	5.275	0.000	0.053	0.000	0.053
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	6.331	0.000			
• SBIR/STTR Transfer	-1.056	0.000			
• Other Adjustments	0.000	0.000	0.053	0.000	0.053

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 675191: *SDB Increment II*

Congressional Add: *Precise Navigation*

	FY 2023	FY 2024
Congressional Add Subtotals for Project: 675191	5.000	0.000
Congressional Add Totals for all Projects	5.000	0.000

Change Summary Explanation

FY23 SBIR adjustments -\$1.056M

FY23 SDB II increase of +\$6.331M from below threshold reprogramming

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207327F / <i>Small Diameter Bomb (SDB)</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>Title: SDB II Development and Engineering Changes</p> <p>Description: Development activities to deliver capabilities in the SDB II Capability Development Document (CDD). Design, develop, integrate, model, test, and qualify engineering changes to SDB II baseline hardware and software to meet emerging threat, new technologies and to maintain compatibility with external systems. Activities include, but are not limited to, DoD-mandated data link cryptographic modernization, program protection, exportability features, cyber security, advanced guidance, navigation and control, enhanced lethality, precise/advance navigation, and software capability upgrades. Conduct trade studies and concept development for technology refresh redesigns as based on obsolescence forecasts.</p> <p>FY 2024 Plans: Complete cryptographic modernization weapon data link integration and subsystem level design verification testing. Continue collaboration with National Security Agency (NSA) on cryptographic modernized Weapon data Link (WDL) key testing, fielding, and management. Continue enhancements for JMPS and Operational Flight Program (OFP)software. Complete all-up-round (AUR) testing.</p> <p>Continue design verification tests of electronic circuit card assemblies (CCAs) affected by obsolescence and M-Code moving toward AUR level testing. Perform OFP and firmware updates to support new CCA designs. Complete Proof of Manufacturing (POM)-level integrated CCA stack design verification testing and qualification. Complete integration and test of the TacNet 1.5 WDL with the new CCAs and associated OFP changes.</p> <p>Continue development, qualification, and testing of engineering changes associated with program protection, exportability, cyber security, enhanced lethality, survivability, threat defeat, software-based capability enhancements, obsolescence, and affordability. Increase System Improvement Program (SIP) to continually advance capability of the weapon and transition program to a steady OFP update cycle. Procure developmental test assets to support developmental test and conduct developmental Captive Flight Tests and platform integration testing. Continue integration of SDB II with Command and Control Infrastructure, including AOC integration and JTAC kits. Continue technical order updates to support ongoing OFP development efforts. Continue BRU-61 OFP updates and integration. Conduct trade studies and concept development for technology refresh redesigns as required based on obsolescence forecasts.</p> <p>FY 2025 Plans: Begin cryptographic modernization 2.0 weapon data link design into the TacNet 1.5 WDL. Complete design verification tests of electronic circuit card assemblies (CCAs) affected by obsolescence and M-Code moving toward AUR level testing. Perform OFP and firmware updates to support new CCA designs. Complete POM-level integrated CCA stack design verification testing and qualification. Complete integration and test of the TacNet 1.5 WDL with the new CCAs and associated OFP changes.</p>	10.386	23.998	22.245

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024		
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>		R-1 Program Element (Number/Name) PE 0207327F / <i>Small Diameter Bomb (SDB)</i>		
C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<p>Continue development, qualification, and testing of engineering changes associated with program protection, exportability, cyber security, enhanced lethality, survivability, threat defeat, software-based capability enhancements, obsolescence, and affordability. Increase System Improvement Program (SIP) to continually advance capability of the weapon and transition program to a steady OFP update cycle. Procure developmental test assets to support developmental test and conduct developmental Captive Flight Tests and platform integration testing. Continue integration of SDB II with Command and Control Infrastructure, including AOC integration and JTAC kits. Continue technical order updates to support ongoing OFP development efforts. Continue BRU-61 OFP updates and integration. Conduct trade studies and concept development for technology refresh redesigns as required based on obsolescence forecasts.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding decreased due to completion of the testing and integration of the TacNet 1.5 WDL into the AUR.</p>				
<p>Title: SDB II M-Code</p> <p>Description: M-Code provides an enhanced anti-jam capability and secures access to military GPS signals. Activities include, but are not limited to design, development, test and qualification of engineering changes to the SDB II system required for M-Code and enhanced anti-jam capability. M-Code will provide the ability to operate in increasing adversarial Anti-Access/Area-Denial (A2/AD) jamming environments with increased accuracy, better signal acquisition, and enhanced security features.</p> <p>FY 2024 Plans: Continue activities to provide SDB II with M-Code capabilities for improved anti-jam and secure access to military GPS signals. Continue development, test, and qualification activities for M-Code receiver and continue associated component integration. Continue M-Code receiver-level qualification, including security certification. Conduct production readiness activities at the receiver level. Continue building section level and All Up Round (AUR) developmental test assets and conduct section level design verification testing as well as All Up Round testing and qualification. Update mission planning and threshold aircraft OFP software to ensure aircraft-to-weapon integration and transmission of the appropriate M-Code initialization data and crypto keys. Implement engineering change proposals required by GPS Directorate to comply with signal-in-space interface control documents, key management distribution and security requirements. Build additional AUR-level builds in support of flight qualification.</p> <p>FY 2025 Plans: Complete activities to provide SDB II with M-Code capabilities for improved anti-jam and secure access to military GPS signals. Complete test and qualification activities for M-Code receiver and complete associated component integration. Complete M-Code receiver-level qualification, including security certification. Conduct production readiness activities at the receiver level. Complete building section level and All Up Round (AUR) developmental test assets and conduct section level design verification testing as well as All Up Round testing and qualification. Update mission planning and threshold aircraft OFP</p>		22.602	13.520	7.665

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207327F / <i>Small Diameter Bomb (SDB)</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
software to ensure aircraft-to-weapon integration and transmission of the appropriate M-Code initialization data and crypto keys. Implement engineering change proposals required by GPS Directorate to comply with signal-in-space interface control documents, key management distribution and security requirements. Build additional AUR-level builds in support of flight qualification. FY 2024 to FY 2025 Increase/Decrease Statement: Funding decrease due to completion of Common Assured Architecture for Position Navigation and Tracing (PNT) (CAAP) M-Code Application Specific Integrated Circuit (ASIC) and receiver component level testing required for integration into the AUR, and purchase of M-Code test articles in FY23 and FY24.			
Accomplishments/Planned Programs Subtotals	32.988	37.518	29.910

	FY 2023	FY 2024
Congressional Add: Precise Navigation	5.000	0.000
FY 2023 Accomplishments: Design, integration, and test of candidate seeker-based algorithms suitable for operation in a Global Positioning System (GPS) denied environment. Integrate algorithms into the Integrated Flight Simulator (IFS) to characterize performance over various terrains. Integrate software into Captive Flight Test (CFT) pod and conduct Captive Flight Test (CFT) events for data collection. Evaluate candidate algorithm performance to determine if any are suitable for a tactical implementation.		
FY 2024 Plans: N/A		
Congressional Adds Subtotals	5.000	0.000

D. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2025</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u>	<u>Total Cost</u>
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	
• MPAF 02 Line Item SDB002: <i>Small Diameter Bomb II</i>	379.006	291.553	327.676	-	327.676	310.658	281.143	315.417	321.670	Continuing	Continuing
• RDTE 05 PE 0604329N: <i>Small Diameter Bomb II</i>	38.429	52.211	19.861	-	19.861	12.062	10.633	9.966	10.173	0.000	153.335
• WPN Line Item 223800: <i>Small Diameter Bomb II</i>	100.684	65.863	76.101	-	76.101	86.738	86.487	93.233	95.191	0.000	604.297

Remarks
DoN RDT&E funds include F-35B and F-35C Integration and Support Cost.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force Date: March 2024

Appropriation/Budget Activity
3600: *Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development*

R-1 Program Element (Number/Name)
PE 0207327F / *Small Diameter Bomb (SDB)*

E. Acquisition Strategy

The SDB II Engineering and Manufacturing Development (EMD) contract was awarded using competitive procedures. At the completion of the 42-month Risk Reduction phase in October 2009, one contractor was selected in April 2010 and awarded the EMD contract in August 2010. The EMD contract is a Fixed-Price Incentive Firm (FPIF) contract with priced production options for the first five production lots. SDB II production Lots 1-3 are FPIF. Production Lots 4-9 are firm fixed price. The Government is buying the SDB II based on the contractor System Performance Specification (SPS) which has been approved by the Government. The contractor is accountable for system performance as defined in the SPS and a system warranty as defined in the EMD contract and follow-on production contracts. Accordingly, the contractor is accountable to the Government for the design of the weapon system, as well as the planning and execution of the Development Test and Evaluation (DT&E) program to verify system performance. The Government formally arranges and funds the use of Government flight test support for DT&E and OT&E.

In September 2017, the Government awarded a sole source indefinite delivery indefinite quantity (IDIQ) contract to Raytheon Missile Systems to design, develop, integrate, model, test, and qualify engineering changes to SDB II baseline hardware and software to meet emerging threats and to maintain compatibility with external systems. Activities include, but are not limited to M-Code GPS, data link cryptographic modernization, program protection, exportability features, cyber security, advanced guidance, navigation and control, enhanced lethality, and address obsolescence issues and affordability opportunities.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In PY (FY2023) \$0.604M was expended for civilian pay expenses in this program element, and CY (FY2024) \$0.855M is forecasted for civilian pay expenses in this program element.

This program element may include necessary emergent or unanticipated civilian pay expenses required to manage, execute, and deliver Small Diameter Bomb Increment II (SDB II) for emergent or unanticipated weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program 0207327F.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207327F / <i>Small Diameter Bomb (SDB)</i>	Project (Number/Name) 675191 / <i>SDB Increment II</i>
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Engineering Changes & Technical Support	SS/ Various	Raytheon : Tucson, AZ	-	5.935	Dec 2022	20.047	Dec 2023	19.126	Dec 2024	-		19.126	0.000	45.108	136.520
M-Code Integration	SS/ Various	Raytheon : Tucson, AZ	-	22.602	Dec 2022	13.571	Dec 2023	7.665	Dec 2024	-		7.665	0.000	43.838	109.437
Precision Navigation	Various	Not specified. : TBD	-	5.000	Aug 2023	-		-		-		-	0.000	5.000	-
F-15E Integration & Test Support	SS/ Various	Boeing : St. Louis, MO	-	1.350	Dec 2022	0.750	Dec 2023	1.400	Dec 2024	-		1.400	0.000	3.500	-
Subtotal			-	34.887		34.368		28.191		-		28.191	0.000	97.446	N/A

Remarks
 - M-Code Integration FY2024 to FY2025 Funding decrease reflects effort is ramping down and headed towards completion of Common Assured Architecture for Position Navigation and Tracing (PNT) (CAAP) M-Code Application Specific Integrated Circuit (ASIC) and receiver component level testing required for integration into the AUR, and purchase of M-Code test articles in FY23.
 *M-Code integration is required to meet the 2011 NDAA mandate. M-Code receiver and required electronics integration into AUR, testing and qualification for production cut-in are on-going through FY25.
 - F-15E Integration and Test Support FY2024 to FY2025 funding increase is due to the continued biannual weapon OFP updates and continuation of integration and testing of iECP into the AUR.

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Other Test Support	Various	Various : Various	-	1.400	Mar 2023	1.400	Mar 2024	-		-		-	0.000	2.800	11.896
Subtotal			-	1.400		1.400		-		-		-	0.000	2.800	N/A

Remarks
 UTTR: Utah Test and Training Range
 WSMR: White Sands Missile Range

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207327F / <i>Small Diameter Bomb (SDB)</i>	Project (Number/Name) 675191 / <i>SDB Increment II</i>
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Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Engineering Professional Administrative Support Services (EPASS)	Various	Various : Eglin AFB, FL	-	0.750	Jun 2023	0.548	Jun 2024	0.548	Jun 2025	-		0.548	0.000	1.846	25.508
Program Management Administration (PMA)	Various	Various : Eglin AFB, FL	-	0.347	Oct 2022	0.347	Oct 2023	0.316	Oct 2024	-		0.316	0.000	1.010	11.536
DCA Civ Pay	Allot	Allotment : Eglin AFB, FL	-	0.604	Oct 2022	0.855	Oct 2023	0.855	Oct 2024	-		0.855	Continuing	Continuing	-
Subtotal			-	1.701		1.750		1.719		-		1.719	Continuing	Continuing	N/A

Remarks
PMA: Other government costs (travel, equipment supplies, and IT support)

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	37.988	37.518	29.910	-	29.910	Continuing	Continuing	N/A

Remarks
Engineering Changes: FY2024 to FY2025 decrease includes upgrades to SDB II baseline hardware/software to meet emerging threats, maintain compatibility with external systems and improve system performance. Activities include, but are not limited to, data link cryptographic modernization, program protection, exportability, cyber security, advanced guidance, navigation and control, enhanced lethality, and address obsolescence issues and affordability opportunities.

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207327F / <i>Small Diameter Bomb (SDB)</i>	Project (Number/Name) 675191 / <i>SDB Increment II</i>
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FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>SDB Increment II</i>																												
F-15E Integration & Test Support																												
M-Code Integration & Testing																												
Data Link Crypto Mod Integration & Testing																												
Integration & Testing on Threshold F-35B/C																												
Precision Navigation																												
Lot Integration and Test																												
System Improvement Program																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207327F / <i>Small Diameter Bomb (SDB)</i>	Project (Number/Name) 675191 / <i>SDB Increment II</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>SDB Increment II</i>				
F-15E Integration & Test Support	2	2023	4	2028
M-Code Integration & Testing	1	2023	3	2025
Data Link Crypto Mod Integration & Testing	1	2023	3	2024
Integration & Testing on Threshold F-35B/C	1	2023	3	2028
Precision Navigation	1	2023	4	2026
Lot Integration and Test	1	2023	4	2028
System Improvement Program	1	2023	4	2029

Note

The F-15E integration and test support will be on-going as new capabilities are developed and tested on the platform. This includes testing in the F-15 Richter Lab. This also includes any required F-15E testing as a result of hardware changes such as iECP in FY25-26.

The F-35 B/C testing is on going with the Navy/Marines Corps platforms.

Lot Integration and Test (LIT) will continue to be the contract vehicle that supports all testing across the program. This includes lab testing, captive flight testing, and through live fire testing. Additionally, engineering use guided test vehicles can be purchased through the LIT contract to support specialized testing requirements.

System Improvement Program (SIP) will be on-going through FY29+ as the program develops, tests and fields new capabilities for the weapon system. The program currently plans to release an Operational Flight Program (OFP) every other year that includes these capability upgrades.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207410F / <i>Air & Space Operations Center (AOC)</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	76.216	72.059	71.442	0.000	71.442	96.738	99.707	104.657	106.723	Continuing	Continuing
674596: <i>AOC WS Modifications</i>	-	76.216	72.059	71.442	0.000	71.442	96.738	99.707	104.657	106.723	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This budget line funds the Air Operations Center Weapon System (AOC WS), AN/USQ-163 Falconer, the senior element of the Theater Air Control System (TACS). This is the weapon system that the Commander, Air Force Forces (COMAFFOR) provides the Combined/Joint Force Air Component Commander (C/JFACC) for planning, executing, and assessing theater-wide air and space operations. The C/JFACC provides air, space and cyber support to the Combined/Joint Forces Commander (C/JFC) by coordinating, deconflicting, and assessing the progress of various weapon systems to advance the C/JFC's campaign. The AOC WS develops operations strategy and planning documents. The weapon system also disseminates tasking orders, executes day-to-day peacetime and combat air, space and cyber operations, and provides rapid reaction to immediate situations by exercising positive control of friendly forces. This program is dependent on the All Domain Common Platform (ADCP). The ADCP provides an extensible cloud-based Infrastructure and Platform as a Service (IaaS/PaaS) hosting platform built to deliver highly resilient mission applications and data to Airmen deployed around the world.

Funding supports continued software engineering capacity required for AOC WS Modifications to support and enable the transition from legacy systems (e.g., Theater Battle Management Core System - Force Level [TBMCS FL] and AOC 10.1) to Block 20 modernized capabilities. Additionally, funding supports IaaS/PaaS development and operations specific to the AOC program. AOC WS Modifications are required to support mission requirements at Geographic AOCs, Global (formerly Functional) AOCs, and Support and Manpower Augmentation units, and to keep the AOC current and interoperable with the Combatant Commands (CCMDs), cyber requirements, and next generation weapon systems/weapons. Funding also provides software engineering capacity to deliver air operations capabilities improving speed and automation of the full air tasking cycle, including integration with unit-level sortie generation capabilities that feed friendly order of battle information to the Master Air Attack Plan process. AOC WS Modifications modernize the AOC utilizing Agile methodologies to deliver capabilities that keep pace with evolving COTS/GOTS components, DoD directives, operational energy security and efficiency objectives, and changes in the underlying IT environment, and to remain interoperable, certified, and supportable across the lifecycle of new capabilities and upgrades to the AOC WS. This includes utilization of a managed cloud IaaS/PaaS hosting platform.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funding would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, and 0606398F. In FY2023, \$14.825M was expended for civilian pay expenses in this program element, and in FY2024, \$19.907M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207410F / <i>Air & Space Operations Center (AOC)</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	78.889	72.059	88.521	0.000	88.521
Current President's Budget	76.216	72.059	71.442	0.000	71.442
Total Adjustments	-2.673	0.000	-17.079	0.000	-17.079
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-2.673	0.000			
• Other Adjustments	0.000	0.000	-17.079	0.000	-17.079
 Change Summary Explanation					
The FY2025 funding request decreased by \$10.000M due to funding reprogrammed from AOC RDT&E to AOC OMAF.					
The FY2025 funding request decreased by \$7.200M due to the Air Force correcting a database error. Funding was reprogrammed from PE 0207410F, AOC, to PE 0604840F, F-35 C2D2.					
The FY2025 funding request increased by \$0.121M due to an inflation adjustment.					

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: AOC WS Modifications Development	76.216	72.059	71.442
Description: Plan and execute strategies to deliver war fighting outcomes by leveraging commercial best practices for agile software development, scale a modern IaaS/PaaS solution to the AOC WS enterprise, implement improved solutions for platform architecture and Continuous Integration/Continuous Delivery (CI/CD) pipeline, enable objectives that support operational energy and security efficiencies and maintain continuous Authority to Operate (ATO). Conduct software engineering solutions by leveraging agile engineering methodologies to engineer, integrate, and test modifications. Improve speed and automation of the full air tasking cycle to include integration between operational-level and unit-level sortie generation capabilities of the AOC WS leveraging test-driven development. Utilize CI/CD processes to provide engineering solutions, test, and deliver enhanced operational C2 capabilities including support of multi-domain operations.			
FY 2024 Plans:			
- Improve the Kessel Run All-Domain Operations Suite (KRADOS) in operational use and scale across the AOC enterprise.			
- Transition from legacy applications/systems such as TBMCS FL and AOC 10.1 baseline to AOC WS Block 20 modernized capabilities.			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207410F / <i>Air & Space Operations Center (AOC)</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> - Leverage software engineering capacity to align with FY2024 Capability Needs Statement priorities, which includes continued delivery of Block 20 capabilities to enable global access to KRADOS for all AOCs; continue scaling KRADOS to support Major Theater War; continue supporting Integrated ISR Information Exchange; continue to build out Ops Support (e.g., Help Desk & Training) functions; continue development for KRADOS to process mission execution despite network availability/disconnected ops through delivery of persistent and resilient capability; enable interoperability, integration, and collaborate planning with Joint community; and begin Process Automation/Improved Decision Making efforts. - Optimize for Operational Energy (aviation fuel) use and increase combat capability through operations software development. - Enable development and scaling of an extensible cloud-based IaaS/PaaS hosting platform/enterprise architecture along with the necessary services to support continuous software capability integration and delivery. - Improve speed and automation of the full air tasking cycle to include integration between operational-level and unit-level sortie generation capabilities that feed friendly order of battle information to the Master Air Attack Plan. <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> - Will continue to improve the KRADOS in operational use and scale across the AOC enterprise. - Will continue the transition from legacy applications/systems such as TBMCS FL and AOC 10.1 baseline to AOC WS Block 20 modernized capabilities. - Will continue to leverage software engineering capacity to align with FY2025 Capability Needs Statement priorities, which includes achieving KRADOS multi-tenancy across the AOC enterprise; expanding access to mission partners to support Denied, Disrupted, Intermittent, and Limited bandwidth scenarios; achieving KRADOS Major Theater War capabilities/capacity across the AOC enterprise; conducting functional AOC, Joint and Mission Partner Assessments; completing transition from hybrid cloud to fully leverage a commercial cloud service provider; preparing to conduct Operational Test and Evaluation to declare KRADOS fully operationally capable; and continuing investment in Dynamic Targeting and streamlined workflows. - Will continue to optimize for Operational Energy (aviation fuel) use and increase combat capability through operations software development. - Will continue to enable development and scaling of an extensible cloud-based IaaS/PaaS hosting platform/enterprise architecture along with the necessary services to support continuous software capability integration and delivery. - Will continue to improve speed and automation of the full air tasking cycle to include integration between operational-level and unit-level sortie generation capabilities that feed friendly order of battle information to the Master Air Attack Plan. <p>FY 2024 to FY 2025 Increase/Decrease Statement: FY2025 funding decreases by \$0.617M to align program development efforts with Capability Needs Statement priorities.</p>			
Accomplishments/Planned Programs Subtotals	76.216	72.059	71.442

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207410F / <i>Air & Space Operations Center (AOC)</i>
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D. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPAF 03 834530: <i>Air & Space Operations Center (AOC)</i>	19.816	4.609	20.664	-	20.664	22.414	23.201	23.700	24.168	Continuing	Continuing
• OPAF 03 833140: <i>Strategic Command And Control</i>	30.738	9.991	5.431	-	5.431	1.862	1.906	28.700	29.267	Continuing	Continuing
• RDTE 07 0303248F: <i>All Domain Common Platform</i>	44.989	71.296	82.927	-	82.927	87.575	92.589	88.829	90.583	Continuing	Continuing

Remarks

E. Acquisition Strategy

The acquisition strategy builds on agile software engineering solutions and modification of existing capabilities using an evolutionary acquisition approach to standardize and modify the AOC WS. The initial capability was AOC WS Increment 10.0, which fielded the 10.0 configuration to five operational sites, plus a Help Desk and a Formal Training Unit. The second increment, increment 10.1, upgraded these locations to an integrated baseline and fielded the baseline to additional operational and reserve units worldwide. AOC WS Modifications will leverage commercial best practices of Agile DevOps to scale out a modern virtual private cloud to the AOCs and scale up additional software product teams in support of retiring TBMCS FL and other legacy mission critical applications allowing for eventual disposal of the AOC 10.1 infrastructure. This enables dynamic resource allocation based on current warfighter needs. AOC operates under authority FY20 NDAA, Section 800, Software Acquisition Pathway.

AOC WS Modifications will leverage a modular contracting strategy that focuses on evolving needs, continuous market research and streamlined solicitation procedures. AOC WS Modifications leverages both small and large business contracts for specialized services and enterprise AOC support to adopt commercial best practices for software development and to scale out a modern IaaS/PaaS solution. Activities are also accomplished via Military Interdepartmental Purchase Requests (MIPR). Additionally, significant technical expertise will be sought after via modular contracting approach and provided by Government Agencies, DoD Laboratories, Federally Funded Research and Development Centers (FFRDC), Academia, and Engineering & Professional Acquisition Support Services contractors as well as commercial industry partners.

Program management for the AOC program is under direction of PEO Digital, located at Hanscom AFB, MA. The Air Force Life Cycle Management Center (AFLCMC) located at Hanscom AFB, MA is the contracting authority for the AOC program. AFLCMC provides contracting, legal, comptroller, programmatic, engineering, test, and logistics support.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force												Date: March 2024			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
3600 / 7				PE 0207410F / Air & Space Operations Center (AOC)				674596 / AOC WS Modifications							
Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AOC WS Modifications Development	C/Various	Various : Multiple	-	46.493	Jan 2023	35.376	Nov 2023	34.683	Nov 2024	-		34.683	Continuing	Continuing	-
Subtotal			-	46.493		35.376		34.683		-		34.683	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AOC WS Modifications Direct Mission Support	C/Various	Various : Various	-	4.241	Nov 2022	4.848	Oct 2023	5.847	Oct 2024	-		5.847	Continuing	Continuing	-
AOC WS Modifications Civilian Direct Cite Authorizations for Product Development	Allot	AFLCMC/FZA : TBD	-	14.825	Oct 2022	19.907	Oct 2023	19.994	Oct 2024	-		19.994	Continuing	Continuing	-
Subtotal			-	19.066		24.755		25.841		-		25.841	Continuing	Continuing	N/A
Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AOC WS Modifications Engineering Services	Various	Various : Various	-	3.655	Nov 2022	2.631	Oct 2023	3.614	Oct 2024	-		3.614	Continuing	Continuing	-
AOC WS Modifications Program Support	C/Various	Various : Various	-	7.002	Jan 2023	9.297	Oct 2023	7.304	Oct 2024	-		7.304	Continuing	Continuing	-
Subtotal			-	10.657		11.928		10.918		-		10.918	Continuing	Continuing	N/A
Project Cost Totals			-	76.216		72.059		71.442		-		71.442	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207410F / Air & Space Operations Center (AOC)	Project (Number/Name) 674596 / AOC WS Modifications

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

AOC WS Modifications	
Continuous AOC Block 20 Deliveries	
Major Theater War	
Multi-Tenancy	
Joint Planning	
Dynamic Targeting	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207410F / Air & Space Operations Center (AOC)	Project (Number/Name) 674596 / AOC WS Modifications

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
AOC WS Modifications				
Continuous AOC Block 20 Deliveries	1	2023	4	2029
Major Theater War	1	2023	1	2025
Multi-Tenancy	1	2023	1	2025
Joint Planning	1	2024	3	2025
Dynamic Targeting	1	2024	2	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207412F <i>I Control and Reporting Center (CRC)</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	6.409	17.498	18.473	0.000	18.473	18.398	18.776	19.456	19.840	Continuing	Continuing
67485L: <i>CRC Modernization</i>	-	6.409	17.498	18.473	0.000	18.473	18.398	18.776	19.456	19.840	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Control and Reporting Center (CRC) is a mobile, ground-based theater air control system (TACS) surveillance and battle management command and control (BMC2) element. It is a customizable, modular, transportable, and persistent weapon system employed at the tactical level to provide direct command and control to all air assets in an assigned Area of Responsibility (AOR) and to report back to the Joint Force Air Combat Commander (JFACC). The CRC is a family of systems which include: AN/TYQ-23A(V)1 Tactical Air Operations Module (TAOM), AN/TSC-250 Communication Data Link System (CDLS), AN/TRC-213/214 Remote Radio Secure Voice System (RRSVS), and CRC's organic sensor, AN/TPS-75. CRC is part of the Air Force's Advanced Battle Management System (ABMS) initiative, to which CRC will provide modular capability to support tactical C2. CRC Modernization consolidates previous upgrade efforts into a coordinated initiative focused on upgrading of BMC2, sensors, and communications. CRC aligns with the Advanced Battle Management System (ABMS) PE 0604003F by integrating with the Distributable Battle Management Node (DBMN) and Cloud-Based Command and Control (CBC2) programs to provide modular capability to support tactical C2, meeting the requirements for Tactical Operations Center - Light and Medium (TOC-L and TOC-M) concepts while minimizing duplication of effort. The organic software development efforts rely on having a steady stream of RDT&E funding throughout the FYDP.

In FY2025, CRC Modernization efforts include, but are not limited to: integration of the Link-22 capability, pursuant to the Link 11 sunset, continued development and testing of a block upgrade for the AN/TRC-213/214 RRSVS, Next Generation CRC weapon system (TOC-L/TOC-M) prototyping support, architecture upgrades to the AN/TYQ-23A(V)1 Tactical Air Operations Module to support evolution into future ABMS construct, continuous software development/integration/deployment using Agile software development methods, security and operations (DevSecOps), TPY-4 Deployable Radar (formerly 3DELRR) Integration, integration and test of the Supplemental Tactical Sensing Capability (STSC), active and passive 3rd party sensor integration, accredited structures and storage solutions in pursuit of Open System Architecture (OSA) advancements. Additionally, CRC modifications required to keep the system in compliance with DoD directives, changes in the underlying IT/ Cyber Security environment and any other emerging requirements, and to remain interoperable, certified, supportable, and compliant through the development, integration, testing, fielding, training and related equipment of new CRC capabilities.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605832F, 0605833F, 0605898F, 0606398F. In FY2023, \$1.590 million was expended for civilian pay expenses in this program element, and in FY2024 \$2.100 million is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207412F <i>I Control and Reporting Center (CRC)</i>
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B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	6.615	17.498	18.440	0.000	18.440
Current President's Budget	6.409	17.498	18.473	0.000	18.473
Total Adjustments	-0.206	0.000	0.033	0.000	0.033
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.206	0.000			
• Other Adjustments	0.000	0.000	0.033	0.000	0.033

Change Summary Explanation

N/A

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
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Title: CRC Modernization	6.409	17.498	18.473
<p>Description: - CRC Modernization consolidates previous upgrade efforts into a coordinated initiative focused on upgrading of BMC2, sensors, and communications systems for the current weapon system while designing in modularity that will seamlessly integrate with Tactical Operations Center-Light and Medium (TOC-L and TOC-M).</p> <p>- CRC Modernization: Organic system software development and upgrades in collaboration with ABMS Software factories, Hardware upgrades and virtualization, JWICS integration, Moving Target Indicator (MTI) tracker integration, Multi-Level Security/ Cross Domain Solution (MLS/CDS) Implementation, L/V/C Operations capability.</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - Continue CRC Organic SW Development and architectural upgrades - Continue hardware architecture modernization - Continue software development/integration/deployment using Agile DevSecOps development - Continue prototyping, testing and cyber hardening of communication capabilities - Continue solutions in pursuit of emerging technology <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> - Integrate Link-22, 3DELLR, and the RRSVS architectural upgrade capabilities - Begin interoperability efforts with TOC-L and TOC-M 			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207412F <i>I Control and Reporting Center (CRC)</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
- Integrate and test Supplemental Tactical Sensing Capability (STCS)			
<i>FY 2024 to FY 2025 Increase/Decrease Statement:</i>			
- Funding increased due to ramping up multiple integration efforts to ensure new components of the CRC system of systems can smoothly operate as a single integrated weapon system. These integration efforts include RRSVS upgrade developments to integrate with TOC-L, Link-22 datalink, 3DELRR, and Link Monitor and Management Tool (LMMT) integration.			
Accomplishments/Planned Programs Subtotals	6.409	17.498	18.473

D. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• OPAF 03 833040: <i>Theater Air Control Sys Improvemen</i>	13.986	0.000	73.412	-	73.412	60.894	38.333	39.146	39.920	0.000	265.691

Remarks

E. Acquisition Strategy

- The CRC Capability Roadmap provides for the modernization of the CRC family of systems and will be programmed into phased updates through 2037 to further advance current and future battlespace awareness and tactical battle management command and control capabilities. A variety of contract and organic vehicles will be used depending on type of effort and skills required. The Milestone Decision Authority is the Air Force Program Executive Office for Digital (AFPEO Digital) and the Air Force Life Cycle Management Center (AFLCMC) as the Contracting Authority.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force												Date: March 2024			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
3600 / 7				PE 0207412F / Control and Reporting Center (CRC)				67485L / CRC Modernization							
Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CRC Modernization	C/FP	Not specified. : TBD	-	-		1.000	Jan 2024	2.900	Jan 2025	-		2.900	Continuing	Continuing	-
CRC 520th Organic Software Development	C/FP	520 SWEG : Hill AFB	-	3.548	Jan 2023	3.300	Mar 2024	3.634	Mar 2025	-		3.634	Continuing	Continuing	-
RRSVS Architectural Upgrade	C/CPFF	Not specified. : TBD	-	-		4.800	Feb 2024	3.900	Feb 2025	-		3.900	Continuing	Continuing	-
MUOS Simulator (Test/Lab)	C/FFP	Not specified. : TBD	-	-		2.100	Feb 2024	-		-		-	Continuing	Continuing	-
Link-22	C/CPFF	Not specified. : TBD	-	-		-		2.000	Feb 2025	-		2.000	Continuing	Continuing	-
Subtotal			-	3.548		11.200		12.434		-		12.434	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CRC Modernization Direct Cite Authority - Additional 12 Civilian Positions	RO	Various : Hill AFB, UT	-	1.736	Oct 2022	2.100	Oct 2023	2.284	Oct 2024	-		2.284	Continuing	Continuing	-
Subtotal			-	1.736		2.100		2.284		-		2.284	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CRC Modernization Test Support	Various	Various : Various	-	0.125	Nov 2022	0.398	May 2024	0.050	May 2025	-		0.050	Continuing	Continuing	-
Subtotal			-	0.125		0.398		0.050		-		0.050	Continuing	Continuing	N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207412F / <i>Control and Reporting Center (CRC)</i>	Project (Number/Name) 67485L / <i>CRC Modernization</i>

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

CRC Modernization	
Integration and Testing	
CRC Organic Software	
Design, Development, Integration, and Test	
RRSVS Architectural Upgrade	
Design, Development, Integration, and Test	
MUOS Simulator (Test/Lab)	
Design, Development, Integration, and Test	
Link-22	
Design, Development, Integration, and Test	

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207412F / <i>Control and Reporting Center (CRC)</i>	Project (Number/Name) 67485L / <i>CRC Modernization</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>CRC Modernization</i>				
Integration and Testing	2	2024	4	2026
<i>CRC Organic Software</i>				
Design, Development, Integration, and Test	1	2023	4	2027
<i>RRSVS Architectural Upgrade</i>				
Design, Development, Integration, and Test	2	2024	4	2025
<i>MUOS Simulator (Test/Lab)</i>				
Design, Development, Integration, and Test	2	2024	2	2025
<i>Link-22</i>				
Design, Development, Integration, and Test	2	2025	4	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207417F / <i>Airborne Warning and Control System (AWACS)</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	11.191	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	11.191
67411L: <i>Airborne Warning & Control System (AWACS)</i>	-	11.191	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	11.191
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

Mission: E-3 Airborne Warning and Control System (AWACS) is the premier airborne platform providing Battle Management Command and Control (BMC2) for Commander In Chief and combatant commander tasking in joint, allied, and coalition operations, humanitarian relief, and homeland defense. AWACS provides a real-time picture of friendly, neutral, and hostile air activity. Its capabilities include: All-altitude/all-weather surveillance of the battle space; early warning of enemy actions; a real-time ability to find, fix, track, and assess airborne or maritime threats; and detection, location, and identification of electronic emitters.

Major efforts for the AWACS program include:

1. E-3 Training, Support, and Infrastructure (TSI): The TSI program provides continuing lab operations and maintenance support for AWACS modernization and enhancement across the enterprise. TSI will implement realignment of management responsibility of the AWACS Integration and Test Support (AITS) labs to allow for continuing Foreign Military Sales (FMS) E-3 AWACS program test requirements and for US and FMS E-3 Sustainment requirements. Continuing activities include managing the AWACS Development Test and Evaluation (DT&E) infrastructure and tracking and monitoring the AWACS support equipment and program Government Furnished Property. TSI will continue to manage the cost, schedule, and performance contract of the AITS lab until the FMS office completes its transfer plan. Currently the overall DT&E test infrastructure supports earlier versions of AWACS aircraft during system and sub-system testing in Seattle, WA and Oklahoma City, OK, along with Third Party Integration support from The Boeing Company to AWACS customers in the System AITS labs. TSI does provide support to multiple Foreign Military Sales (FMS) projects on a maintenance fee basis to projects for France, Saudi Arabia and Japan efforts. Key programs include contractual management of the AWACS Avionics Integration Laboratory (AIL) integrated with the Block 40/45 Functional Group configured lab. These labs provide US, FMS, and Direct Commercial Sales customers with a configured development and qualification system and subsystem environment supporting all AWACS system.

2. E-3 Command and Control, Intelligence, Surveillance, and Reconnaissance (C2ISR): C2ISR system improvements investigate and develop future capabilities of the AWACS weapon system. These efforts also include, but are not limited to, investigation, analysis, and development to ensure that AWACS successfully integrates with joint and coalition forces in a net-centric environment. C2ISR primarily supports pre-systems acquisition in the areas of materiel solution analysis and technology development. This is accomplished by prototyping and demonstrating capabilities required by the warfighter but also includes developing an E-3 Modernization & Sustainment Roadmap that projects user capability needs, as well as materiel solutions for the user needs. C2ISR also supports an analytical comparison of the operational effectiveness, suitability, life-cycle cost and system capabilities of alternative materiel solutions beyond the current AWACS that satisfy an established capability need identified in an Initial Capabilities Document (ICD), Rapid Prototyping Requirements Document (RPRD), or Rapid Fielding Requirements Document (RFRD).

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207417F / <i>Airborne Warning and Control System (AWACS)</i>
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3. E-3 Communication Network Upgrade (CNU): CNU will provide a Link 16 capability with high-jam-resistance, high-speed, crypto-secure computer-to-computer connectivity in support of every type of military platform from airborne assets to submarines. The current 20-year-old Class 2 terminal has sustainability/Diminishing Manufacturing Source (DMS) issues and does not support mandated Crypto Mod (CM) & Freq. Remap (FR). CNU resolves DMS issues, provides CM & FR, Link 16 enhancements & growth for Next Gen Tactical Data Link (TDL). CNU capabilities will be delivered in two phases, comprised of three Minimum Viable Product (MVP) efforts. Phase I: MVP1 (Crypto) will provide Enhanced Link 16 Crypto and Frequency Mapping, and MVP2 will provide High Powered Amplification of Communications (HPAs). Phase II: MVP3 (Link 16 Advanced Capabilities) will provide Link 16 advanced communications throughput via ethernet connection.

4. E-3 AWACS Communications Integration Program (ACIP): ACIP will provide Mobile User Objective System (MUOS) and Second-Generation Anti-Jam Tactical UHF Radio for NATO (SATURN) capability by replacing the existing Have Quick II and Demand Assigned Multiple Access (DAMA) SATCOM radios with new radios capable of communicating via multiple waveforms as a combined integration program on AWACS. Provides continued compatibility with US and Allied forces using frequency hopping UHF in support of airborne AMTI & BMC2 to CCMDs for Joint, Allied & Coalition operations by maintaining compatibility with CAF/Sister service C2 nodes and theater assets.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program's funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	11.598	0.000	0.000	0.000	0.000
Current President's Budget	11.191	0.000	0.000	0.000	0.000
Total Adjustments	-0.407	0.000	0.000	0.000	0.000
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.407	0.000			
• Other Adjustments	0.000	0.000	0.000	0.000	0.000

Change Summary Explanation

FY2023 Congressional Directed Reduction against CNU -\$1.000M; Congressional Directed Transfer -\$226.776M from PE 0207417F to 0604007F

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207417F / <i>Airborne Warning and Control System (AWACS)</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
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<p>Title: E-3 Training, Support and Infrastructure (TSI)</p> <p>Description: Training, Support, and Infrastructure (TSI):- The TSI program provides continuing lab operations and maintenance support for AWACS modernization and enhancement across the enterprise. TSI will implement realignment of management responsibility of the AWACS Integration and Test Support (AITS) labs to allow for continuing Foreign Military Sales (FMS) E-3 AWACS program test requirements and for US and FMS E-3 Sustainment requirements. Continuing activities include managing the AWACS Development Test and Evaluation (DT&E) infrastructure and tracking and monitoring the AWACS support equipment and program Government Furnished Property. TSI will continue to manage the cost, schedule, and performance contract of the AITS lab until EOY 2024, at which time a full transition of the AITS lab to FMS will be complete. Currently the overall DT&E test infrastructure supports earlier versions of AWACS aircraft during system and sub-system testing in Seattle, WA, and Oklahoma City, OK, along with Third Party Integration support from The Boeing Company to AWACS customers in the System AITS labs. TSI does provide support to multiple Foreign Military Sales (FMS) projects on a maintenance fee basis to projects for France, Saudi Arabia and Japan efforts. Key programs include contractual management of the AWACS Avionics Integration Laboratory (AIL) integrated with the Block 40/45 Functional Group configured lab. These labs provide US, FMS, and Direct Commercial Sales customers with a configured development and qualification system and subsystem environment supporting all AWACS system.</p> <p>FY 2024 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: N/A</p>	1.413	0.000	-
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<p>Title: E-3 Command and Control, Intelligence, Surveillance and Reconnaissance (C2ISR)</p> <p>Description: Command and Control, Intelligence, Surveillance, and Reconnaissance (C2ISR): Investigate and develops future capabilities of the AWACS weapon system to include but are not limited to investigation, analysis, and development to ensure that AWACS successfully integrates with joint and coalition forces in a net-centric environment. Primarily supports pre-systems acquisition in the areas of materiel solution analysis and technology development (i.e., risk reduction activities).</p> <p>FY 2024 Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement:</p>	0.000	0.000	-
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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207417F / <i>Airborne Warning and Control System (AWACS)</i>
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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
N/A			
Title: E-3 Communication Network Upgrade (CNU) Description: Communication Network Upgrade (CNU): Provides a Link 16 capability with high-jam-resistance, high-speed, crypto-secure computer-to-computer connectivity in support of every type of military platform from from airborne assets to submarines. FY 2024 Plans: N/A FY 2024 to FY 2025 Increase/Decrease Statement: N/A	1.000	0.000	-
Title: E-3 AWACS Communications Integration Program (ACIP) Description: AWACS Communications Integration Program (ACIP) Development: Provides Mobile User Objective System (MUOS) and Second Generation Anti-Jam Tactical UHF Radio for NATO (SATURN) capability by replacing the existing Have Quick II and DAMA SATCOM radios with new radios capable of communicating via multiple waveforms as a combined integration program on AWACS. FY 2024 Plans: N/A FY 2024 to FY 2025 Increase/Decrease Statement: N/A	8.778	0.000	-
Accomplishments/Planned Programs Subtotals	11.191	0.000	-

D. Other Program Funding Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• APAF 05 Line Item E00300: <i>E-3</i>	29.187	0.552	67.386	-	67.386	16.535	0.000	0.000	-	0.000	113.660
• APAF 05 0207417F: <i>Airborne Warning and Control System (AWACS)</i>	-	-	-	-	-	-	-	-	-	0.000	0.000
• APAF 06 Line Item 000999: <i>Initial Spares/Repair Parts</i>	-	-	-	-	-	-	-	-	-	0.000	0.000

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force	Date: March 2024
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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207417F / <i>Airborne Warning and Control System (AWACS)</i>
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D. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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Remarks

E. Acquisition Strategy

The modernization of the AWACS weapon system consists of multiple capability upgrades that are developed and fielded on competitive and sole source contracts. Full and open competition is explored for all new efforts where market research indicates opportunities exist.

E-3 Material Leaders are the Milestone Decision Authority (MDA) for AWACS Programs, with the exception of the E-3 Block 40/45 Upgrade. The E-3 Block 40/45 Upgrade MDA is the Secretary of the Air Force, with authority delegated to the Assistant Secretary of the Air Force (Acquisition, Technology, and Logistics). Of note, E-3 Block 40/45 Upgrade has completed development activities, so it has no RDT&E funding and therefore not referenced in this document. The Decision Authority for current AWACS Middle Tier of Acquisition (MTA) and ACAT III programs is delegated to the E-3 Material Leaders. Air Force Life Cycle Management Center (AFLCMC) is the contracting authority for the AWACS portfolio and provides contracts, legal, and comptroller Support.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207417F / Airborne Warning and Control System (AWACS)	Project (Number/Name) 67411L / Airborne Warning & Control System (AWACS)
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
E-3 Communication Network Upgrade (CNU) Software Development	Various	76 SWES : Tinker AFB, OK	-	0.980	Oct 2023	-		-		-		-	0.000	0.980	-
ACIP Rapid Prototyping Alpha Phase	SS/CPFF	BAH : Lexington, MA	-	2.007	Jun 2024	-		-		-		-	0.000	2.007	-
ACIP Rapid Prototyping Gov't Furnished Equipment (GFE)	MIPR	Various : TBD	-	0.014	Jun 2023	-		-		-		-	0.000	0.014	-
ACIP Rapid Prototyping Risk Reduction Studies and Analysis	MIPR	Various : TBD	-	1.039	Aug 2023	-		-		-		-	0.000	1.039	-
ACIP Software Development	Various	76 SWES : Tinker AFB, OK	-	2.712		-		-		-		-	0.000	2.712	-
Subtotal			-	6.752		-		-		-		-	0.000	6.752	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ACIP Test	Various	Not specified. : TBD	-	2.000	Dec 2023	-		-		-		-	0.000	2.000	-
E-3 Training, Support & Infrastructure (TSI) Systems AITS II	C/Various	Boeing : Oklahoma City, OK	-	1.413	Dec 2023	-		-		-		-	0.000	1.413	-
Subtotal			-	3.413		-		-		-		-	0.000	3.413	N/A

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
(U) Program Management Administration (PMA)	Various	AWACS Program Office : Hanscom AFB, MA	-	1.026	Dec 2023	-		-		-		-	0.000	1.026	-

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207417F / Airborne Warning and Control System (AWACS)	Project (Number/Name) 67411L / Airborne Warning & Control System (AWACS)

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

AWACS PE 0207417F	
TSI	[REDACTED]
CNU Development	[REDACTED]
ACIP Prototyping	[REDACTED]

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207417F / Airborne Warning and Control System (AWACS)	Project (Number/Name) 67411L / Airborne Warning & Control System (AWACS)

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
AWACS PE 0207417F				
TSI	1	2023	1	2025
CNU Development	1	2023	4	2025
ACIP Prototyping	1	2023	3	2025

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