Department of Defense
Fiscal Year (FY) 2024 Budget Estimates

March 2023

Air Force

Justification Book Volume 4 of 4

Research, Development, Test & Evaluation, Air Force

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Table of Volumes

Research, Development, Test & Evaluation, Air Force..... Volume 1
Research, Development, Test & Evaluation, Air Force..... Volume 2
Research, Development, Test & Evaluation, Air Force..... Volume 3
Research, Development, Test & Evaluation, Air Force..... Volume 4

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Volume 4 Table of Contents

Introduction and Explanation of Contents.....Volume 4 - v
Comptroller Exhibit R-1..... Volume 4 - vii
Master Program Element Table of Contents (by Budget Activity then Line Item Number).....Volume 4 - xxxvii
Master Program Element Table of Contents (Alphabetically by Program Element Title)..... Volume 4 - lv
Summary.....Volume 4 - lxix
Acronyms..... Volume 4 - lxxi
Exhibit R-2s.....Volume 4 - 1

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Fiscal Year (FY) 2024 President's Budget
RDT&E Descriptive Summaries
Budget Activities
March 2023

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 FY24 President's Budget (PB).
    - 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 2024 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.

CLASSIFICATION

- 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.

Line No	Program Element Number	Item	Act	Sec	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment
1	0601102F	Defense Research Sciences	01	U	331,118	406,125		406,125
2	0601103F	University Research Initiatives	01	U	174,048	206,192		206,192
	Basic Research				**505,166**	**612,317**		**612,317**
3	0602020F	Future AF Capabilities Applied Research	02	U	74,393	99,901		99,901
4	0602022F	University Affiliated Research Center (UARC) - Tactical Autonomy	02	U				
5	0602102F	Materials	02	U	214,878	275,945		275,945
6	0602201F	Aerospace Vehicle Technologies	02	U	173,628	199,453		199,453
7	0602202F	Human Effectiveness Applied Research	02	U	139,287	150,771		150,771
8	0602203F	Aerospace Propulsion	02	U	173,665	212,361		212,361
9	0602204F	Aerospace Sensors	02	U	244,612	260,833		260,833
10	0602212F	Defense Laboratories R&D Projects (10 U.S.C, Sec 2358)	02	U	98,862			
11	0602298F	Science and Technology Management - Major Headquarters Activities	02	U	8,891	8,856		8,856
12	0602602F	Conventional Munitions	02	U	142,906	144,303		144,303
13	0602605F	Directed Energy Technology	02	U	109,529	120,947		120,947
14	0602788F	Dominant Information Sciences and Methods	02	U	209,892	271,005		271,005
	Applied Research				**1,590,543**	**1,744,375**		**1,744,375**
15	0603032F	Future AF Integrated Technology Demos	03	U	103,886	163,887		163,887
16	0603112F	Advanced Materials for Weapon Systems	03	U	60,566	49,765		49,765
17	0603199F	Sustainment Science and Technology (S&T)	03	U	17,598	10,662		10,662

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

Line No	Program Element Number	Item	Act	Sec	FY 2024 Request
1	0601102F	Defense Research Sciences	01	U	401,486
2	0601103F	University Research Initiatives	01	U	182,372
	Basic Research				**583,858**
3	0602020F	Future AF Capabilities Applied Research	02	U	90,713
4	0602022F	University Affiliated Research Center (UARC) - Tactical Autonomy	02	U	8,018
5	0602102F	Materials	02	U	142,325
6	0602201F	Aerospace Vehicle Technologies	02	U	161,268
7	0602202F	Human Effectiveness Applied Research	02	U	146,921
8	0602203F	Aerospace Propulsion	02	U	184,867
9	0602204F	Aerospace Sensors	02	U	216,269
10	0602212F	Defense Laboratories R&D Projects (10 U.S.C, Sec 2358)	02	U	
11	0602298F	Science and Technology Management - Major Headquarters Activities	02	U	10,303
12	0602602F	Conventional Munitions	02	U	160,599
13	0602605F	Directed Energy Technology	02	U	129,961
14	0602788F	Dominant Information Sciences and Methods	02	U	182,076
	Applied Research				**1,433,320**
15	0603032F	Future AF Integrated Technology Demos	03	U	255,855
16	0603112F	Advanced Materials for Weapon Systems	03	U	30,372
17	0603199F	Sustainment Science and Technology (S&T)	03	U	10,478

Line No	Program Element Number	Item	Act	Sec	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment
18	0603203F	Advanced Aerospace Sensors	03	U	50,326	37,917		37,917
19	0603211F	Aerospace Technology Dev/Demo	03	U	98,806	95,267		95,267
20	0603216F	Aerospace Propulsion and Power Technology	03	U	103,219	94,540		94,540
21	0603270F	Electronic Combat Technology	03	U	41,869	31,037		31,037
22	0603273F	Science & Technology for Nuclear Re-entry Systems	03	U		27,031		27,031
23	0603444F	Maui Space Surveillance System (MSSS)	03	U				
24	0603456F	Human Effectiveness Advanced Technology Development	03	U	31,135	15,440		15,440
25	0603601F	Conventional Weapons Technology	03	U	144,116	154,618		154,618
26	0603605F	Advanced Weapons Technology	03	U	29,585	89,024		89,024
27	0603680F	Manufacturing Technology Program	03	U	169,459	270,959		270,959
28	0603788F	Battlespace Knowledge Development and Demonstration	03	U	67,753	55,919		55,919
29	0207412F	Control and Reporting Center (CRC)	03	U				
	Advanced Technology Development				**918,318**	**1,096,066**		**1,096,066**
30	0603036F	Modular Advanced Missile	04	U		75,688		75,688
31	0603260F	Intelligence Advanced Development	04	U	5,795	6,101	1,300	7,401
32	0603742F	Combat Identification Technology	04	U	17,536	13,718		13,718
33	0603790F	NATO Research and Development	04	U	4,114	4,295		4,295
34	0603851F	Intercontinental Ballistic Missile - Dem/Val	04	U	73,897	46,100		46,100
35	0604001F	NC3 Advanced Concepts	04	U	6,900	5,098		5,098
36	0604002F	Air Force Weather Services Research	04	U	3,714			
37	0604003F	Advanced Battle Management System (ABMS)	04	U	262,452	237,332		237,332

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

Line No	Program Element Number	Item	Act	Sec	FY 2024 Request
18	0603203F	Advanced Aerospace Sensors	03	U	48,046
19	0603211F	Aerospace Technology Dev/Demo	03	U	51,896
20	0603216F	Aerospace Propulsion and Power Technology	03	U	56,789
21	0603270F	Electronic Combat Technology	03	U	32,510
22	0603273F	Science & Technology for Nuclear Re-entry Systems	03	U	70,321
23	0603444F	Maui Space Surveillance System (MSSS)	03	U	2
24	0603456F	Human Effectiveness Advanced Technology Development	03	U	15,593
25	0603601F	Conventional Weapons Technology	03	U	132,311
26	0603605F	Advanced Weapons Technology	03	U	102,997
27	0603680F	Manufacturing Technology Program	03	U	44,422
28	0603788F	Battlespace Knowledge Development and Demonstration	03	U	37,779
29	0207412F	Control and Reporting Center (CRC)	03	U	2,005
	Advanced Technology Development				**891,376**
30	0603036F	Modular Advanced Missile	04	U	105,238
31	0603260F	Intelligence Advanced Development	04	U	6,237
32	0603742F	Combat Identification Technology	04	U	21,298
33	0603790F	NATO Research and Development	04	U	2,208
34	0603851F	Intercontinental Ballistic Missile - Dem/Val	04	U	45,319
35	0604001F	NC3 Advanced Concepts	04	U	10,011
36	0604002F	Air Force Weather Services Research	04	U	
37	0604003F	Advanced Battle Management System (ABMS)	04	U	500,575

Line No	Program Element Number	Item	Act	Sec	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment
38	0604004F	Advanced Engine Development	04	U	562,717	220,363		220,363
39	0604005F	NC3 Commercial Development & Prototyping	04	U		97,000		97,000
40	0604006F	Dept of the Air Force Tech Architecture	04	U	24,407	50,000		50,000
41	0604007F	E-7	04	U		426,776		426,776
42	0604009F	AFWERX Prime	04	U		170,860		170,860
43	0604015F	Long Range Strike - Bomber	04	U	2,775,581	3,143,584		3,143,584
44	0604025F	Rapid Defense Experimentation Reserve (RDER)	04	U				
45	0604032F	Directed Energy Prototyping	04	U	15,498	4,269		4,269
46	0604033F	Hypersonics Prototyping	04	U	308,089	114,981		114,981
47	0604183F	Hypersonics Prototyping - Hypersonic Attack Cruise Missile (HACM)	04	U	183,889	423,359		423,359
48	0604201F	PNT Resiliency, Mods, and Improvements	04	U	46,022	12,010		12,010
49	0604257F	Advanced Technology and Sensors	04	U	23,745	12,311		12,311
50	0604288F	Survivable Airborne Operations Center (SAOC)	04	U	91,378	98,213		98,213
51	0604317F	Technology Transfer	04	U	36,574	35,430		35,430
52	0604327F	Hard and Deeply Buried Target Defeat System (HDBTDS) Program	04	U	12,826	141,826		141,826
53	0604414F	Cyber Resiliency of Weapon Systems-ACS	04	U	69,143	43,372		43,372
54	0604534F	Adaptive Engine Transition Program (AETP)	04	U		286,096		286,096
55	0604668F	Joint Transportation Management System (JTMS)	04	U		27,758		27,758
56	0604776F	Deployment & Distribution Enterprise R&D	04	U	39,311	27,586		27,586
57	0604858F	Tech Transition Program	04	U	348,134	370,810		370,810

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

Line No	Program Element Number	Item	Act	Sec	FY 2024 Request
38	0604004F	Advanced Engine Development	04	U	595,352
39	0604005F	NC3 Commercial Development & Prototyping	04	U	78,799
40	0604006F	Dept of the Air Force Tech Architecture	04	U	2,620
41	0604007F	E-7	04	U	681,039
42	0604009F	AFWERX Prime	04	U	83,336
43	0604015F	Long Range Strike - Bomber	04	U	2,984,143
44	0604025F	Rapid Defense Experimentation Reserve (RDER)	04	U	154,300
45	0604032F	Directed Energy Prototyping	04	U	1,246
46	0604033F	Hypersonics Prototyping	04	U	150,340
47	0604183F	Hypersonics Prototyping - Hypersonic Attack Cruise Missile (HACM)	04	U	381,528
48	0604201F	PNT Resiliency, Mods, and Improvements	04	U	18,041
49	0604257F	Advanced Technology and Sensors	04	U	27,650
50	0604288F	Survivable Airborne Operations Center (SAOC)	04	U	888,829
51	0604317F	Technology Transfer	04	U	26,638
52	0604327F	Hard and Deeply Buried Target Defeat System (HDBTDS) Program	04	U	19,266
53	0604414F	Cyber Resiliency of Weapon Systems-ACS	04	U	37,121
54	0604534F	Adaptive Engine Transition Program (AETP)	04	U	
55	0604668F	Joint Transportation Management System (JTMS)	04	U	37,026
56	0604776F	Deployment & Distribution Enterprise R&D	04	U	31,833
57	0604858F	Tech Transition Program	04	U	210,806

Line No	Program Element Number	Item	Act	Sec	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment
58	0604860F	Operational Energy and Installation Resilience	04	U	100,839	25,500		25,500
59	0605164F	Air Refueling Capability Modernization	04	U		11,281		11,281
60	0605230F	Ground Based Strategic Deterrent	04	U	2,464,875			
61	0207110F	Next Generation Air Dominance	04	U	1,452,934	1,657,635		1,657,635
62	0207179F	Autonomous Collaborative Platforms	04	U		51,747		51,747
63	0207420F	Combat Identification	04	U		1,866		1,866
64	0207455F	Three Dimensional Long-Range Radar (3DELRR)	04	U		14,490		14,490
65	0207522F	Airbase Air Defense Systems (ABADS)	04	U	10,526	47,465		47,465
66	0208030F	War Reserve Materiel - Ammunition	04	U	3,943	10,288		10,288
67	0304369F	Cyber Capabilities Support Office (CCSO)	04	U	16,949			
68	0305236F	Common Data Link Executive Agent (CDL EA)	04	U	43,881	37,460		37,460
69	0305601F	Mission Partner Environments	04	U	15,819	17,378		17,378
70	0306250F	Cyber Operations Technology Support	04	U	272,404	272,583		272,583
71	0306415F	Enabled Cyber Activities	04	U	23,511	16,728		16,728
72	0708051F	Rapid Sustainment Modernization (RSM)	04	U	90,117	69,000		69,000
73	0808737F	Integrated Primary Prevention	04	U		9,315		9,315
74	0901410F	Contracting Information Technology System	04	U	19,733	14,050		14,050
75	1206415F	U.S. Space Command Research and Development Support	04	U		8,350		8,350
	Advanced Component Development & Prototypes				**9,427,253**	**8,360,072**	**1,300**	**8,361,372**
76	0604200F	Future Advanced Weapon Analysis & Programs	05	U	18,180	9,879		9,879
77	0604201F	PNT Resiliency, Mods, and Improvements	05	U	158,193	176,335		176,335

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

Line No	Program Element Number	Item	Act	Sec	FY 2024 Request
58	0604860F	Operational Energy and Installation Resilience	04	U	46,305
59	0605164F	Air Refueling Capability Modernization	04	U	19,400
60	0605230F	Ground Based Strategic Deterrent	04	U	
61	0207110F	Next Generation Air Dominance	04	U	2,326,128
62	0207179F	Autonomous Collaborative Platforms	04	U	118,826
63	0207420F	Combat Identification	04	U	1,902
64	0207455F	Three Dimensional Long-Range Radar (3DELRR)	04	U	19,763
65	0207522F	Airbase Air Defense Systems (ABADS)	04	U	78,867
66	0208030F	War Reserve Materiel - Ammunition	04	U	8,175
67	0304369F	Cyber Capabilities Support Office (CCSO)	04	U	
68	0305236F	Common Data Link Executive Agent (CDL EA)	04	U	25,157
69	0305601F	Mission Partner Environments	04	U	17,727
70	0306250F	Cyber Operations Technology Support	04	U	
71	0306415F	Enabled Cyber Activities	04	U	
72	0708051F	Rapid Sustainment Modernization (RSM)	04	U	43,431
73	0808737F	Integrated Primary Prevention	04	U	9,364
74	0901410F	Contracting Information Technology System	04	U	28,294
75	1206415F	U.S. Space Command Research and Development Support	04	U	14,892
	Advanced Component Development & Prototypes				**9,859,030**
76	0604200F	Future Advanced Weapon Analysis & Programs	05	U	9,757
77	0604201F	PNT Resiliency, Mods, and Improvements	05	U	163,156

Line No	Program Element Number	Item	Act	Sec	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment
78	0604222F	Nuclear Weapons Support	05	U	29,215	63,906		63,906
79	0604270F	Electronic Warfare Development	05	U	6,849	7,222		7,222
80	0604281F	Tactical Data Networks Enterprise	05	U	122,940	129,941		129,941
81	0604287F	Physical Security Equipment	05	U	8,302	6,897		6,897
82	0604602F	Armament/Ordnance Development	05	U	8,821	5,279		5,279
83	0604604F	Submunitions	05	U	2,954	3,273		3,273
84	0604617F	Agile Combat Support	05	U	26,972	19,252		19,252
85	0604706F	Life Support Systems	05	U	22,335	50,042		50,042
86	0604735F	Combat Training Ranges	05	U	23,218	103,784		103,784
87	0604932F	Long Range Standoff Weapon	05	U	580,365	928,850		928,850
88	0604933F	ICBM Fuze Modernization	05	U	115,200	98,376		98,376
89	0605030F	Joint Tactical Network Center (JTNC)	05	U		2,222		2,222
90	0605031F	Joint Tactical Network (JTN)	05	U				
91	0605056F	Open Architecture Management	05	U	36,157	38,201		38,201
92	0605057F	Next Generation Air-refueling System	05	U				
93	0605223F	Advanced Pilot Training	05	U	182,330	33,621		33,621
94	0605229F	HH-60W	05	U	53,363	58,974		58,974
95	0605238F	Ground Based Strategic Deterrent EMD	05	U		3,614,290		3,614,290
96	0207171F	F-15 EPAWSS	05	U	100,232	67,956		67,956
97	0207279F	Isolated Personnel Survivability and Recovery	05	U		27,881		27,881
98	0207328F	Stand In Attack Weapon	05	U	161,199	263,152		263,152

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

Line No	Program Element Number	Item	Act	Sec	FY 2024 Request
78	0604222F	Nuclear Weapons Support	05	U	45,884
79	0604270F	Electronic Warfare Development	05	U	13,804
80	0604281F	Tactical Data Networks Enterprise	05	U	74,023
81	0604287F	Physical Security Equipment	05	U	10,605
82	0604602F	Armament/Ordnance Development	05	U	5,918
83	0604604F	Submunitions	05	U	3,345
84	0604617F	Agile Combat Support	05	U	21,967
85	0604706F	Life Support Systems	05	U	39,301
86	0604735F	Combat Training Ranges	05	U	152,569
87	0604932F	Long Range Standoff Weapon	05	U	911,406
88	0604933F	ICBM Fuze Modernization	05	U	71,732
89	0605030F	Joint Tactical Network Center (JTNC)	05	U	2,256
90	0605031F	Joint Tactical Network (JTN)	05	U	452
91	0605056F	Open Architecture Management	05	U	36,582
92	0605057F	Next Generation Air-refueling System	05	U	7,928
93	0605223F	Advanced Pilot Training	05	U	77,252
94	0605229F	HH-60W	05	U	48,268
95	0605238F	Ground Based Strategic Deterrent EMD	05	U	3,746,935
96	0207171F	F-15 EPAWSS	05	U	13,982
97	0207279F	Isolated Personnel Survivability and Recovery	05	U	56,225
98	0207328F	Stand In Attack Weapon	05	U	298,585

Line No	Program Element Number	Item	Act	Sec	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment
99	0207701F	Full Combat Mission Training	05	U	12,064	12,528		12,528
100	0208036F	Medical C-CBRNE Programs	05	U				
101	0303267F	Auctioned Spectrum Relocation Fund	05	U	28,186			
102	0305205F	Endurance Unmanned Aerial Vehicles	05	U				
103	0401221F	KC-46A Tanker Squadrons	05	U	54,145	177,529		177,529
104	0401319F	VC-25B	05	U	407,147	147,932		147,932
105	0701212F	Automated Test Systems	05	U	15,445	16,664		16,664
106	0804772F	Training Developments	05	U	2,482	10,838		10,838
	System Development & Demonstration				**2,176,294**	**6,074,824**		**6,074,824**
107	0604256F	Threat Simulator Development	06	U	46,393	21,067		21,067
108	0604759F	Major T&E Investment	06	U	128,708	171,314		171,314
109	0605101F	RAND Project Air Force	06	U	34,698	32,767		32,767
110	0605502F	Small Business Innovation Research	06	U	780,381			
111	0605712F	Initial Operational Test & Evaluation	06	U	12,582	13,926		13,926
112	0605807F	Test and Evaluation Support	06	U	811,032	841,854		841,854
113	0605827F	Acq Workforce- Global Vig & Combat Sys	06	U	271,819	283,995		283,995
114	0605828F	Acq Workforce- Global Reach	06	U	439,459	457,589		457,589
115	0605829F	Acq Workforce- Cyber, Network, & Bus Sys	06	U	432,971	479,423		479,423
116	0605830F	Acq Workforce- Global Battle Mgmt	06	U		3,696		3,696
117	0605831F	Acq Workforce- Capability Integration	06	U	255,914	253,568		253,568
118	0605832F	Acq Workforce- Advanced Prgm Technology	06	U	61,648	67,361		67,361

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Line No	Program Element Number	Item	Act	Sec	FY 2024 Request
99	0207701F	Full Combat Mission Training	05	U	7,597
100	0208036F	Medical C-CBRNE Programs	05	U	2,006
101	0303267F	Auctioned Spectrum Relocation Fund	05	U	
102	0305205F	Endurance Unmanned Aerial Vehicles	05	U	30,000
103	0401221F	KC-46A Tanker Squadrons	05	U	124,662
104	0401319F	VC-25B	05	U	490,701
105	0701212F	Automated Test Systems	05	U	12,911
106	0804772F	Training Developments	05	U	1,922
	System Development & Demonstration				**6,481,731**
107	0604256F	Threat Simulator Development	06	U	16,626
108	0604759F	Major T&E Investment	06	U	31,143
109	0605101F	RAND Project Air Force	06	U	38,398
110	0605502F	Small Business Innovation Research	06	U	1,466
111	0605712F	Initial Operational Test & Evaluation	06	U	13,736
112	0605807F	Test and Evaluation Support	06	U	913,213
113	0605827F	Acq Workforce- Global Vig & Combat Sys	06	U	317,901
114	0605828F	Acq Workforce- Global Reach	06	U	541,677
115	0605829F	Acq Workforce- Cyber, Network, & Bus Sys	06	U	551,213
116	0605830F	Acq Workforce- Global Battle Mgmt	06	U	
117	0605831F	Acq Workforce- Capability Integration	06	U	243,780
118	0605832F	Acq Workforce- Advanced Prgm Technology	06	U	109,030

Line No	Program Element Number	Item	Act	Sec	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment
119	0605833F	Acq Workforce- Nuclear Systems	06	U	227,425	236,382		236,382
120	0605898F	Management HQ - R&D	06	U	6,644	5,624		5,624
121	0605976F	Facilities Restoration and Modernization - Test and Evaluation Support	06	U	70,788	133,420		133,420
122	0605978F	Facilities Sustainment - Test and Evaluation Support	06	U	30,057	31,561		31,561
123	0606017F	Requirements Analysis and Maturation	06	U	88,259	109,513		109,513
124	0606398F	Management HQ - T&E	06	U	7,263	6,285		6,285
125	0303166F	Support to Information Operations (IO) Capabilities	06	U	537	556		556
126	0303255F	Command, Control, Communication, and Computers (C4) -	06	U	35,340	29,092		29,092
127	0308602F	ENTEPRISE INFORMATION SERVICES (EIS)	06	U	26,004	73,100		73,100
128	0702806F	Acquisition and Management Support	06	U	36,317	49,152		49,152
129	0804731F	General Skill Training	06	U	1,506	871		871
130	0804772F	Training Developments	06	U	2,957			
131	0909999F	Financing for Cancelled Account Adjustments	06	U	17,055			
132	1001004F	International Activities	06	U	2,420	2,593		2,593
133	1206864F	Space Test Program (STP)	06	U	2			
	Management Support				**3,828,179**	**3,304,709**		**3,304,709**
134	0604233F	Specialized Undergraduate Flight Training	07	U	8,333	17,267		17,267
135	0604283F	Battle Mgmt Com & Ctrl Sensor Development	07	U				
136	0604445F	Wide Area Surveillance	07	U	2,687			
137	0604617F	Agile Combat Support	07	U		8,199		8,199

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

Line No	Program Element Number	Item	Act	Sec	FY 2024 Request
119	0605833F	Acq Workforce- Nuclear Systems	06	U	336,788
120	0605898F	Management HQ - R&D	06	U	5,005
121	0605976F	Facilities Restoration and Modernization - Test and Evaluation Support	06	U	87,889
122	0605978F	Facilities Sustainment - Test and Evaluation Support	06	U	35,065
123	0606017F	Requirements Analysis and Maturation	06	U	89,956
124	0606398F	Management HQ - T&E	06	U	7,453
125	0303166F	Support to Information Operations (IO) Capabilities	06	U	
126	0303255F	Command, Control, Communication, and Computers (C4) - STRATCOM	06	U	20,871
127	0308602F	ENTEPRISE INFORMATION SERVICES (EIS)	06	U	100,357
128	0702806F	Acquisition and Management Support	06	U	20,478
129	0804731F	General Skill Training	06	U	796
130	0804772F	Training Developments	06	U	
131	0909999F	Financing for Cancelled Account Adjustments	06	U	
132	1001004F	International Activities	06	U	3,917
133	1206864F	Space Test Program (STP)	06	U	
	Management Support				**3,486,758**
134	0604233F	Specialized Undergraduate Flight Training	07	U	41,464
135	0604283F	Battle Mgmt Com & Ctrl Sensor Development	07	U	40,000
136	0604445F	Wide Area Surveillance	07	U	8,018
137	0604617F	Agile Combat Support	07	U	5,645

Line No	Program Element Number	Item	Act	Sec	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment
138	0604776F	Deployment & Distribution Enterprise R&D	07	U	193	156		156
139	0604840F	F-35 C2D2	07	U	1,085,909	1,032,528		1,032,528
140	0605018F	AF Integrated Personnel and Pay System (AF-IPPS)	07	U	25,582	37,901		37,901
141	0605024F	Anti-Tamper Technology Executive Agency	07	U	50,669	50,066		50,066
142	0605117F	Foreign Materiel Acquisition and Exploitation	07	U	109,249	80,338	37,500	117,838
143	0605278F	HC/MC-130 Recap RDT&E	07	U	43,095	52,940		52,940
144	0606018F	NC3 Integration	07	U	30,077	22,743		22,743
145	0101113F	B-52 Squadrons	07	U	620,115	723,107		723,107
146	0101122F	Air-Launched Cruise Missile (ALCM)	07	U	436	571		571
147	0101126F	B-1B Squadrons	07	U	37,951	20,044		20,044
148	0101127F	B-2 Squadrons	07	U	123,749	101,790		101,790
149	0101213F	Minuteman Squadrons	07	U	111,754	73,650		73,650
150	0101316F	Worldwide Joint Strategic Communications	07	U	11,712	22,708		22,708
151	0101318F	Service Support to STRATCOM - Global Strike	07	U				
152	0101324F	Integrated Strategic Planning & Analysis Network	07	U	28,895	32,062		32,062
153	0101328F	ICBM Reentry Vehicles	07	U	100,463	115,616		115,616
155	0102110F	MH-139A	07	U	15,913	15,922		15,922
156	0102326F	Region/Sector Operation Control Center Modernization Program	07	U	756	406		406
157	0102412F	North Warning System (NWS)	07	U	95	240,159		240,159
158	0102417F	Over-the-Horizon Backscatter Radar	07	U	66,022	12,210		12,210

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Line No	Program Element Number	Item	Act	Sec	FY 2024 Request
138	0604776F	Deployment & Distribution Enterprise R&D	07	U	
139	0604840F	F-35 C2D2	07	U	1,275,268
140	0605018F	AF Integrated Personnel and Pay System (AF-IPPS)	07	U	40,203
141	0605024F	Anti-Tamper Technology Executive Agency	07	U	49,613
142	0605117F	Foreign Materiel Acquisition and Exploitation	07	U	93,881
143	0605278F	HC/MC-130 Recap RDT&E	07	U	36,536
144	0606018F	NC3 Integration	07	U	22,910
145	0101113F	B-52 Squadrons	07	U	950,815
146	0101122F	Air-Launched Cruise Missile (ALCM)	07	U	290
147	0101126F	B-1B Squadrons	07	U	12,619
148	0101127F	B-2 Squadrons	07	U	87,623
149	0101213F	Minuteman Squadrons	07	U	33,237
150	0101316F	Worldwide Joint Strategic Communications	07	U	24,653
151	0101318F	Service Support to STRATCOM - Global Strike	07	U	7,562
152	0101324F	Integrated Strategic Planning & Analysis Network	07	U	
153	0101328F	ICBM Reentry Vehicles	07	U	475,415
155	0102110F	MH-139A	07	U	25,737
156	0102326F	Region/Sector Operation Control Center Modernization Program	07	U	831
157	0102412F	North Warning System (NWS)	07	U	102
158	0102417F	Over-the-Horizon Backscatter Radar	07	U	428,754

Line No	Program Element Number	Item	Act	Sec	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment
159	0202834F	Vehicles and Support Equipment - General	07	U	2,909	14,483		14,483
160	0205219F	MQ-9 UAV	07	U	76,847	145,499		145,499
161	0205671F	Joint Counter RCIED Electronic Warfare	07	U	3,733	1,747		1,747
162	0207040F	Multi-Platform Electronic Warfare Equipment	07	U	27,063	45,895		45,895
163	0207131F	A-10 Squadrons	07	U	33,434	64,593		64,593
164	0207133F	F-16 Squadrons	07	U	221,838	247,536		247,536
165	0207134F	F-15E Squadrons	07	U	231,898	200,139		200,139
166	0207136F	Manned Destructive Suppression	07	U	14,222	16,695		16,695
167	0207138F	F-22A Squadrons	07	U	626,329	559,709		559,709
168	0207142F	F-35 Squadrons	07	U	58,374	65,730		65,730
169	0207146F	F-15EX	07	U	103,950	83,830		83,830
170	0207161F	Tactical AIM Missiles	07	U	31,863	34,536		34,536
171	0207163F	Advanced Medium Range Air-to-Air Missile (AMRAAM)	07	U	49,686	52,704		52,704
172	0207227F	Combat Rescue - Pararescue	07	U	845	863		863
173	0207238F	E-11A	07	U				
174	0207247F	AF TENCAP	07	U	23,685	23,309	2,250	25,559
175	0207249F	Precision Attack Systems Procurement	07	U	14,016	12,722		12,722
176	0207253F	Compass Call	07	U	87,925	50,000		50,000
177	0207268F	Aircraft Engine Component Improvement Program	07	U	111,566	136,087		136,087
178	0207325F	Joint Air-to-Surface Standoff Missile (JASSM)	07	U	114,018	117,198		117,198
179	0207327F	Small Diameter Bomb (SDB)	07	U	31,003	32,713		32,713

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Line No	Program Element Number	Item	Act	Sec	FY 2024 Request
159	0202834F	Vehicles and Support Equipment - General	07	U	15,498
160	0205219F	MQ-9 UAV	07	U	81,123
161	0205671F	Joint Counter RCIED Electronic Warfare	07	U	2,303
162	0207040F	Multi-Platform Electronic Warfare Equipment	07	U	7,312
163	0207131F	A-10 Squadrons	07	U	
164	0207133F	F-16 Squadrons	07	U	98,633
165	0207134F	F-15E Squadrons	07	U	50,965
166	0207136F	Manned Destructive Suppression	07	U	16,543
167	0207138F	F-22A Squadrons	07	U	725,889
168	0207142F	F-35 Squadrons	07	U	97,231
169	0207146F	F-15EX	07	U	100,006
170	0207161F	Tactical AIM Missiles	07	U	41,958
171	0207163F	Advanced Medium Range Air-to-Air Missile (AMRAAM)	07	U	53,679
172	0207227F	Combat Rescue - Pararescue	07	U	726
173	0207238F	E-11A	07	U	64,888
174	0207247F	AF TENCAP	07	U	25,749
175	0207249F	Precision Attack Systems Procurement	07	U	11,872
176	0207253F	Compass Call	07	U	66,932
177	0207268F	Aircraft Engine Component Improvement Program	07	U	55,223
178	0207325F	Joint Air-to-Surface Standoff Missile (JASSM)	07	U	132,937
179	0207327F	Small Diameter Bomb (SDB)	07	U	37,518

Line No	Program Element Number	Item	Act	Sec	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment
180	0207410F	Air & Space Operations Center (AOC)	07	U	87,873	78,889		78,889
181	0207412F	Control and Reporting Center (CRC)	07	U	9,565	6,615		6,615
182	0207417F	Airborne Warning and Control System (AWACS)	07	U	167,956	11,598		11,598
183	0207418F	AFSPECWAR - TACP	07	U	3,678	5,982		5,982
185	0207431F	Combat Air Intelligence System Activities	07	U	17,863	29,704	7,750	37,454
186	0207438F	Theater Battle Management (TBM) C4I	07	U	7,716	5,851		5,851
187	0207439F	Electronic Warfare Integrated Reprogramming (EWIR)	07	U	15,000	15,990		15,990
188	0207444F	Tactical Air Control Party-Mod	07	U	12,779	10,304		10,304
189	0207452F	DCAPES	07	U	4,147	8,049		8,049
190	0207521F	Air Force Calibration Programs	07	U	2,256	2,123		2,123
191	0207522F	Airbase Air Defense Systems (ABADS)	07	U	7,177			
192	0207573F	National Technical Nuclear Forensics	07	U	1,971	2,039		2,039
193	0207590F	Seek Eagle	07	U	30,484	32,853		32,853
194	0207601F	USAF Modeling and Simulation	07	U	16,838	19,283		19,283
195	0207605F	Wargaming and Simulation Centers	07	U	7,535	7,004		7,004
196	0207610F	Battlefield Abn Comm Node (BACN)	07	U	30,953			
197	0207697F	Distributed Training and Exercises	07	U	3,860	4,624		4,624
198	0208006F	Mission Planning Systems	07	U	92,956	98,807		98,807
199	0208007F	Tactical Deception	07	U	13,812	34,574		34,574
200	0208064F	OPERATIONAL HQ - CYBER	07	U	2,037	14,347		14,347
201	0208087F	Distributed Cyber Warfare Operations	07	U	68,152	76,425		76,425

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Line No	Program Element Number	Item	Act	Sec	FY 2024 Request
180	0207410F	Air & Space Operations Center (AOC)	07	U	72,059
181	0207412F	Control and Reporting Center (CRC)	07	U	17,498
182	0207417F	Airborne Warning and Control System (AWACS)	07	U	
183	0207418F	AFSPECWAR - TACP	07	U	2,106
185	0207431F	Combat Air Intelligence System Activities	07	U	72,010
186	0207438F	Theater Battle Management (TBM) C4I	07	U	6,467
187	0207439F	Electronic Warfare Integrated Reprogramming (EWIR)	07	U	10,388
188	0207444F	Tactical Air Control Party-Mod	07	U	10,060
189	0207452F	DCAPES	07	U	8,233
190	0207521F	Air Force Calibration Programs	07	U	2,172
191	0207522F	Airbase Air Defense Systems (ABADS)	07	U	
192	0207573F	National Technical Nuclear Forensics	07	U	2,049
193	0207590F	Seek Eagle	07	U	33,478
194	0207601F	USAF Modeling and Simulation	07	U	
195	0207605F	Wargaming and Simulation Centers	07	U	11,894
196	0207610F	Battlefield Abn Comm Node (BACN)	07	U	
197	0207697F	Distributed Training and Exercises	07	U	3,811
198	0208006F	Mission Planning Systems	07	U	96,272
199	0208007F	Tactical Deception	07	U	26,533
200	0208064F	OPERATIONAL HQ - CYBER	07	U	
201	0208087F	Distributed Cyber Warfare Operations	07	U	50,122

Line No	Program Element Number	Item	Act	Sec	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment
202	0208088F	AF Defensive Cyberspace Operations	07	U	21,950	16,809		16,809
203	0208097F	Joint Cyber Command and Control (JCC2)	07	U	78,592	79,955		79,955
204	0208099F	Unified Platform (UP)	07	U	89,135	106,916		106,916
208	0208288F	Intel Data Applications	07	U	474	2,130		2,130
209	0301025F	GeoBase	07	U	2,680	2,928		2,928
210	0301112F	Nuclear Planning and Execution System (NPES)	07	U	14,738	16,158		16,158
211	0301113F	Cyber Security Intelligence Support	07	U	5,224	8,972		8,972
218	0301401F	AF Multi-Domain Non-Traditional ISR Battlespace Awareness	07	U	2,463	3,069		3,069
219	0302015F	E-4B National Airborne Operations Center (NAOC)	07	U	22,798	25,701		25,701
220	0303004F	EIT CONNECT	07	U				
221	0303089F	Cyberspace Operations Systems	07	U				
222	0303131F	Minimum Essential Emergency Communications Network (MEECN)	07	U	51,681	35,548		35,548
223	0303133F	High Frequency Radio Systems	07	U				
224	0303140F	Information Systems Security Program	07	U	12,795	70,263		70,263
225	0303142F	Global Force Management - Data Initiative	07	U	435			
226	0303248F	All Domain Common Platform	07	U	60,894	46,540		46,540
227	0303260F	Joint Military Deception Initiative	07	U		2,588		2,588
228	0304100F	Strategic Mission Planning & Execution System (SMPES)	07	U				
230	0304260F	Airborne SIGINT Enterprise	07	U	88,645	109,528		109,528
231	0304310F	Commercial Economic Analysis	07	U	3,632	4,221		4,221

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Line No	Program Element Number	Item	Act	Sec	FY 2024 Request
202	0208088F	AF Defensive Cyberspace Operations	07	U	113,064
203	0208097F	Joint Cyber Command and Control (JCC2)	07	U	
204	0208099F	Unified Platform (UP)	07	U	
208	0208288F	Intel Data Applications	07	U	967
209	0301025F	GeoBase	07	U	1,514
210	0301112F	Nuclear Planning and Execution System (NPES)	07	U	
211	0301113F	Cyber Security Intelligence Support	07	U	8,476
218	0301401F	AF Multi-Domain Non-Traditional ISR Battlespace Awareness	07	U	2,890
219	0302015F	E-4B National Airborne Operations Center (NAOC)	07	U	39,868
220	0303004F	EIT CONNECT	07	U	32,900
221	0303089F	Cyberspace Operations Systems	07	U	4,881
222	0303131F	Minimum Essential Emergency Communications Network (MEECN)	07	U	33,567
223	0303133F	High Frequency Radio Systems	07	U	40,000
224	0303140F	Information Systems Security Program	07	U	95,523
225	0303142F	Global Force Management - Data Initiative	07	U	
226	0303248F	All Domain Common Platform	07	U	71,296
227	0303260F	Joint Military Deception Initiative	07	U	4,682
228	0304100F	Strategic Mission Planning & Execution System (SMPES)	07	U	64,944
230	0304260F	Airborne SIGINT Enterprise	07	U	108,947
231	0304310F	Commercial Economic Analysis	07	U	4,635

Line No	Program Element Number	Item	Act	Sec	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment
234	0305015F	C2 Air Operations Suite - C2 Info Services	07	U		7,708		7,708
235	0305020F	CCMD Intelligence Information Technology	07	U	1,663	1,751		1,751
236	0305022F	ISR Modernization & Automation Dvmt (IMAD)	07	U	15,888	13,138		13,138
237	0305099F	Global Air Traffic Management (GATM)	07	U	4,658	4,533		4,533
238	0305103F	Cyber Security Initiative	07	U	279	91		91
239	0305111F	Weather Service	07	U	36,524	56,457		56,457
240	0305114F	Air Traffic Control, Approach, and Landing System (ATCALS)	07	U	15,266	8,367		8,367
241	0305116F	Aerial Targets	07	U	1,488	1,365		1,365
244	0305128F	Security and Investigative Activities	07	U	214	223		223
245	0305146F	Defense Joint Counterintelligence Activities	07	U	8,733	8,328		8,328
246	0305179F	Integrated Broadcast Service (IBS)	07	U	21,335	14,123		14,123
247	0305202F	Dragon U-2	07	U	40,713	20,170		20,170
248	0305206F	Airborne Reconnaissance Systems	07	U	108,291	70,048		70,048
249	0305207F	Manned Reconnaissance Systems	07	U	14,799	14,590		14,590
250	0305208F	Distributed Common Ground/Surface Systems	07	U	24,558	26,901		26,901
251	0305220F	RQ-4 UAV	07	U	82,355	68,801		68,801
252	0305221F	Network-Centric Collaborative Targeting	07	U	17,224	17,564		17,564
253	0305238F	NATO AGS	07	U	19,473	826		826
254	0305240F	Support to DCGS Enterprise	07	U	40,421	28,774		28,774
255	0305600F	International Intelligence Technology and Architectures	07	U	14,473	25,036		25,036

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Line No	Program Element Number	Item	Act	Sec	FY 2024 Request
234	0305015F	C2 Air Operations Suite - C2 Info Services	07	U	13,751
235	0305020F	CCMD Intelligence Information Technology	07	U	1,660
236	0305022F	ISR Modernization & Automation Dvmt (IMAD)	07	U	18,680
237	0305099F	Global Air Traffic Management (GATM)	07	U	5,031
238	0305103F	Cyber Security Initiative	07	U	301
239	0305111F	Weather Service	07	U	26,329
240	0305114F	Air Traffic Control, Approach, and Landing System (ATCALS)	07	U	8,751
241	0305116F	Aerial Targets	07	U	6,915
244	0305128F	Security and Investigative Activities	07	U	352
245	0305146F	Defense Joint Counterintelligence Activities	07	U	6,930
246	0305179F	Integrated Broadcast Service (IBS)	07	U	21,588
247	0305202F	Dragon U-2	07	U	16,842
248	0305206F	Airborne Reconnaissance Systems	07	U	43,158
249	0305207F	Manned Reconnaissance Systems	07	U	14,330
250	0305208F	Distributed Common Ground/Surface Systems	07	U	88,854
251	0305220F	RQ-4 UAV	07	U	1,242
252	0305221F	Network-Centric Collaborative Targeting	07	U	12,496
253	0305238F	NATO AGS	07	U	2
254	0305240F	Support to DCGS Enterprise	07	U	31,589
255	0305600F	International Intelligence Technology and Architectures	07	U	15,322

Line No	Program Element Number	Item	Act	Sec	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment
256	0305881F	Rapid Cyber Acquisition	07	U	4,193	3,739		3,739
257	0305984F	Personnel Recovery Command & Ctrl (PRC2)	07	U	2,473	2,702		2,702
258	0307577F	Intelligence Mission Data (IMD)	07	U	6,169	6,332		6,332
259	0401115F	C-130 Airlift Squadron	07	U	12,383	407		407
260	0401119F	C-5 Airlift Squadrons (IF)	07	U	16,998	3,100		3,100
261	0401130F	C-17 Aircraft (IF)	07	U	15,779	25,387		25,387
262	0401132F	C-130J Program	07	U	18,392	10,060		10,060
263	0401134F	Large Aircraft IR Countermeasures (LAIRCM)	07	U	6,429	2,909		2,909
264	0401218F	KC-135s	07	U	3,461	12,955		12,955
265	0401318F	CV-22	07	U	16,663	10,121		10,121
266	0408011F	Special Tactics / Combat Control	07	U	6,467	6,297		6,297
267	0708055F	Maintenance, Repair & Overhaul System	07	U	26,211	19,892		19,892
268	0708610F	Logistics Information Technology (LOGIT)	07	U	6,870	17,271		17,271
269	0801380F	AF LVC Operational Training (LVC-OT)	07	U				
270	0804743F	Other Flight Training	07	U	5,778	2,214		2,214
271	0808716F	Other Personnel Activities	07	U	4,817			
272	0901202F	Joint Personnel Recovery Agency	07	U	1,759	1,885		1,885
273	0901218F	Civilian Compensation Program	07	U	3,560	4,098		4,098
274	0901220F	Personnel Administration	07	U	3,267	3,191		3,191
275	0901226F	Air Force Studies and Analysis Agency	07	U	1,202	899		899
276	0901538F	Financial Management Information Systems Development	07	U	4,675	5,121		5,121

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

Line No	Program Element Number	Item	Act	Sec	FY 2024 Request
256	0305881F	Rapid Cyber Acquisition	07	U	8,830
257	0305984F	Personnel Recovery Command & Ctrl (PRC2)	07	U	2,764
258	0307577F	Intelligence Mission Data (IMD)	07	U	7,090
259	0401115F	C-130 Airlift Squadron	07	U	5,427
260	0401119F	C-5 Airlift Squadrons (IF)	07	U	29,502
261	0401130F	C-17 Aircraft (IF)	07	U	2,753
262	0401132F	C-130J Program	07	U	19,100
263	0401134F	Large Aircraft IR Countermeasures (LAIRCM)	07	U	5,982
264	0401218F	KC-135s	07	U	51,105
265	0401318F	CV-22	07	U	18,127
266	0408011F	Special Tactics / Combat Control	07	U	9,198
267	0708055F	Maintenance, Repair & Overhaul System	07	U	
268	0708610F	Logistics Information Technology (LOGIT)	07	U	17,520
269	0801380F	AF LVC Operational Training (LVC-OT)	07	U	25,144
270	0804743F	Other Flight Training	07	U	2,265
271	0808716F	Other Personnel Activities	07	U	
272	0901202F	Joint Personnel Recovery Agency	07	U	2,266
273	0901218F	Civilian Compensation Program	07	U	4,006
274	0901220F	Personnel Administration	07	U	3,078
275	0901226F	Air Force Studies and Analysis Agency	07	U	5,309
276	0901538F	Financial Management Information Systems Development	07	U	4,279

Line No	Program Element Number	Item	Act	Sec	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment
277	0901554F	Defense Enterprise Acntng and Mgt Sys (DEAMS)	07	U	52,707	48,199		48,199
278	1202140F	Service Support to SPACECOM Activities	07	U	6,549	13,418		13,418
999	999999999	Classified Programs	07	U	16,966,755	17,653,475	236,046	17,889,521
	Operational Systems Development				**23,061,515**	**23,805,224**	**283,546**	**24,088,770**
Total Research, Development, Test and Evaluation, Air Force					**41,507,268**	**44,997,587**	**284,846**	**45,282,433**

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

Line No	Program Element Number	Item	Act	Sec	FY 2024 Request
277	0901554F	Defense Enterprise Acntng and Mgt Sys (DEAMS)	07	U	45,925
278	1202140F	Service Support to SPACECOM Activities	07	U	9,778
999	999999999	Classified Programs	07	U	16,814,245
	Operational Systems Development				**23,829,283**
Total Research, Development, Test and Evaluation, Air Force					**46,565,356**

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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 - 17

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 - 23
4	02	0602022F	University Affiliated Research Center (UARC) - Tactical Autonomy	Volume 1 - 29
5	02	0602102F	Materials	Volume 1 - 33
6	02	0602201F	Aerospace Vehicle Technologies	Volume 1 - 53
7	02	0602202F	Human Effectiveness Applied Research	Volume 1 - 69
8	02	0602203F	Aerospace Propulsion	Volume 1 - 89
9	02	0602204F	Aerospace Sensors	Volume 1 - 115
10	02	0602212F	Defense Laboratories R&D Projects (10 U.S.C, Sec 2358)	Volume 1 - 141

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 - 143
12	02	0602602F	Conventional Munitions	Volume 1 - 145
13	02	0602605F	Directed Energy Technology	Volume 1 - 157
14	02	0602788F	Dominant Information Sciences and Methods	Volume 1 - 167

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 - 183
16	03	0603112F	Advanced Materials for Weapon Systems	Volume 1 - 197
17	03	0603199F	Sustainment Science and Technology (S&T)	Volume 1 - 209
18	03	0603203F	Advanced Aerospace Sensors	Volume 1 - 213
19	03	0603211F	Aerospace Technology Dev/Demo	Volume 1 - 225
20	03	0603216F	Aerospace Propulsion and Power Technology	Volume 1 - 237
21	03	0603270F	Electronic Combat Technology	Volume 1 - 257
22	03	0603273F	Science & Technology for Nuclear Re-entry Systems	Volume 1 - 271
23	03	0603444F	Maui Space Surveillance System (MSSS)	Volume 1 - 277

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 - 279
25	03	0603601F	Conventional Weapons Technology	Volume 1 - 295
26	03	0603605F	Advanced Weapons Technology	Volume 1 - 305
27	03	0603680F	Manufacturing Technology Program	Volume 1 - 311
28	03	0603788F	Battlespace Knowledge Development and Demonstration	Volume 1 - 323
29	03	0207412F	Control and Reporting Center (CRC)	Volume 1 - 335

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

Line #	Budget Activity	Program Element Number	Program Element Title	Page
30	04	0603036F	Modular Advanced Missile	Volume 2 - 1
31	04	0603260F	Intelligence Advanced Development	Volume 2 - 7
32	04	0603742F	Combat Identification Technology	Volume 2 - 21
33	04	0603790F	NATO Research and Development	Volume 2 - 47
34	04	0603851F	Intercontinental Ballistic Missile - Dem/Val	Volume 2 - 53
35	04	0604001F	NC3 Advanced Concepts	Volume 2 - 75
36	04	0604002F	Air Force Weather Services Research	Volume 2 - 81

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 - 89
38	04	0604004F	Advanced Engine Development	Volume 2 - 109
39	04	0604005F	NC3 Commercial Development & Prototyping	Volume 2 - 117
40	04	0604006F	Dept of the Air Force Tech Architecture	Volume 2 - 123
41	04	0604007F	E-7	Volume 2 - 133
42	04	0604009F	AFWERX Prime	Volume 2 - 141
43	04	0604015F	Long Range Strike - Bomber	Volume 2 - 157
44	04	0604025F	Rapid Defense Experimentation Reserve (RDER)	Volume 2 - 169
45	04	0604032F	Directed Energy Prototyping	Volume 2 - 177
46	04	0604033F	Hypersonics Prototyping	Volume 2 - 185
47	04	0604183F	Hypersonics Prototyping - Hypersonic Attack Cruise Missile (HACM)	Volume 2 - 193
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 - 229
51	04	0604317F	Technology Transfer	Volume 2 - 237
52	04	0604327F	Hard and Deeply Buried Target Defeat System (HDBTDS) Program	Volume 2 - 255
53	04	0604414F	Cyber Resiliency of Weapon Systems-ACS	Volume 2 - 263
54	04	0604534F	Adaptive Engine Transition Program (AETP)	Volume 2 - 283

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

Line #	Budget Activity	Program Element Number	Program Element Title	Page
55	04	0604668F	Joint Transportation Management System (JTMS)	Volume 2 - 289
56	04	0604776F	Deployment & Distribution Enterprise R&D	Volume 2 - 295
57	04	0604858F	Tech Transition Program	Volume 2 - 341
58	04	0604860F	Operational Energy and Installation Resilience	Volume 2 - 389
59	04	0605164F	Air Refueling Capability Modernization	Volume 2 - 397
60	04	0605230F	Ground Based Strategic Deterrent	Volume 2 - 403
61	04	0207110F	Next Generation Air Dominance	Volume 2 - 415
62	04	0207179F	Autonomous Collaborative Platforms	Volume 2 - 427
63	04	0207420F	Combat Identification	Volume 2 - 445
64	04	0207455F	Three Dimensional Long-Range Radar (3DELRR)	Volume 2 - 451
65	04	0207522F	Airbase Air Defense Systems (ABADS)	Volume 2 - 459
66	04	0208030F	War Reserve Materiel - Ammunition	Volume 2 - 469
67	04	0304369F	Cyber Capabilities Support Office (CCSO)	Volume 2 - 477
68	04	0305236F	Common Data Link Executive Agent (CDL EA)	Volume 2 - 485
69	04	0305601F	Mission Partner Environments	Volume 2 - 499
70	04	0306250F	Cyber Operations Technology Support	Volume 2 - 505
71	04	0306415F	Enabled Cyber Activities	Volume 2 - 513
72	04	0708051F	Rapid Sustainment Modernization (RSM)	Volume 2 - 519

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

Line #	Budget Activity	Program Element Number	Program Element Title	Page
73	04	0808737F	Integrated Primary Prevention	Volume 2 - 527
74	04	0901410F	Contracting Information Technology System	Volume 2 - 537
75	04	1206415F	U.S. Space Command Research and Development Support	Volume 2 - 547

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

Line #	Budget Activity	Program Element Number	Program Element Title	Page
76	05	0604200F	Future Advanced Weapon Analysis & Programs	Volume 2 - 553
77	05	0604201F	PNT Resiliency, Mods, and Improvements	Volume 2 - 563
78	05	0604222F	Nuclear Weapons Support	Volume 2 - 573
79	05	0604270F	Electronic Warfare Development	Volume 2 - 597
80	05	0604281F	Tactical Data Networks Enterprise	Volume 2 - 609
81	05	0604287F	Physical Security Equipment	Volume 2 - 627
82	05	0604602F	Armament/Ordnance Development	Volume 2 - 635
83	05	0604604F	Submunitions	Volume 2 - 659
84	05	0604617F	Agile Combat Support	Volume 2 - 667
85	05	0604706F	Life Support Systems	Volume 2 - 685

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

Line #	Budget Activity	Program Element Number	Program Element Title	Page
86	05	0604735F	Combat Training Ranges	Volume 2 - 695
87	05	0604932F	Long Range Standoff Weapon	Volume 2 - 705
88	05	0604933F	ICBM Fuze Modernization	Volume 2 - 717
89	05	0605030F	Joint Tactical Network Center (JTNC)	Volume 2 - 727
90	05	0605031F	Joint Tactical Network (JTN)	Volume 2 - 735
91	05	0605056F	Open Architecture Management	Volume 2 - 743
92	05	0605057F	Next Generation Air-refueling System	Volume 2 - 753
93	05	0605223F	Advanced Pilot Training	Volume 2 - 761
94	05	0605229F	HH-60W	Volume 2 - 769
95	05	0605238F	Ground Based Strategic Deterrent EMD	Volume 2 - 779
96	05	0207171F	F-15 EPAWSS	Volume 2 - 799
97	05	0207279F	Isolated Personnel Survivability and Recovery	Volume 2 - 807
98	05	0207328F	Stand In Attack Weapon	Volume 2 - 817
99	05	0207701F	Full Combat Mission Training	Volume 2 - 827
100	05	0208036F	Medical C-CBRNE Programs	Volume 2 - 841
102	05	0305205F	Endurance Unmanned Aerial Vehicles	Volume 2 - 847
103	05	0401221F	KC-46A Tanker Squadrons	Volume 2 - 853
104	05	0401319F	VC-25B	Volume 2 - 873

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

Line #	Budget Activity	Program Element Number	Program Element Title	Page
105	05	0701212F	Automated Test Systems	Volume 2 - 881
106	05	0804772F	Training Developments	Volume 2 - 893

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

Line #	Budget Activity	Program Element Number	Program Element Title	Page
107	06	0604256F	Threat Simulator Development	Volume 3 - 1
108	06	0604759F	Major T&E Investment	Volume 3 - 9
109	06	0605101F	RAND Project Air Force	Volume 3 - 17
110	06	0605502F	Small Business Innovation Research	Volume 3 - 21
111	06	0605712F	Initial Operational Test & Evaluation	Volume 3 - 25
112	06	0605807F	Test and Evaluation Support	Volume 3 - 31
113	06	0605827F	Acq Workforce- Global Vig & Combat Sys	Volume 3 - 39
114	06	0605828F	Acq Workforce- Global Reach	Volume 3 - 43
115	06	0605829F	Acq Workforce- Cyber, Network, & Bus Sys	Volume 3 - 49
116	06	0605830F	Acq Workforce- Global Battle Mgmt	Volume 3 - 57
117	06	0605831F	Acq Workforce- Capability Integration	Volume 3 - 61

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

Line #	Budget Activity	Program Element Number	Program Element Title	Page
118	06	0605832F	Acq Workforce- Advanced Prgm Technology	Volume 3 - 67
119	06	0605833F	Acq Workforce- Nuclear Systems	Volume 3 - 71
120	06	0605898F	Management HQ - R&D	Volume 3 - 75
121	06	0605976F	Facilities Restoration and Modernization - Test and Evaluation Support	Volume 3 - 79
122	06	0605978F	Facilities Sustainment - Test and Evaluation Support	Volume 3 - 83
123	06	0606017F	Requirements Analysis and Maturation	Volume 3 - 87
124	06	0606398F	Management HQ - T&E	Volume 3 - 97
125	06	0303166F	Support to Information Operations (IO) Capabilities	Volume 3 - 99
126	06	0303255F	Command, Control, Communication, and Computers (C4) - STRATCOM	Volume 3 - 103
127	06	0308602F	ENTEPRISE INFORMATION SERVICES (EIS)	Volume 3 - 109
128	06	0702806F	Acquisition and Management Support	Volume 3 - 117
129	06	0804731F	General Skill Training	Volume 3 - 125
130	06	0804772F	Training Developments	Volume 3 - 127
131	06	0909999F	Financing for Cancelled Account Adjustments	Volume 3 - 129
132	06	1001004F	International Activities	Volume 3 - 131
133	06	1206864F	Space Test Program (STP)	Volume 3 - 137

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

Line #	Budget Activity	Program Element Number	Program Element Title	Page
134	07	0604233F	Specialized Undergraduate Flight Training	Volume 3 - 141
135	07	0604283F	Battle Management Command and Control (BMC2) Sensor Development ARSR-4 Replacement - Hawaii	Volume 3 - 163
136	07	0604445F	Wide Area Surveillance	Volume 3 - 171
137	07	0604617F	Agile Combat Support	Volume 3 - 179
138	07	0604776F	Deployment & Distribution Enterprise R&D	Volume 3 - 187
139	07	0604840F	F-35 C2D2	Volume 3 - 193
140	07	0605018F	AF Integrated Personnel and Pay System (AF-IPPS)	Volume 3 - 289
141	07	0605024F	Anti-Tamper Technology Executive Agency	Volume 3 - 301
142	07	0605117F	Foreign Materiel Acquisition and Exploitation	Volume 3 - 309
143	07	0605278F	HC/MC-130 Recap RDT&E	Volume 3 - 317
144	07	0606018F	NC3 Integration	Volume 3 - 343
145	07	0101113F	B-52 Squadrons	Volume 3 - 351
146	07	0101122F	Air-Launched Cruise Missile (ALCM)	Volume 3 - 421
147	07	0101126F	B-1B Squadrons	Volume 3 - 427
148	07	0101127F	B-2 Squadrons	Volume 3 - 439
149	07	0101213F	Minuteman Squadrons	Volume 3 - 457

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

Line #	Budget Activity	Program Element Number	Program Element Title	Page
150	07	0101316F	Worldwide Joint Strategic Communications	Volume 3 - 485
151	07	0101318F	Service Support to STRATCOM - Global Strike	Volume 3 - 495
152	07	0101324F	Integrated Strategic Planning & Analysis Network	Volume 3 - 503
153	07	0101328F	ICBM Reentry Vehicles	Volume 3 - 511
155	07	0102110F	MH-139A	Volume 3 - 529
156	07	0102326F	Region/Sector Operation Control Center Modernization Program	Volume 3 - 545
157	07	0102412F	North Warning System (NWS)	Volume 3 - 553
158	07	0102417F	Over-the-Horizon Backscatter Radar	Volume 3 - 559
159	07	0202834F	Vehicles and Support Equipment - General	Volume 3 - 577
160	07	0205219F	MQ-9 UAV	Volume 3 - 585
161	07	0205671F	Joint Counter RCIED Electronic Warfare	Volume 3 - 607
162	07	0207040F	Multi-Platform Electronic Warfare Equipment	Volume 3 - 613
163	07	0207131F	A-10 Squadrons	Volume 3 - 621
164	07	0207133F	F-16 Squadrons	Volume 3 - 631
165	07	0207134F	F-15E Squadrons	Volume 3 - 647
166	07	0207136F	Manned Destructive Suppression	Volume 3 - 661
167	07	0207138F	F-22A Squadrons	Volume 3 - 669
168	07	0207142F	F-35 Squadrons	Volume 3 - 689

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

Line #	Budget Activity	Program Element Number	Program Element Title	Page
169	07	0207146F	F-15EX	Volume 3 - 715
170	07	0207161F	Tactical AIM Missiles	Volume 3 - 723
171	07	0207163F	Advanced Medium Range Air-to-Air Missile (AMRAAM)	Volume 3 - 731
172	07	0207227F	Combat Rescue - Pararescue	Volume 3 - 741
173	07	0207238F	E-11A	Volume 3 - 747
174	07	0207247F	AF TENCAP	Volume 3 - 765
175	07	0207249F	Precision Attack Systems Procurement	Volume 3 - 775
176	07	0207253F	Compass Call	Volume 3 - 781
177	07	0207268F	Aircraft Engine Component Improvement Program	Volume 3 - 791
178	07	0207325F	Joint Air-to-Surface Standoff Missile (JASSM)	Volume 3 - 807
179	07	0207327F	Small Diameter Bomb (SDB)	Volume 3 - 817
180	07	0207410F	Air & Space Operations Center (AOC)	Volume 3 - 829
181	07	0207412F	Control and Reporting Center (CRC)	Volume 3 - 837
182	07	0207417F	Airborne Warning and Control System (AWACS)	Volume 3 - 845
183	07	0207418F	AFSPECWAR - TACP	Volume 3 - 857
185	07	0207431F	Combat Air Intelligence System Activities	Volume 4 - 1
186	07	0207438F	Theater Battle Management (TBM) C4I	Volume 4 - 17
187	07	0207439F	Electronic Warfare Integrated Reprogramming (EWIR)	Volume 4 - 23

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

Line #	Budget Activity	Program Element Number	Program Element Title	Page
188	07	0207444F	Tactical Air Control Party-Mod	Volume 4 - 31
189	07	0207452F	DCAPES	Volume 4 - 43
190	07	0207521F	Air Force Calibration Programs	Volume 4 - 53
191	07	0207522F	Airbase Air Defense Systems (ABADS)	Volume 4 - 59
192	07	0207573F	National Technical Nuclear Forensics	Volume 4 - 65
193	07	0207590F	Seek Eagle	Volume 4 - 71
194	07	0207601F	USAF Modeling and Simulation	Volume 4 - 81
195	07	0207605F	Wargaming and Simulation Centers	Volume 4 - 95
196	07	0207610F	Battlefield Abn Comm Node (BACN)	Volume 4 - 105
197	07	0207697F	Distributed Training and Exercises	Volume 4 - 113
198	07	0208006F	Mission Planning Systems	Volume 4 - 121
199	07	0208007F	Tactical Deception	Volume 4 - 141
200	07	0208064F	OPERATIONAL HQ - CYBER	Volume 4 - 147
201	07	0208087F	Distributed Cyber Warfare Operations	Volume 4 - 155
202	07	0208088F	AF Defensive Cyberspace Operations	Volume 4 - 165
203	07	0208097F	Joint Cyber Command and Control (JCC2)	Volume 4 - 193
204	07	0208099F	Unified Platform (UP)	Volume 4 - 201
208	07	0208288F	Intel Data Applications	Volume 4 - 209

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

Line #	Budget Activity	Program Element Number	Program Element Title	Page
209	07	0301025F	GeoBase	Volume 4 - 215
210	07	0301112F	Nuclear Planning and Execution System (NPES)	Volume 4 - 221
211	07	0301113F	Cyber Security Intelligence Support	Volume 4 - 235
218	07	0301401F	AF Multi-Domain Non-Traditional ISR Battlespace Awareness	Volume 4 - 241
219	07	0302015F	E-4B National Airborne Operations Center (NAOC)	Volume 4 - 247
220	07	0303004F	EIT CONNECT	Volume 4 - 255
221	07	0303089F	Cyberspace Operations Systems	Volume 4 - 261
222	07	0303131F	Minimum Essential Emergency Communications Network (MEECN)	Volume 4 - 267
223	07	0303133F	High Frequency Radio Systems	Volume 4 - 287
224	07	0303140F	Information Systems Security Program	Volume 4 - 295
225	07	0303142F	Global Force Management - Data Initiative	Volume 4 - 311
226	07	0303248F	All Domain Common Platform	Volume 4 - 317
227	07	0303260F	Joint Military Deception Initiative	Volume 4 - 333
228	07	0304100F	Strategic Mission Planning & Execution System (SMPES)	Volume 4 - 339
230	07	0304260F	Airborne SIGINT Enterprise	Volume 4 - 355
231	07	0304310F	Commercial Economic Analysis	Volume 4 - 379
234	07	0305015F	C2 Air Operations Suite - C2 Info Services	Volume 4 - 385
235	07	0305020F	CCMD Intelligence Information Technology	Volume 4 - 393

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

Line #	Budget Activity	Program Element Number	Program Element Title	Page
236	07	0305022F	ISR Modernization & Automation Dvmt (IMAD)	Volume 4 - 401
237	07	0305099F	Global Air Traffic Management (GATM)	Volume 4 - 413
238	07	0305103F	Cyber Security Initiative	Volume 4 - 421
239	07	0305111F	Weather Service	Volume 4 - 427
240	07	0305114F	Air Traffic Control, Approach, and Landing System (ATCALS)	Volume 4 - 441
241	07	0305116F	Aerial Targets	Volume 4 - 453
244	07	0305128F	Security and Investigative Activities	Volume 4 - 463
245	07	0305146F	Defense Joint Counterintelligence Activities	Volume 4 - 469
246	07	0305179F	Integrated Broadcast Service (IBS)	Volume 4 - 475
247	07	0305202F	Dragon U-2	Volume 4 - 485
248	07	0305206F	Airborne Reconnaissance Systems	Volume 4 - 493
249	07	0305207F	Manned Reconnaissance Systems	Volume 4 - 539
250	07	0305208F	Distributed Common Ground/Surface Systems	Volume 4 - 549
251	07	0305220F	RQ-4 UAV	Volume 4 - 559
252	07	0305221F	Network-Centric Collaborative Targeting	Volume 4 - 569
253	07	0305238F	NATO AGS	Volume 4 - 577
254	07	0305240F	Support to DCGS Enterprise	Volume 4 - 585
255	07	0305600F	International Intelligence Technology and Architectures	Volume 4 - 597

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

Line #	Budget Activity	Program Element Number	Program Element Title	Page
256	07	0305881F	Rapid Cyber Acquisition	Volume 4 - 605
257	07	0305984F	Personnel Recovery Command & Ctrl (PRC2)	Volume 4 - 611
258	07	0307577F	Intelligence Mission Data (IMD)	Volume 4 - 619
259	07	0401115F	C-130 Airlift Squadron	Volume 4 - 625
260	07	0401119F	C-5 Airlift Squadrons (IF)	Volume 4 - 635
261	07	0401130F	C-17 Aircraft (IF)	Volume 4 - 649
262	07	0401132F	C-130J Program	Volume 4 - 657
263	07	0401134F	Large Aircraft IR Countermeasures (LAIRCM)	Volume 4 - 673
264	07	0401218F	KC-135s	Volume 4 - 681
265	07	0401318F	CV-22	Volume 4 - 693
266	07	0408011F	Special Tactics / Combat Control	Volume 4 - 703
267	07	0708055F	Maintenance, Repair & Overhaul System	Volume 4 - 713
268	07	0708610F	Logistics Information Technology (LOGIT)	Volume 4 - 723
269	07	0801380F	AF LVC Operational Training (LVC-OT)	Volume 4 - 739
270	07	0804743F	Other Flight Training	Volume 4 - 755
271	07	0808716F	Other Personnel Activities	Volume 4 - 763
272	07	0901202F	Joint Personnel Recovery Agency	Volume 4 - 769
273	07	0901218F	Civilian Compensation Program	Volume 4 - 777

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

Line #	Budget Activity	Program Element Number	Program Element Title	Page
274	07	0901220F	Personnel Administration	Volume 4 - 783
275	07	0901226F	Air Force Studies and Analysis Agency	Volume 4 - 793
276	07	0901538F	Financial Management Information Systems Development	Volume 4 - 799
277	07	0901554F	Defense Enterprise Acntng and Mgt Sys (DEAMS)	Volume 4 - 815
278	07	1202140F	Service Support to SPACECOM Activities	Volume 4 - 825

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

Program Element Title	Program Element Number	Line #	BA	Page
A-10 Squadrons	0207131F	163	07	Volume 3 - 621
AF Defensive Cyberspace Operations	0208088F	202	07	Volume 4 - 165
AF Integrated Personnel and Pay System (AF-IPPS)	0605018F	140	07	Volume 3 - 289
AF LVC Operational Training (LVC-OT)	0801380F	269	07	Volume 4 - 739
AF Multi-Domain Non-Traditional ISR Battlespace Awareness	0301401F	218	07	Volume 4 - 241
AF TENCAP	0207247F	174	07	Volume 3 - 765
AFSPECWAR - TACP	0207418F	183	07	Volume 3 - 857
AFWERX Prime	0604009F	42	04	Volume 2 - 141
Acq Workforce- Advanced Prgm Technology	0605832F	118	06	Volume 3 - 67
Acq Workforce- Capability Integration	0605831F	117	06	Volume 3 - 61
Acq Workforce- Cyber, Network, & Bus Sys	0605829F	115	06	Volume 3 - 49
Acq Workforce- Global Battle Mgmt	0605830F	116	06	Volume 3 - 57
Acq Workforce- Global Reach	0605828F	114	06	Volume 3 - 43
Acq Workforce- Global Vig & Combat Sys	0605827F	113	06	Volume 3 - 39
Acq Workforce- Nuclear Systems	0605833F	119	06	Volume 3 - 71
Acquisition and Management Support	0702806F	128	06	Volume 3 - 117
Adaptive Engine Transition Program (AETP)	0604534F	54	04	Volume 2 - 283

Program Element Title	Program Element Number	Line #	BA	Page
Advanced Aerospace Sensors	0603203F	18	03	Volume 1 - 213
Advanced Battle Management System (ABMS)	0604003F	37	04	Volume 2 - 89
Advanced Engine Development	0604004F	38	04	Volume 2 - 109
Advanced Materials for Weapon Systems	0603112F	16	03	Volume 1 - 197
Advanced Medium Range Air-to-Air Missile (AMRAAM)	0207163F	171	07	Volume 3 - 731
Advanced Pilot Training	0605223F	93	05	Volume 2 - 761
Advanced Technology and Sensors	0604257F	49	04	Volume 2 - 209
Advanced Weapons Technology	0603605F	26	03	Volume 1 - 305
Aerial Targets	0305116F	241	07	Volume 4 - 453
Aerospace Propulsion	0602203F	8	02	Volume 1 - 89
Aerospace Propulsion and Power Technology	0603216F	20	03	Volume 1 - 237
Aerospace Sensors	0602204F	9	02	Volume 1 - 115
Aerospace Technology Dev/Demo	0603211F	19	03	Volume 1 - 225
Aerospace Vehicle Technologies	0602201F	6	02	Volume 1 - 53
Agile Combat Support	0604617F	84	05	Volume 2 - 667
Agile Combat Support	0604617F	137	07	Volume 3 - 179
Air & Space Operations Center (AOC)	0207410F	180	07	Volume 3 - 829
Air Force Calibration Programs	0207521F	190	07	Volume 4 - 53
Air Force Studies and Analysis Agency	0901226F	275	07	Volume 4 - 793

Program Element Title	Program Element Number	Line #	BA	Page
Air Force Weather Services Research	0604002F	36	04	Volume 2 - 81
Air Refueling Capability Modernization	0605164F	59	04	Volume 2 - 397
Air Traffic Control, Approach, and Landing System (ATCALS)	0305114F	240	07	Volume 4 - 441
Air-Launched Cruise Missile (ALCM)	0101122F	146	07	Volume 3 - 421
Airbase Air Defense Systems (ABADS)	0207522F	65	04	Volume 2 - 459
Airbase Air Defense Systems (ABADS)	0207522F	191	07	Volume 4 - 59
Airborne Reconnaissance Systems	0305206F	248	07	Volume 4 - 493
Airborne SIGINT Enterprise	0304260F	230	07	Volume 4 - 355
Airborne Warning and Control System (AWACS)	0207417F	182	07	Volume 3 - 845
Aircraft Engine Component Improvement Program	0207268F	177	07	Volume 3 - 791
All Domain Common Platform	0303248F	226	07	Volume 4 - 317
Anti-Tamper Technology Executive Agency	0605024F	141	07	Volume 3 - 301
Armament/Ordnance Development	0604602F	82	05	Volume 2 - 635
Automated Test Systems	0701212F	105	05	Volume 2 - 881
Autonomous Collaborative Platforms	0207179F	62	04	Volume 2 - 427
B-1B Squadrons	0101126F	147	07	Volume 3 - 427
B-2 Squadrons	0101127F	148	07	Volume 3 - 439
B-52 Squadrons	0101113F	145	07	Volume 3 - 351
Battle Management Command and Control (BMC2) Sensor Development ARSR-4 Replacement - Hawaii	0604283F	135	07	Volume 3 - 163

Program Element Title	Program Element Number	Line #	BA	Page
Battlefield Abn Comm Node (BACN)	0207610F	196	07	Volume 4 - 105
Battlespace Knowledge Development and Demonstration	0603788F	28	03	Volume 1 - 323
C-130 Airlift Squadron	0401115F	259	07	Volume 4 - 625
C-130J Program	0401132F	262	07	Volume 4 - 657
C-17 Aircraft (IF)	0401130F	261	07	Volume 4 - 649
C-5 Airlift Squadrons (IF)	0401119F	260	07	Volume 4 - 635
C2 Air Operations Suite - C2 Info Services	0305015F	234	07	Volume 4 - 385
CCMD Intelligence Information Technology	0305020F	235	07	Volume 4 - 393
CV-22	0401318F	265	07	Volume 4 - 693
Civilian Compensation Program	0901218F	273	07	Volume 4 - 777
Combat Air Intelligence System Activities	0207431F	185	07	Volume 4 - 1
Combat Identification	0207420F	63	04	Volume 2 - 445
Combat Identification Technology	0603742F	32	04	Volume 2 - 21
Combat Rescue - Pararescue	0207227F	172	07	Volume 3 - 741
Combat Training Ranges	0604735F	86	05	Volume 2 - 695
Command, Control, Communication, and Computers (C4) - STRATCOM	0303255F	126	06	Volume 3 - 103
Commercial Economic Analysis	0304310F	231	07	Volume 4 - 379
Common Data Link Executive Agent (CDL EA)	0305236F	68	04	Volume 2 - 485
Compass Call	0207253F	176	07	Volume 3 - 781

Program Element Title	Program Element Number	Line #	BA	Page
Contracting Information Technology System	0901410F	74	04	Volume 2 - 537
Control and Reporting Center (CRC)	0207412F	29	03	Volume 1 - 335
Control and Reporting Center (CRC)	0207412F	181	07	Volume 3 - 837
Conventional Munitions	0602602F	12	02	Volume 1 - 145
Conventional Weapons Technology	0603601F	25	03	Volume 1 - 295
Cyber Capabilities Support Office (CCSO)	0304369F	67	04	Volume 2 - 477
Cyber Operations Technology Support	0306250F	70	04	Volume 2 - 505
Cyber Resiliency of Weapon Systems-ACS	0604414F	53	04	Volume 2 - 263
Cyber Security Initiative	0305103F	238	07	Volume 4 - 421
Cyber Security Intelligence Support	0301113F	211	07	Volume 4 - 235
Cyberspace Operations Systems	0303089F	221	07	Volume 4 - 261
DCAPES	0207452F	189	07	Volume 4 - 43
Defense Enterprise Acntng and Mgt Sys (DEAMS)	0901554F	277	07	Volume 4 - 815
Defense Joint Counterintelligence Activities	0305146F	245	07	Volume 4 - 469
Defense Laboratories R&D Projects (10 U.S.C, Sec 2358)	0602212F	10	02	Volume 1 - 141
Defense Research Sciences	0601102F	1	01	Volume 1 - 1
Deployment & Distribution Enterprise R&D	0604776F	56	04	Volume 2 - 295
Deployment & Distribution Enterprise R&D	0604776F	138	07	Volume 3 - 187
Dept of the Air Force Tech Architecture	0604006F	40	04	Volume 2 - 123

Program Element Title	Program Element Number	Line #	BA	Page
Directed Energy Prototyping	0604032F	45	04	Volume 2 - 177
Directed Energy Technology	0602605F	13	02	Volume 1 - 157
Distributed Common Ground/Surface Systems	0305208F	250	07	Volume 4 - 549
Distributed Cyber Warfare Operations	0208087F	201	07	Volume 4 - 155
Distributed Training and Exercises	0207697F	197	07	Volume 4 - 113
Dominant Information Sciences and Methods	0602788F	14	02	Volume 1 - 167
Dragon U-2	0305202F	247	07	Volume 4 - 485
E-11A	0207238F	173	07	Volume 3 - 747
E-4B National Airborne Operations Center (NAOC)	0302015F	219	07	Volume 4 - 247
E-7	0604007F	41	04	Volume 2 - 133
EIT CONNECT	0303004F	220	07	Volume 4 - 255
ENTEPRISE INFORMATION SERVICES (EIS)	0308602F	127	06	Volume 3 - 109
Electronic Combat Technology	0603270F	21	03	Volume 1 - 257
Electronic Warfare Development	0604270F	79	05	Volume 2 - 597
Electronic Warfare Integrated Reprogramming (EWIR)	0207439F	187	07	Volume 4 - 23
Enabled Cyber Activities	0306415F	71	04	Volume 2 - 513
Endurance Unmanned Aerial Vehicles	0305205F	102	05	Volume 2 - 847
F-15 EPAWSS	0207171F	96	05	Volume 2 - 799
F-15E Squadrons	0207134F	165	07	Volume 3 - 647

Program Element Title	Program Element Number	Line #	BA	Page
F-15EX	0207146F	169	07	Volume 3 - 715
F-16 Squadrons	0207133F	164	07	Volume 3 - 631
F-22A Squadrons	0207138F	167	07	Volume 3 - 669
F-35 C2D2	0604840F	139	07	Volume 3 - 193
F-35 Squadrons	0207142F	168	07	Volume 3 - 689
Facilities Restoration and Modernization - Test and Evaluation Support	0605976F	121	06	Volume 3 - 79
Facilities Sustainment - Test and Evaluation Support	0605978F	122	06	Volume 3 - 83
Financial Management Information Systems Development	0901538F	276	07	Volume 4 - 799
Financing for Cancelled Account Adjustments	0909999F	131	06	Volume 3 - 129
Foreign Materiel Acquisition and Exploitation	0605117F	142	07	Volume 3 - 309
Full Combat Mission Training	0207701F	99	05	Volume 2 - 827
Future AF Capabilities Applied Research	0602020F	3	02	Volume 1 - 23
Future AF Integrated Technology Demos	0603032F	15	03	Volume 1 - 183
Future Advanced Weapon Analysis & Programs	0604200F	76	05	Volume 2 - 553
General Skill Training	0804731F	129	06	Volume 3 - 125
GeoBase	0301025F	209	07	Volume 4 - 215
Global Air Traffic Management (GATM)	0305099F	237	07	Volume 4 - 413
Global Force Management - Data Initiative	0303142F	225	07	Volume 4 - 311
Ground Based Strategic Deterrent	0605230F	60	04	Volume 2 - 403

Program Element Title	Program Element Number	Line #	BA	Page
Ground Based Strategic Deterrent EMD	0605238F	95	05	Volume 2 - 779
HC/MC-130 Recap RDT&E	0605278F	143	07	Volume 3 - 317
HH-60W	0605229F	94	05	Volume 2 - 769
Hard and Deeply Buried Target Defeat System (HDBTDS) Program	0604327F	52	04	Volume 2 - 255
High Frequency Radio Systems	0303133F	223	07	Volume 4 - 287
Human Effectiveness Advanced Technology Development	0603456F	24	03	Volume 1 - 279
Human Effectiveness Applied Research	0602202F	7	02	Volume 1 - 69
Hypersonics Prototyping	0604033F	46	04	Volume 2 - 185
Hypersonics Prototyping - Hypersonic Attack Cruise Missile (HACM)	0604183F	47	04	Volume 2 - 193
ICBM Fuze Modernization	0604933F	88	05	Volume 2 - 717
ICBM Reentry Vehicles	0101328F	153	07	Volume 3 - 511
ISR Modernization & Automation Dvmt (IMAD)	0305022F	236	07	Volume 4 - 401
Information Systems Security Program	0303140F	224	07	Volume 4 - 295
Initial Operational Test & Evaluation	0605712F	111	06	Volume 3 - 25
Integrated Broadcast Service (IBS)	0305179F	246	07	Volume 4 - 475
Integrated Primary Prevention	0808737F	73	04	Volume 2 - 527
Integrated Strategic Planning & Analysis Network	0101324F	152	07	Volume 3 - 503
Intel Data Applications	0208288F	208	07	Volume 4 - 209
Intelligence Advanced Development	0603260F	31	04	Volume 2 - 7

Program Element Title	Program Element Number	Line #	BA	Page
Intelligence Mission Data (IMD)	0307577F	258	07	Volume 4 - 619
Intercontinental Ballistic Missile - Dem/Val	0603851F	34	04	Volume 2 - 53
International Activities	1001004F	132	06	Volume 3 - 131
International Intelligence Technology and Architectures	0305600F	255	07	Volume 4 - 597
Isolated Personnel Survivability and Recovery	0207279F	97	05	Volume 2 - 807
Joint Air-to-Surface Standoff Missile (JASSM)	0207325F	178	07	Volume 3 - 807
Joint Counter RCIED Electronic Warfare	0205671F	161	07	Volume 3 - 607
Joint Cyber Command and Control (JCC2)	0208097F	203	07	Volume 4 - 193
Joint Military Deception Initiative	0303260F	227	07	Volume 4 - 333
Joint Personnel Recovery Agency	0901202F	272	07	Volume 4 - 769
Joint Tactical Network (JTN)	0605031F	90	05	Volume 2 - 735
Joint Tactical Network Center (JTNC)	0605030F	89	05	Volume 2 - 727
Joint Transportation Management System (JTMS)	0604668F	55	04	Volume 2 - 289
KC-135s	0401218F	264	07	Volume 4 - 681
KC-46A Tanker Squadrons	0401221F	103	05	Volume 2 - 853
Large Aircraft IR Countermeasures (LAIRCM)	0401134F	263	07	Volume 4 - 673
Life Support Systems	0604706F	85	05	Volume 2 - 685
Logistics Information Technology (LOGIT)	0708610F	268	07	Volume 4 - 723
Long Range Standoff Weapon	0604932F	87	05	Volume 2 - 705

Program Element Title	Program Element Number	Line #	BA	Page
Long Range Strike - Bomber	0604015F	43	04	Volume 2 - 157
MH-139A	0102110F	155	07	Volume 3 - 529
MQ-9 UAV	0205219F	160	07	Volume 3 - 585
Maintenance, Repair & Overhaul System	0708055F	267	07	Volume 4 - 713
Major T&E Investment	0604759F	108	06	Volume 3 - 9
Management HQ - R&D	0605898F	120	06	Volume 3 - 75
Management HQ - T&E	0606398F	124	06	Volume 3 - 97
Manned Destructive Suppression	0207136F	166	07	Volume 3 - 661
Manned Reconnaissance Systems	0305207F	249	07	Volume 4 - 539
Manufacturing Technology Program	0603680F	27	03	Volume 1 - 311
Materials	0602102F	5	02	Volume 1 - 33
Maui Space Surveillance System (MSSS)	0603444F	23	03	Volume 1 - 277
Medical C-CBRNE Programs	0208036F	100	05	Volume 2 - 841
Minimum Essential Emergency Communications Network (MEECN)	0303131F	222	07	Volume 4 - 267
Minuteman Squadrons	0101213F	149	07	Volume 3 - 457
Mission Partner Environments	0305601F	69	04	Volume 2 - 499
Mission Planning Systems	0208006F	198	07	Volume 4 - 121
Modular Advanced Missile	0603036F	30	04	Volume 2 - 1
Multi-Platform Electronic Warfare Equipment	0207040F	162	07	Volume 3 - 613

Program Element Title	Program Element Number	Line #	BA	Page
NATO AGS	0305238F	253	07	Volume 4 - 577
NATO Research and Development	0603790F	33	04	Volume 2 - 47
NC3 Advanced Concepts	0604001F	35	04	Volume 2 - 75
NC3 Commercial Development & Prototyping	0604005F	39	04	Volume 2 - 117
NC3 Integration	0606018F	144	07	Volume 3 - 343
National Technical Nuclear Forensics	0207573F	192	07	Volume 4 - 65
Network-Centric Collaborative Targeting	0305221F	252	07	Volume 4 - 569
Next Generation Air Dominance	0207110F	61	04	Volume 2 - 415
Next Generation Air-refueling System	0605057F	92	05	Volume 2 - 753
North Warning System (NWS)	0102412F	157	07	Volume 3 - 553
Nuclear Planning and Execution System (NPES)	0301112F	210	07	Volume 4 - 221
Nuclear Weapons Support	0604222F	78	05	Volume 2 - 573
OPERATIONAL HQ - CYBER	0208064F	200	07	Volume 4 - 147
Open Architecture Management	0605056F	91	05	Volume 2 - 743
Operational Energy and Installation Resilience	0604860F	58	04	Volume 2 - 389
Other Flight Training	0804743F	270	07	Volume 4 - 755
Other Personnel Activities	0808716F	271	07	Volume 4 - 763
Over-the-Horizon Backscatter Radar	0102417F	158	07	Volume 3 - 559
PNT Resiliency, Mods, and Improvements	0604201F	48	04	Volume 2 - 201

Program Element Title	Program Element Number	Line #	BA	Page
PNT Resiliency, Mods, and Improvements	0604201F	77	05	Volume 2 - 563
Personnel Administration	0901220F	274	07	Volume 4 - 783
Personnel Recovery Command & Ctrl (PRC2)	0305984F	257	07	Volume 4 - 611
Physical Security Equipment	0604287F	81	05	Volume 2 - 627
Precision Attack Systems Procurement	0207249F	175	07	Volume 3 - 775
RAND Project Air Force	0605101F	109	06	Volume 3 - 17
RQ-4 UAV	0305220F	251	07	Volume 4 - 559
Rapid Cyber Acquisition	0305881F	256	07	Volume 4 - 605
Rapid Defense Experimentation Reserve (RDER)	0604025F	44	04	Volume 2 - 169
Rapid Sustainment Modernization (RSM)	0708051F	72	04	Volume 2 - 519
Region/Sector Operation Control Center Modernization Program	0102326F	156	07	Volume 3 - 545
Requirements Analysis and Maturation	0606017F	123	06	Volume 3 - 87
Science & Technology for Nuclear Re-entry Systems	0603273F	22	03	Volume 1 - 271
Science and Technology Management - Major Headquarters Activities	0602298F	11	02	Volume 1 - 143
Security and Investigative Activities	0305128F	244	07	Volume 4 - 463
Seek Eagle	0207590F	193	07	Volume 4 - 71
Service Support to SPACECOM Activities	1202140F	278	07	Volume 4 - 825
Service Support to STRATCOM - Global Strike	0101318F	151	07	Volume 3 - 495
Small Business Innovation Research	0605502F	110	06	Volume 3 - 21

Program Element Title	Program Element Number	Line #	BA	Page
Small Diameter Bomb (SDB)	0207327F	179	07	Volume 3 - 817
Space Test Program (STP)	1206864F	133	06	Volume 3 - 137
Special Tactics / Combat Control	0408011F	266	07	Volume 4 - 703
Specialized Undergraduate Flight Training	0604233F	134	07	Volume 3 - 141
Stand In Attack Weapon	0207328F	98	05	Volume 2 - 817
Strategic Mission Planning & Execution System (SMPES)	0304100F	228	07	Volume 4 - 339
Submunitions	0604604F	83	05	Volume 2 - 659
Support to DCGS Enterprise	0305240F	254	07	Volume 4 - 585
Support to Information Operations (IO) Capabilities	0303166F	125	06	Volume 3 - 99
Survivable Airborne Operations Center (SAOC)	0604288F	50	04	Volume 2 - 229
Sustainment Science and Technology (S&T)	0603199F	17	03	Volume 1 - 209
Tactical AIM Missiles	0207161F	170	07	Volume 3 - 723
Tactical Air Control Party-Mod	0207444F	188	07	Volume 4 - 31
Tactical Data Networks Enterprise	0604281F	80	05	Volume 2 - 609
Tactical Deception	0208007F	199	07	Volume 4 - 141
Tech Transition Program	0604858F	57	04	Volume 2 - 341
Technology Transfer	0604317F	51	04	Volume 2 - 237
Test and Evaluation Support	0605807F	112	06	Volume 3 - 31
Theater Battle Management (TBM) C4I	0207438F	186	07	Volume 4 - 17

Program Element Title	Program Element Number	Line #	BA	Page
Threat Simulator Development	0604256F	107	06	Volume 3 - 1
Three Dimensional Long-Range Radar (3DELRR)	0207455F	64	04	Volume 2 - 451
Training Developments	0804772F	106	05	Volume 2 - 893
Training Developments	0804772F	130	06	Volume 3 - 127
U.S. Space Command Research and Development Support	1206415F	75	04	Volume 2 - 547
USAF Modeling and Simulation	0207601F	194	07	Volume 4 - 81
Unified Platform (UP)	0208099F	204	07	Volume 4 - 201
University Affiliated Research Center (UARC) - Tactical Autonomy	0602022F	4	02	Volume 1 - 29
University Research Initiatives	0601103F	2	01	Volume 1 - 17
VC-25B	0401319F	104	05	Volume 2 - 873
Vehicles and Support Equipment - General	0202834F	159	07	Volume 3 - 577
War Reserve Materiel - Ammunition	0208030F	66	04	Volume 2 - 469
Wargaming and Simulation Centers	0207605F	195	07	Volume 4 - 95
Weather Service	0305111F	239	07	Volume 4 - 427
Wide Area Surveillance	0604445F	136	07	Volume 3 - 171
Worldwide Joint Strategic Communications	0101316F	150	07	Volume 3 - 485

Department of the Air Force
FY 2024 President's Budget
Exhibit R-1 FY 2024 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Mar 2023

	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment	FY 2024 Request
Summary Recap of Budget Activities					
Basic Research	505,166	612,317		612,317	583,858
Applied Research	1,590,543	1,744,375		1,744,375	1,433,320
Advanced Technology Development	918,318	1,096,066		1,096,066	891,376
Advanced Component Development & Prototypes	9,427,253	8,360,072	1,300	8,361,372	9,859,030
System Development & Demonstration	2,176,294	6,074,824		6,074,824	6,481,731
Management Support	3,828,179	3,304,709		3,304,709	3,486,758
Operational Systems Development	23,061,515	23,805,224	283,546	24,088,770	23,829,283
Total Research, Development, Test, & Evaluation	**41,507,268**	**44,997,587**	**284,846**	**45,282,433**	**46,565,356**
Summary Recap of FYDP Programs					
Strategic Forces	1,117,861	1,358,245		1,358,245	2,047,638
General Purpose Forces	4,400,861	4,731,867	10,000	4,741,867	5,160,229
Intelligence and Communications	1,209,806	1,173,980		1,173,980	1,061,042
Mobility Forces	557,864	396,697		396,697	756,557
Research and Development	16,948,692	19,386,302	38,800	19,425,102	20,470,070
Central Supply and Maintenance	174,960	171,979		171,979	94,340
Training Medical and Other	17,540	23,238		23,238	39,491
Administration and Associated Activities	103,958	77,443		77,443	93,157
Support of Other Nations	2,420	2,593		2,593	3,917
Space	6,551	21,768		21,768	24,670
Classified Programs	16,966,755	17,653,475	236,046	17,889,521	16,814,245

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

Department of the Air Force
FY 2024 President's Budget
Exhibit R-1 FY 2024 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Mar 2023

	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment	FY 2024 Request
Total Research, Development, Test, & Evaluation	**41,507,268**	**44,997,587**	**284,846**	**45,282,433**	**46,565,356**

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328)

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
EWAISP	- Electronic Warfare Avionics Integration Support Facility
FLIR	- Forward Looking Infra Red

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

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 ACRONYMNS

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

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

CONTRACT METHOD / TYPE ACRONYMNS

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 ACRONYMNS

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

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207431F / *Combat Air Intelligence System Activities*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	17.863	37.454	72.010	0.000	72.010	51.554	49.252	50.140	51.162	Continuing	Continuing
675307: *TARGETING ENTERPRISE RESEARCH*	-	17.100	36.649	40.029	0.000	40.029	18.335	18.771	19.192	19.768	Continuing	Continuing
675309: *GEO Info & Serv Software*	-	0.763	0.805	31.981	0.000	31.981	33.219	30.481	30.948	31.394	Continuing	Continuing

A. Mission Description and Budget Item Justification

The mission of Combat Air Intelligence Systems (CAIS) is to process, analyze, and disseminate intelligence for air component and unit operations worldwide by providing key intelligence infrastructure and production capabilities for the supported and supporting forces with true backbone type of intelligence support for air operations and air support to joint operations. CAIS is focused on providing the intelligence infrastructure and funding to Air Force Major Commands, Intelligence, Cyber and Space Squadrons, Field Operating Agencies, and subordinate units.

Modernizations are required for the CAIS enterprise capabilities, inside and outside AOCs to keep pace with evolving Government Off the Shelf (GOTS) components, integrated Commercial Off the Shelf (COTS) components, Department of Defense (DoD) directives, and changes in the underlying Information Technology (IT) environment, as well as to deliver effective operational capabilities for the user. In Summer of FY20, the decision was made to transition from Middle Tier Acquisition (MTA), Sec 804 Rapid Prototyping/Fielding to the new NDAA FY20 - Software Acquisition Pathway, which is the preferred path for acquisition and development of software-intensive systems. In October 2021, Kessel Run Air Domain was authorized by the Service Acquisition Executive to enter the Software Acquisition Pathway in the Execution Phase.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver Targeting and Geospatial Intelligence 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 $2.764M was expended for civilian pay expenses in this program element, and in FY23 $2.380M is forecasted for civilian pay expenses in this program element.
This program is part of the overarching Kessel Run portfolio.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207431F / *Combat Air Intelligence System Activities*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	17.863	23.504	20.397	0.000	20.397
Current President's Budget	17.863	37.454	72.010	0.000	72.010
Total Adjustments	0.000	13.950	51.613	0.000	51.613
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	13.950			
• 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	51.613	0.000	51.613

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 675307: *TARGETING ENTERPRISE RESEARCH*		
Congressional Add: *Geospatial Infrastructure for ISR Wings*	0.000	6.200
Congressional Add: *Ukraine Assistance*	0.000	7.750
Congressional Add Subtotals for Project: 675307	0.000	13.950
Congressional Add Totals for all Projects	0.000	13.950

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207431F / *Combat Air Intelligence System Activities*	Project (Number/Name) 675307 / *TARGETING ENTERPRISE RESEARCH*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675307: *TARGETING ENTERPRISE RESEARCH*	-	17.100	36.649	40.029	0.000	40.029	18.335	18.771	19.192	19.768	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Provides support to personnel utilizing Target Development, Planning, and Execution applications; Unit Level Intelligence; Tactical Intelligence Applications; and direct support to national, combatant command, and Air Force intelligence missions.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver Targeting for 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 $2.374M was expended for civilian pay expenses in this program element, and in CY $2.189M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: ACC Targeting Enterprise Research	6.393	6.918	23.818
Description: Conducts limited early R&D for tools and workflow, initial cloud and data structure architecture, initial implementation of Sensor-to-shooter concept to accelerate kill chain for at scale dynamic execution, TTP development for targeting in an agile combat environment in the "lead wing concept", and enhanced target mensuration development to improve speed and capacity for target location.			
FY 2023 Plans: Funds Sensor-to-Shooter embedded support, ISR Dynamic Execution (IDEX) Dynamic Re-tasking, Low-Cost Threat Emitters (LCTE) Amplifier, and Intel Support to Non-Kenetic weaponeering Supports hardware/software to 363rd ISRW to deploy geospatial infrastructure to create, publish, and share info products quickly and seamlessly throughout the IC and DoD			
FY 2024 Plans: Continue Kill Chain automation support to enhance Find, Fix, Track. Target, Engage, assess sensor-to-shooter intelligence and training on applications to shorten long range kill chains. Provides funds for the enhancement of existing weapon systems in direct support of countering Stratospheric platforms, to include High Altitude Balloons. Expansion of analysis and exploitation related to the technical characteristics, signatures, employment,			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207431F / *Combat Air Intelligence System Activities*	**Project (Number/Name)** 675307 / *TARGETING ENTERPRISE RESEARCH*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
vulnerabilities, performance, and proliferation of current and future unmanned airborne ISR platforms and their associated subsystems and support equipment. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to congressional adds for Ukraine Support and Geospatial Infrastructure for ISR wings.			
Title: Kessel Run Targeting Research, Modernization, and SoftWare Pathways ***Description:*** Conduct Targeting Enterprise research and advancement for projects such as Joint Targeting Toolbox (JTT) [In both the Global Command and Control System Joint (GCCS-J) and Stand-alone configurations-JTT-Capability Package (JTT-CP)] and the Unit Level Intelligence (ULI) systems Toolkit for Intelligence Targeting Analysis (TITAN) and Targeting Application Workstation (TAW).) This budget item also funds emerging targeting capabilities (such as Target System Analysis, 4D visualization, etc.) and Targeting Enterprise software application modernization efforts. ***FY 2023 Plans:*** Continue the phased modernization of capabilities within the T&G portfolio, expand test automation, and migrate to a true Continuous Integration/DevOps environment to support continuous delivery to the warfighter. ***FY 2024 Plans:*** Continue the phased modernization of capabilities within the T&G portfolio, expand test automation, and migrate to a true Continuous Integration/DevOps environment to support continuous delivery to the warfighter. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase attributed to FTEs support in Targeting agile efforts for different product teams	10.707	15.781	16.211
Accomplishments/Planned Programs Subtotals	17.100	22.699	40.029

	FY 2022	FY 2023
Congressional Add: Geospatial Infrastructure for ISR Wings	0.000	6.200
FY 2022 Accomplishments: The 363rd ISRW is currently in the process of two MILCONs for the 363rd ISRG and the 365th ISRG. The 363rd Intelligence, Surveillance, and Reconnaissance Wing (ISRW) is the only unit of its kind across the U.S. Air Force. The Wing conducts lethal, resilient, and ready operations in four core mission areas: analysis for air, space, and cyber operations; full-spectrum targeting; special operations ISR; and ISR testing, tactics development, and advanced training. The Wing produces tailored geospatial and comprehensive threat analysis products to USAF units employing air power. Its core mission is to deliver integrated content-		

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207431F / *Combat Air Intelligence System Activities*	**Project (Number/Name)** 675307 / *TARGETING ENTERPRISE RESEARCH*

	FY 2022	FY 2023
dominant analytical expertise, precision targeting, production, and special operations ISR support to the operational and tactical warfighter, enabling combat power in air, space, and cyberspace. ***FY 2023 Plans:*** These funds will be used for the necessary hardware and software to enable the 363rd to deploy a geospatial infrastructure to create, publish, and share content and information products quickly and seamlessly throughout the Wing and other IC and DoD organizations.		
Congressional Add: Ukraine Assistance ***FY 2022 Accomplishments:*** No FY22 Ukraine funds were given in this PEC. ***FY 2023 Plans:*** Funds Sensor-to-Shooter embedded support, ISR Dynamic Execution (IDEX) Dynamic Re-tasking, Low-Cost Threat Emitters (LCTE) Amplifier, and Intel Support to Non-Kenetic weaponeering.	0.000	7.750
Congressional Adds Subtotals	0.000	13.950

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 Line Item 832070: *Intelligence Comm Equipment*	2.720	3.185	2.822	-	2.822	5.907	6.083	6.217	6.341	Continuing	Continuing
• O&M 27431F: *Combat Air Intelligence System (CAIS)*	6.413	5.188	5.233	-	5.233	5.376	5.480	5.573	3.879	Continuing	Continuing

Remarks

D. Acquisition Strategy

The acquisition strategy builds on agile software engineering methodologies and modernization of existing capabilities utilizing evolutionary acquisition. Using Section 804, timelines are reduced by modularizing both software engineering solutions and the associated contracting and funding strategies. This enables dynamic resource allocation based on current warfighter needs. In Summer of FY20, the decision was made to transition from MTA, Sec 804 Rapid Prototyping/Fielding to the new NDAA FY20 - Software Acquisition Pathway, which is the preferred path for acquisition and development of software-intensive systems. In October 2021, Kessel Run Air Domain was authorized by the Service Acquisition Executive to enter the Software Acquisition Pathway in the Execution Phase. This program is part of the overarching Kessel Run portfolio and 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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207431F / *Combat Air Intelligence System Activities*	**Project (Number/Name)** 675307 / *TARGETING ENTERPRISE RESEARCH*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
cHAB	TBD	NASIC : TBD	-	-		-		12.000		-		12.000	Continuing	Continuing	-
JTIM Funds	TBD	ACC : TBD	-	-		-		8.400		-		8.400	Continuing	Continuing	-
Geospatial Infrastructure ISR Wings	TBD	ACC : TBD	-	-		6.200		-		-		-	Continuing	Continuing	-
Ukraine Assistance	TBD	ACC : TBD	-	-		7.750		-		-		-	Continuing	Continuing	-
Targeting Enterprise Research	TBD	ACC : TBD	-	6.393	Jan 2022	6.918	Jan 2023	3.418	Jan 2024	-		3.418	Continuing	Continuing	-
JTT	SS/CPFF	BAE Systems : Rockville, MD	-	1.367	Jun 2022	5.086	Jun 2023	4.418	Jun 2024	-		4.418	Continuing	Continuing	-
Software Development (Legacy/ENDOR)	C/T&M	Various : Boston, MA	-	2.562	Jan 2022	4.491	Dec 2022	5.150	Dec 2023	-		5.150	Continuing	Continuing	-
Software Development (Other Direct Support)	MIPR	NIWC Pacific : San Diego, CA	-	1.035	Dec 2021	1.181	Oct 2022	1.326	Oct 2023	-		1.326	Continuing	Continuing	-
Platform One-ODIN	Reqn	Various : Hanscom AFB, MA	-	0.359	Nov 2022	0.000	Jun 2023	0.000	Dec 2023	-		0.000	Continuing	Continuing	-
		Subtotal	-	11.716		31.626		34.712		-		34.712	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Civilian Direct Cite Authority	Reqn	AFLCMC : WPAFB, OH	-	2.374	Oct 2021	2.189	Oct 2022	1.989	Oct 2023	-		1.989	Continuing	Continuing	-
Federally Funded Research & Development Center (FFRDC) Engineers	C/CPFF	MITRE : Hanscom AFB, MA	-	0.968	Oct 2021	1.567	Oct 2022	1.450	Oct 2023	-		1.450	Continuing	Continuing	-
Advisory & Assistance Services	C/CPFF	Oasis Systems, LLC : Boston, MA	-	0.922	Jul 2022	0.412	Jul 2023	0.817	Jul 2024	-		0.817	Continuing	Continuing	-
		Subtotal	-	4.264		4.168		4.256		-		4.256	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207431F / *Combat Air Intelligence System Activities*	**Project (Number/Name)** 675307 / *TARGETING ENTERPRISE RESEARCH*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Test Support	PO	45th Test Squadron : Eglin AFB, FL	-	0.488	Dec 2021	0.820	Dec 2022	0.845	Dec 2023	-		0.845	Continuing	Continuing	-
		Subtotal	-	0.488		0.820		0.845		-		0.845	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Support	Various	Program Management Office : Hanscom AFB, MA	-	0.632	Nov 2021	0.035	Nov 2022	0.216	Nov 2023	-		0.216	Continuing	Continuing	-
		Subtotal	-	0.632		0.035		0.216		-		0.216	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	17.100		36.649		40.029		-		40.029	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207431F / *Combat Air Intelligence System Activities*	**Project (Number/Name)** 675307 / *TARGETING ENTERPRISE RESEARCH*

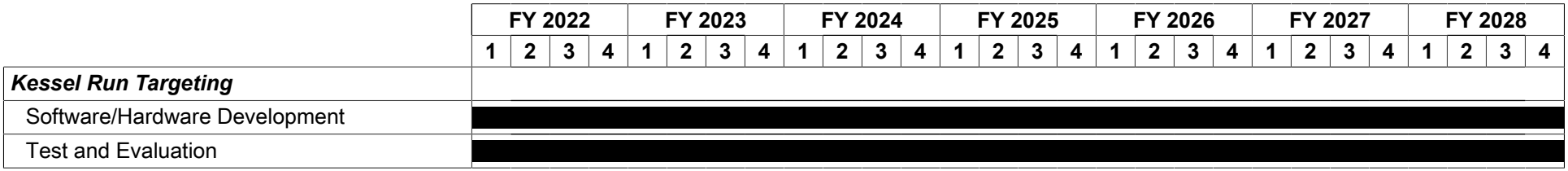

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207431F / *Combat Air Intelligence System Activities*	**Project (Number/Name)** 675307 / *TARGETING ENTERPRISE RESEARCH*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Kessel Run Targeting				
Software/Hardware Development	1	2022	4	2028
Test and Evaluation	1	2022	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207431F / *Combat Air Intelligence System Activities*	Project (Number/Name) 675309 / *GEO Info & Serv Software*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675309: *GEO Info & Serv Software*	-	0.763	0.805	31.981	0.000	31.981	33.219	30.481	30.948	31.394	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Provides support to personnel using Geospatial resources utilized in Geospatial Intelligence (GEOINT) databasing applications, technology exploration and refresh initiatives, geospatial imagery data management and dissemination architecture, geospatial information and services modernization, and enablers for intel and targeting capabilities. Provides support to the MAJCOMs to ensure requisite and available target intelligence and GEOINT tools for information directly available to warfighters.

The GEOINT information and service software program funds the Air Force Enhanced Geospatial Product Library (EGPL) which is currently fielded to all combatant command air components and subordinate units supporting global air operations. The EGPL provides digital GEOINT data to support mission planning, targeting & intelligence in support of mission objectives.

The Enhanced Geospatial Product Library (EGPL) is world-wide distributed United States Air Force (USAF) repository for geospatial products from the National Geospatial Intelligence Agency (NGA) and other government sources. Its purpose is to provide the Geospatial Intelligence (GEOINT) information needed by the Air Force (AF) and other DoD command and control systems. EGPL is on premise, continuously updated, NGA Foundational GEOINT data seamlessly accessible via shared drive or browser.

Funds enhanced dynamic F2T2EA sensor-to-shooter intel and advanced training on cloud-based apps to shorten LRKC with automated and AI-enabled Sensing Grid/ targeting tools and applications. Analyzes, visualizes, and shares National, Tactical, and open source Intel to close the capability gap against adversary's truncated kill chains.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver Geospatial Intelligence 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 0.390M was expended for civilian pay expenses in this program element, and in CY 0.191M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Kill Chain Automation	0.000	0.000	31.159
Description: Funds dynamic F2T2EA S2S intelligence and advanced training on cloud-based application to shorten LRKC with automated/AI-enabled sensing-grid and targeting/applications. Analyzes, visualizes, and shares national, tactical, and open source intelligence to close the capability gap against adversary's truncated kill-chains			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207431F / *Combat Air Intelligence System Activities*	**Project (Number/Name)** 675309 / *GEO Info & Serv Software*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
FY 2023 Plans: Continue Kill Chain automation support to enhance Find, Fix, Track. Target, Engage, assess sensor-to-shooter intelligence and training on applications to shorten long range kill chains. ***FY 2024 Plans:*** Continue Kill Chain automation support to enhance Find, Fix, Track. Target, Engage, assess sensor-to-shooter intelligence and training on applications to shorten long range kill chains. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The increase is due to FY24 funding for Kill Chain Automation efforts.			
Title: Kessel Run Enhanced Geospatial Product Library (EGPL) ***Description:*** Provide continuing support for EGPL software and storage to meet future and evolving IT and GEOINT standards and support. ***FY 2023 Plans:*** Continue to develop EGPL software and continue modernization efforts utilizing Agile Methodologies. ***FY 2024 Plans:*** Provide continuing support for EGPL software and storage to meet future and evolving IT and GEOINT standards and support. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase contributed to FTE supporting EGPL product team	0.763	0.805	0.822
Accomplishments/Planned Programs Subtotals	0.763	0.805	31.981

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The acquisition strategy builds on agile software engineering methodologies and modernization of existing capabilities utilizing evolutionary acquisition. Using section 804, timelines are reduced by modularizing both software engineering solutions and the associated contracting and funding strategies. This enables dynamic resource allocation based on current warfighter needs. The desired end state is continuous delivery of Software. In Summer of FY20, the decision was made to transition from MTA, Sec 804 Rapid Prototyping/Fielding to the new NDAA FY20 - Software Acquisition Pathway, which is the preferred path for acquisition and development of software-intensive systems. In October 2021, Kessel Run Air Domain was authorized by the Service Acquisition Executive to enter the Software Acquisition Pathway in the Execution Phase. This program is part of the overarching Kessel Run portfolio and is dependent on the All Domain Common Platform (ADCP). The ADCP provides

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207431F / *Combat Air Intelligence System Activities*	**Project (Number/Name)** 675309 / *GEO Info & Serv Software*

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207431F / *Combat Air Intelligence System Activities*	Project (Number/Name) 675309 / *GEO Info & Serv Software*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Kill Chain Automation	TBD	ACC : TBD	-	-		-		31.157		-		31.157	Continuing	Continuing	-
Enhance Geospatial Product Library (eGPL)	C/T&M	Charles Stark Draper Lab : Cambridge, MA	-	0.126	Oct 2021	-		-		-		-	0.000	0.126	-
		Subtotal	-	0.126		-		31.157		-		31.157	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Advisory & Assistance Services	C/CPFF	Oasis Systems, LLC : Boston, MA	-	0.247	Jul 2022	0.614	Mar 2023	0.753	Nov 2023	-		0.753	Continuing	Continuing	-
Civilian Direct Cite Authority	Reqn	AFLCMC : WPAFB, OH	-	0.390	Oct 2021	0.191	Oct 2022	0.000	Oct 2023	-		0.000	Continuing	Continuing	-
		Subtotal	-	0.637		0.805		0.753		-		0.753	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Support	Reqn	Various : Hanscom, MA	-	0.000	Jul 2022	0.000	Jul 2023	0.071	Jul 2024	-		0.071	Continuing	Continuing	-
		Subtotal	-	0.000		0.000		0.071		-		0.071	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	0.763		0.805		31.981		-		31.981	Continuing	Continuing	N/A

Remarks

Realigned $100K from BPAC 675307 to BPAC 675309 for EGPL follow-on contract.

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207431F / *Combat Air Intelligence System Activities*	**Project (Number/Name)** 675309 / *GEO Info & Serv Software*

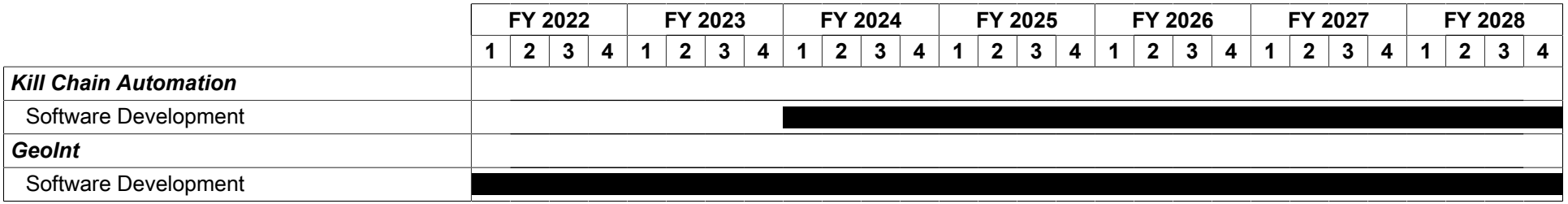

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207431F / *Combat Air Intelligence System Activities*	**Project (Number/Name)** 675309 / *GEO Info & Serv Software*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Kill Chain Automation				
Software Development	1	2024	4	2028
GeoInt				
Software Development	1	2022	4	2028

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207438F / *Theater Battle Management (TBM) C4I*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	7.716	5.851	6.467	0.000	6.467	6.650	6.817	6.956	7.208	Continuing	Continuing
675218: *Applications Development*	-	7.716	5.851	6.467	0.000	6.467	6.650	6.817	6.956	7.208	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This budget line funds joint partner requirements of the Air Operations Center (AOC) Weapon System Modification effort. Applications Development efforts deliver capabilities identified in the Joint Command and Control (JC2) Capability Development Document (CDD) (2013) and are executed under the Development, Security, and Operations (DevSecOps) Software Acquisition Pathway Program (DoD 5000.87). Applications Development provides worldwide operational capabilities for Air Force Command and Control (C2) in support of DoD, Coalition Partners, and other government agencies. These efforts focus on support to the Joint Forces Air Component Commander (JFACC), who provides air, space and cyber support to other AF and Joint Services C2 systems. This program is dependent on the All Domain Common Platform (ADCP), which 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.

In FY24, Applications Development will focus on providing necessary software capabilities to build, disseminate, and execute the Master Air Attack Plan (MAAP). Applications Development also provides an Airspace Management tool used for building airspaces, evaluating requests, and instantaneously generating the Airspace Control Order (ACO). These efforts deliver modern software for inclusion to the AOC Weapon System Modifications to replace the Master Air Attack Plan-Toolkit (MAAPTK) and components of Theater Battle Management Core System - Force Level (TBMCS FL).

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 FY22, 1.660M was expended for civilian pay expenses in this program element, and in FY23, 2.481M 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207438F / *Theater Battle Management (TBM) C4I*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	7.905	5.851	6.452	0.000	6.452
Current President's Budget	7.716	5.851	6.467	0.000	6.467
Total Adjustments	-0.189	0.000	0.015	0.000	0.015
• 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	-0.189	0.000			
• Other Adjustments	0.000	0.000	0.015	0.000	0.015

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: C2 Applications Development	7.716	5.851	6.467
Description: Employ agile software development methodologies to engineer, integrate, and test modern C2 software capabilities leveraging test-driven development. Provide engineering solutions, test, and deliver effective operational C2 capabilities utilizing continuous integration and continuous delivery (CI/CD) processes. ***FY 2023 Plans:*** - Continue delivery of software to AOC WS Modifications to incrementally replace MAAPTK and portions of TBMCS FL ***FY 2024 Plans:*** - Will continue delivery of software to AOC WS Modifications to incrementally replace MAAPTK and portions of TBMCS FL ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to requirements for agile software development.			
Accomplishments/Planned Programs Subtotals	7.716	5.851	6.467

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 834520: *Theater Battle Mgt C2 System*	3.683	0.000	0.000	-	0.000	0.000	0.000	0.000	-	0.000	3.683
• OPAF 03 833140: *Strategic Command And Control*	0.668	30.738	9.962	-	9.962	5.413	1.866	1.883	28.316	Continuing	Continuing

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207438F / *Theater Battle Management (TBM) C4I*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• RDTE 07 0303248F: *All Domain Common Platform*	70.894	45.502	88.916	-	88.916	98.464	99.216	98.907	88.153	Continuing	Continuing

Remarks

E. Acquisition Strategy

The acquisition strategy builds on agile development and modification of existing capabilities using evolutionary acquisition to standardize and modernize C2 Applications Development. C2 Applications Development will operate under authority of a Software Acquisition Pathway.

Program management for the C2 Applications Development 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 C2 Applications Development. AFLCMC provides contracting, legal, comptroller, programmatic, engineering, test, and logistics support.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207438F / *Theater Battle Management (TBM) C4I*	Project (Number/Name) 675218 / *Applications Development*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C2AOS-C2IS Agile Software Development	C/T&M	Multiple : Multiple	-	5.479	Nov 2021	3.166	Oct 2022	3.517	Oct 2023	-		3.517	Continuing	Continuing	-
		Subtotal	-	5.479		3.166		3.517		-		3.517	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C2AOS-C2IS Civilian Direct Cite Authorizations for Product Development	Allot	AFLCMC/FZA : TBD	-	1.696	Oct 2021	2.402	Oct 2022	2.650	Oct 2023	-		2.650	Continuing	Continuing	-
		Subtotal	-	1.696		2.402		2.650		-		2.650	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support	Various	Multiple : TBD	-	0.541	Apr 2022	0.283	Apr 2023	0.300	Apr 2024	-		0.300	Continuing	Continuing	-
		Subtotal	-	0.541		0.283		0.300		-		0.300	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	7.716		5.851		6.467		-		6.467	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207438F / *Theater Battle Management (TBM) C4I*	**Project (Number/Name)** 675218 / *Applications Development*

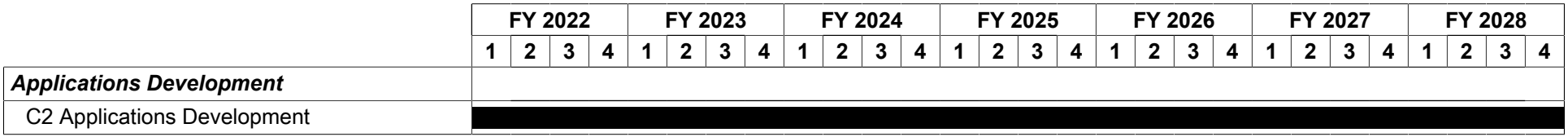

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207438F / *Theater Battle Management (TBM) C4I*	**Project (Number/Name)** 675218 / *Applications Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Applications Development				
C2 Applications Development	1	2022	4	2028

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207439F / *Electronic Warfare Integrated Reprogramming (EWIR)*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	15.000	15.990	10.388	0.000	10.388	17.118	17.704	18.242	18.902	Continuing	Continuing
673310: *Electronic Warefare Integrated Reprogram RDT&E*	-	15.000	15.990	10.388	0.000	10.388	17.118	17.704	18.242	18.902	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Electronic Warfare Integrated Reprogramming (EWIR) program element hosts the DoD's first System of System Technology Integration Tool Chain for Heterogeneous Electronic Systems (STITCHES) Warfighter Application Team (SWAT) at the 350th Spectrum Warfare Wing (350 SWW). SWAT is an integration team employing, maintaining, and instructing other teams in the DoD how to use the STITCHES integration platform. STITCHES is a fully government developed, owned, and open-source Modular Open Systems Architecture (MOSA) toolchain and multi-classification information system that creates new capabilities by integrating incompatible DoD fielded systems and architectures together without the need to modify system source code. STITCHES' separable and community-based databases allow disparate teams across the DoD to utilize STITCHES and SWAT in separate security levels without comingling data. The 350 SWW will utilize SWAT to generate requested capability using the STITCHES interoperability software on systems both within and external to the 350 SWW and deploy the capabilities created to the requesting organizations. SWAT interfaces and integrates with other DoD systems and their authorities to support 350 SWW missions and HHQ directed activities. SWAT is responsible for testing and deploying STITCHES generated interoperability into DoD systems supported by the SWW, working with existing DoD test and certification organizations, and teaming with organizations outside of the SWW when adapting and creating novel system of systems using capabilities from these organizations. SWAT will deliver adaptive and cutting-edge electromagnetic spectrum capabilities that provide the warfighter a tactical and strategic competitive advantage and freedom to attack, maneuver, and defend.

SWAT is an agile software development team composed of a government tiger team, the STITCHES toolchain developer, and a secure cloud infrastructure and repository developer. SWAT includes a revolving team of subsystem subject matter experts when adapting DoD systems using STITCHES. SWAT is responsible for the execution of tasks employing STITCHES outlined in NDAA 2021 Section 804 and supports Joint All Domain Command and Control (JADC2) tasking and integration efforts in support of JADC2.

SWAT will conduct regular STITCHES training courses to scale the capability to the DoD. SWAT may team with other DoD organizations utilizing STITCHES to increase the scale of the deployed capabilities.

The STITCHES integration platform achieved a Cross Domain Solution (CDS) Authority to Operate (ATO) prior to the DoD's Raise The Bar (RTB) certification requirement process. The STITCHES integration platform will be submitted to the National Cross Domain Strategy and Management Office (NCDSMO) for Cross Domain Solution certification in FY23 and FY24.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207439F / *Electronic Warfare Integrated Reprogramming (EWIR)*

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 0605831F. In FY23 0 was expended for civilian pay expenses in this program element, and in FY24 0 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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	15.000	15.990	16.513	0.000	16.513
Current President's Budget	15.000	15.990	10.388	0.000	10.388
Total Adjustments	0.000	0.000	-6.125	0.000	-6.125
• 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	-6.125	0.000	-6.125

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Develop Deployment Strategy for STITCHES	4.750	5.063	3.289
Description: Develop Deployment Strategy for System Technology Integration Tool Chain for Heterogeneous Electronic Systems (STITCHES). This effort involves development of training and implementation process for STITCHES.			
FY 2023 Plans: Scope, lead, and deploy STITCHES integrations and train DoD personnel.			
FY 2024 Plans: Scope, lead, and deploy STITCHES integrations and train DoD personnel.			
FY 2023 to FY 2024 Increase/Decrease Statement: New start funding delay until 3Q FY22 caused under-execution in FY22, motivating a directed decrease in funding allocation in FY24.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207439F / *Electronic Warfare Integrated Reprogramming (EWIR)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
FY 2022 Accomplishments: Led integration of 3rd-party electronic warfare architecture into EC-130, automated verification and validation tests on first 350 SWW EW lab deployment, Open Mission Systems (OMS) architectures using different versions, and a fielded major weapon system architecture to/from government reference architectures.			
Title: Accomplish Requirements Outlined in NDAA Section 804 (Verify, Validate and Test) ***Description:*** Improve existing STITCHES verification, validation, and testing capabilities and apply to STITCHES integrated systems in coordination with DoD test, accreditation, and certification authorities. ***FY 2023 Plans:*** Improve STITCHES verification, validation, and testing capabilities and apply to STITCHES integrated systems in coordination with DoD test, accreditation, and certification authorities. ***FY 2024 Plans:*** Improve STITCHES verification, validation, and testing capabilities and apply to STITCHES integrated systems in coordination with DoD test, accreditation, and certification authorities. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** New start funding delay until 3Q FY22 caused under-execution in FY22, motivating a directed decrease in funding allocation in FY24. FY 2022 Accomplishments: Performed verification, validation, and testing for integration of 3rd-party electronic warfare architecture into EC-130, automated verification and validation tests on first 350 SWW EW lab deployment, Open Mission Systems (OMS) architectures using different versions, fielded major weapon system architecture to/from government reference architectures, and a deployed sensor/data network.	2.500	2.665	1.731
Title: Accomplish Requirements Outlined in NDAA Section 804 (Deploy Secure Cloud Structures) ***Description:*** The STITCHES integration platform includes NDAA 2021 Section 804 repositories within Controlled Unclassified Information (CUI) and FENCES cloud environments and stand-alone/edge structures. ***FY 2023 Plans:*** Deploy secure cloud and non-cloud structures and NDAA 2021 Section 804 repositories within FENCES environment. Maintain CUI cloud and stand-alone/edge structure ATOs. ***FY 2024 Plans:***	2.500	2.665	1.731

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207439F / *Electronic Warfare Integrated Reprogramming (EWIR)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Deploy secure cloud and non-cloud structures and NDAA 2021 Section 804 repositories within FENCES environment. Maintain CUI cloud and stand-alone/edge structure ATOs. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** New start funding delay until 3Q FY22 caused under-execution in FY22, motivating a directed decrease in funding allocation in FY24. FY 2022 Accomplishments: Deployed the STITCHES integration platform to Controlled Unclassified Information (CUI)-based secure cloud and achieved an Authority to Operate (ATO) for www.stitches.mil. Achieved an ATO for the STITCHES integration platform for installation to stand-alone/edge information systems through Top Secret (TS)/Special Access Program (SAP).			
Title: Accomplish Requirements Outlined in NDAA Section 804 (Develop Kill Chains) ***Description:*** The System of System Technology Integration Tool Chain for Heterogeneous Electronic Systems (STITCHES) Warfighter Application Team (SWAT) will integrate DoD fielded systems together in different configurations of system of systems within mission planning time to create new capabilities without the need to modify system source code. ***FY 2023 Plans:*** Create novel kill chains involving previously incompatible weapon systems, sensor, and command, control, and communication systems from multiple military services in cooperation with United States Indo-Pacific Command, United States European Command, and 350 SWW accepted integration tasking. ***FY 2024 Plans:*** Create novel kill chains involving previously incompatible weapon systems, sensor, and command, control, and communication systems from multiple military services in cooperation with United States Indo-Pacific Command, United States European Command, and 350 SWW accepted integration tasking. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** New start funding delay until 3Q FY22 caused under-execution in FY22, motivating a directed decrease in funding allocation in FY24. FY 2022 Accomplishments: Developed integration of 3rd-party electronic warfare architecture into EC-130, automated verification and validation tests on first 350 SWW EW lab deployment, Open Mission Systems (OMS) architectures using different versions, a fielded major weapon system architecture to/from government reference architectures, and a deployed sensor/data network.	5.250	5.597	3.637
Accomplishments/Planned Programs Subtotals	15.000	15.990	10.388

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207439F / *Electronic Warfare Integrated Reprogramming (EWIR)*

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

PE 0207439F funding allocation for FY24 is reduced 6.125M due to an extended Continuing Resolution period in FY22 during SWAT's New Start year. The delay in initial funding until Q3FY22 caused expenditures below prescribed goals. This under-execution motivated a directed reduction in FY24 funding allocation. The FY24 reduction will result in lower integration capacity from SWAT and lower DoD system SME support, slowing delivery of DoD fielded system integration capability to warfighters.

E. Acquisition Strategy

Project utilizes existing DoD contracts to develop, maintain, and deploy interoperability within the DoD. SWAT will generate interoperability derived from system interface details as the requirements from NDAA 2021 Section 804 are delivered to DoD repositories. These details are delivered via existing DoD programs. SWAT will serve existing programs to train and deliver their interface details into existing repositories including those Section 804 compliant repositories maintained by the STITCHES team. SWAT's System Adaptation effort generates those interface artifacts for programs not able to perform those functions on their own. SWAT and SWAT supporting contracts can accept external funding when requests for support exceed SWAT programmed funding.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207439F / *Electronic Warfare Integrated Reprogramming (EWIR)*	**Project (Number/Name)** 673310 / *Electronic Warefare Integrated Reprogram RDT&E*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development, STITCHES Toolchain	C/CPFF	Various : TBD	-	7.500	Jul 2022	7.995	Apr 2023	6.488	Dec 2023	-		6.488	Continuing	Continuing	-
Product Development, STITCHES Secure Cloud Infrastructure and Section 804 Repositories	C/Various	Various : TBD	-	2.750	Aug 2022	2.932	Apr 2023	2.400	Dec 2023	-		2.400	Continuing	Continuing	-
Product Development, System Adaption	C/Various	Various : TBD	-	2.865	Aug 2022	3.054	Apr 2023	0.000	Dec 2023	-		0.000	Continuing	Continuing	-
		Subtotal	-	13.115		13.981		8.888		-		8.888	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Mission Support	Various	Various : TBD	-	1.885	Aug 2022	2.009	Apr 2023	1.500	Dec 2023	-		1.500	Continuing	Continuing	-
		Subtotal	-	1.885		2.009		1.500		-		1.500	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	15.000		15.990		10.388		-		10.388	Continuing	Continuing	N/A

Remarks

Funding for Subject Matter Experts (SMEs) supporting system adaptation reduced to $0 because of reduction in FY24 funding allocation.

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207439F / *Electronic Warfare Integrated Reprogramming (EWIR)*	**Project (Number/Name)** 673310 / *Electronic Warefare Integrated Reprogram RDT&E*

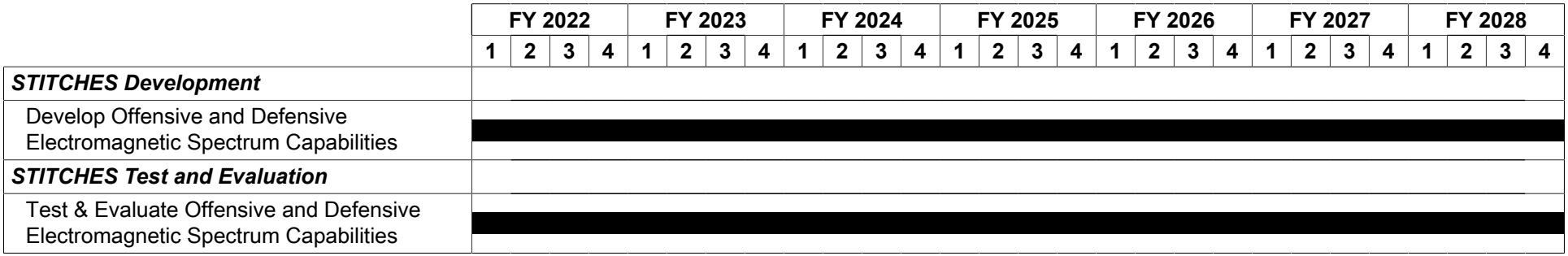

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207439F / *Electronic Warfare Integrated Reprogramming (EWIR)*	**Project (Number/Name)** 673310 / *Electronic Warefare Integrated Reprogram RDT&E*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
STITCHES Development				
Develop Offensive and Defensive Electromagnetic Spectrum Capabilities	1	2022	4	2028
STITCHES Test and Evaluation				
Test & Evaluate Offensive and Defensive Electromagnetic Spectrum Capabilities	1	2022	4	2028

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207444F / *Tactical Air Control Party-Mod*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	12.779	10.304	10.060	0.000	10.060	12.276	12.583	12.841	6.415	0.000	77.258
676013: *Equipment Modernization*	-	12.779	10.304	10.060	0.000	10.060	12.276	12.583	12.841	6.415	0.000	77.258

A. Mission Description and Budget Item Justification

This budget line funds the Air Force Special Warfare (AFSPECWAR) Tactical Air Control Party (TACP) Weapon System which executes precision strike, integration, and all-domain command and control operations to meet Air Force air, space, and cyber power projection and joint force objectives. TACP Airmen are the USAF's highly mobile and scalable ground-based command and control capability, which seamlessly integrates kinetic and non-kinetic effects cross the entire spectrum of conflict, by providing agile command and control to compete with or defeat peer adversaries at the tactical edge in highly contested environments. Additionally, TACP Airmen conduct precision strike and integration operations at all echelons of ground maneuver warfare, from dismounted operations on the front lines to Tactical Operation Center (TOC) operations; TACP Airmen plan, request, advise, and control joint fires and air power to meet commander objectives.

The purpose of the Tactical Air Control Party - Modernization (TACP-M) program is to provide TACPs voice, data and video communications, as well as targeting and battlefield awareness/management capabilities across all domains. Improved targeting and data communications capabilities provide more accurate target coordinates, reduce Close Air Support (CAS) response times, and reduce the probability of fratricide or collateral damage using networked data communication.

The TACP-M program support includes addressing frequent TACP combat deployments that sometimes lead users to change equipment procurement priorities to support urgent operational needs and respond to evolving threat environments. The TACP-M program jointly develops software with other AFSPECWAR programs to consolidate requirements that are common across the AFSPECWAR enterprise. This teaming arrangement helps standardize operational TACP equipment, improve efficiency by consolidating acquisition efforts, and often reduces unit costs by increasing procurement quantities.

The TACP-M program provides and modernizes capabilities in the following five major areas: (1) Air Support Operations Center (ASOC)/TOC systems (used in fixed and mobile operations centers), (2) Vehicle Mounted Systems (used in TACP tactical vehicles) and semi-mobile operations, (3) Dismounted Systems (used by Joint Terminal Attack Controllers (JTACs) during Dismounted infantry operations), and (4) Digitally-Aided Close Air Support (DACAS) software, (5) Support USAF TOC-Light and TOC-Medium, as well as, support new USAF Tactical Airspace Control System (TACS)/Army Air Ground System (AAGS).

ASOC provides execution management and integration with fires systems, utilizes Air Operations Center (AOC) (i.e., the Air Tasking Order (ATO), Airspace Control Order (ACO)) inputs and archives data, provides a visual depiction and will assist in the management of the forward battlespace/area of contention in coordination with DOD, non-governmental, and international partners. It additionally provides TACP planning documents and data management/server capability for integrating ISR management, Common Operation Picture (COP) displays, target lists/priorities, and video feeds; managing ATOs in real time; and receiving Battle Damage Assessment (BDA) inputs. The ASOC will tie into the Theater Deployable Communications (TDC) Program Management Directive (PMD); provide Joint All Domain Command and Control (JADC2) capabilities that will be leader-centric, network enabled, and ready to operate in complex and degraded information environments; and support/execute air taskings should the AOC require assistance during periods of degraded operations.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207444F / *Tactical Air Control Party-Mod*

Dismounted and ASOC/TOC/Mounted (ATM) software meets the technical needs of implementing TACP Command and Control (C2) capabilities in operational environments. Software supports a wide variety of radio systems and other emerging systems to be employed by TACPs in the future. Future upgrades are necessary to maintain interoperability with strike aircraft, joint fire support systems, and emerging data networking waveforms. Software upgrades provide a modular architecture for digital communications, messaging, data handling, hardware management, targeting, and battle space awareness capabilities. The key characteristic of the software will be the agile development of Open System, Modular architectures that will enable rapid integration with new end user devices (such as laser range finders, radios, Full Motion Video (FMV), targeting and laptops/hand held computing devices, and tactical gateways) and rapid development, testing and fielding of new mission capability modules to meet immediate and future requirements. TACP C2 elements will be aligned and integrated with the Advanced Battle Management System to ensure synergy of effort.

TACP DACAS (WARHAWK) software provides required advanced communication, advanced targeting capability, and significant interoperability improvements for mobile computing devices used by Vehicle Mounted systems and stationary systems used in operations centers. TACP DACAS software enables digital data communications with joint C2 nodes, other TACPs, strike aircraft, and Army C2 and Fire Support systems. It includes interfaces with ASOC/TOC, and JTAC radios and targeting devices, interoperability across the Dismounted, Vehicle Mounted systems, and ASOC/TOC mission sets. It also provides battlespace awareness capabilities needed to plan, request, coordinate, and control airspace, the integration of air and surface fires and Close Air Support (CAS) in support of ground maneuver forces.

The DACAS software interfaces with all TACP-M components and provides interoperability with joint strike aircraft (F-35, A-10, F-16, F-15, F/A-18, AV-8B, B-52, etc.), Remotely Piloted Aircraft (RPA), artillery fire support systems, network- enabled weapons, and C2 nodes. To enable data communications with those systems / nodes, DACAS incorporates several communications protocols including Variable Message Format (VMF), Link 16, Situational Awareness Data Link (SADL), Marine Tactical System (MTS), and U.S. Message Text Format (USMTF); along with emerging waveform technologies.

TACP DACAS (Special Warfare Assault Kit (SWAK)) - This program is a Software Engineering and Integration Program. The software acquisition uses a modern software development methodology and is not primarily in sustainment. It has no objective system and will use iterative development across the program's lifecycle. A suite of map-centric software applications that enables the transfer of precision targeting, information management, C4ISR (Command, Control Communications, Computers, Intelligence, Surveillance, and Reconnaissance), and Situational Awareness (SA) information is constantly being iteratively developed and integrated to provide the Special Warfare operators (TACPs) the ability to find, fix, track, target, and engage the enemy to include control and re-targeting of Network Enabled Weapons (NEW)". This greatly reduces the kill chain and drastically decreases the possibility of fratricide by enhancing the operator's SA on the battlefield.

Funding supports Dismounted, Vehicle Mounted, and ASOC/TOC software and hardware to address: interfaces with new Dismounted requirements, evolution of existing Tactical Assault Kit (TAK)/SWAK software which provides a framework for the TACP software interfaces, ASOC-Mod (interoperability and hardware/software interfaces), changes to Army fires support systems, changes to AOC Theater Battle Management Core Systems, updates for fielded versions, new USAF and Army future JADC2 capabilities, EMS (Electro-Magnetic Spectrum) Awareness and defensive/offensive capabilities, C2 shelter/trailer development, Small Unmanned Aerial System (SUAS) relaying and targeting equipment development, MCS connectivity, new joint DACAS standards, technical support to operators employing the software, and system prototyping for required future ASOC/TOC/Vehicle Mounted system capabilities.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207444F / *Tactical Air Control Party-Mod*

Items requested in FY24 as identified in this Exhibit are representative but not limited to the items to be developed. Items developed during execution may change based on critical equipment needed to support current Air Force mission requirements. Due to the rapidly changing threat environment, the acquisition program manager has the authority to redirect funding as necessary to meet current slated and emerging requirements for operational TACP units.

TACP-M 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 FY2022 $0.000M was expended for civilian pay expenses in this program element, and in FY 2023 $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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	13.081	10.315	11.981	0.000	11.981
Current President's Budget	12.779	10.304	10.060	0.000	10.060
Total Adjustments	-0.302	-0.011	-1.921	0.000	-1.921
• 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	-0.302	0.000			
• Other Adjustments	0.000	-0.011	-1.921	0.000	-1.921

Change Summary Explanation

FY23 Project 674934 TACP-M funding incorrect due to a database error. Project 674934 TACP-M FY23 Current President Budget should equal $10.008M. In FY23, there is a -$0.296 SBIR/STTR adjustment

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207444F / *Tactical Air Control Party-Mod*	Project (Number/Name) 676013 / *Equipment Modernization*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
676013: *Equipment Modernization*	-	12.779	10.304	10.060	0.000	10.060	12.276	12.583	12.841	6.415	0.000	77.258
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Air Force Special Warfare (AFSPECWAR) Tactical Air Control Party (TACP) Weapon System executes precision strike, integration, and all-domain command and control operations to meet Air Force air, space, and cyber power projection and joint force objectives. TACP Airmen are the USAF's highly mobile and scalable ground based command and control capability, which seamlessly integrates kinetic and non-kinetic effects cross the entire spectrum of conflict, by providing agile command and control to compete with or defeat peer adversaries at the tactical edge in highly contested environments. Additionally, TACP Airmen conduct precision strike and integration operations at all echelons of ground maneuver warfare, from Dismounted operations on the front lines to tactical operations center operations at higher headquarters; TACP Airmen plan, request, advise, and control joint fires and air power to meet commander objectives.

The purpose of the Tactical Air Control Party - Modernization (TACP-M) program is to provide TACPs voice, data and video communications, targeting and battlefield awareness/management capabilities across all domains. Improved targeting and data communications capabilities provide more accurate target coordinates, reduce Close Air Support (CAS) response times, and reduce the probability of fratricide or collateral damage using networked data communication.

The TACP-M program support includes addressing frequent TACP combat deployments that sometimes lead users to change equipment procurement priorities to support urgent operational needs and respond to evolving threat environments. The TACP-M program jointly develops software with other AFSPECWAR programs to consolidate requirements that are common across the AFSPECWAR enterprise. This teaming arrangement helps standardize operational TACP equipment, improve efficiency by consolidating acquisition efforts, and often reduces unit costs by increasing procurement quantities.

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ASOC provides execution management and integration with fires systems, utilizes Air Operations Center (AOC) (i.e., the Air Tasking Order (ATO), Airspace Control Order (ACO) inputs and archives data, provides a visual depiction and will assist in the management of the forward battlespace/area of contention in coordination with DOD, non-governmental, and international partners. It additionally provides TACP planning documents and data management/server capability for integrating ISR management, Common Operation Picture (COP) displays, target lists/priorities, and video feeds, managing Air Tasking real time, and receiving Battle Damage Assessment (BDA) inputs. The ASOC will tie into the Theater Deployable Communications (TDC) Program Management Directive (PMD), provide Joint All Domain

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207444F / *Tactical Air Control Party-Mod*	**Project (Number/Name)** 676013 / *Equipment Modernization*

Command and Control (JADC2) capabilities that will be leader-centric, network enabled, and ready to operate in complex and degraded information environments; to include the ability to support/execute air taskings should the AOC require assistance during periods of degraded operations.

Dismounted and ASOC/TOC/Mounted (ATM) software meets the technical needs of implementing TACP Command and Control (C2) capabilities in operational environments. Software supports a wide variety of radio systems and other emerging systems to be employed by TACPs in the future. Future upgrades are necessary to maintain interoperability with strike aircraft, joint fire support systems, and emerging data networking waveforms. Software upgrades provide a modular architecture for digital communications, messaging, data handling, hardware management, targeting, and battle space awareness capabilities. The key characteristic of the software will be the agile development of Open System, Modular architectures that will enable rapid integration with new end user devices (such as laser range finders, radios, Full Motion Video (FMV), targeting and laptops/hand held computing devices, and tactical gateways) and rapid development, testing and fielding of new mission capability modules to meet immediate and future requirements. TACP C2 elements will be aligned and integrated with the Advanced Battle Management System to ensure synergy of effort.

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TACP DACAS (Special Warfare Assault Kit (SWAK)) - This program is a Software Engineering and Integration Program. The software acquisition uses a modern software development methodology and is not primarily in sustainment. It has no objective system and will use iterative development across the program's lifecycle. A suite of map-centric software applications that enables the transfer of precision targeting, information management, C4ISR (Command, Control Communications, Computers, Intelligence, Surveillance, and Reconnaissance), and Situational Awareness (SA) information is constantly being iteratively developed and integrated to provide the Special Warfare operators (TACPs) the ability to find, fix, track, target, and engage the enemy to include control and re-targetting of Network Enabled Weapons (NEW)". This greatly reduces the kill chain and drastically decreases the possibility of fratricide by enhancing the operator's SA on the battlefield.

Funding supports Dismounted, Vehicle Mounted, and ASOC/TOC software and hardware to address: interfaces with new Dismounted requirements, evolution of existing Tactical Assault Kit (TAK)/SWAK software which provides a framework for the TACP software interfaces, ASOC-Mod (interoperability and hardware/software interfaces), changes to Army fires support systems, changes to AOC Theater Battle Management Core Systems, updates for fielded versions, new USAF and Army future JADC2 capabilities, EMS (Electro-Magnetic Spectrum) Awareness and defensive/offensive capabilities, C2 shelter/trailer development, Small Unmanned Aerial System (SUAS)

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207444F / *Tactical Air Control Party-Mod*	**Project (Number/Name)** 676013 / *Equipment Modernization*

relaying and targeting equipment development, MCS connectivity, new joint DACAS standards, technical support to operators employing the software, and system prototyping for required future ASOC/TOC/Vehicle Mounted system capabilities.

Items requested in FY24 as identified in this Exhibit are representative but not limited to the items to be developed. Items developed during execution may change based on critical equipment needed to support current Air Force mission requirements. Due to the rapidly changing threat environment, the acquisition program manager has the authority to redirect funding as necessary to meet current slated and emerging requirements for operational TACP units.

TACP-M 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 FY2022 0.000M was expended for civilian pay expenses in this program element, and in FY 2023 0.000M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: TACP CASS 1.4.5	12.779	10.304	10.060
Description: CASS 1.4.5 and WARHAWK The TACP-M Software program will modernize software for Command, Control, Communications and Cybersecurity (C4) processing systems for multiple TACP mission areas, i.e., ASOC/TOC operations, Vehicle Mounted, and Dismounted operations ***FY 2023 Plans:*** -Will continue agile software development with quarterly software releases across TACP systems. -Will continue with testing of quarterly software releases as applicable. -Will continue to support development/fielding of Special Warfare Assault Kit (SWAK) and Dismounted Special Warfare software. -Will continue to standardize TACP common software architecture for further development to meet other Special Warfare airman operational needs. -Will continue to integrate WARHAWK with ASOC-Mod Software. -Will continue to integrate and test DACAS software data communications interfaces with C2 Nodes, CAS aircraft, Army Tactical Network (ATN), Soldier Radios Waveform (SRW) networks, Theater Battle Management Core Systems (TBMCS), and Mobile User Objective System (MUOS) Satellite Communications (SATCOM) networks to enhance interoperability between TACPs and other joint warfighters. -Will conduct investigations to provide additional features (capabilities) for the software. ***FY 2024 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207444F / *Tactical Air Control Party-Mod*	**Project (Number/Name)** 676013 / *Equipment Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
-Will continue agile software development with quarterly software releases across TACP systems. -Will continue testing quarterly software releases, as applicable. -Will continue to support development/fielding of Special Warfare Assault Kit (SWAK) and Dismounted Special Warfare software. -Will continue TACP common software architecture for further development to meet other Special Warfare airman operational needs. -Will continue to integrate WARHAWK with ASOC-Mod software acquisition. -Will continue to integrate and test DACAS software data communications interfaces with C2 Nodes, CAS aircraft, Army Tactical Network (ATN), Soldier Radios Waveform (SRW) networks, Theater Battle Management Core Systems (TBMCS), and Mobile User Objective System (MUOS) Satellite communications (SATCOM) networks to enhance interoperability between TACPs and other joint warfighters. -Will conduct investigations to provide additional features (capabilities) for the software. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The decrease in budget from FY23 to FY24 is due to higher Air Force priorities			
Accomplishments/Planned Programs Subtotals	12.779	10.304	10.060

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 Line item 837100: *Tactical C-E Equipment*	52.200	53.632	38.671	-	38.671	33.719	47.105	41.345	26.368	0.000	293.040

Remarks

OPAF funding covers all TACP-M programs with some OPAF funding assigned to CASS, WARHAWK and SWAK based on phase.

D. Acquisition Strategy

TACP-M is executing the replacement to the currently fielded CASS 1.4.5 software; titled WARHAWK. The WARHAWK contract remains under continuous agile development and deployment contractually through FY25 with support activities through FY28. In FY25 a new contract activity will need to be awarded to continue required software development.

The ASOC-Mod effort will continue to modernize fielded ASOC/TOC software capabilities by developing enhanced communications capabilities.

The SWAK/TAK Dismounted software remains under continuous agile development and deployment through FY28.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207444F / *Tactical Air Control Party-Mod*	**Project (Number/Name)** 676013 / *Equipment Modernization*

The Air Force Life Cycle Management Center (AFLCMC) located at Wright-Patterson AFB, OH is the contracting authority for the TACP-M program. AFLCMC provides contracting, legal, comptroller, programmatic, engineering, test, and logistics support.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207444F / *Tactical Air Control Party-Mod*	**Project (Number/Name)** 676013 / *Equipment Modernization*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CASS (TAK/SWAK) Software Dev Dismounted	Various	TBD : Dayton, OH	-	2.085	Apr 2022	1.646	Apr 2023	1.000	Apr 2024	-		1.000	Continuing	Continuing	-
WARHAWK CASS System Dev Mounted ATM	C/CPFF	GDIT : Dayton, OH	-	5.374	Mar 2022	3.733	Mar 2023	4.718	Mar 2024	-		4.718	Continuing	Continuing	-
ASOC MOD	Various	Multiple : Multiple	-	1.557	Jan 2022	1.058	Jan 2023	1.409	Jan 2024	-		1.409	Continuing	Continuing	-
WARHAWK CASS NSWC, Crane (Naval Surface Warfare Center)	MIPR	NSWC Crane : Crane, IN	-	1.229	Jan 2022	0.917	Jan 2023	0.936	Jan 2024	-		0.936	Continuing	Continuing	-
		Subtotal	-	10.245		7.354		8.063		-		8.063	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Agency Support	MIPR	Various : Multiple, FL	-	0.736	Apr 2022	0.717	Apr 2023	0.620	Apr 2024	-		0.620	Continuing	Continuing	-
		Subtotal	-	0.736		0.717		0.620		-		0.620	Continuing	Continuing	N/A

Remarks

Development, operational and interoperability testing

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support Costs (PSC)	Various	Various/Various : TBD	-	1.798	Jul 2022	2.233	Jul 2023	1.377	Jul 2024	-		1.377	Continuing	Continuing	-
		Subtotal	-	1.798		2.233		1.377		-		1.377	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	12.779		10.304		10.060		-		10.060	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207444F / *Tactical Air Control Party-Mod*	Project (Number/Name) 676013 / *Equipment Modernization*	

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

WARHAWK CASS System Dev Mounted ATM: FY24 increased based on investigating/developing additional capabilities within the software.

Test Agency Support: FY23 increased due to additional testing required for ASOC MOD and WARHAWK.

Program Support Costs (PSC): FY23 increased due to additional travel

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207444F / *Tactical Air Control Party-Mod*	**Project (Number/Name)** 676013 / *Equipment Modernization*

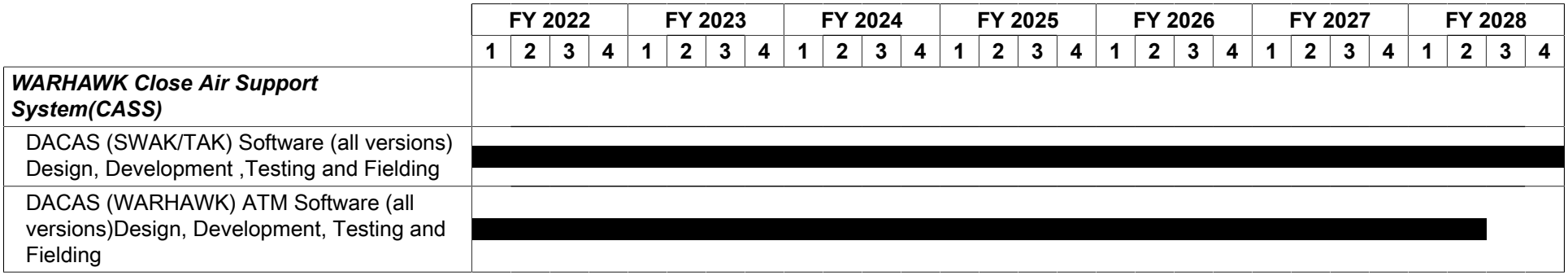

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207444F / *Tactical Air Control Party-Mod*	**Project (Number/Name)** 676013 / *Equipment Modernization*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
WARHAWK Close Air Support System(CASS)				
DACAS (SWAK/TAK) Software (all versions) Design, Development ,Testing and Fielding	1	2022	4	2028
DACAS (WARHAWK) ATM Software (all versions)Design, Development, Testing and Fielding	1	2022	2	2028

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force												Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0207452F / *DCAPES*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	91.470	4.147	8.049	8.233	0.000	8.233	8.416	8.628	8.805	9.124	39.400	186.272
674801: *DCAPES INC 2B*	91.470	4.147	8.049	8.233	0.000	8.233	8.416	8.628	8.805	9.124	39.400	186.272
Program MDAP/MAIS Code: 500												

A. Mission Description and Budget Item Justification

Deliberate and Crisis Action Planning and Execution Segments (DCAPES) is the Department of the Air Force (DAF) system used to project air expeditionary forces (includes weapon systems, logistics, and personnel). It enables the DAF to posture mission ready and equipped forces (organized in effects-based operational capability packages) to deliver air, space and cyberspace capabilities to Joint commanders worldwide. Technical requirements planned for Increment 2B include enabling the system to support Public Key Infrastructure and elimination of Social Security Account Numbers as the primary key for identifying Air Force military and civilian members by replacing it with the Electronic Data Interchange Personal Identifier.

DCAPES funding will be executed against capabilities packaged into agile development projects for multiple releases based on the warfighter's priorities.

Funds will be used to perform studies and innovative integration efforts for common technology capabilities such as cloud migration, technology development and mobile application.

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 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force					Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*		R-1 Program Element (Number/Name) PE 0207452F / *DCAPES*			
B. Program Change Summary ($ in Millions)	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**
Previous President's Budget	4.305	8.049	8.214	0.000	8.214
Current President's Budget	4.147	8.049	8.233	0.000	8.233
Total Adjustments	-0.158	0.000	0.019	0.000	0.019
• 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	0.019	0.000	0.019

Change Summary Explanation

FY22 to FY23 increased due to DCAPES Inc 2B program restructure.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207452F / *DCAPES*	Project (Number/Name) 674801 / *DCAPES INC 2B*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
674801: *DCAPES INC 2B*	91.470	4.147	8.049	8.233	0.000	8.233	8.416	8.628	8.805	9.124	39.400	186.272
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Deliberate and Crisis Action Planning and Execution Segments (DCAPES) is the Department of the Air Force (DAF) system used to project air expeditionary forces (includes weapon systems, logistics, and personnel). It enables the DAF to posture mission ready and equipped forces (organized in effects-based operational capability packages) to deliver air, space and cyberspace capabilities to Joint commanders worldwide. DCAPES stores planning and execution information for DAF functional users in the four (4) main DAF disciplines: 1) operations, 2) logistics, 3) manpower, and 4) personnel. These disciplines support joint, combined, and DAF military operations worldwide. Technical requirements planned for Increment 2B include enabling the system to support Public Key Infrastructure and elimination of Social Security Account Numbers as the primary key for identifying Air Force military and civilian members by replacing it with the Electronic Data Interchange Personal Identifier.

Funds will be used to perform studies and innovative integration efforts for common technology capabilities such as cloud migration, technology development and mobile application.

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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: DCAPES INCREMENT 2B	4.147	8.049	8.233	0.000	8.233
Description: DCAPES Increment 2B includes Infrastructure Support, Business Intelligence, and the development of multiple Warfighter Capabilities (see remarks section below for capability titles). In August 2020, the Air Force restructured DCAPES Inc 2B Acquisition Program Baseline adding two and a half capability packages (second half of 6 plus 7 and 8), that had previously been deferred. Capability packages 5 and 7 were later eliminated by the customer (AF/A3OD) post restructure.					
FY 2023 Plans: - Continue the development of Force Availability Analysis (FAA) Capability 6 - Continue the development of Work Flow Management Capability 8					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207452F / *DCAPES*	**Project (Number/Name)** 674801 / *DCAPES INC 2B*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
- Continue JPES integration ***FY 2024 Base Plans:*** - Will continue the development of Force Availability Analysis (FAA) Capability 6 - Will continue the development of Work Flow Management Capability 8 - Will continue JPES integration - Will begin Continuous Development Planning ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY23 to FY24 increase due to inflation adjustment.					
Accomplishments/Planned Programs Subtotals	4.147	8.049	8.233	0.000	8.233

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

DCAPES Increment 2B Warfighter Capability Packages:
Capability 1 - Electronic Data Interface Personnel Identifier (EDIPI) (Delivered)
Capability 2 - Global Force Management Interoperability (GFM-DI) (Delivered)
Capability 3 - Enhanced Contingency-Rotational Air Expeditionary Force Scheduling Tool Interface (ECAST) (Delivered)
Capability 4 - Manpower & Equipment Force Packaging (MEFPAK) (Delivered)
Capability 5 - Logistics Factor File (LFF) (Removed by AF/A3OD)
Capability 6 - Force Availability Analysis (FAA)
Capability 7 - Air Reserve Component (ARC) Forces (Removed by AF/A3OD, requirement moved to TIMES Program)
Capability 8 - Work Flow Management
JPES - Joint Planning Execution Services

D. Acquisition Strategy

The DCAPES program successfully awarded the DCAPES Increment 2B Development Task Order for a one-year Base Period and three one-year Option Periods using the NETCENTS 2 Application Services Small Business Indefinite Delivery Indefinite Quantity (IDIQ) contract. The period of performance started on 6 April 2020 and ends on 5 April 2024.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207452F / *DCAPES*	**Project (Number/Name)** 674801 / *DCAPES INC 2B*

DCAPES is an Evolutionary Acquisition Program using an incremental development approach (DoDI 5000.02 Model 3) to develop capabilities over several increments. To support the rapid development and delivery of capabilities, DCAPES employs a hybrid Agile acquisition strategy in which capabilities are incrementally delivered in time-phased stages based on warfighter priorities and adoption of key architecture and technology requirements as a trade-off for accelerated delivery and risk reduction.

The DCAPES Program Management Office (PMO) uses a mix of agreements (Service Level Agreements and Memorandums) with DCAPES interface partners. A Service Level Agreement is in place with the Capabilities Integration Environment (AFLCMC/HNIZ) to provide the infrastructure used to conduct software development and testing. Memorandums of Agreement with Joint Interoperability Test Command, Air Force Operational Test and Evaluation Command, and the 45th Test Squadron are in place and outline the test support required before fielding the final capability packages.

The DCAPES Increment 2B requirements have been packaged into multiple discreet capabilities which will be developed in multiple releases. Each capability will be developed using several Sprints and with one or more fieldings to satisfy the approved requirements within each package.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207452F / *DCAPES*	Project (Number/Name) 674801 / *DCAPES INC 2B*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DCAPES Increment 2B/ Prime Contract	C/FFP	CGI Federal Inc : Fairfax, VA	38.981	3.017	Apr 2022	3.914	Apr 2023	3.604	Apr 2024	-		3.604	16.406	65.922	43.136
DCAPES Infrastructure/ Integration	C/FFP	DATUM Software Inc. : John Creek, GA	4.829	0.025	Feb 2022	0.964	Feb 2023	0.343	Feb 2024	-		0.343	2.131	8.292	5.152
DCAPES Architecture Documentation Development	C/FFP	Bowhead LLC : Springfield, VA	2.149	0.182	Aug 2022	0.077	Aug 2023	0.077	Aug 2024	-		0.077	0.948	3.433	13.756
DCAPES DISA Hosting	MIPR	DISA : Pensacola, FL	9.030	0.140	Oct 2021	0.973	Oct 2022	0.987	Oct 2023	-		0.987	3.985	15.115	15.166
DCAPES CLOUD Supt	C/CPAF	SAIC : Reston, VA	0.000	0.170	Sep 2022	0.059	Sep 2023	0.170	Sep 2024	-		0.170	0.000	0.399	-
		Subtotal	54.989	3.534		5.987		5.181		-		5.181	23.470	93.161	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DCAPES HIB Integration Contract Support	C/FFP	MacaLogic, LLC : Dayton, OH	5.161	0.000	Apr 2022	0.288	Apr 2023	0.779	Apr 2024	-		0.779	2.278	8.506	3.225
DCAPES Cost Analysis Contract Support	C/CPFF	BTAS, Inc. : Beavercreek, OH	2.052	0.000	May 2022	-		-		-		-	0.906	2.958	1.908
DCAPES Engineering Contract Support	C/CPFF	Oasis Systems, LLC : Lexington, MA	9.066	0.000	Dec 2021	0.430	Dec 2022	0.943	Dec 2023	-		0.943	4.001	14.440	5.392
DCAPES CIE Tech Support	MIPR	AFLCMC/HNIZ CIE : MAFB-Gunter Annex, AL	3.670	0.000	Mar 2022	0.000	Mar 2023	-		-		-	1.620	5.290	7.390
DCAPES Development Environment HW	C/Various	Various : Various	0.000	0.000	Aug 2022	-		-		-		-	0.000	0.000	1.720
DCAPES Licenses (Software/Hardware)	C/Various	Various : Various	1.479	0.000	Feb 2022	0.000	Feb 2023	-		-		-	0.653	2.132	1.573
DCAPES Oracle Licenses	C/FFP	Mythics : Vienna, VA	1.557	0.271	Aug 2022	0.271	Aug 2023	0.271	Aug 2024	-		0.271	0.687	3.057	4.560
DCAPES Government Purchase Card	Reqn	Various : Various	0.122	0.030	Oct 2021	0.020	Oct 2022	0.020	Oct 2023	-		0.020	0.053	0.245	0.209

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207452F / *DCAPES*	Project (Number/Name) 674801 / *DCAPES INC 2B*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			23.107	0.301		1.009		2.013		-		2.013	10.198	36.628	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DCAPES Development Test and Evaluation	MIPR	45th Test Sqdn : Eglin AFB, FL	2.538	0.098	Dec 2021	0.312	Dec 2022	0.312	Dec 2023	-		0.312	0.978	4.238	3.519
DCAPES Interoperability Testing and Evaluation	MIPR	DISA JITC : Huachuca, AZ	0.876	0.089	Oct 2021	0.088	Oct 2022	0.169	Oct 2023	-		0.169	0.359	1.581	1.278
Subtotal			3.414	0.187		0.400		0.481		-		0.481	1.337	5.819	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Assessments	Various	Various : Various	9.567	0.060	Oct 2021	0.588	Oct 2022	0.493	Oct 2023	-		0.493	4.222	14.930	4.145
DCAPES Travel	Reqn	Various : Various	0.182	0.030	Oct 2021	0.030	Oct 2022	0.030	Oct 2023	-		0.030	0.080	0.352	0.330
DCAPES Business Integration Support	Various	Various : Various	0.211	0.035	Oct 2021	0.035	Oct 2022	0.035	Oct 2023	-		0.035	0.093	0.409	0.385
Subtotal			9.960	0.125		0.653		0.558		-		0.558	4.395	15.691	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	91.470	4.147		8.049		8.233		-		8.233	39.400	151.299	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207452F / *DCAPES*	**Project (Number/Name)** 674801 / *DCAPES INC 2B*

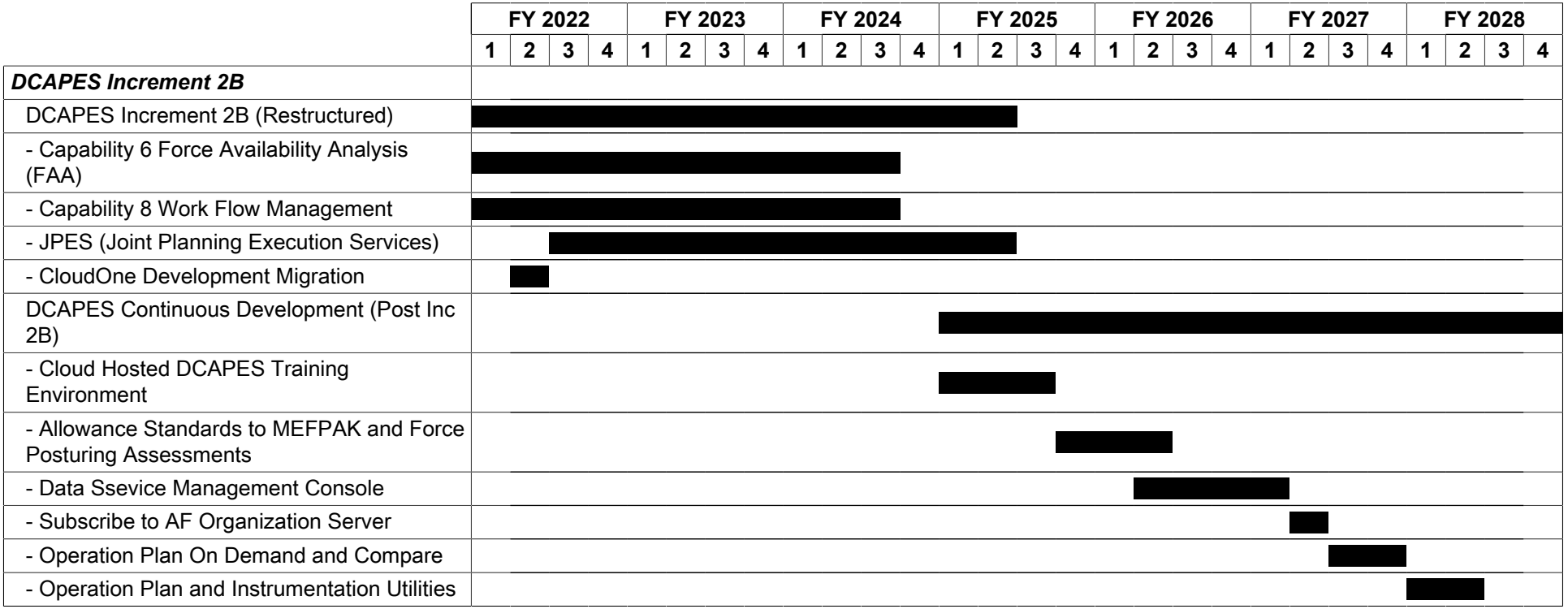

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207452F / *DCAPES*	**Project (Number/Name)** 674801 / *DCAPES INC 2B*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
DCAPES Increment 2B				
DCAPES Increment 2B (Restructured)	1	2022	2	2025
- Capability 6 Force Availability Analysis (FAA)	1	2022	3	2024
- Capability 8 Work Flow Management	1	2022	3	2024
- JPES (Joint Planning Execution Services)	3	2022	2	2025
- CloudOne Development Migration	2	2022	2	2022
DCAPES Continuous Development (Post Inc 2B)	1	2025	4	2028
- Cloud Hosted DCAPES Training Environment	1	2025	3	2025
- Allowance Standards to MEFPAK and Force Posturing Assessments	4	2025	2	2026
- Data Ssevice Management Console	2	2026	1	2027
- Subscribe to AF Organization Server	2	2027	2	2027
- Operation Plan On Demand and Compare	3	2027	4	2027
- Operation Plan and Instrumentation Utilities	1	2028	2	2028

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0207521F / *Air Force Calibration Programs*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	2.256	2.123	2.172	0.000	2.172	2.220	2.277	2.323	2.408	Continuing	Continuing
673326: *Precision Measurement & Calibration*	-	2.256	2.123	2.172	0.000	2.172	2.220	2.277	2.323	2.408	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program develops, tests, and evaluates national and Air Force measurement standards (hardware) and calibration equipment in support of all Air Force programs and activities, including Precision Measurement Equipment Laboratories (PMELs) worldwide. Metrology research and development provides technology to support systems in all phases of development and acquisition, as well as Air Force R&D laboratories, test ranges, ground test facilities, and operational weapons systems support. Rapidly changing technology requires continuing research and development of measurement standards and calibration equipment to ensure modern weapon systems meet Air Force readiness objectives. This program addresses all metrology disciplines and includes the technology areas of laser, infrared, microwave, millimeter wave, optical, physical, mechanical, electrical, electronic, and ionizing radiation measurements. Metrology is a technical discipline devoted to the science of measurements and to the study and improvement of measurement technology. Measurements are the foundation of military system development, quality assurance, hardware conformance testing and system readiness tests. The integrity of these tests is assured through calibration and traceability assurance schemes.

The capability to measure and calibrate must parallel the emergence of new technology, new ranges, and new capabilities of military systems. Lack of new measurement capability impedes or blocks the successful exploitation of new technologies, especially in the movement from development laboratory to production to deployment. R&D efforts are essential within the DoD to pace these requirements, otherwise, these same new systems will suffer time delays, excessive cost, and increased risk due to unreliable test results in all phases of development, production, deployment and operation.

This program element may include necessary civilian pay expenses required to manage, execute and deliver 0207521F. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F, 0605832F, 0605898F, and 0605833F. In FY22 $0 was expended for civilian pay expenses in the program element and in FY23 $0 is forecasted for civilian pay expenses in this program element.

Program is managed by Air Force Materiel Command, Agile Combat Support Directorate, Air Force Metrology Division (WNM).

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207521F / *Air Force Calibration Programs*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	1.984	2.123	2.167	0.000	2.167
Current President's Budget	2.256	2.123	2.172	0.000	2.172
Total Adjustments	0.272	0.000	0.005	0.000	0.005
• 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	0.272	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.005	0.000	0.005

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Weapons System Measurement Standards	0.472	0.439	0.450
Description: Develop national measurement standards to support Air Force infared / laser / electro-optical weapon systems and support equipment. ***FY 2023 Plans:*** Continue development of national measurement standards to support Air Force infared / laser / electro-optical weapon systems and support equipment. ***FY 2024 Plans:*** Continue development of national measurement standards to support Air Force infared / laser / electro-optical weapon systems and support equipment. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased to account for inflation.			
Title: Electrical Measurements	0.462	0.425	0.436
Description: Develop Standards for electrical measurements to support high accuracy electronic test equipment. ***FY 2023 Plans:*** Continue development of standards for electrical measurements to support high accuracy electronic test equipment. ***FY 2024 Plans:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207521F / *Air Force Calibration Programs*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Continue development of standards for electrical measurements to support high accuracy electronic test equipment. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased to account for inflation.			
Title: Calibration Standards ***Description:*** Develop improved calibration standards to support physical, mechanical, and electro-mechanical support equipment. ***FY 2023 Plans:*** Continue to develop improved calibration standards to support physical, mechanical, and electro-mechanical support equipment. ***FY 2024 Plans:*** Continue to develop improved calibration standards to support physical, mechanical, and electro-mechanical support equipment. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased to account for inflation.	0.714	0.681	0.692
Title: Radar Support/Communications ***Description:*** Develop standards for radar support, RF communication, and radar cross section range measurements. ***FY 2023 Plans:*** Continue to develop standards for radar support, RF communication, and radar cross section range measurements. ***FY 2024 Plans:*** Continue to develop standards for radar support, RF communication, and radar cross section range measurements. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased to account for inflation.	0.608	0.578	0.594
Accomplishments/Planned Programs Subtotals	2.256	2.123	2.172

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

Primarily accomplished through intergovernmental transfer between the Department of Defense and other Federal Departments.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207521F / *Air Force Calibration Programs*	Project (Number/Name) 673326 / *Precision Measurement & Calibration*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
National Institute of Standards and Technology	MIPR	AFMETCAL : Heath, OH	-	1.685	Oct 2022	1.563	Oct 2022	1.598	Oct 2023	-		1.598	Continuing	Continuing	-
Department of Defense	MIPR	AFMETCAL : Heath, OH	-	0.049	Oct 2022	0.050	Oct 2022	0.052	Oct 2023	-		0.052	Continuing	Continuing	-
Industry	Various	AFMETCAL : Heath, OH	-	0.522	Oct 2022	0.510	Oct 2022	0.522	Oct 2023	-		0.522	Continuing	Continuing	-
		Subtotal	-	2.256		2.123		2.172		-		2.172	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	2.256		2.123		2.172		-		2.172	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207521F / *Air Force Calibration Programs*	**Project (Number/Name)** 673326 / *Precision Measurement & Calibration*

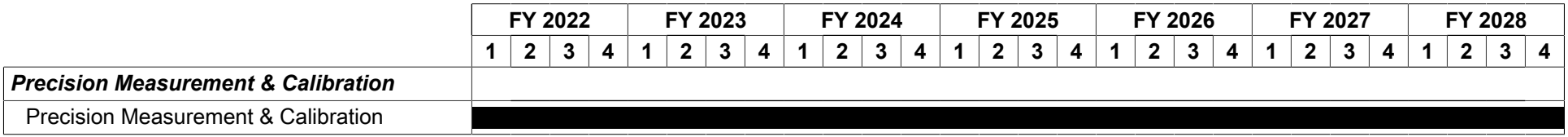

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207521F / *Air Force Calibration Programs*	**Project (Number/Name)** 673326 / *Precision Measurement & Calibration*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Precision Measurement & Calibration				
Precision Measurement & Calibration	1	2022	4	2028

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207522F / *Airbase Air Defense Systems (ABADS)*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	7.177	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.177
675218: *Applications Development*	-	7.177	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.177
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2022, PE 0207410F, Air & Space Operations Center (AOC), Project 674596, AOC WS Modifications were transferred to PE 0207522F, Airbase Air Defense Systems (ABADS), Project 675218, Applications Development.

In FY 2023, DRF COP efforts in PE 0207522F, Airbase Air Defense Systems (ABADS), Project 675218, Applications Development efforts are transferred to PE 0604617F, Agile Combat Support, Project 675218, Applications Development.

In FY 2023, DevOps efforts in PE 0207522F, Airbase Air Defense Systems (ABADS), Project 675218, Applications Development efforts are transferred to PE 0305015F, C2 Air Operations Suite - C2 Info Services, Project 675218, Applications Development.

A. Mission Description and Budget Item Justification

Command and Control, Incident Management, Emergency Response Application (C2IMERA) is a C2 system that addresses installation commanders' and staffs' ability to execute daily C2 and Air Operations. C2IMERA funds provide enhanced installation command and control to improve decision speed, quality, and lethality by incorporating direct user feedback, connecting people, automating daily operations, and integrating data from a myriad of systems. C2IMERA receives input from users and system interfaces, and displays data on the real-time, interactive Common Operating Picture (COP) and consolidated dashboards. C2IMERA also provides a theater level, Higher Headquarters module to aggregate theater-wide installation to provide real-time awareness of critical data. C2IMERA provides automated communications via the COP, automated emails, notifications, and alerts, alleviating the need for briefings, meetings, and radio communication(s).
The C2IMERA operational concept has three capability areas:
• C2 collaboration across the Wing - operate/fight the base
• Wing Situational Awareness
• Wing Collaboration/reporting to HHQ (i.e., AOC, AFFOR, Command Center etc.)

As part of C2IMERA emergency management, Disaster Response Force Common Operating Picture (DRF COP) funds identify and/or develop, implement, and maintain a standardized, singular, and near real-time situational awareness COP for Air Force disaster response forces. DRF COP supports incidents or events at the tactical, operational, and strategic level, allowing information to be shared and exchanged across the Air Force enterprise and other relevant external agencies within the Continental United States (CONUS) and Outside the Continental United States (OCONUS) Air Force Installations.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207522F / *Airbase Air Defense Systems (ABADS)*

Requirements include Command and Control Operations Career Field (1C3X1) community as the core Installation C2 node, supporting Base Operations, Mission Management and Monitoring, Higher Headquarters Information Exchange Requirements (IERs), Emergency Action Messaging, Situation Reports (SITREP) automation, and other key enablers supporting the operational concept.

C2IMERA FY23 funds will support the Agile Dev Ops development of enhanced architecture to make C2IMERA more scalable, add additional integrations and enhance data automation. This includes architecting the application to operate in Degraded, Disconnected, Intermittent and Low-Bandwidth (D-DIL) environments to support key operational concepts such as Agile Combat Employment.

This program is part of the overarching Kessel Run portfolio.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver C2IMERA 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 $00.000M, in CY $00.000M 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.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	7.392	0.000	0.000	0.000	0.000
Current President's Budget	7.177	0.000	0.000	0.000	0.000
Total Adjustments	-0.215	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	-0.215	0.000			
• Other Adjustments	0.000	0.000	0.000	0.000	0.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Command and Control, Incident Management, Emergency Response Application (C2IMERA)	7.177	0.000	-
Description: C2IMERA will provide enhanced installation command and control to improve decision speed, quality, and lethality by incorporating direct user feedback, connecting people, automating daily operations, and integrating data from myriad systems. C2IMERA receives input from users and system interfaces and the data is displayed on the real-time, interactive COP. C2IMERA			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207522F / *Airbase Air Defense Systems (ABADS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
provides automated communications via COP, emails, notifications, and alerts, alleviating the need for briefings, meetings, and radio communication. ***FY 2023 Plans:*** See PE 0604617F, Agile Combat Support, Project 675218, Applications Development. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A			
Accomplishments/Planned Programs Subtotals	7.177	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. Using Section 804, timelines are reduced by modularizing both software engineering solutions and the associated contracting and funding strategies. This enables dynamic resource allocation based on current warfighter needs. The desired end state is continuous delivery of Software. In Summer of FY20, the decision was made to transition from Middle Tier of Acquisition (MTA), Sec 804 Rapid Prototyping/Fielding to the new NDAA FY20 - Software Acquisition Pathway, which is the preferred path for acquisition and development of software-intensive systems. This program is part of the overarching Kessel Run portfolio and 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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207522F / *Airbase Air Defense Systems (ABADS)*	Project (Number/Name) 675218 / *Applications Development*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C2IMERA Development	TBD	TBD : TBD	-	4.992	Jan 2022	-		-		-		-	Continuing	Continuing	-
		Subtotal	-	4.992		-		-		-		-	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C2IMERA Test Support	PO	96th Test Wing : Eglin, FL	-	0.252	Mar 2022	-		-		-		-	Continuing	Continuing	-
		Subtotal	-	0.252		-		-		-		-	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C2IMERA Program Management Administration	C/Various	Not specified. : Hanscom AFB, MA	-	1.545	Jul 2022	-		-		-		-	Continuing	Continuing	-
C2IMERA Systems Engineer	SS/ Various	Not specified. : Hanscom AFB, MA	-	0.388	Oct 2022	-		-		-		-	Continuing	Continuing	-
		Subtotal	-	1.933		-		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	7.177		-		-		-		-	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207522F / *Airbase Air Defense Systems (ABADS)*	**Project (Number/Name)** 675218 / *Applications Development*

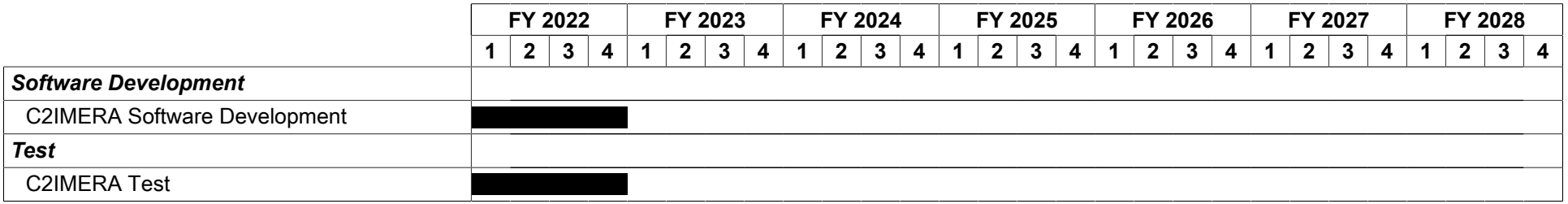

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207522F / *Airbase Air Defense Systems (ABADS)*	**Project (Number/Name)** 675218 / *Applications Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Software Development				
C2IMERA Software Development	1	2022	4	2022
Test				
C2IMERA Test	1	2022	4	2022

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207573F / *National Technical Nuclear Forensics*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	1.971	2.039	2.049	0.000	2.049	2.057	0.000	0.000	0.000	0.000	8.116
674881: *Prompt Diagnostics*	-	1.971	2.039	2.049	0.000	2.049	2.057	0.000	0.000	0.000	0.000	8.116
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This is an amendment, prior verbiage had this funding pointing to National Technical Nuclear Forensics [NTNF].

The United States Nuclear Detonation [NUDET] Detection System [USNDS] is the system used for the collection, analysis, and evaluation of signatures from NUDETS in the Atmosphere or Space. This funding is to integrate the data from the seconds and third Space and Atmospheric Burst Reporting System [SABRS] sensors into the Integrated Correlation and Display System [ICADS] and to develop algorithms, codes, and tools necessary to enable detailed Subject Matter Expert analysis of SABRS data.

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 $0 was expended for civilian pay expenses in this program element, and in FY23 $0 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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	1.971	2.039	2.044	0.000	2.044
Current President's Budget	1.971	2.039	2.049	0.000	2.049
Total Adjustments	0.000	0.000	0.005	0.000	0.005
• 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	0.005	0.000	0.005

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207573F / *National Technical Nuclear Forensics*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: ABRS 2/3 Integration/ Offline Tools Development	1.971	2.039	2.049
Description: Develop the algorithms, codes, and tools necessary to fully exploit the data collected by the SABRS-2 and SABRS-3 sensor suites located on geostationary hosts. This detection system records signals resulting from a nuclear detonations occurring in space. These event signature elements support weapon and event characterization analysis for the purposes of identifying the weapon classification, magnitude of the detonation [yield], and Reaction Time History [RTH] of the device. The unique signatures captured by these sensors provide undeniable evidence of NUDETs occurring in space. ***FY 2023 Plans:*** - Develop software to permit ingestion of data from SABRS-2 and SABRS-3 senors suites into the Integrated Correlation And Display System [ICADS]. - Algorithm Development for mission processing of SABRS data in ICADS - Algorithm, code, and tool development necessary for analysis of SABRS data by Subject Matter Experts - Development & Implementation of backward software compatibility for system configuration to provide flexibility and operations during software or hardware upgrades. ***FY 2024 Plans:*** - Will finish SABRS -2/3 data integration into ICADS - Will Continue algorithm, code, and tool development necessary for SME analysis of SABRS data ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increased due to increasing labor rates.			
Accomplishments/Planned Programs Subtotals	1.971	2.039	2.049

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 Line Item 834320: *National Technical Nuclear Forensics*	4.000	5.666	3.786	-	3.786	7.177	7.379	7.524	7.674	Continuing	Continuing

Remarks

E. Acquisition Strategy

TBD

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207573F / *National Technical Nuclear Forensics*	Project (Number/Name) 674881 / *Prompt Diagnostics*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Nuclear Forensics - Prompt Diagnostics	MIPR	National Laboratory : TBD	-	1.971	Apr 2022	2.039	Mar 2023	2.049	Mar 2024	-		2.049	Continuing	Continuing	-
		Subtotal	-	1.971		2.039		2.049		-		2.049	Continuing	Continuing	N/A

Remarks

Kansas City Nuclear Security Campus will work with several National Laboratories for reachback/collaboration on efforts.

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	1.971		2.039		2.049		-		2.049	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207573F / *National Technical Nuclear Forensics*	**Project (Number/Name)** 674881 / *Prompt Diagnostics*

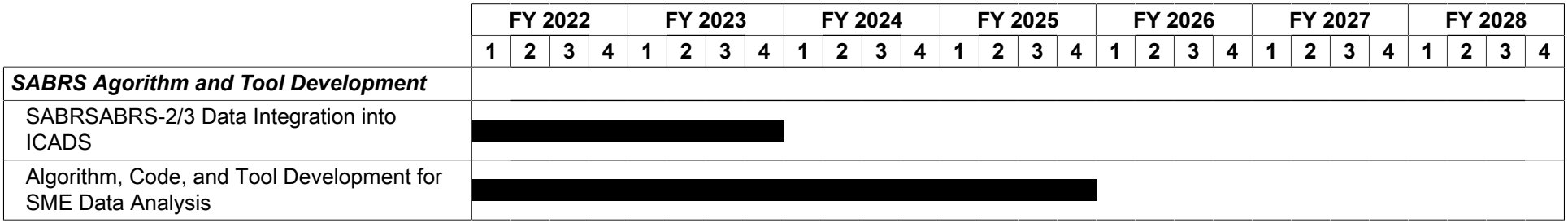

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207573F / *National Technical Nuclear Forensics*	**Project (Number/Name)** 674881 / *Prompt Diagnostics*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SABRS Agorithm and Tool Development				
SABRSABRS-2/3 Data Integration into ICADS	1	2022	4	2023
Algorithm, Code, and Tool Development for SME Data Analysis	1	2022	4	2025

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207590F / *Seek Eagle*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	30.484	32.853	33.478	0.000	33.478	34.924	35.798	36.530	37.852	Continuing	Continuing
674037: *SEEK EAGLE Certifications*	-	30.484	32.853	33.478	0.000	33.478	34.924	35.798	36.530	37.852	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Air Force SEEK EAGLE Office (AFSEO) is designated by the Assistant Secretary of the Air Force (Acquisition, Technology, and Logistics) as the center of expertise for aircraft-store compatibility activities and as the primary source of technical analysis and test support, as well as the central data repository, for the SEEK EAGLE process. The SEEK EAGLE process is a rigorous analysis of many factors to assure the safe and acceptable carriage and release (employment and jettison), safe escape, and ballistics accuracy of all stores on Air Force and foreign military sales aircraft. Thus, the AFSEO's mission is to ensure that every aircraft type is capable of employing the weapons and stores needed to meet Combatant Commander requirements, directly supporting the Secretary of the Air Force's (SECAF) Operational Imperatives (OI), and Cross-cutting Operational Enablers (COE).

The Air Force operates a variety of combat and other aircraft that carry numerous and varied stores: bombs, missiles, rockets, fuel tanks, cargo pods, targeting pods, electronic countermeasures pods, etc. Stores are carried in many different loading combinations determined by operational and training scenarios, missions, tactics, and weapon development programs. Additionally, aircraft-store configuration (carriage and employment) requirements change as operational plans and tactics are updated and/or as new stores are developed and fielded. Aircraft program managers must provide SEEK EAGLE certifications for all aircraft-store configurations within their user-established carriage and employment parameters before they may be used for operations, test, or training. The AFSEO completes flight clearance and certification recommendations through any combination of engineering analysis, wind tunnel testing, modeling and simulation, and ground/flight test and evaluation. The SEEK EAGLE process encompasses eight engineering disciplines: Fit and Function, Flutter, Aircraft and Store Structural Integrity, Stability and Control, Electromagnetic Compatibility/Interference (EMC/EMI), Separations, Ballistics, and Safe Escape.

In support of certification, the AFSEO recommends approximately 1000 aircraft-store combinations for flight each year through engineering analysis and testing. The AFSEO certification portfolio includes the Next Generation Air Dominance (NGAD) Family of Systems and B-21, as well as the following Mission Design Series aircraft: A-10, B-1, B-2, B-52, F-15C/D/E/EX, F-16, QF-16, F-22, F-35, KC-135, WC-130, MC-130H, HH-60W, MH-139A, MQ-9, T-7A, AT-6, and more. Integrated solutions for combat delivery mission planning problems are developed and provided to combat forces via Combat Weapons Delivery Software (CWDS) and Joint Safe Escape Analysis Solution (JSEAS) software. The SEEK EAGLE Office also works in coordination with the Air Force Safety Center to provide Hazards of Electromagnetic Radiation to Ordnance (HERO) analysis and certification recommendations for ordnance systems containing electro-explosive devices. Additionally, the AFSEO is responsible for incorporating new and emerging technologies into the SEEK EAGLE process to make certification more efficient in support of rapid acquisition timelines, as well as resourcing for the sustainment of a viable Air Force aircraft-store certification capability.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207590F / *Seek Eagle*

SEEK EAGLE funds are budgeted to support certification testing and analysis for new and inventory stores including, but not limited to: Small Diameter Bomb (SDB) I and II, Laser Joint Direct Attack Munitions (LJDAM), Joint Air-to-Surface Standoff Missile (JASSM), Long-Range Anti-Ship Missile (LRASM), Advanced Medium Range Air-to-Air Missile (AMRAAM), Miniature Air-Launched Decoy (MALD), BRU-57 (Smart Bomb Rack), BRU-61 (SDB Bomb Rack), Advanced Precision Kill Weapon System (APKWS), Sniper Targeting Pod with video data link, LITENING Targeting Pod with video data link, B61-12 nuclear free-fall weapon, penetrator warhead upgrades, practice bombs, electronic warfare pods, reconnaissance pods, and aircraft instrumentation pods. SEEK EAGLE funds also support certification of other inventory stores on Combat Air Forces (CAF) and Special Operations Command (SOCOM) aircraft. In addition, these funds further support capability development and weapons certification efforts required by Air Combat Command (ACC) to achieve Full Operational Capability (FOC) for the F-35A. Many of these weapons certification efforts are directly involved in SECAF OI-3, Moving Target Engagement, and all of them contribute to COE-1, Munitions. Additionally, many of the pods and other stores these funds support contribute directly to COE-2, Electromagnetic Spectrum.

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 0.00 was expended for civilian pay expenses in this program element, and in FY23 0.00 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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	30.539	32.853	34.084	0.000	34.084
Current President's Budget	30.484	32.853	33.478	0.000	33.478
Total Adjustments	-0.055	0.000	-0.606	0.000	-0.606
• 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	-0.055	0.000			
• Other Adjustments	0.000	0.000	-0.606	0.000	-0.606

Change Summary Explanation

No significant changes

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Aircraft-Store Certification	1.659	2.610	2.423

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207590F / *Seek Eagle*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Evaluates aircraft-store compatibility through analysis of ground and flight test data. Funds direct labor for SEEK EAGLE certifications. Supports procurement of test assets, such as instrumented weapons, and includes end-to-end tracking of MAJCOM requirements from user request to tech data fielding and operational flight program (OFP) updates. Provides certification recommendations to airworthiness authorities. ***FY 2023 Plans:*** Provide for USAF Air-to-Air and Air-to-Ground Munitions certification efforts such as towed decoys, ECM pods, chaff/flare countermeasures certification efforts, Airborne Instrumentation Systems pods, fuel tanks, and travel pods certification efforts. Continue CWDS upgrade support. ***FY 2024 Plans:*** Continue to provide for USAF Air-to-Air and Air-to-Ground Munitions certification efforts such as towed decoys, ECM pods, chaff/flare countermeasures certification efforts, Airborne Instrumentation Systems pods, fuel tanks, and travel pods certification efforts. Continue CWDS upgrade support. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding decreased due to balancing thrust areas; decrease is minimal.			
Title: Operations Baseline and Mission Support ***Description:*** Supports the ability to rapidly meet emerging warfighter needs for global operations and other ongoing world-wide operations through sustainment of a viable Air Force aircraft-store certification capability. ***FY 2023 Plans:*** Support increased Air Force munition and aircraft capability requirements that drive infrastructure and resource capacity needs within the SEEK EAGLE enterprise. ***FY 2024 Plans:*** Continue to support increased Air Force munition and aircraft capability requirements that drive infrastructure and resource capacity needs within the SEEK EAGLE enterprise. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to inflation adjustment.	21.270	21.604	22.063
Title: Advanced Capability Development ***Description:*** Provides resources to increase the Air Force SEEK EAGLE OFFICE (AFSEO) organic capabilities, to support advanced weapons such as hypersonic weapons and other classified weapons programs, as well as investing in the development	5.035	2.584	2.986

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207590F / *Seek Eagle*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
of advanced modeling and analytical tools to make the SEEK EAGLE certification process more efficient in support of rapid acquisition timelines. These resources include, but are not limited to: artificial intelligence, modeling and simulation enhancements, wind tunnel model development, automated tool enhancements, information technology enhancements, and facility improvements. ***FY 2023 Plans:*** Continue development of the F-35 wind tunnel model, and continue supporting investments in other advanced modeling and simulation, automated tool and information technology enhancements. ***FY 2024 Plans:*** Commence F-15EX wind tunnel model development, continue development of the F-35 wind tunnel model, and support investments in other advanced modeling and simulation, automated tool and information technology enhancements. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased because of automated tools and information technology enhancements.			
Title: Tools, Equipment, and Capability Sustainment ***Description:*** Supports development and sustainment of state-of-the-art engineering and business tools to support the SEEK EAGLE enterprise. Funding resources are required for operational management of existing information and technology infrastructure, hardware, software, and equipment. ***FY 2023 Plans:*** Support development and sustainment of state-of-the-art engineering and business tools to support SEEK EAGLE enterprise. ***FY 2024 Plans:*** Continue to support development and sustainment of state-of-the-art engineering and business tools to support SEEK EAGLE enterprise. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding decreased due to balancing thrust areas; decrease is minimal.	2.520	6.055	6.006
Accomplishments/Planned Programs Subtotals	30.484	32.853	33.478

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207590F / *Seek Eagle*

E. Acquisition Strategy

The SEEK EAGLE program is not an acquisition program in itself; instead it supports other acquisition programs, for both aircraft and weapons or other stores. For initial aircraft-weapons integration, the aircraft or weapon program office is responsible for budgeting and providing the test assets to the Air Force SEEK EAGLE Office (AFSEO) for the store certification requirements. For post-integration certification requirements, AFSEO funds are used to obtain the non-inventory test assets. In addition to the above highlights, budgeting responsibilities for AFSEO are delineated in Air Force Instruction 63-101/20-101, paragraph 5.4.22.1.3, dated 30 June 2020.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207590F / *Seek Eagle*	Project (Number/Name) 674037 / *SEEK EAGLE Certifications*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Advanced Data Analytics - Artificial Intelligence (AI)	SS/FP	TAMR : Cambridge, MA	-	2.307	Apr 2022	1.875	Mar 2023	-		-		-	Continuing	Continuing	-
AFSEO Mission and Planning Support (SEMATS)	C/CPFF	ERC : Ft. Walton Beach, FL	-	13.188	Oct 2021	13.460	Oct 2022	13.999	Nov 2023	-		13.999	Continuing	Continuing	-
F-35 Capabilities	C/CPFF	Lockheed Martin : Marietta, GA	-	0.305	Nov 2021	0.100	Nov 2022	0.195	Jan 2024	-		0.195	Continuing	Continuing	-
Multiple Fighter and Weapon Capability Support	C/CPFF	Multiple : Multiple	-	0.041	Mar 2022	0.064	Mar 2023	0.031	Mar 2024	-		0.031	Continuing	Continuing	-
F-16 Aero Sustainment	C/CPFF	Lockheed Martin : Fort Worth, TX	-	0.155	May 2022	0.163	Feb 2023	0.167	Oct 2023	-		0.167	Continuing	Continuing	-
		Subtotal	-	15.996		15.662		14.392		-		14.392	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Flight Tests and Aircraft/ Store Compatibility Analysis	PO	96th Test Wing : Eglin AFB, FL	-	11.250	Oct 2021	14.225	Oct 2022	15.984	Oct 2023	-		15.984	Continuing	Continuing	-
Wind Tunnel Model/Design and Testing	PO	Arnold Engineering Dev Complex : Arnold AFB, TN	-	2.532	Jan 2022	2.384	Jan 2023	1.742	Jan 2024	-		1.742	Continuing	Continuing	-
		Subtotal	-	13.782		16.609		17.726		-		17.726	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
A&AS Support (TMAS)	C/CPFF	AFTC : Eglin AFB, FL	-	0.105	Oct 2021	0.107	Oct 2022	0.111	Oct 2023	-		0.111	Continuing	Continuing	-
Management Support	Various	Various : Various, FL	-	0.601	Oct 2021	0.475	Oct 2022	1.249	Oct 2023	-		1.249	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207590F / *Seek Eagle*	Project (Number/Name) 674037 / *SEEK EAGLE Certifications*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	0.706		0.582		1.360		-		1.360	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	30.484		32.853		33.478		-		33.478	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207590F / *Seek Eagle*	**Project (Number/Name)** 674037 / *SEEK EAGLE Certifications*

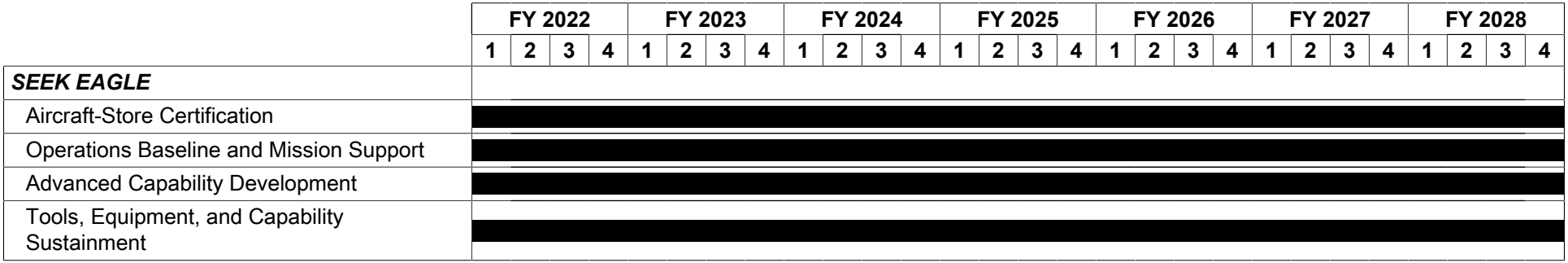

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207590F / *Seek Eagle*	**Project (Number/Name)** 674037 / *SEEK EAGLE Certifications*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SEEK EAGLE				
Aircraft-Store Certification	1	2022	4	2028
Operations Baseline and Mission Support	1	2022	4	2028
Advanced Capability Development	1	2022	4	2028
Tools, Equipment, and Capability Sustainment	1	2022	4	2028

Note

Note: The SEEK EAGLE program supports both production stores on production aircraft and the planning for future acquisition program milestones without an anticipated end date. Current warfighter requirements trigger the SEEK EAGLE process for requested aircraft-store configurations, and work is completed in accordance with designated user priorities established through the SEEK EAGLE Prioritization List process.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207601F / *USAF Modeling and Simulation*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	16.838	19.283	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	36.121
674567: *M&S Foundations*	-	7.093	7.468	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	14.561
675135: *Warfighter Readiness*	-	9.745	11.815	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	21.560

Note

In FY2024, PE 0207601F, USAF Modeling and Simulation, Project 674567, M&S Foundations, and Project 675135, Warfighter Readiness, efforts were transferred to PE 0801380F, AF LVC Operational Training (LVC-OT), Project 674567, M&S Foundations, and Project 675135, Warfighter Readiness, to meet higher priority AF Operational Readiness and Training efficiencies.

A. Mission Description and Budget Item Justification

Modeling and Simulation support to our Warfighter's Readiness is a United States Air Force (USAF) corporate imperative to ensure air, space, cyberspace training, and mission rehearsal activities are supported with realistic, interoperable, and readily available tools, data, services and environments. Warfighter readiness supports Department of Defense (DoD) Training Transformation (T2) and Joint National Training Capability (JNTC) along with the USAF priorities and core functions. Activities also include studies and analysis to support both current program planning, execution, and future program planning.

It includes several complimentary programs, initiatives and areas for investment: Warfighter and Joint Training Integration supports the Chief of Staff of the Air Force (CSAF) directed Live, Virtual, and Constructive (LVC) integration efforts and is a critical piece to the USAF's implementation of the Strategic Plan for Transforming DoD Training. The goal of LVC training and mission rehearsal is to prepare our warfighters for the full range of military operations and maintain the combat readiness levels required by the Combatant Commanders. This can only be accomplished by training and rehearsing in realistic operational environments. These environments include live training ranges and virtual simulators enhanced with constructive entities. Specific training and mission rehearsal events can include some or all of these simultaneously; making the ability to integrate LVC capabilities a necessity.

The Air, Space, and Cyberspace Constructive Environment (ASCCE) is the USAF's authoritative federation of constructive training models and tools realistically representing the tactical and operational capabilities the USAF brings to the joint fight. Project 675135, Warfighter Readiness, provides for the Command & Control Simulation Environment for Training (C2SET) development effort, which is modernizing the authoritative representation of AF and joint theater-level air and space power for training Air and Space Operations Center (AOC) personnel and Combatant Commanders' battle staffs. The primary models in development for C2SET are based on the AF common Advanced Framework for Simulation, Integration, and Modeling (AFSIM). C2SET will replace the current Air Force Modeling and Simulation Training Toolkit (AFMSTT).

The program element also contains Project 674567, M&S Foundations, the Air, Space and Cyberspace Collaborative Environment - Information Operations Suite (ACE-IOS). ACE-IOS is a federation of constructive models for the authoritative representation of Air Force Intelligence, Surveillance, and Reconnaissance (ISR), Electronic Warfare (EW), Information Operations (IO), and Cyber Effects on AF combat operations. The program supports multifaceted training and mission rehearsal for the Air

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207601F / *USAF Modeling and Simulation*

Force at multiple training tiers, Joint Task Force commanders, and Combatant Commanders' battle staffs covering training from the AF schoolhouse through the Air Combatant Commander staff via Joint and Service exercises, tests, and experiments. This program also supports the DoD Training Transformation Initiative.

This program is part of the overarching Kessel Run portfolio and is leveraging 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.

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 1.090M was expended for civilian pay expenses in this program element, and in FY23 1.269M 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

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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	17.110	19.341	33.522	0.000	33.522
Current President's Budget	16.838	19.283	0.000	0.000	0.000
Total Adjustments	-0.272	-0.058	-33.522	0.000	-33.522
• 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	-0.272	-0.058	-33.522	0.000	-33.522

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207601F / *USAF Modeling and Simulation*	Project (Number/Name) 674567 / *M&S Foundations*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
674567: *M&S Foundations*	-	7.093	7.468	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	14.561
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY2024, PE 0207601F, USAF Modeling and Simulation, Project 674567, M&S Foundations, and Project 675135, Warfighter Readiness, efforts were transferred to PE 0801380F, AF LVC Operational Training (LVC-OT), Project 674567, M&S Foundations, and Project 675135, Warfighter Readiness, to meet higher priority AF Operational Readiness and Training efficiencies.

A. Mission Description and Budget Item Justification

Modeling and Simulation Foundations (MSF) focuses on integrating foundational capabilities needed to improve the usefulness of Modeling and Simulation (M&S) capabilities derived from the Warfighter Readiness (WR) thrust. The efforts supporting the MSF thrust include both concept exploration and development. MSF provides the capability to rapidly and efficiently create realistic and accurate synthetic operational battlespaces to support the full spectrum of activities associated with concept development to acquisition and testing through composite training and mission rehearsals.

ACE-IOS project is a federation of constructive models for the authoritative representation of Air Force ISR and Information Operations. ACE-IOS provides simulation modeling and stimulation systems, software, and contract support in support of ISR/Cyber training from the AF ISR Schoolhouse to Joint mission rehearsal for the Air Force, Joint Task Force commanders, and Combatant Commands battle staffs during Joint and Service exercises, tests and experiments.

ACE-IOS provides ISR and Cyber live-virtual-constructive (LVC) environments to support the Joint training of offensive and defensive ISR/Cyber capabilities for the AF, DoD, select Coalition, and national agencies. AF Joint ISR operational training is conducted by the AF Simulation centers worldwide using the ACE-IOS M&S models and stimulations with specific extensions in support of the Air Force Cyber Simulation Center (CSC) and the AF ISR schoolhouse. Overall development and integration efforts of the ACE-IOS program are imperative to ensure that air, space, and cyberspace training and mission rehearsal activities are supported with realistic, interoperable, and readily available tools, data, and services. Specific ACE-IOS capability enhancements are built in direct support of the Distributed Mission Operations Center for Cyberspace (DMOC-C) and the AF ISR schoolhouse. The specific cyber effects software extensions for DMOC-C are in support of the training and exercising of tactical cyber mission forces (CMF), cyber service providers (CSP), and operational-level command and control, intelligence, and cyber planners and operators supporting global operations.

LVC environments today are used as one of the most cost effective and practical means to meet mission needs. These efforts enable more efficient delivery of effective capabilities to the warfighter while reducing the time and resources required for design, development, test and evaluation, maintainability and sustainment.

Authorization and Accreditation and Networthiness is maintained via the Information Technology (IT) systems Risk Management Framework (RMF) for seven classified ACE-IOS configurations and two supported cross domain solutions, which includes code and ruleset development, testing, and fielding, and meets AF Joint Worldwide

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207601F / *USAF Modeling and Simulation*	**Project (Number/Name)** 674567 / *M&S Foundations*

Intelligence Communications System (JWICS), AF Secret Internet Protocol Router Network (SIPRNET) and AF and Joint Staff training network net worthiness standards and evaluations.

This program also supports the DoD Training Transformation Initiative.

This program is part of the overarching Kessel Run portfolio and is leveraging 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.

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 $1.090M was expended for civilian pay expenses in this program element, and in FY23 $1.349M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Air, Space and Cyberspace Constructive Environment - Information Operations Suite (ACE-IOS)	7.093	7.468	0.000
Description: Provides the authoritative representation of the AF ACE-IOS program. ACE- IOS is comprised of models that support training and mission rehearsal for the Air Force, Joint Task Force commanders, and Combatant Commander battle staffs during Joint and Service exercises and experimentations. Also supports shared ACE-IOS development in support of the AF ISR schoolhouse and DMOC-C extensions. ***FY 2023 Plans:*** Commenced and delivered ACE-IOS version & deployment Continued ACE-IOS agile development Continued integration with M&S support to Kessel Run common development ***FY 2024 Plans:*** Due to PE transfer, see detailed plans in PE 0801380F, AF LVC Operational Training (LVC-OT). ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding decreased due to the transfer of funding to PE 0801380F to meet higher priority AF Operational Readiness and Training Efficiencies.			
Accomplishments/Planned Programs Subtotals	7.093	7.468	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207601F / *USAF Modeling and Simulation*	**Project (Number/Name)** 674567 / *M&S Foundations*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 833140: *Strategic Command And Control*	0.668	30.738	9.962	-	9.962	5.413	1.866	1.883	28.316	0.000	78.846
• RDTE 07 0303248F: *All Domain Common Platform*	70.894	45.502	88.916	-	88.916	98.464	99.216	98.907	88.153	0.000	590.052

Remarks

N/A

D. Acquisition Strategy

The Acquisition goals of the Air, Space and Cyberspace Constructive Environment - Information Operations Suite (ACE-IOS) are achieved through incremental development of the project's M&S activities; all contracts are awarded using full and open competition. In order to meet evolving M&S technology and requirements and its modernization effort, the ACE-IOS program will leverage commercial best practices for agile software development.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207601F / *USAF Modeling and Simulation*	Project (Number/Name) 674567 / *M&S Foundations*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Air, Space and Cyberspace Constructive Environment - Information Operations Suite (ACE-IOS)	C/Various	CACI NSS, LLC : San Antonio, TX	-	7.093	Dec 2021	7.468	Dec 2022	-		-		-	Continuing	Continuing	-
		Subtotal	-	7.093		7.468		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	7.093		7.468		-		-		-	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207601F / *USAF Modeling and Simulation*	**Project (Number/Name)** 674567 / *M&S Foundations*

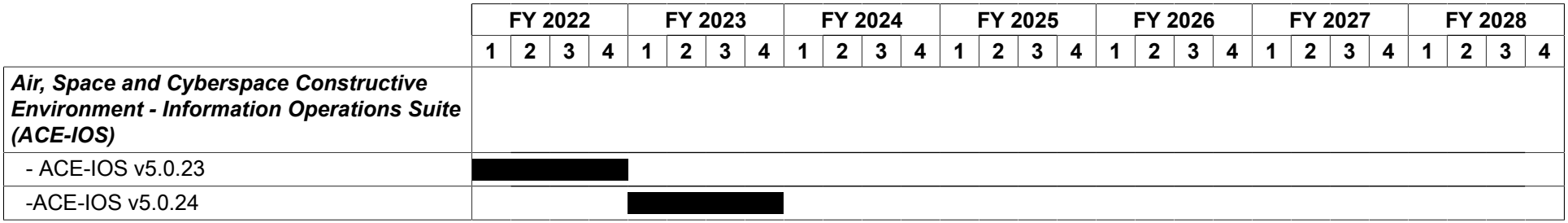

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207601F / *USAF Modeling and Simulation*	**Project (Number/Name)** 674567 / *M&S Foundations*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Air, Space and Cyberspace Constructive Environment - Information Operations Suite (ACE-IOS)				
- ACE-IOS v5.0.23	1	2022	4	2022
-ACE-IOS v5.0.24	1	2023	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207601F / *USAF Modeling and Simulation*	Project (Number/Name) 675135 / *Warfighter Readiness*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675135: *Warfighter Readiness*	-	9.745	11.815	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	21.560
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY2024, PE 0207601F, USAF Modeling and Simulation, Project 674567, M&S Foundations, and Project 675135, Warfighter Readiness, efforts were transferred to PE 0801380F, AF LVC Operational Training (LVC-OT), Project 674567, M&S Foundations, and Project 675135, Warfighter Readiness, to meet higher priority AF Operational Readiness and Training efficiencies.

A. Mission Description and Budget Item Justification

Modeling and Simulation support to our Warfighter's Readiness is a United States Air Force (USAF) corporate imperative to ensure air, space, cyberspace training, and mission rehearsal activities are supported with realistic, interoperable, and readily available, tools, data, services and environments. Warfighter Readiness supports Department of Defense (DoD) Training Transformation (T2) and Joint National Training Capability (JNTC) along with the USAF priorities and core functions. Activities also include studies and analysis to support both current program planning, execution, and future program planning.

It includes several complimentary programs, initiatives and areas for investment: Warfighter and Joint Training Integration supports the Chief of Staff of the Air Force (CSAF) directed Live, Virtual, and Constructive (LVC) integration efforts and is a critical piece to the USAF's implementation of the Strategic Plan for Transforming DoD Training. The goal of LVC training and mission rehearsal is to prepare our warfighters for the full range of military operations and maintain the combat readiness levels required by the Combatant Commands. This can only be accomplished by training and rehearsing in realistic operational environments. These environments include live training ranges and virtual simulators enhanced with constructive entities. Specific training and mission rehearsal events can include some or all of these simultaneously; making the ability to integrate LVC capabilities a necessity.

The Air, Space, and Cyberspace Constructive Environment (ASCCE) is the USAF's authoritative federation of constructive training models and tools realistically representing the tactical and operational capabilities the USAF brings to the joint fight. This includes development effort for Command & Control Simulation Environment for Training (C2SET), which provides the authoritative representation of AF and Joint theater-level air and space power and is used to train Air and Space Operations Center (AOC) personnel and Combatant Commanders' battle staffs. C2SET is replacing the AFMSTT models with the proven core Advanced Framework for Simulation, Integration, and Modeling (AFSIM) scientific engine. The goal is toward a fully scalable and more scientific based modeling, simulation, and training stimulation to the Combined Forces Air Component Commander (CFACC). AFMSTT entered full sustainment in FY21 and continues to receive operational updates to maintain operational currency until C2SET fully replaces.

This program is part of the overarching Kessel Run portfolio and is leveraging 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.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207601F / *USAF Modeling and Simulation*	**Project (Number/Name)** 675135 / *Warfighter Readiness*

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 $1.090M was expended for civilian pay expenses in this program element, and in FY23 $1.349M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Command & Control Simulation Environment for Training (C2SET) ***Description:*** Provides the authoritative representation of AF and joint theater-level air and space power and is used to train AOC personnel and Combat Commander's battle staffs ***FY 2023 Plans:*** -Continue AF M&S software consortium development efforts to meet M&S Modernization objective (replacing AFMSTT capabilities), Federate Object Models and C2 interfaces requirements ***FY 2024 Plans:*** Due to PE transfer, see detailed plans in PE 0801380F, AF LVC Operational Training (LVC-OT). ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding decreased due to the transfer of funding to PE 0801380F to meet higher priority AF Operational Readiness and Training Efficiencies.	9.745	11.815	0.000
Accomplishments/Planned Programs Subtotals	9.745	11.815	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 833140: *Strategic Command And Control*	0.668	30.738	9.962	-	9.962	5.413	1.866	1.883	28.316	0.000	78.846
• RDTE 07 0303248F: *All Domain Common Platform*	70.894	45.502	88.916	-	88.916	98.464	99.216	98.907	88.153	0.000	590.052

Remarks

N/A

D. Acquisition Strategy

The Acquisition goals of the Command & Control Simulation Environment for Training (C2SET) are achieved through incremental development of the project's M&S activities; all contracts are awarded using full and open competition. C2SET operates under authority of a Software Acquisition Pathway following DoDI 5000.87, Operation of a Software Acquisition Pathway Guidance. The desired end state is continuous delivery of all C2SET software.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207601F / *USAF Modeling and Simulation*	**Project (Number/Name)** 675135 / *Warfighter Readiness*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C2SET (FSO)	C/T&M	Full Spectrum Operations : Fairfax, VA	-	2.388	Jul 2022	4.406	Jul 2023	-		-		-	Continuing	Continuing	19.100
C2SET (Omni)	C/T&M	Omni Federal : Gainesville, VA	-	4.494	Jul 2022	3.792	Jul 2023	-		-		-	Continuing	Continuing	19.100
		Subtotal	-	6.882		8.198		-		-		-	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C2SET Direct Mission Support	Reqn	ATA : Vienna, VA	-	-		0.500	Jan 2023	-		-		-	Continuing	Continuing	-
C2SET Civilian Direct Cite Authorizations for Product Development	Allot	AFLCMC/FZA : TBD	-	1.091	Oct 2021	1.269	Oct 2022	-		-		-	Continuing	Continuing	-
		Subtotal	-	1.091		1.769		-		-		-	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration	C/Various	AFLCMC : Hanscom AFB, MA	-	1.389	Oct 2021	1.400	Oct 2022	-		-		-	Continuing	Continuing	-
Systems Engineering	SS/ Various	MITRE : Bedford, MA	-	0.383	Oct 2021	0.448	Oct 2022	-		-		-	Continuing	Continuing	-
		Subtotal	-	1.772		1.848		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	9.745		11.815		-		-		-	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207601F / *USAF Modeling and Simulation*	Project (Number/Name) 675135 / *Warfighter Readiness*	

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207601F / *USAF Modeling and Simulation*	**Project (Number/Name)** 675135 / *Warfighter Readiness*

	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Air, Space, and Cyberspace Constructive Environment (ASCCE)																												
C2SET	[redacted]																											

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207601F / *USAF Modeling and Simulation*	**Project (Number/Name)** 675135 / *Warfighter Readiness*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Air, Space, and Cyberspace Constructive Environment (ASCCE)				
C2SET	1	2022	4	2023

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0207605F / *Wargaming and Simulation Centers*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	7.535	7.004	11.894	0.000	11.894	15.586	87.989	52.719	42.946	Continuing	Continuing
672888: *Distributed Mission Operations Center (DMOC)*	-	7.535	7.004	11.894	0.000	11.894	15.586	87.989	52.719	42.946	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This program, BA 7, PE 0207605F, project 672888, Joint Training Center, is a new start.

A. Mission Description and Budget Item Justification

The Distributed Mission Operations Center (DMOC) provides comprehensive Live, Virtual, and Constructive (LVC) simulation capabilities which prepare warfighters to conduct Joint All-Domain Command & Control (JADC2) operations in air, land, sea, space, and cyber domains for theater-level, full spectrum combat training for Air Force, joint service, and coalition partners. The DMOC training capabilities reach over 40 geographically separated Live, Virtual, and Constructive (LVC) locations across 17 time zones representing such assets as real-world weapon systems, operator-in-the-loop, and constructive or computer-driven simulations. DMOC is responsible for development and integration of scenarios, models, and databases and the integration of participating sites into Virtual Flag (VF) and other Distributed Mission Operations (DMO) training events via numerous network connections, DMOC-developed interoperability tools, and controlled interfaces in support of Air Force, joint, and coalition warfighter readiness. In addition, activities include DMO technology and capability studies/analyses which support both current and future program planning and execution by:

1. Distributed Mission Operations Capability/Battlespace Systems Development: The DMOC upgrades and enhances the capabilities of various systems, tools, and simulators to incorporate emerging technology and training requirements into DMO events, such as Virtual Flag (VF) and VF: Coalition (VF:C), to enhance the quality of warfighter training. Activities include Environment Generator development, DMO Tool Development, and Simulator Enhancement. DMOC is in partnership with the US Naval Air Warfare Center-Aircraft Division (NAWCAD) to enhance the capabilities of the Next Generation Threat System (NGTS). The NGTS is the primary environment generator for both Blue and Red Air in DMOC White Force. DMO Tool development includes: a) DMOC Replay Tool (DRT), which facilitates a more complete mission review and debrief capability of the exercises as more sites and systems are added to events; b) enhancement & improvement of the Distributed Interactive Simulation (DIS) Filter and the Doctor-J (Dr. J) tools to enable tactical datalinks to be communicated and translated between disparate simulator and operationally fielded (i.e. live aircraft) communication formats; c) Development of Intelligence, Surveillance, and Reconnaissance (ISR)/Battle Damage Assessment (BDA) to improve damage state models used by intelligence analysts in exercises; and d) development of solutions for integrating Contested Degraded Operations Gateway (CDOG, geographical and communications jamming) into DMO events; and simulator enhancement efforts to incorporate Mission Package standards upgrades into the Control and Reporting Center (CRC) Simulation Package (CSP) to allow a real-world system to be used as a simulator when needed in DMO events.

2. Assessment & Authorization (A&A)/Software Certification: The DMOC supports cybersecurity requirements definition, integration/test support, analysis, systems engineering support, A&A of core systems, and support software certification. The DMOC implements cybersecurity requirements and complies with the application of the Risk Management Framework (RMF) and Continuous Monitoring. Efforts include Cross-Domain Information Sharing / Multi-national Information Sharing (CDIS/

MNIS) ruleset development, load sharing, and testing; integration and testing of various newly developed / updated systems such as the DMOC Replay Tool, Dr. J, DIS Filter, and the DMOC Battlespace; support of Air Force Network Integration Center (AFNIC) software certification.

3. Distributed Training Sites & Systems Integration: DMOC integrates over 40 geographically separated LVC training locations and 50+ systems into LVC DMO training events such as VF and VF:C by resolving interoperability issues between disparate systems and networks so that all exercise participants can interact in the DMO environment. New sites and systems are incorporated into LVC DMO events each year based on higher headquarters and Combatant Commander's (CCDRs) emerging requirements.
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.

Joint Training Center (JTC): Adds training and test capability to 5th generation operation readiness, scales up the Joint Simulation Environment (JSE), and increases operational training capability at Elmendorf AFB.

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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	7.535	7.004	6.867	0.000	6.867
Current President's Budget	7.535	7.004	11.894	0.000	11.894
Total Adjustments	0.000	0.000	5.027	0.000	5.027
• 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	5.027	0.000	5.027

Change Summary Explanation

FY24 increase to the current President's Budget funds the Joint Training Center (JTC) new start.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Distributed Mission Operations (DMO) Capability / Battlespace Systems Development	5.081	4.723	4.658	0.000	4.658

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207605F / *Wargaming and Simulation Centers*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Description: Simulation software/hardware development in support of users conducting RDT&E, mission rehearsal, and concepts of operation development. ***FY 2023 Plans:*** - DMO tool enhancements. - DMOC/NAWCAD Partnership: Enhance NGTS source code to implement future Air Force DMO requirements, develop/install future versions of DMOC customized NGTS, and focus on increasing NAWCAD partnership/ requirements development to better meet AF DMO needs. - Transition battlespace virtualization into operations and explore other virtualized methods to enhance training. - Research and test promising emerging Modeling & Simulation (M&S) technologies for possible integration into DMO training. - Explore and transition to cloud-based software development. - Contract exploration of White Force AI and Battlespace Jamming capabilities through Air Force Research Laboratory (AFRL) contracting vehicle ***FY 2024 Base Plans:*** - Will complete Battlespace Jamming exploration and continue White Force Artificial Intelligence (AI) exploration through AFRL contracting vehicle - Will redesign and enhance legacy DMO tools. - Will continue DMOC/NAWCAD partnership to enhance NGTS source code to implement future Air Force DMO requirements, develop/install future versions of DMOC customized NGTS, and focus on increasing NAWCAD partnership/ requirements development to better meet AF DMO needs. - Will explore additional virtualized methods to enhance training. - Will research and test promising emerging Modeling & Simulation (M&S) technologies for possible integration into DMO training. - Will continue exploration and transitioning to cloud-based software development. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:***					

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207605F / *Wargaming and Simulation Centers*	

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Funding decreased due to $0.137M reduction in overall program funding from FY23 to FY24. DMOC will slightly scale back various efforts to absorb the decrease.					
Title: Assessment and Authorization (A&A)/Software (A&AS) Certification ***Description:*** Support requirements definition, integration test support, scenario development, analysis, systems engineering support, and Certification and Accreditation (C&A) and Networthiness of core systems. Implement requirements of Cybersecurity, Risk Management Framework, and Continuous Monitoring. ***FY 2023 Plans:*** - Test for the following Assessment and Authorization activities: -- Maintain ATO from HAF/A3 for Battlespace. -- Maintain ATO for Jumper Room with accompanying SSP modifications for event-driven needs. - Assess DMOC software for the AFNIC E/APL process viability and test accordingly - A&A support for virtualization effort. - Support of CVF and RED KITE with CDIS ruleset development, testing, and implementation. - Development of Cross Domain Solutions into LVC training. ***FY 2024 Base Plans:*** - Will test for the following Assessment and Authorization activities: -- Maintain ATO from HAF/A3 for Battlespace. -- Maintain ATO for Jumper Room with accompanying SSP modifications for event-driven needs. - Will assess DMOC software for the AFNIC E/APL process viability and test accordingly - Will continue A&A support for virtualization effort. - Will support CVF and RED KITE (if required) with CDIS ruleset development, testing, and implementation. - Will continue to develop Cross Domain Solutions into LVC training. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding decreased due to $0.137M reduction in overall program funding from FY23 to FY24. DMOC will slightly scale back various efforts to absorb the decrease.	0.581	0.540	0.530	0.000	0.530
Title: Distributed Training Sites and Systems Integration	1.873	1.741	1.706	0.000	1.706

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207605F / *Wargaming and Simulation Centers*	

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Description: Establish distributed training site system integration and interoperability between DMOC, operational units, and modeling & simulation facilities. ***FY 2023 Plans:*** - Develop LVC concepts in support of VF/CVF integration efforts. - Support emerging higher headquarters/CCDR requirements. - Virtual-into-Live integration and testing with NTTR/VTTC/RF. - Expand Jumper Room support to CJCS events. - Expand distributed operations to increase the number of small-scale, joint/coalition events. ***FY 2024 Base Plans:*** - Will continue to develop LVC concepts in support of VF/CVF integration efforts. - Will support emerging higher headquarters/CCDR requirements. - Will develop Virtual-into-Live integration and testing with NTTR/VTTC/RF. - Will expand Jumper Room support capabilities to CJCS events. - Will expand distributed operations to increase the number of small-scale, joint/coalition events. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding decreased due to $0.137M reduction in overall program funding from FY23 to FY24. DMOC will slightly scale back various efforts to absorb the decrease.					
Title: Joint Training Center ***Description:*** Supports the Joint Simulation Environment (JSE) CONOPS by providing the Operational Training Capability at Elmendorf, AFB. ***FY 2023 Plans:*** N/A ***FY 2024 Base Plans:*** Scales the JSE CONOPS ***FY 2024 OCO Plans:***	0.000	0.000	5.000	0.000	5.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207605F / *Wargaming and Simulation Centers*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Enables the department's program decision memorandum.					
Accomplishments/Planned Programs Subtotals	7.535	7.004	11.894	0.000	11.894

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

E. Acquisition Strategy

The DMOC supports AF/Joint/Coalition DMO and the Joint National Training Capability (JNTC) through the development and integration of DMO training and test events, networks, scenarios, and databases. Due to evolving modeling & simulation technology, the DMOC is an on-going, evolutionary effort to keep pace with those changes by continuously developing/upgrading DMO environment generators, systems, and tools and ensuring integration/interoperability of new systems into DMO to provide the best warfighter training possible. DMOC has the following two primary contracts that manage the acquisition, development, testing, and integration of DMO standards, training, modeling and simulation, cross-domain information sharing testbed, and exercises on AF/Joint/Coalition DMO networks. Additionally, Military Interdepartmental Purchase Requests (MIPRs) are sent to other external organizations (i.e. NAWCAD) to fund development of DMO tools that support DMOC efforts.

Infrastructure, Development, and Engineering (IDE) Contract: Develops/upgrades various DMOC tools, systems, and simulators that are needed to conduct DMO training events. Develops, implements, and tests technical solutions for the integration of sites/systems into VF, CVF, and other DMO events. IDE is a firm-fixed-price contract.

Command and Control Technical Support Contract (C2TSC): Supports government by assisting with development of technical requirements for upgrades to various systems and tools that will be developed by the IDE contractor and then performs acceptance testing of the delivered products. Develops requirements for site/system integration of sites/systems into VF, CVF, and other DMO events. C2TSC is a firm-fixed-price contract.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207605F / *Wargaming and Simulation Centers*	**Project (Number/Name)** 672888 / *Distributed Mission Operations Center (DMOC)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Distributed Mission Operations (DMO) Capability / Battlespace Systems Development, Certification & Accreditation (C&A) and Networthiness, and Distributed Training Sites& Systems Integration	C/FFP	General Dynamics IT : Kirtland AFB, NM	-	3.989	Nov 2021	1.482	Dec 2022	-		-		-	0.000	5.471	16.935
Distributed Mission Operations (DMO) Capability / Battlespace Systems Development, Certification & Accreditation (C&A) and Networthiness, and Distributed Training Sites & Systems Integration	C/FFP	TBD - Follow-on Contract : Kirtland AFB, NM	-	-		2.768	Mar 2023	4.427	Nov 2023	-		4.427	Continuing	Continuing	24.482
NAWCAD NGTS Development	MIPR	NAWCAD : Patuxent River, MD	-	1.000	Nov 2021	1.000	Feb 2023	1.000	Nov 2023	-		1.000	Continuing	Continuing	-
Artificial Intelligence Integration Into VF (Conceptual Design)	C/CPFF	L3 Technologies, Inc : Kirtland AFB, NM	-	0.500	Apr 2022	0.360	Apr 2023	0.119	Nov 2023	-		0.119	0.000	0.979	1.179
Global Positioning System (GPS) Jamming Integration Into VF (Conceptual Design - Contract 1)	C/CPFF	XL Scientific, LLC Verus Research : Kirtland AFB, NM	-	0.535	Apr 2022	0.109	Nov 2022	-		-		-	0.000	0.644	0.899
Global Positioning System (GPS) Jamming Integration Into VF (Conceptual Design - Contract 2)	C/CPFF	Scientific Research Corp, Inc : Kirtland AFB, NM	-	0.244	Apr 2022	-		-		-		-	0.000	0.244	0.244
Joint Training Center	C/CPAF	TBD : Elmendorf AFB, AL	-	-		-		5.000	Dec 2023	-		5.000	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207605F / *Wargaming and Simulation Centers*	**Project (Number/Name)** 672888 / *Distributed Mission Operations Center (DMOC)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	6.268		5.719		10.546		-		10.546	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical requirements development, integration/ acceptance testing, and engineering support	C/FFP	River Tech, LLC : Kirtland AFB, NM	-	0.955	Jan 2022	0.959	Jan 2023	-		-		-	0.000	1.914	4.759
Technical requirements development, integration/ acceptance testing, and engineering support (Follow-on Contract)	C/FFP	TBD - Follow-on Contract : Kirtland AFB, NM	-	-		-		1.012	Mar 2024	-		1.012	Continuing	Continuing	5.592
		Subtotal	-	0.955		0.959		1.012		-		1.012	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DMOC Program Management Office Support	Various	705 CTS : Kirtland AFB, NM	-	0.312	Oct 2021	0.326	Oct 2022	0.336	Oct 2023	-		0.336	Continuing	Continuing	-
		Subtotal	-	0.312		0.326		0.336		-		0.336	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	7.535		7.004		11.894		-		11.894	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207605F / *Wargaming and Simulation Centers*	**Project (Number/Name)** 672888 / *Distributed Mission Operations Center (DMOC)*

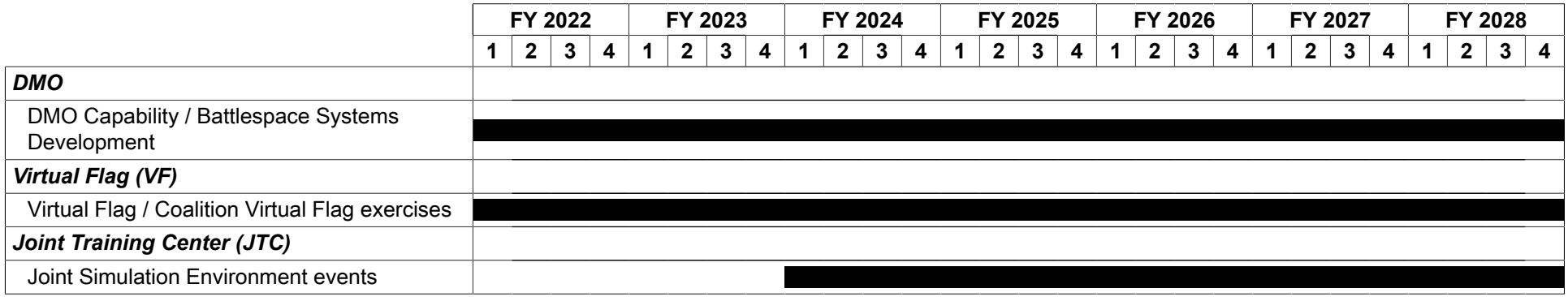

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207605F / *Wargaming and Simulation Centers*	**Project (Number/Name)** 672888 / *Distributed Mission Operations Center (DMOC)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
DMO				
DMO Capability / Battlespace Systems Development	1	2022	4	2028
Virtual Flag (VF)				
Virtual Flag / Coalition Virtual Flag exercises	1	2022	4	2028
Joint Training Center (JTC)				
Joint Simulation Environment events	1	2024	4	2028

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207610F / *Battlefield Abn Comm Node (BACN)*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	30.953	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
671201: *E-11 Development*	-	30.953	0.000	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

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 SATCOM, IBS, PTW, enhancements to Military Global Positioning System "GPS", 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 efforts associated with the integration 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.

*All funding beyond FY22 for BACN Weapon System development is within PE0207238F

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

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207610F / *Battlefield Abn Comm Node (BACN)*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	32.008	0.000	0.000	0.000	0.000
Current President's Budget	30.953	0.000	0.000	0.000	0.000
Total Adjustments	-1.055	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	-1.055	0.000			
• Other Adjustments	0.000	0.000	0.000	0.000	0.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Main Base Operating Base Integration Communications Engineering	1.500	0.000	0.000
Description: Small scale enhancements to BACN ground sites to enable increased operational effectiveness and/or efficiencies ***FY 2023 Plans:*** N/A ***FY 2024 Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A			
Title: Military GPS Enhancements with M-Code	0.000	0.000	0.000
Description: Effort enhances Military GPS, 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 to be included onboard the entire BACN weapon systems (both the E-11 aircraft and BACN 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 BACN fleet. Substantial analysis, design, systems engineering, developmental activities are required to integrate capabilities onboard existing E-11s as the aircraft are civilian derivative aircraft. ***FY 2023 Plans:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207610F / *Battlefield Abn Comm Node (BACN)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
N/A ***FY 2024 Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A			
Title: Ka-Band Satellite Communications (Ka-SATCOM) ***Description:*** Ka-band SATCOM upgrade is an effort to replace fielded L-Band SATCOM enhancing BACN voice/data traffic & BACN payload control. The addition of Ka-Band SATCOM provides the BACN weapon system and users substantial increases in operational flexibility to include. These include 4x bandwidth in operation, higher frequency which provides greater interference resiliency over L-Band, allows for simultaneous voice/data traffic as well as BACN payload control, reduces reliance of OCONUS Line of Sight (LOS) payload ground control stations, enables Beyond Line of Site (BLOS) payload control and substantially expands BACN ability to meet warfighter needs in any operational theatres. ***FY 2023 Plans:*** Award development effort to incorporate Ka-Band SATCOM onto the BACN weapon system ***FY 2024 Plans:*** Continue development effort to incorporate Ka-Band SATCOM onto the BACN weapon system, and prepare E-11 fleet for integration activities ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A	26.292	0.000	0.000
Title: Data Links / Gateway Modernization Engineering ***Description:*** Development enhancements required for integration of updated enterprise terminals to the BACN Capability. ***FY 2023 Plans:*** N/A ***FY 2024 Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A	3.161	0.000	0.000
Accomplishments/Planned Programs Subtotals	30.953	0.000	0.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207610F / *Battlefield Abn Comm Node (BACN)*

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. 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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207610F / *Battlefield Abn Comm Node (BACN)*	**Project (Number/Name)** 671201 / *E-11 Development*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MilGPS - 675383	SS/CPAF	NGDS : Wichita, KS	-	-		-		-		-		-	Continuing	Continuing	-
MiLGPS - 671201	SS/CPAF	NGMS : San Diego, CA	-	26.292	Jan 2022	-		-		-		-	Continuing	Continuing	-
		Subtotal	-	26.292		-		-		-		-	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Acquisition Support	Various	Various : Various, MA	-	1.500	Jan 2022	-		-		-		-	Continuing	Continuing	-
		Subtotal	-	1.500		-		-		-		-	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	C/CPAF	Not specified. : TBD	-	0.500	Dec 2021	-		-		-		-	Continuing	Continuing	-
		Subtotal	-	0.500		-		-		-		-	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
BACN A&AS	Various	A&AS : Bedford, MA	-	1.000	Apr 2022	-		-		-		-	Continuing	Continuing	-
MITRE	Various	MITRE : Bedford, MA	-	1.567	Oct 2021	-		-		-		-	Continuing	Continuing	-
Travel	Various	Not specified. : TBD	-	0.094	Oct 2021	-		-		-		-	Continuing	Continuing	-
		Subtotal	-	2.661		-		-		-		-	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207610F / *Battlefield Abn Comm Node (BACN)*	Project (Number/Name) 671201 / *E-11 Development*	

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	30.953		-		-		-		-	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207610F / *Battlefield Abn Comm Node (BACN)*	**Project (Number/Name)** 671201 / *E-11 Development*

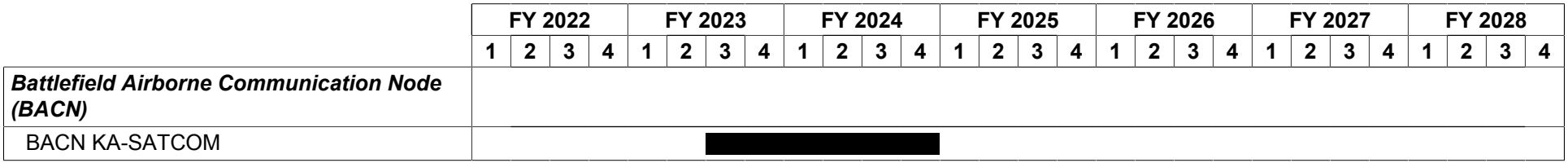

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207610F / *Battlefield Abn Comm Node (BACN)*	**Project (Number/Name)** 671201 / *E-11 Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Battlefield Airborne Communication Node (BACN)				
BACN KA-SATCOM	3	2023	4	2024

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0207697F / *Distributed Training and Exercises*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	3.860	4.624	3.811	0.000	3.811	4.838	4.960	5.061	5.244	Continuing	Continuing
675190: *JFCOM Wargaming*	-	3.860	4.624	3.811	0.000	3.811	4.838	4.960	5.061	5.244	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Funding supports the CSAF Title 10 wargaming efforts to test concepts, capabilities, programming choices, and plans using simulation and other techniques, otherwise known as wargaming. Based on the Department and Air Force direction, there is a concerted effort in these periods of fiscal restraint to reinvigorate, institutionalize, and systematize wargaming across the Department. This effort requires continued funding to maintain the level of effort to most effectively pursue an innovative strategy, avoid operational and technical surprise and make best use of limited resources. The Air Force continues to refine the wargame process and design to better integrate and synergize those efforts in support of the Air Force Strategy, Planning, Programming, Budget, and Execution (SPPBE) process. Specifically, in addition to maintaining a robust Title 10 Wargame series, Global Engagement, servicing Chief of Staff of the Air Force (CSAF) objectives. The HAF Wargaming Enterprise is executing on-call Wargaming in support of the AF/A5/7, the Agile series, along with quick-turning wargame support to the USAF Enterprise Capability Collaboration Team (ECCT) requirements, the Enterprise series, Plan Blue, and to service AF/A5/7 strategy and concept development objectives; all to better address the requirements of the Strategy, Planning, Programming, Budget, and Execution (SPPBE)process and cycles. Additionally, HAF Wargaming provides and coordinates Air Force representation at other Service and Joint wargames as they execute across the department. These efforts are providing decision support to senior Air Force leaders involving investment strategies and develop concepts to best employ U.S. forces in future conflicts.

The Wargame Information Environment (WIE) is a continually evolving system that provides an array of services to game players which enables the accomplishment of game objectives. The backbone of the WIE is GameNet, a deployable, standalone, Local Area Network (LAN) with servers and laptops that host applications to support virtual battlespace collaboration, decision making, three-dimensional visualizations & mapping, and services. Behind these applications are cutting edge technologies and database architectures from both commercial off-the-shelf and government developed software that assures relevance to the wargame. The modeling, simulation, and analysis applications allow participants, adjudicators, and control team members to effectively and efficiently collaborate, make decisions, present those decisions, and execute moves within the wargame; documenting each step in the process. This information capture enables discovery during the wargame and permits postgame analysis. These findings inform portfolio rebalancing exercises, concept and strategy development, and very senior leader decision making.

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 FY2022 $0 was expended for civilian pay expenses in this program element, and in FY2023 $0 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207697F / *Distributed Training and Exercises*	

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	4.007	4.628	4.722	0.000	4.722
Current President's Budget	3.860	4.624	3.811	0.000	3.811
Total Adjustments	-0.147	-0.004	-0.911	0.000	-0.911
• 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	-0.147	-0.004	-0.911	0.000	-0.911

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Develop/ Upgrade Modeling & Simulation (M&S) Tools for Wargaming Information Environment (WIE)	1.560	1.770	1.624	0.000	1.624
Description: Develop air, space and cyber space wargaming specific functionality in existing modeling and simulation and analysis tools and integrate into the latest version of the WIE ***FY 2023 Plans:*** • Continue developing and assimilating state of the art tools that capture consequences of alternative force structures and capabilities employed in wargames to inform Department of the Air Force (DAF) budgeting and programming choices. • Continue to expand and develop the Headquarters USAF (HAF) Wargaming Information Environment (WIE) by integrating the latest technology and tools that will support of a more flexible, robust, and agile wargaming enterprise that is quicker to respond and tailorable for a wider range of wargaming. This will require analysis of the utility and functionality of additional models and analytical tools used in other wargames, and creation of custom interfaces to allow interaction within the WIE (for example, the latest iteration of Air Force Materiel Command's Integrated Sustainment and Wargaming Analysis Toolkit (ISWAT3), which assesses and reports changing logistics and supply levels across wargame moves, battle damage, resupply etc.). • Seek to improve the ease and effectiveness of wargame execution by developing new WIE visualizations and user/ participant interfaces in the FY23 HAF "Title 10" wargame series comprised of Futures Game 23 (FG 23)					

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207697F / *Distributed Training and Exercises*	

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
and Global Engagement 23 (GE 23)—where FG is a high-classification deep-dive into capabilities 15-20 years out and GE is an Ally-informed look at military theater competition between now and that period. ***FY 2024 Base Plans:*** • Continue developing and assimilating state of the art tools that capture consequences of alternative force structures and capabilities employed in wargames to inform Department of the Air Force (DAF) budgeting and programming choices. • Continue to expand and develop the Headquarters USAF (HAF) Wargaming Information Environment (WIE) by integrating the latest technology and tools that will support of a more flexible, robust, and agile wargaming enterprise that is quicker to respond and tailorable for a wider range of wargaming. This will require analysis of the utility and functionality of additional models and analytical tools used in other wargames, and creation of custom interfaces to allow interaction within the WIE (for example, the latest iteration of Air Force Materiel Command's Integrated Sustainment and Wargaming Analysis Toolkit (ISWAT3), which assesses and reports changing logistics and supply levels across wargame moves, battle damage, resupply etc.). • Seek to improve the ease and effectiveness of wargame execution by developing new WIE visualizations and user/ participant interfaces in the FY23 HAF "Title 10" wargame series comprised of Futures Game 24 (FG 24) and Global Engagement 23 (GE 23)—where FG is a high-classification deep-dive into capabilities 15-20 years out and GE is an Ally-informed look at military theater competition between now and that period. ***FY 2024 OCO Plans:*** There are no OCO funds programmed or executed in this PE. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase between FY23 and FY24 is due to escalatory contract labor costs per the terms and conditions on FFP Labor costs.					
Title: Joint Concept Development & Experimentation (JCD&E) Tools ***Description:*** Develop scenarios and data for future synthetic environment that are grounded in truth to support several wargames and mini-wargames. ***FY 2023 Plans:*** • HAF Wargaming will execute FG 23 and GE 23 lead-up events in FY23.	2.300	2.854	2.187	0.000	2.187

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207697F / *Distributed Training and Exercises*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
• HAF Wargaming will continue to design, develop models, research concepts, and conduct workshops for FG 23 and GE 23 including post-game assessment, analysis and reporting. • HAF Wargaming will continue to conduct quick-turn wargames in support of senior leaders as directed including support to other service wargames to ensure Air Force interests are incorporated in a realistic manner. ***FY 2024 Base Plans:*** • HAF Wargaming will execute FG 24 and GE 24 lead-up events in FY24. • HAF Wargaming will continue to design, develop models, research concepts, and conduct workshops for FG 24 and GE 24 including post-game assessment, analysis and reporting. • HAF Wargaming will continue to conduct quick-turn wargames in support of senior leaders as directed including support to other service wargames to ensure Air Force interests are incorporated in a realistic manner. ***FY 2024 OCO Plans:*** There are no OCO funds programmed or executed in this PE. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase between FY23 and FY24 is due to escalatory contract labor costs per the terms and conditions on FFP Labor costs.					
Accomplishments/Planned Programs Subtotals	3.860	4.624	3.811	0.000	3.811

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

In order to achieve an innovative strategy, avoid operational and technical surprise and make best use of limited resources, wargaming requires an evolutionary acquisition approach for every wargame. Contract support is required as wargame and IT specialized expertise resides with industry and is not available organically. The requirements constantly evolve and a challenge to be accurately defined at the outset of the contract; however, we will continue to pursue a firm fixed price (FFP) contract awarded under a full and open competition.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207697F / *Distributed Training and Exercises*	Project (Number/Name) 675190 / *JFCOM Wargaming*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	C/CPAF	Not specified. : TBD	-	-		-		-		-		-	Continuing	Continuing	-
FA7014-19-FA092	Various	AFDW : JBA, MD	-	3.860	Nov 2021	4.624	Apr 2023	3.811	Apr 2024	-		3.811	0.000	12.295	22.084
		Subtotal	-	3.860		4.624		3.811		-		3.811	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	3.860		4.624		3.811		-		3.811	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207697F / *Distributed Training and Exercises*	**Project (Number/Name)** 675190 / *JFCOM Wargaming*

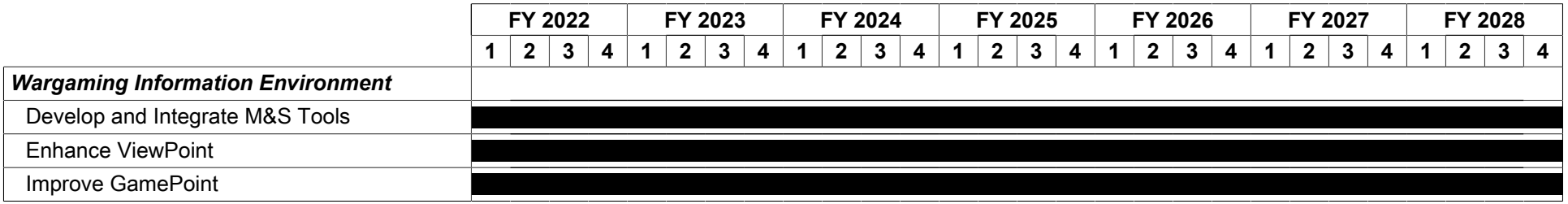

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207697F / *Distributed Training and Exercises*	**Project (Number/Name)** 675190 / *JFCOM Wargaming*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Wargaming Information Environment				
Develop and Integrate M&S Tools	1	2022	4	2028
Enhance ViewPoint	1	2022	4	2028
Improve GamePoint	1	2022	4	2028

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0208006F / *Mission Planning Systems*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	92.956	98.807	96.272	0.000	96.272	94.881	97.247	99.241	102.835	Continuing	Continuing
675302: *Precision Aerial Delivery Systems (PADS)*	0.000	1.865	1.964	2.007	0.000	2.007	2.053	2.103	2.147	2.225	Continuing	Continuing
675380: *Mission Planning Systems (MPS) Modernization*	0.000	91.091	96.843	94.265	0.000	94.265	92.828	95.144	97.094	100.610	Continuing	Continuing
Program MDAP/MAIS Code: 509												

A. Mission Description and Budget Item Justification

Budget line 0208006F funds the Precision Aerial Delivery Systems (PADS) and Mission Planning Systems (MPS) Modernization efforts.

PADS is the primary airdrop mission planning system for all precision guided ballistic airdrop missions when the mission profile or surface-to-air threat assessment warrants a standoff precision delivery. The system enables high-altitude airdrop delivery to forward ground forces while mitigating exposure to surface threats. FY24 PADS efforts consists of the following, but not limited to, software upgrades that will increase accuracy for airdrops and allow for, single pass capability to enhance survivability.

MPS is a computer-based flight planning software and hardware program, it performs an essential task that must be completed prior to any fixed or rotary wing aircraft sortie. MPS technology consists of layered software, designed with open architected standards and modular construction. The software integrates the latest intelligence, weather, weapons, aircraft performance, and real-time threat data into flight management systems. Framework software, the core of the legacy MPS Joint Mission Planning System (JMPS) utilized by the Air Force and the Navy, focuses solely on pre-mission home station operations. JMPS Open Mission System (JOMS) focuses on connected and disconnected planning and execution for home station training as well as deployed and sustained operations.

FY24 funding supports development of planning software to enable new Operational Flight Program (OFP) driven capabilities (e.g., new weapons, avionics, etc.) in platforms. FY24 MPS Modernization efforts consist of the following but not limited to: 1) deploy additional increments of capability for JMPS modernization to production cloud environment and conduct risk reduction development efforts; 2) enhance MAF Survivability by supporting on-aircraft federated mission systems; and 3) update CAF, MAF, SMACC Mission Planning Environments.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver Mission Planning 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 0.910M was expended for civilian pay expenses in this program element, and in FY23 1.061M is forecasted for civilian pay expenses.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0208006F / *Mission Planning Systems*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	96.057	99.214	99.504	0.000	99.504
Current President's Budget	92.956	98.807	96.272	0.000	96.272
Total Adjustments	-3.101	-0.407	-3.232	0.000	-3.232
• 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	-3.101	0.000			
• Other Adjustments	0.000	-0.407	-3.232	0.000	-3.232

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0208006F / *Mission Planning Systems*	Project (Number/Name) 675302 / *Precision Aerial Delivery Systems (PADS)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675302: *Precision Aerial Delivery Systems (PADS)*	0.000	1.865	1.964	2.007	0.000	2.007	2.053	2.103	2.147	2.225	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Budget line 0208006F funds the Joint Precision Airdrop System (JPADS). JPADS is the primary airdrop mission planning system for all precision guided ballistic airdrop missions when the mission profile mission profile or surface-to-air threat assessment warrants a standoff precision delivery. The system enables high-altitude airdrop delivery to forward ground forces, while mitigating exposure to surface threats.

The Consolidated Airdrop Tool (CAT) is the key JPADS-MP software deliverable to enable air drop. JPADS-MP enables JPADS to increase the accuracy of airdrop mission planning by improving aircraft, payload, and chute specific calculations. Future initiatives are designated to achieve automation of airdrop planning and execution to reduce task saturation in the cockpit. These efforts include the ability to automatically receive and use real-time winds in any location, calculate release points, support development of field representative hardware and perform precision airdrops in a single pass.

FY24 funding will provide multiple benefits and increased capabilities to USAF mission planners and the Joint Services, including but not limited to: 1) supporting high-altitude, precise, airdrop delivery of cargo and resources to ground forces while mitigating surface-to-air threats; 2) developing single-pass airdrop capability to enhance survivability; and 3) enabling control of Army developed aerial delivery system.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: JPADS-MP Phase I	1.865	1.964	2.007	0.000	2.007
Description: Funds will be used for the development, integration, and test activities of the JPADS program					
FY 2023 Plans: Activities supported with FY23 funding include, but are not limited to the following: -Will further develop the ability to automatically receive and use real-time winds in any location -Will modernize and further develop release point and airdrop in a single pass calculation -Will improve the ability to conduct real-time objective area analysis to calculate probable damage estimates and execute dynamic re-tasking -Will enhance the ability to conduct post-drop assessments					
FY 2024 Base Plans: Activities will include, but are not limited to the following:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208006F / *Mission Planning Systems*	**Project (Number/Name)** 675302 / *Precision Aerial Delivery Systems (PADS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
-Will further develop the Next-Generation Open Mission Services (NOMS) mission planning evolutions -Will enable further development and quarterly releases of NOMS software -Will test and integrate the single-pass airdrop and real-time objective area analysis capability. ***FY 2024 OCO Plans:*** No OCO requested. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Minor increase due to inflation.					
Accomplishments/Planned Programs Subtotals	1.865	1.964	2.007	0.000	2.007

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 Line Item 833170: *Mission Planning Systems*	14.871	15.688	17.953	-	17.953	18.282	18.655	-	-	Continuing	Continuing

Remarks

No OCO Request FY FY24.

D. Acquisition Strategy

The MPS PADS efforts are developed and fielded using a variety of contracting vehicles. Efforts to accomplish activities such as Scaled Agile Framework (SAFe) software development methodology, systems engineering and integration, training, and support are completed using competitively awarded contracts. Mission Planning utilizes established Government Wide Acquisition Contract (GWAC) ID/IQ schedules, with a larger pool of vendors, to competitively award Task Orders. These vehicles are utilized for the development and fielding of software.

Program Support Costs (PSC) contracts are awarded competitively and consist of various types of contracts at various locations. MITRE, a Federally Funded Research and Development Center (FFRDC) contractor, provides technical support via a no fee for service contract. The Systems Engineering & Integration Contract (SEIC) is a competitively awarded Single Award ID/IQ. Other efforts are accomplished using Purchase Orders (PO) and Military Interdepartmental Purchase Requests (MIPR).

For the efforts listed above, the Air Force Life Cycle Management Center at Hanscom AFB (AFLCMC/HB) is the Contracting Authority and provides contracts, legal, and comptroller support.

Air Force Program Executive Officer (PEO) for Digital is the PEO. Milestone Decision Authority (MDA) is delegated to the Branch Chief.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0208006F / *Mission Planning Systems*	Project (Number/Name) 675302 / *Precision Aerial Delivery Systems (PADS)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	C/T&M	Various : Various	0.000	1.533	Nov 2021	1.214	Nov 2022	1.365	Nov 2023	-		1.365	Continuing	Continuing	-
Systems Engineering and Integration	C/T&M	Leidos, Inc. : Reston, VA	0.000	0.090	Jan 2022	0.482	Jan 2023	0.368	Jan 2024	-		0.368	Continuing	Continuing	-
		Subtotal	0.000	1.623		1.696		1.733		-		1.733	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Cost Estimating	C/T&M	Quantech Services : Lexington, MA	0.000	0.017	Nov 2021	0.018	Nov 2022	0.019	Nov 2023	-		0.019	Continuing	Continuing	-
		Subtotal	0.000	0.017		0.018		0.019		-		0.019	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Responsible Test Organization (RTO)	PO	96CTG : Eglin AFB, FL	0.000	0.225	Dec 2021	0.230	Dec 2022	0.235	Dec 2023	-		0.235	Continuing	Continuing	-
Operational Testing	PO	28TH TEST AND EVAL : Eglin AFB, FL	0.000	-		0.020	Apr 2023	0.020	Apr 2024	-		0.020	Continuing	Continuing	-
		Subtotal	0.000	0.225		0.250		0.255		-		0.255	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	1.865		1.964		2.007		-		2.007	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208006F / *Mission Planning Systems*	**Project (Number/Name)** 675302 / *Precision Aerial Delivery Systems (PADS)*

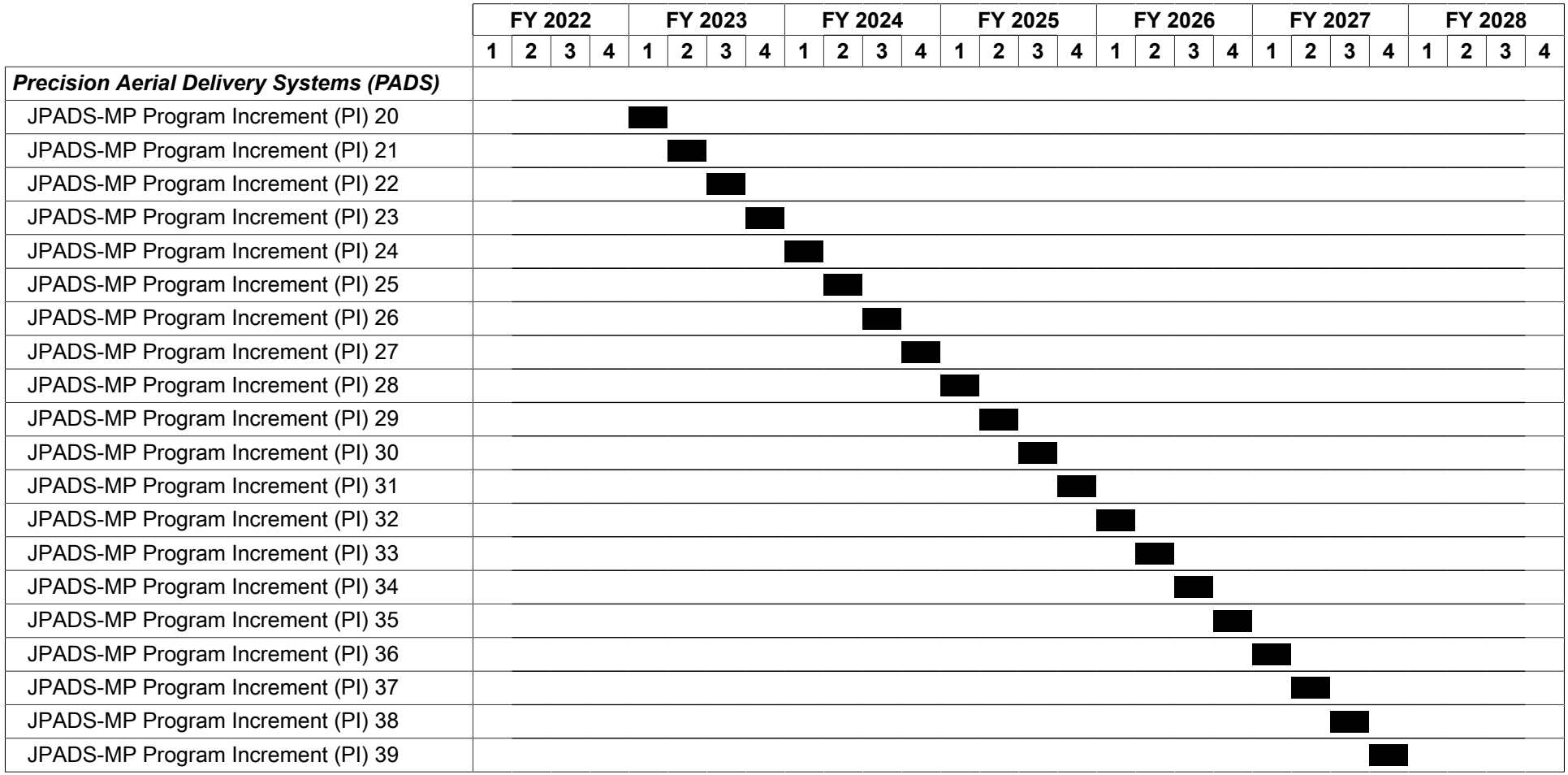

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208006F / *Mission Planning Systems*	**Project (Number/Name)** 675302 / *Precision Aerial Delivery Systems (PADS)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Precision Aerial Delivery Systems (PADS)				
JPADS-MP Program Increment (PI) 20	1	2023	1	2023
JPADS-MP Program Increment (PI) 21	2	2023	2	2023
JPADS-MP Program Increment (PI) 22	3	2023	3	2023
JPADS-MP Program Increment (PI) 23	4	2023	4	2023
JPADS-MP Program Increment (PI) 24	1	2024	1	2024
JPADS-MP Program Increment (PI) 25	2	2024	2	2024
JPADS-MP Program Increment (PI) 26	3	2024	3	2024
JPADS-MP Program Increment (PI) 27	4	2024	4	2024
JPADS-MP Program Increment (PI) 28	1	2025	1	2025
JPADS-MP Program Increment (PI) 29	2	2025	2	2025
JPADS-MP Program Increment (PI) 30	3	2025	3	2025
JPADS-MP Program Increment (PI) 31	4	2025	4	2025
JPADS-MP Program Increment (PI) 32	1	2026	1	2026
JPADS-MP Program Increment (PI) 33	2	2026	2	2026
JPADS-MP Program Increment (PI) 34	3	2026	3	2026
JPADS-MP Program Increment (PI) 35	4	2026	4	2026
JPADS-MP Program Increment (PI) 36	1	2027	1	2027
JPADS-MP Program Increment (PI) 37	2	2027	2	2027
JPADS-MP Program Increment (PI) 38	3	2027	3	2027
JPADS-MP Program Increment (PI) 39	4	2027	4	2027

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0208006F / *Mission Planning Systems*	Project (Number/Name) 675380 / *Mission Planning Systems (MPS) Modernization*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675380: *Mission Planning Systems (MPS) Modernization*	0.000	91.091	96.843	94.265	0.000	94.265	92.828	95.144	97.094	100.610	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Mission Planning is an essential task that must be completed prior to any fixed- or rotary wing aircraft sortie. The planner must have the ability to plan weapon, cargo, passenger, fuel delivery, calculate fuel requirements, and assess the route based on known enemy threat location and type. Mission planners must be able to: optimize and de-conflict flight routes with other aircraft; review, print and brief the plan; download pertinent flight information to on-board aircraft avionics; and conduct dynamic/ in-flight re-planning as applicable. The MPS Modernization project, following a multi-year strategic roadmap to migrate mission planning capabilities as discussed above into a services-based open architecture, focuses on delivering JMPS Open Mission Systems (JOMS) environment for mission planning supporting Combat Air Forces (CAF) and Mobility Air Forces (MAF), which includes the development, test and support of Mission Planning Environments (MPEs) to support combat and mobility aircraft, including the B-1, C-5, C-17, C-130, HC-130, EC-130, E-3, E-8, F-15, F-22A, KC-10, KC-46, KC-135, RC-135, HH-60, 6th generation aircraft, other platforms, as well as training aircraft, Framework (FW) and all Common Component (CCs) software tools for mission requirements. Activities also include studies and analysis to support both current program planning and execution and future program planning. MPS Modernization efforts that support modernizing the system architecture to JOMS are as follows:

1) CAF MPS Modernization: These development efforts modernize CAF Mission Planning Environments (MPEs). The modernization effort will provide new and improved mission planning capability for individual Operational Flight Program (OFP) requirements, such as new weapons, avionics upgrades, communications systems, etc. The OFPs requiring MPE updates under the CAF modernization effort include, but are not limited to, B-1 (Sustainment Blocks 17b, 17c, 18 and 19), F-15 (Suites 9.1, 9.1RR (Re-Release) for Data Transfer Module II (DTMII), 9.2, 10.x/Continuous Development & Integration (CD&I)) and F-22 update Release 3 through 5. CAF modernization also includes updates to mission planning capabilities supporting associated weapons including, but not limited to, Small Diameter Bomb (SDB-II), Joint Direct Attack Munitions (JDAM) and the Joint Air-to-Surface Standoff Missile (JASSM). A key piece of the CAF modernization effort involves interfacing between the CAF platforms and the weapons using tools such as, but not limited to, Universal Armament Interface (UAI) and Mission Planning Certification Tool (MPCT). CAF modernization will address required improvements to CAF related JMPS MPE CCs, including Weapon Planning Software (WPS), Electronic Warfare CC (EWCC), GPS Crypto (including GPS M-code), Weather CC, etc. Finally, CAF modernization also includes development of JOMS' Strike Mission Planning capabilities in collaboration with the Navy's Mission Planning Program Office. CAF MPE Modernization includes, but is not limited to, the following platform efforts:

a. F-15 Modernization Phase II & III: The F-15 Modernization program includes key initiatives on improving/adapting software lethality, survivability, readiness and affordability. Within the framework of Agile Software Cadence, development teams will provide appropriate software Sprints of development, innovation, and new/ or improved capabilities in support of the OFP. Software releases provided within each increment will be utilized by OFP for risk reduction testing. The F-15 OFP will update on a bi-annual release to the field to provide new capabilities to the warfighter. The F-15 Unique Planning Component, segmented into code modules, will change from a JMPS process and transition to use micro-services. These changes position the MPE to migrate to the loosely coupled web-based services and

open standard interfaces of the JMPS Open Mission Systems (JOMS). Multiple software development efforts driven by OFP updates for F-15 Suites 9 will continue as sustainment initiatives until the OFP Common Development Initiative (CDI), removing the nomenclature of OFP Suites is in place. F-15 MPE Agile software initiatives will include, but not limited to, updates for new features in weapons such as Joint Direct Attack Munition (JDAM), Small Diameter Bomb I and II (SDB I and II), AIM-9X, AIM-120D, and Network Enable Weapon support elements (e.g. key handling, weapon data link and Link 16). Software enhancements to synthetic aperture radar planning tools (SAR-PT), global area reference tools, radar modernization updates (e.g. combat identification, radar planning tool enhancements), active warning survivability system(s), Advanced Dual Core Process II (ADCP- II) computer as well as Digital Transfer Device/Modules (DTD/DTM) modernized in support of operational capabilities to the F-15 OFP. The overall end state is a common OFP and one MPE baseline that supports all F-15 models -C, D, E, & EX. The F-15 Modernization program will develop micro services to integrate JOMS into the F-15 MPE.

b. F-22 Modernization Phase II: The F-22 Modernization program consists of multiple software development efforts driven by OFP updates for Releases 3 through 5 as identified by ACC and the operational user plus future OFP releases. These new capabilities improve the F-22's lethality, survivability and tactical communications for the mission with sensor enhancements and updates to Link-16 Transmit, Mode 5 IFF Transmit and Interrogate and various classified projects. The F-22 MPE implements agile software development modernization moving from JMPS to JOMS development. JOMS efforts include creating a common baseline MPE/UPC that any platform can use and a blended MPE product that integrates initial JOMS capabilities into JMPS and generates mission data files in appropriate test jets. F-22 MPE team collaborating alongside USN's and F-35 Joint Program Office's (JPO) mission planning teams to deliver Next-Generation Open Mission System (NOMS) capabilities for Strike platforms. Mission Planning is working on pathfinder/exploratory OFP work that aims to provide pre-flight, dynamic re-planning and reduce the logistics footprint.

c. B-1 Modernization Phase I: The B-1 Modernization program consists of multiple software development efforts driven by OFP updates for Sustainment Blocks 17b, 17c, 8 and 19. It will incrementally deliver the B-1 MPE to increase aircraft mission capabilities, including JASSM and LRASM weapon updates, and incorporate crypto modernization for Link-16 network enabled weapons. Agile software initiatives incorporated to improve software survivability, lethality, and readiness in support of the B-1 OFP and the warfighter. Additionally, B-1 MPE will add improved processing capability 64/128-bit environment, replace the mass storage unit where pre-recorded map and mission data is stored and develop micro services to integrate JOMS into the B-1 MPE.

2) MAF MPS Modernization: efforts further the development of the MPS Agile Global Mobility and Special Mission (GMSM) Program. Initiated as an ACAT III program via ADM in August 2022, the GMSM program combines the MAF and SMACC modernization efforts. The shift to combining the modernization efforts and utilizing common components: 1) enables agile software deliverables; 2) minimizes platform schedule constraints; and 3) reduces platform dependencies within the operational flight program.

a. For Air Mobility Command, the effort will provide new and improved mission planning capability to support C-17, C-130H, C-130J, C-5, KC-135, KC-10 and KC-46 Operational Flight Programs (OFP), Global C2, and AMC fuel efficiency requirements incorporating Mobility Air Forces Automated Flight Planning Service into the deployed squadron mission planning suite. It includes, but is not limited to, enhanced capabilities to accommodate avionics upgrades, precision airdrop improvements for increased combat battlefield airdrop accuracy, improved communications systems, interfaces with command and control systems, and improved weather data ingestion/utilization for various MAF platforms. Development efforts also include, but are not limited to, integrating improvements to MAF related CCs. Examples of these CCs include, but are not limited to, MAF tools, such as Assault Zone CC and the Air Refueling Tool (ART) CC, Consolidated Airdrop Tool (CAT), and the Weather CC.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208006F / *Mission Planning Systems*	**Project (Number/Name)** 675380 / *Mission Planning Systems (MPS) Modernization*

b. For Air Combat Command, efforts related to Special Mission Air Combat Command (SMACC) include development, testing, and fielding of MP software for the E-3, E-8, RC-135 and EC-130. Combat Search and Rescue (CSAR). These efforts provide improved stability performance over the legacy mission planning system through enhanced architecture and baseline development, such as the improved transfer of mission data from the unique planning component to the HC-130J avionics suite and the 12 critical Digital Aeronautical Flight Information Files to integrate onto the smart multifunction color display for the HH-60G, resulting in mature JMPS mission planning environment for both CSAR platforms.

3) MPS Core Mission Planning (CMP) represents the basic core functions of the JMPS Software developed as microservices in a Common Development Environment (CDE) and is the core modernization effort utilizing the JOMS architecture to continuously develop and deploy core mission capabilities. In FY24, the program office will further develop CMP scope following the Software Acquisition and Practices (SWP) Acquisition Pathway. CMP develops and delivers common mission planning capabilities through NOMS infrastructure via incremental JOMS capability releases to Air Force aircraft platforms.

4) Test, Training, and Certification: Continues all MPS-related integration, test, and certification activities for all CAF and MAF platforms.

Program Support: Continues all program office management operations and support activities to ensure the timely development, testing, and delivery of mission planning systems to the warfighter.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: F-15 Modernization Phase II and III	2.975	10.126	9.015	-	9.015
Description: Incorporates and enables use of new lethal and survivable capabilities being developed in the F-15 OFP. Increases readiness and affordability through incremental incorporation of JOMS microservices. ***FY 2023 Plans:*** - Will field MPE enhancements - Will support CD&I and incorporation of EX. - Will begin next generation JOMS mission planning development and integration of JOMS products for creation of an initial ""JOMS Common Baseline MPE/UPC" that can be used by any platform to start development and refine over time for all platform capabilities. ***FY 2024 Base Plans:*** - Will implement Next Generation Open Mission Systems (NOMS)/JMPS Open Mission System (JOMS) software capabilities for a common F-15 OFP baseline (CD&I) that can be tested and flown by the warfighter that provides software survivability in a contested environment and has the flexibility to provide initial re-dynamic Mission Planning in-flight.					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208006F / *Mission Planning Systems*	**Project (Number/Name)** 675380 / *Mission Planning Systems (MPS) Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
- Will support OFP development requirements for JMPS. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Slight decrease due to timing of contract award.					
Title: F-22 Modernization Phase I and II ***Description:*** Incorporates and enables use of new lethal and survivable capabilities being developed in the F-22 OFP, including sensor enhancements, Link 16 Transmit, Mode 5 interrogate and transponder updates, SP1 upgrades, radar updates and pilot display updates. Increases readiness and affordability through incremental incorporation of JOMS microservices. ***FY 2023 Plans:*** - Will complete development, FQT, DT/OT and Field v14.3 sensor enhancements, radar updates and additional Link 16 and SP1 capabilities to support OFP Release 3. - Will begin v14.4 development for mode 5 interrogate/transponder updates and sensor enhancement upgrades to support OFP Release 4. - Will deploy a blended JMPS MPE with next generation JOMS Link 16 services for flight test in a jet. ***FY 2024 Base Plans:*** - Will begin implementation of Next Generation Open Mission Systems (NOMS)/JMPS Open Mission System (JOMS) software capabilities as a prototype for F-22 MPE and OFP. - Will ensure MPE software can be tested and flown by the warfighter that affords software survivability in a contested environment, has the flexibility to provide initial re- dynamic Mission Planning in-flight, and provides lethality and readiness software attributes that increase OFP capability. - Will support OFP development requirements for JMPS. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Minor increase for FY24 required for software technology improvements, implementation, and supporting OFP software requirements.	14.387	9.010	9.690	-	9.690
Title: B-1 Modernization Phase I and II ***Description:*** Continues the modernization of previously fielded B-1 MPEs to enable efficient use of new and improved capabilities being developed in the OFPs. ***FY 2023 Plans:***	12.456	10.051	10.283	-	10.283

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208006F / *Mission Planning Systems*	**Project (Number/Name)** 675380 / *Mission Planning Systems (MPS) Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
- Will continue agile builds/releases (2 per year) to release 12.0.100 and 12.0.200. - Will continue development, FQT, DT/OT and Field Rel 12.0.100 and 12.0.200 to incorporate additional weapon delivery capability as required. - Will continue JOMS incorporation by transitioning appropriate route and weapon planning with the integration of the SPRTA tool into the fielded MPE. ***FY 2024 Base Plans:*** - Will design and implement Next Generation Open Mission Systems (NOMS)/JMPS Open Mission System (JOMS) software capabilities in support of B-1 OFP requirements. - Will ensure software tested and flown by the warfighter, survive in a contested environment, and has the flexibility to provide initial re-dynamic Mission Planning in-flight, and provides lethality and readiness software attribute that increase OFP capability. - Will continue to support OFP development requirements for JMPS. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Minor increase for FY24 required for software technology improvements, implementation, and supporting OFP software requirements.					
Title: MAF Modernization ***Description:*** MAF Modernization has evolved to embrace the tenets of agile development. Specifically, efforts have been combined into the Mission Planning System Agile Global Mobility and Special Mission (GMSM) Program for efficiency across program lines focused on the transition to the Joint Open Mission System (JOMS) architecture. For Air Mobility Command platforms, efforts incorporate improvements to the MAF aircraft through Tactical Airlift Mission Support System (TAMSS) tools, upgraded Link 16 for enhanced situational awareness and evolving employment concepts while continuing the development, testing, and fielding of the Agile Global Mobility (AGM) effort for the modernization of the JMPS Mission Planning Environment (MPE) for the C-5, C-17, C-130, KC-10, KC-135, and KC-46 to account for changes in aircraft Operational Flight Program (OFP) and global command and control as well as operational mission requirements. For Air Combat Command Platforms, efforts continue the modernization of previously fielded mission planning software environments for the E-3, E-8, EC-130, and RC-135. In addition, this effort continues modernization efforts for SMACC CSAR component for the HC-130J and sustainment efforts for the HH-60G helicopters. The GMSM Program is focused on improvements to lethality, survivability, readiness, and affordability across all efforts. Current aircraft OFP changes and evolving MAJCOM employment changes are addressed via agile development with multiple program increments, phase migration of capabilities to the JOMS and migration to the cloud.	14.865	17.762	18.232	-	18.232

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208006F / *Mission Planning Systems*	**Project (Number/Name)** 675380 / *Mission Planning Systems (MPS) Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
FY 2023 Plans: - Will rapidly improve fielded and prototype capabilities and update software design to improve lethality, survivability, readiness, and affordability of the aircraft mission planning and execution software while keeping current with aircraft OFP changes and MAJCOM employment changes. - Will accomplish via agile development with multiple program increments; phase migration of capabilities to the JOMS and migration to the cloud. - Will demonstrate Enterprise Open Mission System service Interoperability for C-17 and KC-46 that will support connected and disconnected mission execution. - Will test and promote JOMS software capability. - Will develop JOMS software release for C2ISR Platforms. Develop and Test s/w features for Global Mobility Platforms (target C-17 / KC-46). ***FY 2024 Base Plans:*** - Will continue to rapidly improve fielded and prototype capabilities and deliver software to improve lethality, survivability, readiness, and affordability of the aircraft mission planning and software execution while keeping current with aircraft OFP changes and MAJCOM employment changes. - Will continue agile development with multiple program increments; phase migration of capabilities to the JOMS and migration to the cloud in higher security levels. - Will demonstrate Enterprise Open Mission System service Interoperability for C-17 and KC-46 that will support connected and disconnected mission execution. - Will test JOMS software release for C2ISR Platforms against RC-135. - Will develop and Test s/w capabilities for Global Mobility Platforms (Target C-17 / KC-46). ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Slight increase due to inflation.					
Title: Special Mission ACC (SMACC) ***Description:*** Continues the modernization of previously fielded mission planning software environments for the E-3, E-8, EC-130, and RC-135. In addition, this effort continues modernization efforts for SMACC CSAR component for the HC-130J and sustainment efforts for the HH-60G helicopters. ***FY 2023 Plans:*** - Will continue agile builds/releases on a six-month cadence to release the final EC-130H, E-3, and E-8 Mission Planning products on the Joint Mission Planning System.	23.570	14.399	14.772	-	14.772

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208006F / *Mission Planning Systems*	**Project (Number/Name)** 675380 / *Mission Planning Systems (MPS) Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
- Will start phase migration to the Next Generation Open Mission System (NOMS) software for the RC-135 mission planning capabilities. Continuous integration will be accomplished via several program increments (PIs) comprising the release. - Will continue agile development via quarterly software releases for the HH-60G helicopter - Will focus on advances in lethality and survivability to the Air Combat Command to maintain the aircraft into 2026 while the replacement HH-60W completes development. - Will support the mission planning upgrade for the HC-130J fleet. - Will collaborate with MAJCOM will continue to assess CSAR operational Mission Planning requirements for a highly contested environment. ***FY 2024 Base Plans:*** - Will develop Common applications on an open mission system will to promote survivability, affordability, and readiness for the users by being available in both contested and non-contested environment in multiple mediums. - Will continue the work in developing intelligence, surveillance and reconnaissance (ISR) application capabilities to support the conversion of the SMACC platforms to the Next Generation Open Mission System (NOMS) software. - Will develop software to address the requirements conveyed by the NOMS Solution Team in support of the enterprise roadmap to maximize efficiency. - Will begin development on the E-7 mission planning software, the aircraft replacing the legacy AWACS E-3/ E-8. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Slight increase due to inflation.					
Title: MPS Core Mission Planning (CMP) ***Description:*** MPS Core Mission Planning, is the set of Mission Planning services that all platforms and common capabilities utilize on an open system software architecture. It provides the core services utilized by both MAF and CAF platforms to include transit route planning, weather services and airfield data. MPS CMP includes the infrastructure and interfaces required to be integrated into the various platforms and weapons systems as well as addresses data access, services, integrity and real-time operational communication. ***FY 2023 Plans:***	22.838	35.495	32.273	-	32.273

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208006F / *Mission Planning Systems*	**Project (Number/Name)** 675380 / *Mission Planning Systems (MPS) Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
- Will increase CMP development and deployment of services, modernizing from legacy development to micro-services in an Open Mission System/ Service Oriented Architecture environment and improving quality, security, and automation of data supplied to mission planning systems - reducing dependency on legacy functions - Will identify DAF Data Fabric Solution path to ensure interoperable data across the services. Deployments will include additional capability releases of route planning functionality, for 4th and 5th generation platforms providing multi-ship planning to accommodate collaborative planning functionality. ***FY 2024 Base Plans:*** - Will deploy the majority of open mission system/service oriented architecture environment of micro-services to the user community with continue development of microservices. - Will continue development of cloud based services including a mobile environment with development of C2 links and real time readiness reporting tools for aircraft user supporting in-flight dynamic mission re-planning. - Will explore and demonstrate enablers for dynamic mission replanning to support Agile Combat Employment in a disconnected and contested environment. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Minor decrease due to last year of the contract.					
Accomplishments/Planned Programs Subtotals	91.091	96.843	94.265	-	94.265

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 Line Item 833170: *Mission Planning Systems*	13.903	13.947	17.078	-	17.078	18.463	18.851	19.511	19.926	Continuing	Continuing

Remarks

D. Acquisition Strategy

MPS Modernization consists of multiple capability upgrades across multiple platforms that are developed and fielded using a variety of contracting instruments. Air Force Life Cycle Management Center at Hanscom AFB (AFLCMC/HB) Mission Planning utilizes established Government Wide Acquisition Contract (GWAC) ID/IQ schedules, with a larger pool of vendors, to competitively award Task Orders. These vehicles are utilized for the development and fielding of software.

Program Support Costs (PSC) contracts are awarded competitively and consist of various types of contracts at various locations. MITRE, a Federally Funded Research and Development Center (FFRDC) contractor provides technical support on a no fee for service contract.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208006F / *Mission Planning Systems*	**Project (Number/Name)** 675380 / *Mission Planning Systems (MPS) Modernization*

The Systems Engineering & Integration Contract (SEIC) is a competitively awarded single award ID/IQ. Other efforts are accomplished via Purchase Orders (PO) and Military Interdepartmental Purchase Requests (MIPR).

For the efforts listed above, the Air Force Life Cycle Management Center at Hanscom AFB (AFLCMC/HB) provides the program management, contracts, legal, and financial management support.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208006F / *Mission Planning Systems*	**Project (Number/Name)** 675380 / *Mission Planning Systems (MPS) Modernization*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Mission Planning Software Development	C/Various	Various : Various	0.000	26.326	Nov 2021	27.767	Nov 2022	23.423	Nov 2023	-		23.423	Continuing	Continuing	-
EC-130H Modernization	PO	Organic : Robins AFB, GA	0.000	0.702	Jan 2022	0.902	Jan 2023	0.929	Jan 2024	-		0.929	Continuing	Continuing	-
SMACC CSAR Tools	MIPR	Various : Various	0.000	0.544	Jan 2022	0.560	Jan 2023	0.581	Jan 2024	-		0.581	Continuing	Continuing	-
Digital Flight Scheduling (PUCKBOARD)	C/T&M	RevaComm : Honolulu, HI	0.000	3.500	May 2022	-		-		-		-	0.000	3.500	-
Systems Engineering and Integration	C/T&M	Leidos, Inc. : Reston, VA	0.000	13.262	Jan 2022	16.558	Jan 2023	16.785	Jan 2024	-		16.785	Continuing	Continuing	-
Framework	C/T&M	Northrop Grumman : Herndon, VA	0.000	21.533	Jan 2022	31.962	Jan 2023	33.079	Jan 2024	-		33.079	Continuing	Continuing	-
Common Components	C/Various	Various : Various	0.000	14.396	Nov 2021	7.883	Nov 2022	8.120	Nov 2023	-		8.120	Continuing	Continuing	-
		Subtotal	0.000	80.263		85.632		82.917		-		82.917	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Engineering	C/T&M	SEI : Pittsburgh, PA	0.000	-		-		-		-		-	0.000	0.000	0.080
Cost Estimating	C/T&M	Tecolote Inc : Goleta, CA	0.000	0.164	Nov 2021	0.184	Nov 2022	0.202	Nov 2023	-		0.202	Continuing	Continuing	-
		Subtotal	0.000	0.164		0.184		0.202		-		0.202	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Responsible Test Organization (RTO)	PO	96CTG : Eglin AFB, FL	0.000	4.943	Dec 2021	5.702	Dec 2022	5.698	Dec 2023	-		5.698	Continuing	Continuing	-
Certification and Accreditation	MIPR	JITC : Fort Huachuca, AZ	0.000	0.094	Feb 2022	0.050	Feb 2023	0.050	Feb 2024	-		0.050	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208006F / *Mission Planning Systems*	**Project (Number/Name)** 675380 / *Mission Planning Systems (MPS) Modernization*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Testing	PO	28TH TEST AND EVAL : Eglin AFB, FL	0.000	-		0.180	Apr 2023	0.186	Apr 2024	-		0.186	Continuing	Continuing	-
Type I Training	PO	96CTG : Eglin AFB, FL	0.000	2.149	Jul 2022	1.579	Jul 2023	1.611	Jul 2024	-		1.611	Continuing	Continuing	-
Field Representative Hardware	C/Various	Various : Various	0.000	0.453	Nov 2021	0.468	Nov 2022	0.482	Nov 2023	-		0.482	Continuing	Continuing	-
		Subtotal	0.000	7.639		7.979		8.027		-		8.027	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering and Technical Support	RO	MITRE Corp : Bedford, MA	0.000	3.025	Oct 2021	3.048	Oct 2022	3.119	Oct 2023	-		3.119	Continuing	Continuing	-
		Subtotal	0.000	3.025		3.048		3.119		-		3.119	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	91.091		96.843		94.265		-		94.265	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208006F / *Mission Planning Systems*	**Project (Number/Name)** 675380 / *Mission Planning Systems (MPS) Modernization*

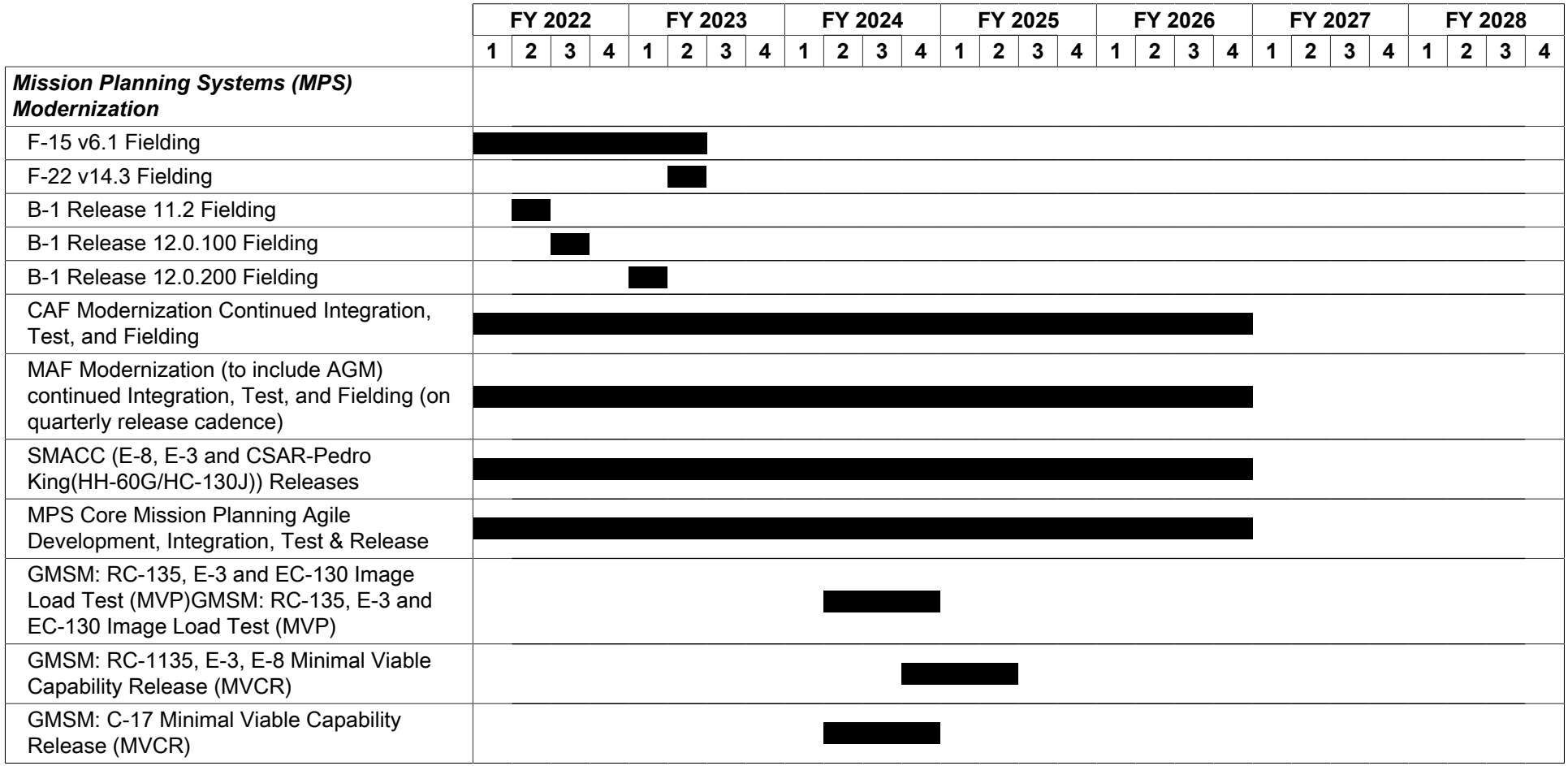

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208006F / *Mission Planning Systems*	**Project (Number/Name)** 675380 / *Mission Planning Systems (MPS) Modernization*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Mission Planning Systems (MPS) Modernization				
F-15 v6.1 Fielding	1	2022	2	2023
F-22 v14.3 Fielding	2	2023	2	2023
B-1 Release 11.2 Fielding	2	2022	2	2022
B-1 Release 12.0.100 Fielding	3	2022	3	2022
B-1 Release 12.0.200 Fielding	1	2023	1	2023
CAF Modernization Continued Integration, Test, and Fielding	1	2022	4	2026
MAF Modernization (to include AGM) continued Integration, Test, and Fielding (on quarterly release cadence)	1	2022	4	2026
SMACC (E-8, E-3 and CSAR-Pedro King(HH-60G/HC-130J)) Releases	1	2022	4	2026
MPS Core Mission Planning Agile Development, Integration, Test & Release	1	2022	4	2026
GMSM: RC-135, E-3 and EC-130 Image Load Test (MVP)GMSM: RC-135, E-3 and EC-130 Image Load Test (MVP)	2	2024	4	2024
GMSM: RC-1135, E-3, E-8 Minimal Viable Capability Release (MVCR)	4	2024	2	2025
GMSM: C-17 Minimal Viable Capability Release (MVCR)	2	2024	4	2024

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0208007F / *Tactical Deception*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	13.812	34.574	26.533	0.000	26.533	0.538	0.552	0.562	0.583	Continuing	Continuing
674550: *Air Base Resiliency*	-	13.812	34.574	26.533	0.000	26.533	0.538	0.552	0.562	0.583	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Military Deceptions mission is to execute actions to deliberately mislead adversary military, paramilitary, or violent extremist organization decision makers, thereby causing the adversary to take specific actions (or inactions) that will contribute to the accomplishment of the friendly mission.
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 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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	14.338	17.074	26.473	0.000	26.473
Current President's Budget	13.812	34.574	26.533	0.000	26.533
Total Adjustments	-0.526	17.500	0.060	0.000	0.060
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	17.500			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.526	0.000			
• Other Adjustments	0.000	0.000	0.060	0.000	0.060

Change Summary Explanation

$17.5M added in FY23 for radar modeling and asset signature modification work

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Non-Kinetic Air Base Defense	13.812	34.574	26.533

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0208007F / *Tactical Deception*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Provide non-kinetic air base defense capabilities to include military and civilian personnel to support planning, concept development, experimentation, and operational employment of emerging air base defense capabilities. ***FY 2023 Plans:*** Continuing non-kinetic Air Base Defense development, testing, and operational support ***FY 2024 Plans:*** Continuing non-kinetic Air Base Defense development, testing, and operational support ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding decreased due to decreased requirements			
Accomplishments/Planned Programs Subtotals	13.812	34.574	26.533

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

The level of classification of certain efforts prevents complete disclosure of activities being acquired and tested under this funding line. Additional details can be provided via an appropriate classification system.

E. Acquisition Strategy

Current acquisition strategy was approved by leadership in April 22. The strategy that laid out the plan for a Sole Source Radar Modeling effort and a Limited Selection TMRR Contract. Both contracts will have Base CLINS that will be funded using FY22 3600 and Pre-priced CLINs that will be options to execute using FY23 funds.

Future acquisition strategy for FY23 and beyond has serval options the team is willing to work in parallel. We will look at the possibility of sole source contracts, the utilization of AFLCMC/XA MS&A IDIQ, or standing up our own MAC IDIQ. RFIs and Market research will help us align with the correct contract type to technical content. The team will have periodic re-assessments to make sure all decisions are for the good of the program and funding type.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0208007F / *Tactical Deception*	Project (Number/Name) 674550 / *Air Base Resiliency*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	C/CPAF	Not specified. : TBD	-	-		-		-		-		-	Continuing	Continuing	-
Non-Kinetic Air Base Defense Development	TBD	Various : TBD	-	0.000	Mar 2022	3.800	Jan 2023	3.873	Jan 2024	-		3.873	Continuing	Continuing	-
TMRR Contract (XA)	C/CPFF	Various : AL	-	5.200	Sep 2022	9.000	Jan 2023	0.000		-		0.000	Continuing	Continuing	-
Radar Modeling (XA)	SS/CPFF	ARA : Los Angeles, CA	-	6.092	Sep 2022	0.000	Mar 2023	0.000		-		0.000	Continuing	Continuing	-
Prototype IDIQ	C/CPFF	Various : TBD	-	0.000		1.524	Jul 2023	15.060	Jan 2024	-		15.060	Continuing	Continuing	-
Prototype (BG/SHO)	C/TBD	Various : TBD	-	0.000		12.000	Jan 2023	5.000	Jan 2024	-		5.000	Continuing	Continuing	-
		Subtotal	-	11.292		26.324		23.933		-		23.933	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Site Improvement	MIPR	Chicken Little : Eglin AFB, FL	-	0.860	Aug 2022	2.500	Jan 2023	-		-		-	0.000	3.360	-
JCTD	MIPR	Army ERDC : Vicksburg, MS	-	-		0.700	Jan 2023	0.500	Jan 2024	-		0.500	Continuing	Continuing	-
CAIAC Study	MIPR	Various : TBD	-	0.370	Sep 2022	1.250	Jan 2023	-		-		-	0.000	1.620	-
SIBR Tax	TBD	Tax : TBD	-	0.526		-		-		-		-	Continuing	Continuing	-
		Subtotal	-	1.756		4.450		0.500		-		0.500	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	MIPR	Chicken Little : Eglin AFB, FL	-	0.164	Sep 2022	2.300	Jan 2023	1.000	Jan 2024	-		1.000	Continuing	Continuing	-
		Subtotal	-	0.164		2.300		1.000		-		1.000	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0208007F / *Tactical Deception*	Project (Number/Name) 674550 / *Air Base Resiliency*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Services	C/FPIF	MTSI : TBD	-	0.600	Sep 2022	1.500	Jan 2023	1.100	Jan 2024	-		1.100	Continuing	Continuing	-
		Subtotal	-	0.600		1.500		1.100		-		1.100	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	13.812		34.574		26.533		-		26.533	Continuing	Continuing	N/A

Remarks

We are working on finalizing several contracts from the FY22 Congressional Adds and planning out expenditures to develop technologies supporting this portfolio. As we finalize plans the contracts will be added.

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208007F / *Tactical Deception*	**Project (Number/Name)** 674550 / *Air Base Resiliency*

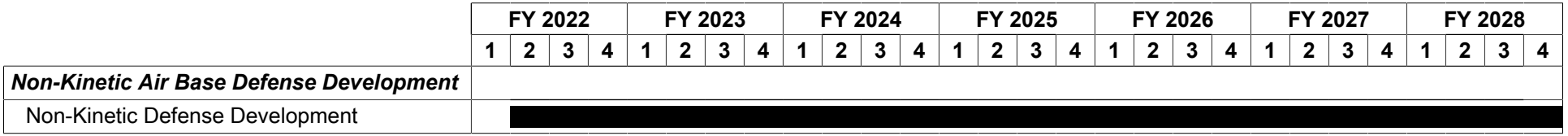

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208007F / *Tactical Deception*	**Project (Number/Name)** 674550 / *Air Base Resiliency*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Non-Kinetic Air Base Defense Development				
Non-Kinetic Defense Development	2	2022	4	2028

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0208064F / *OPERATIONAL HQ - CYBER*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	2.037	14.347	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.384
676002: *Cyber Systems Modernization*	-	2.037	14.347	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.384
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2023, Project 676002, (Cyber Systems Modernization) was completed.

A. Mission Description and Budget Item Justification

Cyber Command and Control Mission System [C3MS] Mission Description: Provides the AFCYBER Commander with the tools necessary to effectively and efficiently plan, monitor, and execute missions in the cyber domain. This includes development and dissemination of Cyberspace Tasking Orders to ensure commander's intent is supported through the application of cyber forces using the latest intelligence. C3MS provides a common operational picture to maintain cyberspace threat activities and integrates cyberspace indications and warnings, analysis, and other actionable intelligence products into overall situational awareness, planning, and execution.

C3MS capabilities will fully transition to Joint Cyber Command and Control [JCC2]. All efforts support continuous development with focus on interoperability and integration into JCC2. C3MS will continue modernization efforts based on a backlog of validated requirements to automate battle management capabilities and provide comprehensive cyber situational awareness. Developmental Activities include: machine-to-machine interfaces to dynamically interoperate with Air Operations Center [AOC] systems, enabling the 616 OC to conduct Command and Control [C2] and Situational Awareness [SA] at the operational level, publish AF Cyber Tasking Orders [CTOs], and quickly facilitate collaboration and mutual situational awareness; capabilities to present weapon system operators with near-real-time force location, mission, effect, and linked information, including a standardized, dynamic, map-based, situational awareness interface to display, manipulate, and manage units, missions, network elements, and effects; and multi-level security capabilities to support full-spectrum operations.

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 $0.000M was expended for civilian pay expenses in this program element, and in FY23 $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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0208064F / *OPERATIONAL HQ - CYBER*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	2.115	2.347	15.100	0.000	15.100
Current President's Budget	2.037	14.347	0.000	0.000	0.000
Total Adjustments	-0.078	12.000	-15.100	0.000	-15.100
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	12.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.078	0.000			
• Other Adjustments	0.000	0.000	-15.100	0.000	-15.100

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 676002: *Cyber Systems Modernization*		
Congressional Add: *Command and Control of the Information Environment*	-	12.000
Congressional Add Subtotals for Project: 676002	-	12.000
Congressional Add Totals for all Projects	-	12.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Cyber Command and Control Mission System [C3MS] Modernization	2.037	2.347	0.000
Description: Perform development activities to automate processes and ingest & visualize data in support of Air Force specific cyber command and control requirements. Funding includes agile/continuous software development, test, and evaluation.			
FY 2023 Plans: - Develop automated battle management processes to define and provide cyber situational awareness to improve Air Force cyber command and control. - Develop multi-level security capabilities. - Develop machine-to-machine interface to dynamically interoperate with Air Operations Center [AOC] systems. - Develop system interoperability and integration into JCC2			
FY 2024 Plans:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0208064F / *OPERATIONAL HQ - CYBER*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding decreased due to completion of this thrust.			
Accomplishments/Planned Programs Subtotals	2.037	2.347	0.000

	FY 2022	FY 2023
Congressional Add: Command and Control of the Information Environment	-	12.000
FY 2023 Plans: Next Generation Architecture - Execute accreditation activities to gain authorization to implement production instances in multi-domain environments (JWICS, SIPR, NIPR) - Migrate on-premises primary environment to Cloud and instantiate JWICS environment with additional work for full production deployment - Initiate, investigate, and scope effort necessary to refactor existing architecture to cloud native form Mis/Disinformation / Non-Lethal Integration - Integrate Cyber/Cyber terrain data to inform non-lethal targeting - Integrate Security Cooperation Engagement data to enable country-level campaigning and target-audience messaging efforts - Identify, develop, and implement technologies applicable to mis/disinformation Joint Assessments - Expand current effort with Joint Staff J5 to develop requirements and implement capabilities supporting global campaign assessments - Identify, scope, and create an interface to ingest additional intelligence and raw reporting information to assist in qualification and measurement during assessments - Discover features to support campaign planning based on assessments generated within C2IE		
Congressional Adds Subtotals	-	12.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0208064F / *OPERATIONAL HQ - CYBER*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 834320: *C3 Countermeasures*	4.882	8.417	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	13.299

Remarks

E. Acquisition Strategy

The Cyber Command and Control Mission System (C3MS) weapon system program office will lead development of new capabilities to provide automated battle management capabilities to plan, monitor, and execute missions in the cyber domain. The program office will develop solutions based on a backlog of validated requirements. To meet these requirements, the C3MS program office will utilize various contractual vehicles when necessary, such as Government-Wide Acquisition Contract, Solutions for Enterprise-Wide Procurement IV, and General Services Administration Federal Supply Schedules, Network-Centric Solutions, Responsive Cyber Indefinite Delivery/Indefinite Quantity (IDIQ), Blanket Ordering Agreements (BOA) and competitive contract (if required). The use of multiple-award contractual vehicles will provide a wide range of commercially-available products and services that will be able to meet emerging requirements related to Air Force Cyber Command and Control.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208064F / *OPERATIONAL HQ - CYBER*	**Project (Number/Name)** 676002 / *Cyber Systems Modernization*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C3MS Software Development	Various	Multiple : Various	-	1.315	Feb 2022	2.294	Feb 2023	0.000	Feb 2024	-		0.000	0.000	3.609	-
Congressional Add: Command and Control of the Information Environment	TBD	TBD : TBD	-	-		12.000	May 2023	-		-		-	0.000	12.000	-
		Subtotal	-	1.315		14.294		0.000		-		0.000	0.000	15.609	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C3MS Software Test and Evaluation	Various	Multiple : Various	-	0.722	Oct 2021	0.053	Oct 2022	-		-		-	0.000	0.775	-
		Subtotal	-	0.722		0.053		-		-		-	0.000	0.775	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	2.037		14.347		0.000		-		0.000	0.000	16.384	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208064F / *OPERATIONAL HQ - CYBER*	**Project (Number/Name)** 676002 / *Cyber Systems Modernization*

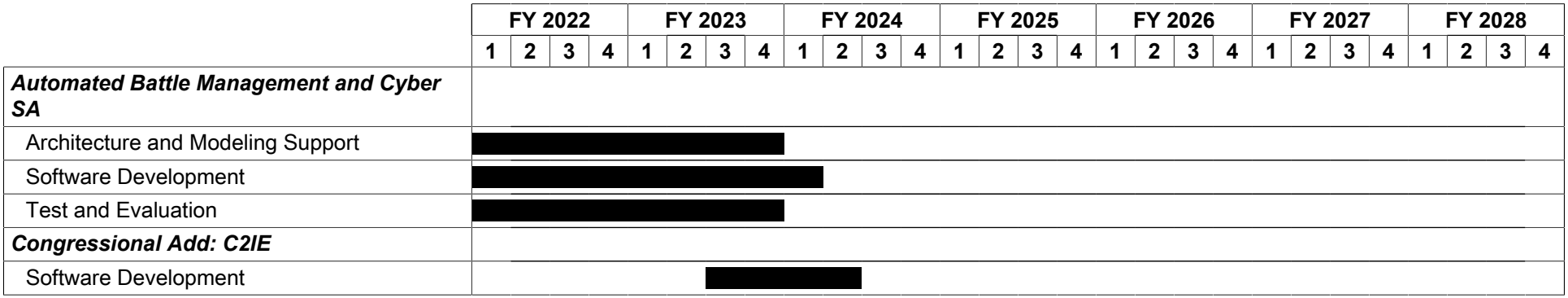

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208064F / *OPERATIONAL HQ - CYBER*	**Project (Number/Name)** 676002 / *Cyber Systems Modernization*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Automated Battle Management and Cyber SA				
Architecture and Modeling Support	1	2022	4	2023
Software Development	1	2022	1	2024
Test and Evaluation	1	2022	4	2023
Congressional Add: C2IE				
Software Development	3	2023	2	2024

Note

FY23 C3MS development contract period of performance ends 1Q FY24.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force												Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0208087F / *Distributed Cyber Warfare Operations*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	68.152	76.425	50.122	0.000	50.122	24.521	27.111	27.664	28.666	Continuing	Continuing
674543: *AF Offensive Cyber Operations*	-	68.152	76.425	50.122	0.000	50.122	24.521	27.111	27.664	28.666	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2024, 36.480M from PE 0208087F, Distributed Cyber Warfare Operations, Project 674543, AF Offensive Cyber Operations efforts for foundational tools were transferred to PE 0306250JCY, Cyber Operations Technology Support, Project CY06, Cyber Weapons/Tools:AF Payloads, in order to satisfy Congressional requirements in the FY22 NDAA, Section 1507, transferring responsibilities for the planning, programming, budgeting, and execution of the resources to USCYBERCOM.

A. Mission Description and Budget Item Justification

Distributed Cyber Warfare Operations (DCWO) conducts Research, Development, Testing and Evaluation (RDT&E) leading to operations-ready cyberspace superiority capabilities including the transition of efforts from laboratory, industry, and academia via studies, accelerated prototyping, and technology demonstrations. DCWO consists of a portfolio of programs and projects providing offensive cyberspace capabilities. DCWO effectiveness comes from balancing acquisition-related RDT&E efforts within four Air Force capability areas required for cyber warfare operations: Platform, Access, Infrastructure, and Payloads/Weapons. The DCWO portfolio fields these products and services across multiple mission areas to deliver cyber effects in support of Combatant Commanders. Platform solutions provide user interface, controls, and channels; Access and Infrastructure solutions provide connectivity; and Payloads solutions provide cyber tools in support of offensive cyber operations (OCO).

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 0.300M was expended for civilian pay expenses in this program element, and in FY23 3.431M is forecasted for civilian pay expenses in this program element.

In FY 2024, 36.480 million from PE 0208087F, Distributed Cyber Warfare Operations, Project 674543, AF Offensive Cyber Operations efforts for foundational tools were transferred to PE 0306250JCY, Cyber Operations Technology Support, Project CY06, Cyber Weapons/Tools:AF Payloads, in order to satisfy Congressional requirements in the FY22 NDAA, Section 1507, transferring responsibilities for the planning, programming, budgeting, and execution of the resources to USCYBERCOM.

The FY24 funding request was reduced by 4.300 million to account for the availability of prior year execution balances.

FY23 funding was reduced by 0.167 million for Federally Funded Research and Development Center (FFRDC) costs.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0208087F / *Distributed Cyber Warfare Operations*

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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	72.487	76.592	37.199	0.000	37.199
Current President's Budget	68.152	76.425	50.122	0.000	50.122
Total Adjustments	-4.335	-0.167	12.923	0.000	12.923
• 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	-2.000	0.000			
• SBIR/STTR Transfer	-2.335	0.000			
• Other Adjustments	0.000	-0.167	12.923	0.000	12.923

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: AF Cyber Mission Platform (CMP)	16.767	11.170	9.263

Description: Platform capabilities primarily consist of the USAF Cyber Mission Platform (CMP) program. CMP is an ACAT III program of record that provides a modular, configurable framework for cyberspace operations. The CMP framework is currently being applied to offensive cyber operations and may also be applied to defensive cyber operations in the future as prioritized by CMP stakeholders. CMP uses an Agile acquisition strategy that allows the USAF to dynamically prioritize the delivery of operational capabilities. The CMP program develops capability enhancements on a regular cadence and delivers them to operations based on operational need and acceptance timelines. The program office will posture to work RDT&E efforts on core CMP capabilities until the USCYBERCOM Joint Cyber Access Platform (JCAP) is fielded for operations. Moreover, the program office will continue to conduct DCWO development activities to integrate unique, Air Force-specific, platform-related capabilities in support of cyber missions. Relevant components of the former Converging Universal Battlespace Enabler (CUBE) architecture will continue as required by DCWO customers.

FY 2023 Plans:
- Continue CMP enhancements to satisfy prioritized requirements from USAF Distributed Cyber Warfare Operations (DCWO) operational customers.
- Continue to execute a continuous delivery program.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0208087F / *Distributed Cyber Warfare Operations*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Decompose the Converging Universal Battlespace Enabler (CUBE) architecture into more flexible and manageable modular components to better support multiple DCWO customers and their associated missions. ***FY 2024 Plans:*** - Will continue CMP enhancements to satisfy prioritized requirements from USAF Distributed Cyber Warfare Operations (DCWO) operational customers. - Will continue to execute a continuous delivery program. - Will decompose the Converging Universal Battlespace Enabler (CUBE) architecture into more flexible and manageable modular components to better support multiple DCWO customers and their associated missions. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Decrease due to reduced development work on CMP in anticipation of moving to JCAP.			
Title: Access/Infrastructure ***Description:*** Access and Infrastructure capabilities provide connectivity and required infrastructure to conduct offensive cyberspace operations (OCO). USAF OCO access and infrastructure solutions are developed and fielded through the DCWO program office and also leverage industry and other Government/non-Government mission partner applications and programs. Hydra was changed to Spectral Raptor in FY24. ***FY 2023 Plans:*** - Continue to develop and field Air Force-unique connectivity and required infrastructure across multiple spectrums leveraging industry and other Government/non-Government mission partner applications and programs. - Continue to develop and transition Offensive Cyber Operations (OCO) quick reaction capabilities for next-generation DCWO weapon system supporting requirements from OCO missions. ***FY 2024 Plans:*** - Will continue to develop and field Air Force-unique connectivity and required infrastructure across multiple spectrums leveraging industry and other Government/non-Government mission partner applications and programs. - Will continue to develop and transition Offensive Cyber Operations (OCO) quick reaction capabilities for next-generation DCWO weapon system supporting requirements from OCO missions. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due incorporation of additional Spectral Raptor program requirements, to include consolidation of disparate technical baselines, and additional support to AF offensive cyber data analytics.	14.574	21.602	40.859
Title: Payloads	36.811	43.653	0.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0208087F / *Distributed Cyber Warfare Operations*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Payloads and Weapons capabilities consist of cyber tools and payloads leveraging industry and other Government/non-Government mission partner-developed applications and programs. In FY 2024, 36.480M from PE 0208087F, Distributed Cyber Warfare Operations, Project 674543, AF Offensive Cyber Operations efforts for foundational tools were transferred to PE 0306250JCY, Cyber Operations Technology Support, Project CY06, Cyber Weapons/Tools:AF Payloads, in order to satisfy Congressional requirements in the FY22 NDAA, Section 1507, transferring responsibilities for the planning, programming, budgeting, and execution of the resources to USCYBERCOM. Payloads - Neptune Rumble was changed to Payloads in FY23. ***FY 2023 Plans:*** - Continue the development of cyber tools and exploits by leveraging industry and other government/non-Government mission partnered developed applications and programs. - Continue to expand USCYBERCOM-funded efforts to produce prioritized family of foundational tools. ***FY 2024 Plans:*** In FY 2024, 36.480M from PE 0208087F, Distributed Cyber Warfare Operations, Project 674543, AF Offensive Cyber Operations efforts for foundational tools were transferred to PE 0306250JCY, Cyber Operations Technology Support, Project CY06, Cyber Weapons/Tools:AF Payloads, in order to satisfy Congressional requirements in the FY22 NDAA, Section 1507, transferring responsibilities for the planning, programming, budgeting, and execution of the resources to USCYBERCOM. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Decrease due to funds being transferred to USCC under Enhanced Budget Control.			
Accomplishments/Planned Programs Subtotals	68.152	76.425	50.122

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 834320: *C3 Countermeasures*	16.848	29.051	30.671	-	30.671	12.068	2.885	2.961	3.020	0.000	97.504

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0208087F / *Distributed Cyber Warfare Operations*

E. Acquisition Strategy

The Distributed Cyber Warfare Operations program office will utilize Concept, Development, Risk Management, Production, or Deployment Plans as part of a streamlined approach to acquisition planning. All plans will contain sufficient information for the Milestone Decision Authority (MDA) to determine readiness to enter into the applicable phase of the acquisition process. Distributed Cyber Warfare Operations will utilize both new and existing contractual vehicles, such as Government-Wide Acquisition Contract (GWAC) vehicles (Alliant, Encore II, Solutions for Enterprise-Wide Procurement IV (SEWP IV)), and General Services Administration (GSA) Federal Supply Schedules and a Cyber Indefinite Delivery Indefinite Quantity (IDIQ) contract. The use of multiple-award contractual vehicles will provide a wide range of commercially-available products and services that should be able to meet many requirements related to Offensive Cyberspace Operations. These multiple-award contractual vehicles have already met the statutory requirements of the Competition in Contracting Act (CICA), which requires a fair opportunity to all contract holders, in accordance with Federal Acquisition Regulation (FAR) 16.505, unless an exception to fair opportunity applies.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208087F / *Distributed Cyber Warfare Operations*	**Project (Number/Name)** 674543 / *AF Offensive Cyber Operations*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Platform Development	Various	Various : Various	-	12.500	Nov 2021	7.640	Nov 2022	7.921	Nov 2023	-		7.921	Continuing	Continuing	-
Access Development	Various	Various : Various	-	11.476	Nov 2021	18.025	Nov 2022	27.661	Nov 2023	-		27.661	Continuing	Continuing	-
Payload Development	Various	Various : Various	-	30.920	Nov 2021	36.020	Nov 2022	0.000		-		0.000	Continuing	Continuing	-
		Subtotal	-	54.896		61.685		35.582		-		35.582	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DCA - AF Offensive Cyber Operations Development	Allot	USAF : Hanscom AFB, MA	-	0.494	Oct 2021	2.400	Oct 2022	2.200	Oct 2023	-		2.200	Continuing	Continuing	-
		Subtotal	-	0.494		2.400		2.200		-		2.200	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	PO	47 CTS : San Antonio, TX	-	3.100	Dec 2021	2.827	Dec 2022	2.590	Dec 2023	-		2.590	Continuing	Continuing	-
		Subtotal	-	3.100		2.827		2.590		-		2.590	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PSC - Acquisition Support (Various)	Various	Various : San Antonio, TX	-	9.662	Nov 2021	9.513	Nov 2022	9.750	Nov 2023	-		9.750	Continuing	Continuing	-
		Subtotal	-	9.662		9.513		9.750		-		9.750	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0208087F / *Distributed Cyber Warfare Operations*	Project (Number/Name) 674543 / *AF Offensive Cyber Operations*	

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	68.152		76.425		50.122		-		50.122	Continuing	Continuing	N/A

Remarks

In FY 2024, 36.480M from PE 0208087F, Distributed Cyber Warfare Operations, Project 674543, AF Offensive Cyber Operations efforts for foundational tools were transferred to PE 0306250JCY, Cyber Operations Technology Support, Project CY06, Cyber Weapons/Tools:AF Payloads, in order to satisfy Congressional requirements in the FY22 NDAA, Section 1507, transferring responsibilities for the planning, programming, budgeting, and execution of the resources to USCYBERCOM.

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208087F / *Distributed Cyber Warfare Operations*	**Project (Number/Name)** 674543 / *AF Offensive Cyber Operations*

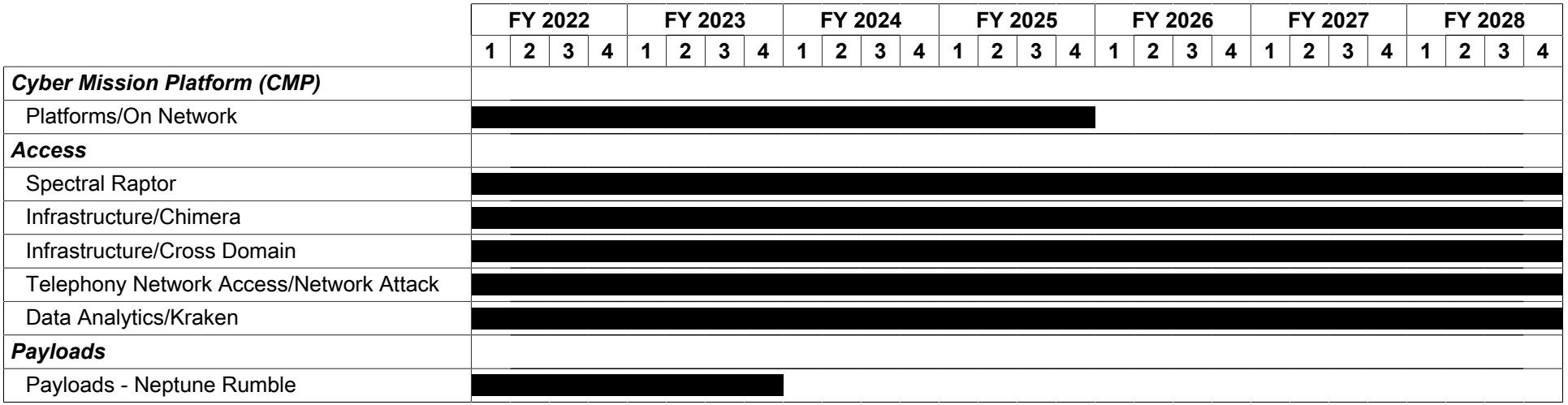

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208087F / *Distributed Cyber Warfare Operations*	**Project (Number/Name)** 674543 / *AF Offensive Cyber Operations*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Cyber Mission Platform (CMP)				
Platforms/On Network	1	2022	4	2025
Access				
Spectral Raptor	1	2022	4	2028
Infrastructure/Chimera	1	2022	4	2028
Infrastructure/Cross Domain	1	2022	4	2028
Telephony Network Access/Network Attack	1	2022	4	2028
Data Analytics/Kraken	1	2022	4	2028
Payloads				
Payloads - Neptune Rumble	1	2022	4	2023

Note

Platform:
- Cyber Mission Platform (CMP) delivers increments on a quarterly basis and supports On Network Operations.

Access and Infrastructure:
- SPECTRAL RAPTOR (formerly Hydra) and other Off Network Operations efforts are classified and information can be provided on a need to know basis.
- Network Attack System (NAS) and other Telephony Network Operations projects are classified and information can be provided on a need to know basis.
- Mission IT, Cross Domain, KRAKEN and other Infrastructure efforts are classified and information can be provided on a need to know basis.

Payloads:
- NEPTUNE RUMBLE and other Payloads/Weapons projects are classified and will be provided on a need to know basis.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0208088F / *AF Defensive Cyberspace Operations*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	21.950	16.809	113.064	0.000	113.064	126.271	136.461	147.491	171.974	Continuing	Continuing
677820: *Computer Security RDTE: Firestarter*	-	8.527	8.000	7.068	0.000	7.068	7.224	7.406	7.556	7.708	Continuing	Continuing
677821: *Cyberspace Vulnerability Assessment*	-	11.789	8.809	6.618	0.000	6.618	6.742	6.902	7.037	7.389	Continuing	Continuing
677822: *Cyber Defense Analysis*	-	0.281	0.000	0.301	0.000	0.301	0.309	0.316	0.323	0.339	Continuing	Continuing
677823: *AFCERT*	-	1.353	0.000	99.077	0.000	99.077	111.996	121.837	132.575	156.538	Continuing	Continuing

Note

In FY 2024, PE 0308605F, (Air Force Defensive Cyber Systems (AFDCS) - Software Pilot Program), Project 682001, (AFDCS Continuous Capability Delivery) efforts were transferred to PE 0208088F, (AF Defensive Cyberspace Operations), Project 677821, (Cyberspace Vulnerability Assessment), in order to meet the requirements of the 2023 Appropriation Law.

A. Mission Description and Budget Item Justification

AF Defensive Cyberspace Operations (AF DCO) consists of three distinct efforts: the Firestarter effort (BPAC 677820), activities to adapt legacy cyber weapon systems to the new IDCS (BPAC 677821 and 6771822), the Integrated Defensive Cyberspace System (IDCS) (BPAC 677823). Together these efforts provide defensive cyber capabilities that protect the AFNET and DoD network enclaves, to include their associated computer systems, software applications and sensitive operational information against unauthorized intrusion, corruption, and/or destruction. The IDCS also provides visibility and situational awareness of the cyber terrain to local commanders and senior leaders. The emphasis of the combined program is directed toward defensive cyberspace capabilities, computer and network systems security, damage assessment and recovery, cyber threat recognition, attribution, and mitigation, and active response methodologies in response to evolving threats and changes to cyber environment. These areas of emphasis are realized through continuous software development, research and development, test and system acquisition in the areas of proactive defense, defensive counter cyberspace, cyberspace intelligence, surveillance and reconnaissance, command and control situational awareness, persistent network operations, as well as decision support, recovery, and digital forensics.

IDCS will provide the modular hardware and cloud-based containerized software from which to execute the Cyberspace Vulnerability Assessment/Hunter (CVA/H), Air Force Cyber Defense (ACD), and Cyber Defense Analysis (CDA) missions. IDCS will equip USAF operational units, predominantly Mission Defense Teams, and network defenders with the capabilities required to monitor and protect USAF networks, Control Systems and Weapon Systems. IDCS will serve the Total Force - Active Duty (AD), Air National Guard (ANG), and Air Force Reserve Command (AFRC). IDCS will enable operations by monitoring, collecting, analyzing, and reporting on sensitive information released from friendly unclassified systems, such as computer networks, telephones, email, and USAF websites. IDCS will be used to conduct vulnerability assessments, network intrusion analysis, systems vulnerability analysis, and enable protection against the advanced persistent threat. The system will be deployed at all levels of classification, beginning at Unclassified and Secret enclaves and expanding to higher levels. The significant increase in RDT&E funding

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0208088F / *AF Defensive Cyberspace Operations*

requested for this portfolio reflects the development activity required to transform AF Defensive Cyber to meet the urgent need to deploy modernized, interconnected cyber defenses in the Pacific theater in the near term to deter aggression.

Activities also include various Advisory and Assistance Services (A&AS) and Program Management Administration (PMA) activities to support the aforementioned 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, 0605832F, 0605833F, 0605898F, 0606398F. In FY22 0.310M was expended for civilian pay expenses in this program element and in FY23 0.787M 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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	18.449	8.367	7.305	0.000	7.305
Current President's Budget	21.950	16.809	113.064	0.000	113.064
Total Adjustments	3.501	8.442	105.759	0.000	105.759
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	-8.367			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	8.000			
• Congressional Directed Transfers	0.000	9.508			
• Reprogrammings	3.658	0.000			
• SBIR/STTR Transfer	-0.157	0.000			
• Other Adjustments	0.000	-0.699	105.759	0.000	105.759

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 677820: *Computer Security RDTE: Firestarter*		
Congressional Add: *Autonomous Satellite Cybersecurity*	-	8.000
Congressional Add Subtotals for Project: 677820	-	8.000
Congressional Add Totals for all Projects	-	8.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0208088F / *AF Defensive Cyberspace Operations*

Change Summary Explanation

In FY24, the DAF added 105.759M to develop IDCS, which will defend AF networks against more complex and capable cyber threats from China, the US's pacing challenge, Russia, and other state actors.

FY23 -8.367M Congressional Directed Reduction: The FY23 Appropriation Law cited this amount as a "programming error."

FY23 9.508M Congressional Directed Transfer: Transfer from line 282, Air Force Defensive Cyber Systems (AFDCS) - Software Pilot Program in accordance with the FY23 Appropriation Law.

FY23 -0.699 Other Adjustments is for FFRDC Reductions

FY22 3.658M Reprogramming: In FY22, 0208088F received a Below Threshold Reprogramming to modernize its Continuous Integration/Continuous Delivery (CI/CD) pipeline and accelerate software deliveries of operational capabilities.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0208088F / *AF Defensive Cyberspace Operations*	Project (Number/Name) 677820 / *Computer Security RDTE: Firestarter*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
677820: *Computer Security RDTE: Firestarter*	-	8.527	8.000	7.068	0.000	7.068	7.224	7.406	7.556	7.708	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Firestarter program provides newly improved capabilities and technical transition opportunities for Cyber Defense and Information Assurance (IA) technologies and tools needed to defend Air Force Command, Control, Communications, Computer, and Intelligence (C4I) systems from cyber attacks, while ensuring recovery in the event of an attack. The emphasis of the program is directed toward defensive cyberspace capabilities; computer and network systems security; damage assessment and recovery; cyber threat recognition, attribution, and mitigation; and active response methodologies in response to evolving threats and changes to cyber environment. These areas of emphasis are realized through research and development, test and acquisition in the areas of proactive defense, defensive counter cyberspace, cyberspace intelligence, surveillance and reconnaissance & situational awareness, persistent network operations, as well as decision support, recovery, and digital forensics. Current Air Force systems, such as the AFNET NIPRNet Gateways, SIPRNet Modernization program, and Host Based Security System leverage this technology to meet their information assurance and defensive cyberspace needs/requirements.

Firestarter utilizes cyber and IA technology investments by US Cyber Command, the Defense Advanced Research Projects Agency (DARPA), the National Security Agency (NSA), Director of National Intelligence (DNI), Intelligence Advanced Research Projects Activity (IARPA), and the Department of Homeland Security (DHS), and various government research laboratories, to jump-start its development of solutions to existing Air Force cyber and IA requirements. This program supports AF Cyberspace strategic direction in support of Cyber Defense which provides capabilities to 16th AF, as AF component to US Cyber Command (USCYBERCOM), Defense Information Systems Agency (DISA), National Security Agency (NSA), and other services to ensure Global Information Grid (GIG) cyber and IA requirements are being met. Activities performed include those designed to identify, analyze, test, rapidly acquire, and integrate emerging IA and cyber technology and defensive cyberspace weapons systems and capabilities into all regions of the GIG - terrestrial, airborne, and space systems. In addition, this effort will support implementation of DoD Enterprise-wide Information Assurance (IA) & Computer Network Defense (CND) Solutions Steering Group (ESSG) solutions.

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 $0.000M was expended for civilian pay expenses in this program element, and in FY23 $0.000M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Firestarter	8.527	0.000	7.068

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208088F / *AF Defensive Cyberspace Operations*	**Project (Number/Name)** 677820 / *Computer Security RDTE: Firestarter*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: To provide newly improved capabilities and technical transition opportunities for Cyber Defense and Information Assurance (IA) technologies and tools needed to defend Air Force Command, Control, Communications, Computer, and Intelligence (C4I) systems from cyber attacks, while ensuring recovery in the event of an attack. ***FY 2023 Plans:*** N/A ***FY 2024 Plans:*** - Will perform incident response via remote analysis of end points - Will conduct detection, interception, and analysis of advanced malware - Will perform detection and eradication of stealth dormant implants - Will develop influence capabilities over adversary perceptions of blue cyber assets - Will intercept of malicious code over covert channels - Will enhance cyber hardening of ICS/SCADA infrastructure - Will research cyber defense for 5G protocol infrastructure and devices - Will research cyber defense of space-born assets - Will mature and implement AI/ML systems for Cyber Mission Assurance - Will adapt technologies in all of the above areas for joint distribution and sustainment via Iron Bank (DoD's cyber capability repository) ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to a return to baseline following a Congressional directed reduction in the FY23 Appropriation Law.			
Accomplishments/Planned Programs Subtotals	8.527	0.000	7.068

	FY 2022	FY 2023
Congressional Add: Autonomous Satellite Cybersecurity	-	8.000
FY 2023 Plans: - Will research and develop new methods of autonomous cybersecurity and the applications of such onto satellites for the purpose of securing missions from cyber-attack in the space domain		
Congressional Adds Subtotals	-	8.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208088F / *AF Defensive Cyberspace Operations*	**Project (Number/Name)** 677820 / *Computer Security RDTE: Firestarter*

D. Acquisition Strategy

Firestarter conducts late stage Science and Technology (S&T) for tech demo and tech transition to warfighter employment. All contracts within this project are awarded using full and open competition and utilize evolutionary capability and incremental development. Where appropriate, collaborative efforts are conducted with services and agencies within the USAF to result in more robust and cost effective solutions. Contracting activities are primarily done through other agencies when deemed more advantageous. All aspects of the Firestarter project are managed by the Air Force Research Laboratory.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208088F / *AF Defensive Cyberspace Operations*	**Project (Number/Name)** 677820 / *Computer Security RDTE: Firestarter*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Firestarter Development	C/CPFF	Various : Various	-	4.511	Jan 2022	0.000	Jan 2023	4.650	Jan 2024	-		4.650	Continuing	Continuing	-
Firestarter Integration	C/CPFF	Various : Various	-	1.929	Jan 2022	0.000	Jan 2023	1.318	Jan 2024	-		1.318	Continuing	Continuing	-
Congressional Add: Autonomous Satellite Cybersecurity	C/Various	Various : Various	-	-		8.000	Mar 2023	-		-		-	Continuing	Continuing	-
		Subtotal	-	6.440		8.000		5.968		-		5.968	Continuing	Continuing	N/A

Remarks

Multiple contractors and multiple universities reflect on-going efforts with over a dozen contractors and universities. Each has a different contract date depending on when that particular contract was awarded.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Firestarter Testing	C/CPFF	Various : Various	-	1.862	Jan 2022	0.000	Jan 2023	1.100	Jan 2024	-		1.100	Continuing	Continuing	-
		Subtotal	-	1.862		0.000		1.100		-		1.100	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Firestarter PMA	C/CPAF	Various : Various	-	0.225	Jan 2022	-		-		-		-	0.000	0.225	-
		Subtotal	-	0.225		-		-		-		-	0.000	0.225	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	8.527		8.000		7.068		-		7.068	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208088F / *AF Defensive Cyberspace Operations*	**Project (Number/Name)** 677820 / *Computer Security RDTE: Firestarter*

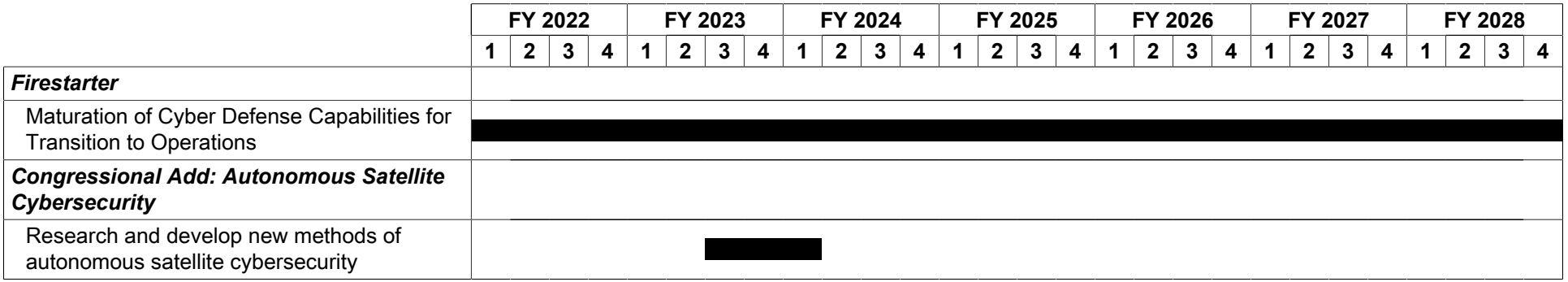

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208088F / *AF Defensive Cyberspace Operations*	**Project (Number/Name)** 677820 / *Computer Security RDTE: Firestarter*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Firestarter				
Maturation of Cyber Defense Capabilities for Transition to Operations	1	2022	4	2028
Congressional Add: Autonomous Satellite Cybersecurity				
Research and develop new methods of autonomous satellite cybersecurity	3	2023	1	2024

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0208088F / *AF Defensive Cyberspace Operations*	Project (Number/Name) 677821 / *Cyberspace Vulnerability Assessment*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
677821: *Cyberspace Vulnerability Assessment*	-	11.789	8.809	6.618	0.000	6.618	6.742	6.902	7.037	7.389	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Funding in this BPAC contributes to the development of software and related activities in support of the creation of an Integrated Defensive Cyberspace system.

The Cyberspace Vulnerability Assessment/Hunter (CVA/H) weapon system provides Air Force Cyber Command (AFCYBER) and Combatant Commanders additional mobile precision in addition to currently fielded protection capabilities to identify, pursue, and mitigate cyberspace threats. The CVA/H weapon system performs defensive sorties world-wide via remote or on-site access. CVA/H executes Hunter missions on AF and DoD networks & systems. Hunter operations characterize and then eliminate threats for the purpose of mission assurance. The Hunter mission focuses on the capability to find, fix, track, target, engage, and assess (F2T2EA) the advanced persistent threat (APT). This effort funds development efforts to enhance command and control situational awareness and to expand the capability of the current weapon system to meet scope and scale of the USCYBERCOM directed Cyber Protection Teams and AF Mission Defense Teams.

Activity in this BPAC also supports development of enhancements to legacy DCO weapon systems, as needed, to support current operations and facilitate the transition of legacy capabilities to the Integrated Defensive Cyber System described more fully in BPAC 677823.

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 FY22 $0.310M was expended for civilian pay expenses in this BPAC, and in FY23 $0.787M is forecasted for civilian pay expenses in this BPAC.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: CVA/H Development	11.789	8.809	6.618
Description: Development and integration of solutions supporting defensive cyber modernization in the area of DCO capabilities and technologies to meet capability gaps required by Mission Defense Teams.			
FY 2023 Plans: Continuing to develop modifications to the CVA/H weapon system based on AF operational cyber needs.			
FY 2024 Plans: Will continue to develop modifications to the CVA/H weapon system based on AF operational cyber needs.			
FY 2023 to FY 2024 Increase/Decrease Statement:			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208088F / *AF Defensive Cyberspace Operations*	**Project (Number/Name)** 677821 / *Cyberspace Vulnerability Assessment*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Funding decreased to support software development needs for IDCS.			
Accomplishments/Planned Programs Subtotals	11.789	8.809	6.618

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 834320: *C3 Countermeasures*	27.770	82.029	89.455	-	89.455	34.749	17.380	26.956	47.189	Continuing	Continuing

Remarks

D. Acquisition Strategy

Funding in BPAC 677821 contributes to the Integrated Defensive Cyberspace System and as such is accomplished under the same Acquisition Strategy described in BPAC 677823.

Acquisition Strategy for the Integrated Defensive Cyberspace System (IDCS) employs the Software Acquisition Pathway defined in DoDI 5000.87 and multiple software development providers. IDCS will be highly integrated with JCWA and ABMS, leveraging this work to complement DAF investments in Defensive Cyber. IDCS will deliver new software capabilities through a continuous integration, continuous delivery pipeline built on Platform One capabilities. IDCS will employ an agile development process to deliver incremental capabilities at the speed required to counter the emerging and persistent cyber threat. IDCS will integrate commercial off the shelf, Government off the shelf and open source software capabilities as appropriate to achieve an effective, efficient mission capability.

IDCS will procure software development capacity through various existing and new contractual vehicles. Contract sources include Government-Wide Acquisition Contracts (GWACs) such as Alliant, Encore II, NASA Solutions for Enterprise-Wide Procurement IV (SEWP IV), and General Services Administration (GSA) Federal Supply Schedules. IDCS will also use Small Business Innovative Research (SBIR) and Air Force Research Laboratory (AFRL) contracts, FFRDCs, Advisory and Assistance Services (A&AS) contracts, and support from Test and Evaluation Enterprises. Wherever possible IDCS will use competitive contracts and task orders to ensure cost efficiency and industry engagement.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208088F / *AF Defensive Cyberspace Operations*	**Project (Number/Name)** 677821 / *Cyberspace Vulnerability Assessment*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CVA/H Development	Various	Various : Various	-	9.115	Jan 2022	6.426	Jan 2023	6.618	Jan 2024	-		6.618	Continuing	Continuing	-
		Subtotal	-	9.115		6.426		6.618		-		6.618	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support	MIPR	47 Test Squadron : Lackland AFB, TX	-	0.672	Oct 2021	1.596	Oct 2022	-		-		-	Continuing	Continuing	-
		Subtotal	-	0.672		1.596		-		-		-	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CVA/H: Program Support Costs (PSC)	Various	AFLCMC/PZ : Hanscom AFB, MA	-	1.692	Jan 2022	-		-		-		-	Continuing	Continuing	-
CVA/H Direct Cite Authority Civilian Pay	TBD	USAF : Hanscom AFB, MA	-	0.310	Oct 2021	0.787	Oct 2022	-		-		-	Continuing	Continuing	-
		Subtotal	-	2.002		0.787		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	11.789		8.809		6.618		-		6.618	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208088F / *AF Defensive Cyberspace Operations*	**Project (Number/Name)** 677821 / *Cyberspace Vulnerability Assessment*

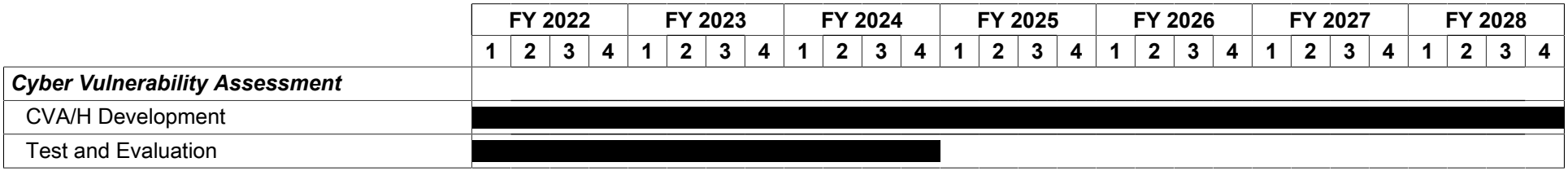

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208088F / *AF Defensive Cyberspace Operations*	**Project (Number/Name)** 677821 / *Cyberspace Vulnerability Assessment*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Cyber Vulnerability Assessment				
CVA/H Development	1	2022	4	2028
Test and Evaluation	1	2022	4	2024

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0208088F / *AF Defensive Cyberspace Operations*	Project (Number/Name) 677822 / *Cyber Defense Analysis*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
677822: *Cyber Defense Analysis*	-	0.281	0.000	0.301	0.000	0.301	0.309	0.316	0.323	0.339	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Cyberspace Defense Analysis (CDA) weapon system conducts Defensive Cyberspace Operations (DCO) during peace time and contingency operations and network defense by monitoring, collecting, analyzing, and reporting sensitive information transiting or residing on the AFNet. CDA assessments of non-secure telecommunications determine type and amount of sensitive and/or classified information that may have been disclosed to our adversaries and encompasses several mission subsets, including: Telephony Communications, Radio Frequency (RF) Communications, Email Communications, Internet based Capabilities (IbC), and Cyber Operations Risk Assessment (CORA). The CDA weapon system protects the AF's critical information such as PII, OPSEC, and other sensitive information through passive monitoring and active Data Loss Protection (DLP). CDA shows its true capability in the force protection realm, OPSEC, DLP, etc. and helps ensure our adversaries are not provided early warning of our plans, capabilities, or limitations.

Without proper funding the CDA Operators will not be able to determine potential impacts and operational adjustments resulting from information disclosures or identify compromised information from network intrusions. There will be a decreased assurance of network defense and an increase in the amount of lost PII, OPSEC, and other sensitive information. Continuing funding is essential in developing new capabilities to combat the rapidly evolving cyber threats.

Activity in this BPAC supports development of enhancements to legacy DCO weapon systems to support current operations and facilitate the transition of legacy capabilities to the Integrated Defensive Cyber System described more fully in BPAC 677823.

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 $0.000M was expended for civilian pay expenses in this program element, and in FY23 $0.000M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Cyber Defense Analysis	0.281	0.000	0.301
Description: Engineering support to conduct Cyberspace Defense Analysis (CDA) assessment of non-secure telecommunications during peace time and contingency operations.			
FY 2023 Plans: N/A			
FY 2024 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208088F / *AF Defensive Cyberspace Operations*	**Project (Number/Name)** 677822 / *Cyber Defense Analysis*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Will support integration of CDA capabilities into IDCS ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased to support new software development activities.			
Accomplishments/Planned Programs Subtotals	0.281	0.000	0.301

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Funding in BPAC 677822 contributes to the Integrated Defensive Cyberspace System and as such is accomplished under the same Acquisition Strategy

Acquisition Strategy for the Integrated Defensive Cyberspace System (IDCS) employs the Software Acquisition Pathway defined in DoDI 5000.87 and multiple software development providers. IDCS will be highly integrated with JCWA and ABMS, leveraging this work to complement DAF investments in Defensive Cyber. IDCS will deliver new software capabilities through a continuous integration, continuous delivery pipeline built on Platform One capabilities. IDCS will employ an agile development process to deliver incremental capabilities at the speed required to counter the emerging and persistent cyber threat. IDCS will integrate commercial off the shelf, Government off the shelf and open source software capabilities as appropriate to achieve an effective, efficient mission capability.

IDCS will procure software development capacity through various existing and new contractual vehicles. Contract sources include Government-Wide Acquisition Contracts (GWACs) such as Alliant, Encore II, NASA Solutions for Enterprise-Wide Procurement IV (SEWP IV), and General Services Administration (GSA) Federal Supply Schedules. IDCS will also use Small Business Innovative Research (SBIR) and Air Force Research Laboratory (AFRL) contracts, FFRDCs, Advisory and Assistance Services (A&AS) contracts, and support from Test and Evaluation Enterprises. Wherever possible IDCS will use competitive contracts and task orders to ensure cost efficiency and industry engagement.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208088F / *AF Defensive Cyberspace Operations*	**Project (Number/Name)** 677822 / *Cyber Defense Analysis*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CDA Program Support Costs	Various	AFLCMC/PZ : Hanscom, MA	-	0.281	Jan 2022	0.000	Jan 2023	0.301	Jan 2024	-		0.301	Continuing	Continuing	-
		Subtotal	-	0.281		0.000		0.301		-		0.301	Continuing	Continuing	N/A

Remarks

Provides program office subject matter expertise, engineering continuity, technical maturation and expertise, and access to an extensive professional network for future capabilities.

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	0.281		0.000		0.301		-		0.301	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208088F / *AF Defensive Cyberspace Operations*	**Project (Number/Name)** 677822 / *Cyber Defense Analysis*

	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Cyber Defense Analysis																												
Cyber Defense Analysis Program Support Costs	[redacted]																											

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208088F / *AF Defensive Cyberspace Operations*	**Project (Number/Name)** 677822 / *Cyber Defense Analysis*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Cyber Defense Analysis				
Cyber Defense Analysis Program Support Costs	1	2022	4	2024

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0208088F / *AF Defensive Cyberspace Operations*	Project (Number/Name) 677823 / *AFCERT*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
677823: *AFCERT*	-	1.353	0.000	99.077	0.000	99.077	111.996	121.837	132.575	156.538	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

In response to the continually evolving cyber threat, the AF Defensive Cyber Operations activity is modernizing the legacy USAF cyberspace defensive capability funded in PE28088F into an Integrated Defensive Cyberspace System (IDCS) capability. The significant increase in RDT&E funding requested for this portfolio reflects the urgent need to deploy modernized, interconnected cyber defenses in the Pacific theater in the near term to deter Chinese aggression. This new modular architecture will provide CSSP capability, Hunt forward capability, and the data flow required to enable situational awareness for local commanders and higher headquarters on status of AF networks, and associated Control Systems and Weapon Systems. The development and fielding of IDCS is central to meeting the Chinese pacing challenge identified in the 2022 National Security Strategy.

IDCS will provide the modular hardware and cloud-based containerized software from which to execute the Cyberspace Vulnerability Assessment/Hunter (CVA/H), Air Force Cyber Defense (ACD), and Cyber Defense Analysis (CDA) missions. IDCS will equip USAF operational units, predominantly Mission Defense Teams, and network defenders with the capabilities required to monitor and protect USAF networks, Control Systems and Weapon Systems. IDCS will serve the Total Force - Active Duty (AD), Air National Guard (ANG), and Air Force Reserve Command (AFRC). IDCS will enable operations by monitoring, collecting, analyzing, and reporting on sensitive information released from friendly unclassified systems, such as computer networks, telephones, email, and USAF websites. IDCS will be used to conduct vulnerability assessments, network intrusion analysis, systems vulnerability analysis, and enable protection against the advanced persistent threat. The system will be deployed at all levels of classification, beginning at Unclassified and Secret enclaves and expanding to higher levels in future years.

IDCS will be integrated with and leverage developmental activity from across the DoD including USCYBERCOM's Joint Cyber Weapons Architecture and the Department of the AF's Command and Control Battle Management System (formerly known as ABMS).

Activities also include various Advisory and Assistance Services (A&AS) and Program Management Administration (PMA) activities to support the aforementioned 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 FY22 0.000M was expended for civilian pay expenses in this program element, and in FY23 0.000M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Cyberspace Defense Development	1.353	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208088F / *AF Defensive Cyberspace Operations*	**Project (Number/Name)** 677823 / *AFCERT*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: AF Cyberspace Defense (ACD) weapon system to prevent, detect, and respond to adversarial penetration in AF networks ***FY 2023 Plans:*** N/A ***FY 2024 Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A			
Title: Integrated Defensive Cyberspace System (IDCS) Development ***Description:*** Note: BPAC 677823 formerly used for AFCERT and ACD will now be used to describe the Integrated Defensive Cyber System (IDCS) that subsumes the missions of AFCERT, CVA/H and CDA. This activity also includes cloud-based big data capabilities and associated research and development to apply machine learning to cyberspace defenses. The USAF will develop a modern containerized software-based system known as IDCS. IDCSC will be deployable to physical, virtual and cloud-based hosts and will provide for interconnectivity, management and data processing across the data fabric. The physical domain will leverage modular commercial hardware - procured with Other Procurement Air Force (OPAF) funding in 0208088F -- with processing power tailored to the data throughput and speed requirements present at each AF base across both fixed and mobile configurations. The architecture will include data transport to Big Data Platform capabilities present at Enterprise and at the tactical edge. Development activities include data processing and visualization to take advantage of additional data made available by the IDCS. IDCS includes the Air Force's Big Data Platform, Enterprise Logging Ingest & Cyber Situational Awareness Refinery (ELICSAR), which is federated with, and leverages the technical baseline of the Unified Platform program. IDCS leverages Platform One's Continuous Integration/Continuous Delivery (CI/CD) technology to enable continuous Authorization to Operate, essential to deploy system updates at the speed of relevance. IDCS will employ, over time, data analysis powered by advances in Machine Learning and Artificial Intelligence. ***FY 2023 Plans:***	-	0.000	99.077

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208088F / *AF Defensive Cyberspace Operations*	**Project (Number/Name)** 677823 / *AFCERT*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
N/A ***FY 2024 Plans:*** - Will develop the software baseline for the IDCS architecture which will integrate and leverage Open-Source Software, Government Off the Shelf (GOTS) and Commercial Off the Shelf (COTS) software. - Will conduct test and evaluation including extensive, ongoing cyber security and penetration testing - Will refine digital engineering processes to attain and maintain both internal and external alignment and integration. - Will refine CI/CD deployment processes and tools to enable continuous delivery - Will award and/or expand software development contracts to support the following Team structure, consistent with and aligned to components of the IDCS Architecture -- CI/CD Platform Team(s) - Responsible for developing and operating continuous integration / continuous delivery software delivery pipelines -- Control Plane Team(s) - Responsible for developing and operating the core platform operating system -- Data Plane Team(s) - Responsible for developing and operating cyber applications -- Data Platform, Ingest, Analytics and Display Team(s) for the ELICSAR BDP - Responsible for ingestion of data into the IDCS, and data analytics, displays and presentation in the form of dashboards at multiple levels: Senior Leader, Local Commander, CSSP operator. Includes early adoption of machine learning and artificial intelligence applications where appropriate -- Persona Team(s) - Responsible for the development of cyber mission tools/interfaces tailored for CSSP, Hunt, Mission Defense, and other cyber missions - Will support the rapid adoption of new operational capabilities through training - Will develop and refine model-based representations of the IDCS to facilitate integration with USCYBERCOM JCWA and C3BM/ABMS and other related capabilities - Will develop tools and environments required to support software development ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to the development of a new architecture for Defensive Cyber Operations to defend against cyber attacks including those from China, Russia, and other state actors.			
Accomplishments/Planned Programs Subtotals	1.353	0.000	99.077

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 834320: *C3 Countermeasures*	35.463	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208088F / *AF Defensive Cyberspace Operations*	**Project (Number/Name)** 677823 / *AFCERT*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

Acquisition Strategy for the Integrated Defensive Cyber System (IDCS) employs the Software Acquisition Pathway defined in DoDI 5000.87 and multiple software development providers. IDCS will be highly integrated with JCWA and ABMS, leveraging this work to complement DAF investments in Defensive Cyber. IDCS will deliver new software capabilities through a continuous integration, continuous delivery pipeline built on Platform One capabilities. IDCS will employ an agile development process to deliver incremental capabilities at the speed required to counter the emerging and persistent cyber threat. IDCS will integrate commercial off the shelf, Government off the shelf and open source software capabilities as appropriate to achieve an effective mission capability.

IDCS will procure software development capacity through various existing and new contractual vehicles. Contract sources include Government-Wide Acquisition Contracts (GWACs) such as Alliant, Encore II, NASA Solutions for Enterprise-Wide Procurement IV (SEWP IV), and General Services Administration GSA) Federal Supply Schedules. IDCS will also use Small Business Innovative Research (SBIR) and Air Force Research Laboratory (AFRL) contracts, FFRDCs, Advisory and Assistance Services (A&AS) contracts, and support from Test and Evaluation Enterprises. Wherever possible IDCS will use competitive contracts and task orders to ensure cost efficiency and industry engagement.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208088F / *AF Defensive Cyberspace Operations*	**Project (Number/Name)** 677823 / *AFCERT*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ACD Cyberspace Defense Development	C/CPAF	Various : Various	-	1.353	Oct 2021	-		-		-		-	Continuing	Continuing	-
IDCS: Software Development - CI/CD Platform	TBD	Not specified. : TBD	-	-		-		8.400	Jan 2024	-		8.400	Continuing	Continuing	-
IDCS: Software Development - Control Plane	TBD	Not specified. : TBD	-	-		-		8.400	Jan 2024	-		8.400	Continuing	Continuing	-
IDCS: Software Development - Data Plane	TBD	Not specified. : TBD	-	-		-		8.400	Jan 2024	-		8.400	Continuing	Continuing	-
IDCS: Software Development - Data Platform, Ingest, Analytics, and Display (ELICSAR BDP)	TBD	Not specified. : TBD	-	-		-		26.489	Jan 2024	-		26.489	Continuing	Continuing	-
IDCS: Software Development - Persona	TBD	Not specified. : TBD	-	-		-		22.200	Jan 2024	-		22.200	Continuing	Continuing	-
		Subtotal	-	1.353		-		73.889		-		73.889	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IDCS: Data Science	TBD	Not specified. : TBD	-	-		-		2.000	Jan 2024	-		2.000	Continuing	Continuing	-
IDCS: Early Continuous Operator Training Support	TBD	Not specified. : TBD	-	-		-		2.619	Jan 2024	-		2.619	Continuing	Continuing	-
IDCS: Digital Engineering	TBD	Not specified. : TBD	-	-		-		2.000	Jan 2024	-		2.000	Continuing	Continuing	-
		Subtotal	-	-		-		6.619		-		6.619	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208088F / *AF Defensive Cyberspace Operations*	**Project (Number/Name)** 677823 / *AFCERT*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IDCS: 47th Cyber Test Sq	MIPR	47th Cyber Test Sq : Lackland AFB, TX	-	-		-		2.356	Oct 2023	-		2.356	Continuing	Continuing	-
IDCS: 48th Test Support Sq	MIPR	48th Test Support Sq : Eglin AFB, FL	-	-		-		1.649	Oct 2023	-		1.649	Continuing	Continuing	-
		Subtotal	-	-		-		4.005		-		4.005	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IDCS: Program SupportCosts (PSC)	Various	CCSD : Lackland AFB, TX	-	-		-		10.511	Apr 2024	-		10.511	Continuing	Continuing	-
IDCS: Direct Cite Authority Civilian Pay	Various	AFLCMC/HN : Lackland AFB, TX	-	-		-		4.053	Oct 2023	-		4.053	Continuing	Continuing	-
		Subtotal	-	-		-		14.564		-		14.564	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	1.353		-		99.077		-		99.077	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208088F / *AF Defensive Cyberspace Operations*	**Project (Number/Name)** 677823 / *AFCERT*

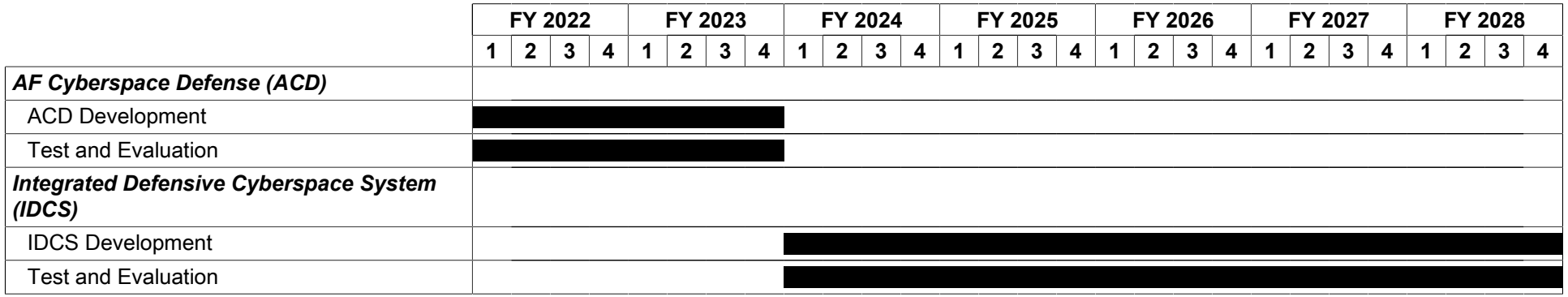

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208088F / *AF Defensive Cyberspace Operations*	**Project (Number/Name)** 677823 / *AFCERT*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
AF Cyberspace Defense (ACD)				
ACD Development	1	2022	4	2023
Test and Evaluation	1	2022	4	2023
Integrated Defensive Cyberspace System (IDCS)				
IDCS Development	1	2024	4	2028
Test and Evaluation	1	2024	4	2028

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0208097F / *Joint Cyber Command and Control (JCC2)*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	78.592	79.955	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	158.547
676045: *Foundational Efforts*	-	78.592	79.955	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	158.547
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2024, PE 0208097F, (Joint Cyber Command and Control (JCC2)), Project 676045, (Foundational Efforts) efforts were transferred to PE 0208097JCY, (Joint Cyber Command and Control (JCC2)), Project CY02, (Cyber Command and Control), in order to satisfy Congressional requirements in the FY22 NDAA, Section 1507, transferring responsibilities for the planning, programming, budgeting, and execution of the resources to USCYBERCOM.

In FY 2022, PE 0604250D8Z, Advanced Innovative Technologies, Project IKE requirements and funding were transferred to PE 0208097F, Joint Cyber Command and Control (JCC2), Project 676045, Foundational Efforts, in order to operationalize prototype battlespace management capabilities into JCC2 program.

A. Mission Description and Budget Item Justification

Joint Cyber Command and Control (JCC2) provides Combatant Commanders, Joint Force Commanders and Service Component Commanders with enhanced situational awareness and battle management for cyberspace operations missions and forces. JCC2 establishes congressionally directed focal point to provide integrated JCC2 solutions to all echelons for execution of cyberspace operations to enable and accelerate planning/collaboration between Cyber Mission Forces (CMF) and Combatant Commands (CCMD).

It will integrate Cyber Command and Control (C2) with Joint, Coalition and inter-agency C2 to enhance multi-domain operations, reduce planning time, improve decision quality and speed resulting in a shorter kill chain. Capabilities will be developed to address the Cyber Mission Forces used to conduct cyber operations. Additionally, it will leverage and utilize a Continuous Integration/Continuous Deployment (CI/CD) Framework to pace development with warfighter need. JCC2 development activities include, but are not limited to: rapid prototyping, development of software/hardware systems; integration and transition of lab developed cyber capabilities to the warfighter; testing and evaluation; program management, studies, analysis, pilots, and demonstrations; risk reduction for emerging technologies; and development and assessment of operational systems for inclusion into JCC2 to meet capability requirements.

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 FY22 3.700M was expended for civilian pay expenses in this program element, and in FY23 5.992M 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0208097F / *Joint Cyber Command and Control (JCC2)*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	79.079	80.740	13.933	0.000	13.933
Current President's Budget	78.592	79.955	0.000	0.000	0.000
Total Adjustments	-0.487	-0.785	-13.933	0.000	-13.933
• 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	2.000	0.000			
• SBIR/STTR Transfer	-2.487	0.000			
• Other Adjustments	0.000	-0.785	-13.933	0.000	-13.933

Change Summary Explanation

In FY24, PE 0208097F (Joint Cyber Command and Control (JCC2)), Project 676045 (Foundational Efforts) efforts were transferred to PE 0208097JCY, (Joint Cyber Command and Control (JCC2)), Project CY02, (Cyber Command and Control), in order to satisfy Congressional requirements in the FY22 NDAA, Section 1507, transferring responsibilities for the planning, programming, budgeting, and execution of the resources to USCYBERCOM.

In FY23, the Other Adjustment is for FFRDC reductions.

In FY22, 0208097F (Joint Cyber Command and Control) received a 2.000M Below Threshold Reprogramming to continue migration of the JCC2 Mission Assurance Decision Support System application into the LevelUp development environment and deliver Mission Relevant Terrain - Cyber (MRT-C) information to operational forces needed to identify and mitigate cyber-related risks.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Foundational Efforts	78.592	79.955	0.000
Description: Foundational Efforts are program activities, at multiple operating locations, supporting development and evaluations activities and JCC2 baseline efforts to provide capability. Actions include system and software engineering, risk management, developmental framework management, and the execution of acquisition activities. ***FY 2023 Plans:*** - Develop Mission Relevant Terrain in Cyberspace - Create, deliver, and integrate the Force Readiness/Presentation capability - Develop/improve tools to increase shared situational/battle space awareness, cyber ops planning and cyber sensing capabilities based on real-world use during offensive/defensive cyber operations			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0208097F / *Joint Cyber Command and Control (JCC2)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Develop a capability to use a common framework for cyber risk assessments - Create and execute support contract for Help Desk and IT Service Management services - Develop API interface for development and integration of data sources - Develop a framework for expedient and flexible requirements gathering, processing, and capability delivery - Migrate capabilities to cloud service to streamline scaling and support faster delivery - Enhance automation for mapping/monitoring of mission relevant terrain at all domains - Integrate Situational Awareness and Battle Management Minimum Viable Capability Releases coupled with the incorporation of JCWA components - Scale and deliver capability through an agile development model, delivering operational capabilities as determined by governance process ***FY 2024 Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding transferred to USCYBERCOM in accordance with FY22 NDAA Section 1507.			
Accomplishments/Planned Programs Subtotals	78.592	79.955	0.000

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

JCC2 is in the Software Acquisition Execution Phase which enables continuous integration and delivery of software capability at the speed of relevance. JCC2 will apply agile acquisition tenants to the programmatic, design/engineering, test, and delivery aspects to provide an ability to deliver Situational Awareness/C2 capabilities to the warfighter in a rapid manner. JCC2 is transitioning from a collection of distinct, special-purpose tools to an integrated joint C2 capability to reduce overall lifecycle costs, improve interoperability, and increase information sharing across the CCMDs.

The JCC2 program office is utilizing new and existing contract vehicles and concept, development, risk management, production, or deployment plans as part of a streamlined approach. The JCC2 program office has established a continuous integration/continuous development pipeline to facilitate the rapid development, integration, and fielding of capabilities to remain responsive to evolving warfighter requirements. The JCC2 program will execute the agile development requirements provided by the Army, Navy, Marine Corps, Air Force, and USCYBERCOM stakeholders in accordance with the prioritization provided by the multi-Service JCC2 governance structure.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0208097F / *Joint Cyber Command and Control (JCC2)*

The JCC2 program office is integrating several C2 mission systems for battle management and situational awareness. Most of the programs are using Agile development efforts, making rapid changes and upgrades to the applications and/or prototypes. In addition to converging the contracting efforts, the multiple mission systems, or applications, will eventually converge onto a shared C2 hosting and transit cloud infrastructure created by the PMO under the new Software Acquisition Pathway program. This approach will deliver an integrated JCC2 capability for Battle Management (BM) and Situational Awareness (SA). The JCC2 baseline capability relies on extensive development and evaluation efforts to analyze integration constraints and opportunities of Service-specific cyber capabilities.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0208097F / *Joint Cyber Command and Control (JCC2)*	Project (Number/Name) 676045 / *Foundational Efforts*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JCC2 CI/CD Infrastructure	Various	Multiple : Multiple	-	3.604	Mar 2022	4.432	Feb 2023	-		-		-	0.000	8.036	-
JCC2 Agile Capability Development	Various	Multiple : Multiple	-	68.813	Mar 2022	64.501	Feb 2023	-		-		-	0.000	133.314	-
		Subtotal	-	72.417		68.933		-		-		-	0.000	141.350	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Direct Cite Authority Civilian Pay	TBD	USAF : Hanscom AFB, MA	-	3.700	Oct 2021	5.992	Oct 2022	-		-		-	0.000	9.692	-
		Subtotal	-	3.700		5.992		-		-		-	0.000	9.692	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	C/CPAF	Not specified. : TBD	-	-		2.000	Oct 2022	-		-		-	0.000	2.000	-
		Subtotal	-	-		2.000		-		-		-	0.000	2.000	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JCC2 Acquisition Support	Various	Multiple : Multiple	-	2.475	Nov 2021	3.030	Nov 2022	-		-		-	0.000	5.505	-
		Subtotal	-	2.475		3.030		-		-		-	0.000	5.505	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	78.592		79.955		-		-		-	0.000	158.547	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0208097F / *Joint Cyber Command and Control (JCC2)*	Project (Number/Name) 676045 / *Foundational Efforts*	

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208097F / *Joint Cyber Command and Control (JCC2)*	**Project (Number/Name)** 676045 / *Foundational Efforts*

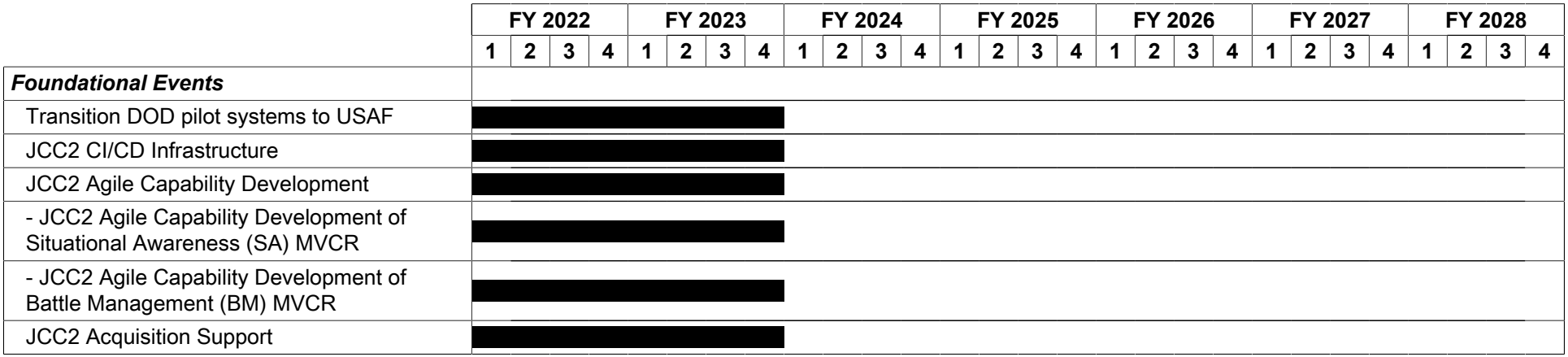

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208097F / *Joint Cyber Command and Control (JCC2)*	**Project (Number/Name)** 676045 / *Foundational Efforts*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Foundational Events				
Transition DOD pilot systems to USAF	1	2022	4	2023
JCC2 CI/CD Infrastructure	1	2022	4	2023
JCC2 Agile Capability Development	1	2022	4	2023
- JCC2 Agile Capability Development of Situational Awareness (SA) MVCR	1	2022	4	2023
- JCC2 Agile Capability Development of Battle Management (BM) MVCR	1	2022	4	2023
JCC2 Acquisition Support	1	2022	4	2023

Note

Situational Awareness (SA) Minimum Viable Capability Release (MVCR):
Development of features that enable automation of data between network, mission, and threat domains.

Battle Management (BM) MVCR:
Development of features that enable Planning, Directing, Monitoring and Assessment capabilities in support of cyberspace operations at all levels of war.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force												Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0208099F / *Unified Platform (UP)*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	89.135	106.916	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	196.051
672281: *Foundational Efforts*	-	89.135	106.916	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	196.051
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2024, PE 0208099F, (Unified Platform (UP), Project 672281, (Foundational Efforts)) efforts were transferred to PE 0208099JCY, (Unified Platform (UP), Project CY03, (Unified Platform)), in order to satisfy Congressional requirements in the FY22 NDAA, Section 1507, transferring responsibilities for the planning, programming, budgeting, and execution of the resources to USCYBERCOM.

A. Mission Description and Budget Item Justification

Unified Platform provides the Cyber Mission Forces, U.S. Cyber Command (USCYBERCOM), and Service cyber components a Joint cyber operations infrastructure enabling full spectrum cyberspace operations at the operational through tactical levels of warfare as part of USCYBERCOM's Joint Cyber Warfighting Architecture (JCWA). USCYBERCOM requires an interconnected and interoperable cyber infrastructure to conduct integrated planning and execution of cyberspace operations to meet Combatant Commander requirements. Unified Platform delivers this capability through the integration of disparate firing platforms, existing or evolving systems, infrastructure, mission capabilities, data analytics, and programs used for military cyber operations to build interoperable and scalable network for cyber capabilities. Unified Platform allows the DoD to achieve and maintain decision and operational superiority, the key to successful cyber operations within the highly dynamic cyberspace domain.

Foundational Efforts provide for the research, development, prototype maturation, integration, enhancement, delivery, and enduring product support of the Unified Platform capability to ensure responsiveness to warfighter requirements within operationally relevant timeframes. With the government as the lead integrator, Unified Platform Foundational Efforts provide a flexible—yet disciplined—agile development/security/operations (DevSecOps) capability to generate new capabilities, integrate existing and emerging technologies, incorporate rapid prototyping efforts, and evolve the Unified Platform baseline on an agile basis. Foundational efforts include both the management of the DevSecOps capabilities including systems engineering, risk management, contracting, test, and program management as well as the active research and capability development to be conducted for the Unified Platform baseline.

The Secretary of the Air Force leads the Unified Platform effort as Executive Agent on behalf of the Department of Defense. Unified Platform directly supports the Joint Network Attack Initial Capabilities Document (ICD), the National Military Strategy for Cyberspace Operations (NMS-CO), USCYBERCOM operational directives, the latest MAJCOM Offensive Cyberspace Operations System Flight Plan, and other formal requirements documents.

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 FY22, 8.077M was expended for civilian pay expenses in this program element, and in FY23, 8.150M is forecasted for civilian pay expenses in this program element.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0208099F / *Unified Platform (UP)*

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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	91.893	107.548	0.000	0.000	0.000
Current President's Budget	89.135	106.916	0.000	0.000	0.000
Total Adjustments	-2.758	-0.632	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	-2.758	0.000			
• Other Adjustments	0.000	-0.632	0.000	0.000	0.000

Change Summary Explanation

FY23 Other Adjustment is for FFRDC.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Foundational Efforts	89.135	106.916	0.000
Description: Foundational Efforts ensure the perpetual capability development, integration, and delivery of the Unified Platform capability through the rapid and agile development of requirements via a DevSecOps pipeline. Unified Platform requirements are warfighter-derived under the framework of validated Unified Platform requirement documents and met using agile development teams, integration of Service and U.S. Cyber Command capabilities, or external prototyping activities. Unified Platform capabilities are developed within the government-lead Unified Platform Continuous Integration/Continuous Deployment DevSecOps pipeline, leveraging a common pipeline baseline maintained by Platform One. This pipeline provides a common system development, integration, and staging environment to permit collaborative development. Developmental efforts will be continuously verified for security compliance and continually tested to ensure development meets established security and performance criteria.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0208099F / *Unified Platform (UP)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Foundational Efforts also include program office expertise at multiple operating locations in the areas of cyberspace, systems engineering, risk management framework, scaled agile framework, contracting, and program management to ensure that agile acquisition development planning and frequent customer engagement is accomplished. ***FY 2023 Plans:*** - Integrate forward deployed operations with enterprise data and analytics - Enable threat data collaboration with federal and commercial entities - Extend integration and interoperability with multinational partners - Develop and connect AI/ML models with cyber data sets - Leverage agile model to scale/deliver operational capabilities as determined by governance process - Develop new capabilities, modernize infrastructure, and prototype activities for Cyber Mission Force (CMF) - Provide DevSecOps platform for CI/CD of UP and other JCWA programs ***FY 2024 Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding transferred to USCYBERCOM in accordance with FY22 NDAA Section 1507.			
Accomplishments/Planned Programs Subtotals	89.135	106.916	0.000

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 834320: *C3 Countermeasures*	4.904	5.013	0.000	-	0.000	0.000	0.000	0.000	-	0.000	9.917

Remarks

E. Acquisition Strategy

Unified Platform represents a flexible, interoperable, and scalable warfighter capability to be employed by the Army, Navy, Marine Corps, and Air Force in conjunction with U.S. Cyber Command (USCYBERCOM). In order to match the speed of need of the highly dynamic cyberspace domain, the Service-agnostic Unified Platform implements an agile development framework to facilitate the rapid development, integration, and fielding of capabilities to remain responsive to evolving warfighter requirements. The Unified Platform program develops capability in response to requirements provided by the Army, Navy, Marine Corps, Air Force, and USCYBERCOM stakeholders in accordance with the prioritization provided by the multi-Service Unified Platform governance structure.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0208099F / *Unified Platform (UP)*

The initial Unified Platform capability delivered a minimum viable product (MVP) for immediate deployment and operational use by the Cyber Mission Force. Subsequent build iterations continue to deliver enhanced capabilities, incrementally building the Unified Platform capability to match warfighter needs and requirements to achieve cyberspace dominance. Development of the Unified Platform baseline capability relies agile software sprints to analyze integration constraints and opportunities of Service-specific cyber capabilities to realize the Unified Platform MVP and inform the future Unified Platform baseline an enduring foundational Unified Platform thrust area supports the development and maturation of Unified Platform baseline, integrates successful prototyping activities, and implements an agile development/security/operations (DevSecOps) construct to rapidly evolve and enhance the Unified Platform capability to match warfighter requirements.

The Unified Platform program office utilizes Concept, Development, Risk management, Production, and Deployment Plans as part of a streamlined approach to agile acquisition planning. All plans contain sufficient information to inform acquisition decisions (i.e., authorities to proceed), within the agile framework, to determine readiness to enter into the applicable phase of the acquisition process. Unified Platform will utilize both new and existing contractual vehicles, such as Government-Wide Acquisition Contract (GWAC) vehicles (Alliant, Encore II, Solutions for Enterprise-Wide Procurement IV (SEWP IV), and General Services Administration (GSA) Federal Supply Schedules, a Cyber Indefinite Delivery Indefinite Quantity (IDIQ) contract, Other Transaction Authority (OTA), DoD Enterprise Software Initiative (ESI), Commercial Solution Openings (CSO), Partnership Intermediary Agreements (PIA), Small Business Innovative Research (SBIR) contracts, and Small Disadvantaged Business 8(a) contracts. The use of multiple-award contractual vehicles will provide a wide range of commercially-available products and services that will meet any future requirements related to Unified Platform.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0208099F / *Unified Platform (UP)*	Project (Number/Name) 672281 / *Foundational Efforts*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
UP System Technical Coordination Follow On	C/T&M	TBD : San Antonio, TX	-	5.000	Oct 2021	5.426	Oct 2022	-		-		-	0.000	10.426	-
UP Cloud Compute and Store	Various	TBD : San Antonio, TX	-	5.714	Oct 2021	14.554	Oct 2022	-		-		-	0.000	20.268	-
UP Agile Capability Development	Various	Multiple: Various : TBD	-	40.371	Oct 2021	46.497	Oct 2022	-		-		-	0.000	86.868	169.123
UP Distributed Common Computing Environment	Various	Multiple: Various : TBD	-	12.258	Feb 2022	12.325	Feb 2023	-		-		-	0.000	24.583	30.402
		Subtotal	-	63.343		78.802		-		-		-	0.000	142.145	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
UP Direct Cite Authority Civilian Pay	TBD	Not specified. : TBD	-	8.077	Oct 2021	8.150	Oct 2022	-		-		-	0.000	16.227	-
		Subtotal	-	8.077		8.150		-		-		-	0.000	16.227	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
UP Test and Evaluation	Various	Multiple: Various : TBD	-	1.600	Jan 2022	1.700	Jan 2023	-		-		-	0.000	3.300	6.593
		Subtotal	-	1.600		1.700		-		-		-	0.000	3.300	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
UP Systems Engineering	Various	Various : TBD	-	11.449	Dec 2021	11.082	Dec 2022	-		-		-	0.000	22.531	28.504
UP Acquisition Support	Various	Various : TBD	-	3.163	Dec 2021	3.167	Dec 2022	-		-		-	0.000	6.330	7.846

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0208099F / *Unified Platform (UP)*	Project (Number/Name) 672281 / *Foundational Efforts*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
UP Program Mgmt Office Overhead Costs	Various	Various : TBD	-	1.503	Dec 2021	4.015	Dec 2022	-		-		-	0.000	5.518	3.732
		Subtotal	-	16.115		18.264		-		-		-	0.000	34.379	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	89.135		106.916		-		-		-	0.000	196.051	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208099F / *Unified Platform (UP)*	**Project (Number/Name)** 672281 / *Foundational Efforts*

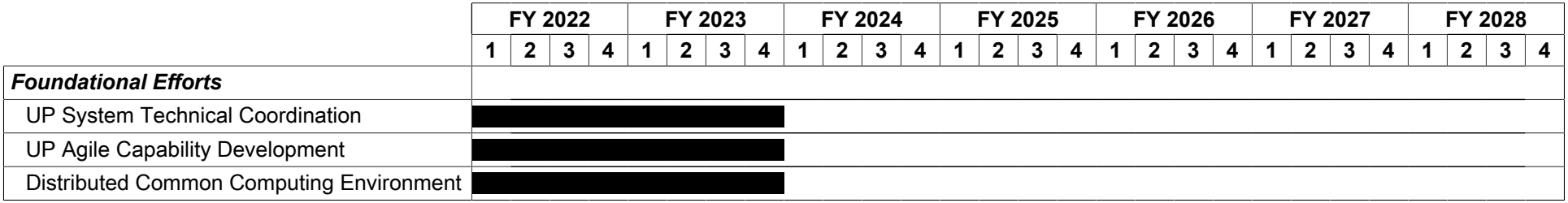

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208099F / *Unified Platform (UP)*	**Project (Number/Name)** 672281 / *Foundational Efforts*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Foundational Efforts				
UP System Technical Coordination	1	2022	4	2023
UP Agile Capability Development	1	2022	4	2023
Distributed Common Computing Environment	1	2022	4	2023

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0208288F / *Intel Data Applications*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.474	1.065	0.967	0.000	0.967	0.988	1.012	1.030	1.068	0.000	6.604
67A051: *Space Superiority - Advanced Intelligence Systems*	-	0.474	1.065	0.967	0.000	0.967	0.988	1.012	1.030	1.068	0.000	6.604
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Funds the application of Intelligence data as datasets/databases, model and simulations, and analysis for combat and combat support users. Provides for the communications infrastructures required to support Intelligence data applications. May include software and contract assistance to ensure system interoperability for Intelligence data discovery, retrieval, and dissemination. Includes manpower, procurement, and operations and maintenance funding.

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 FY2022 $0 was expended for civilian pay expenses in this program element, and in FY2023 $0 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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.493	1.065	0.965	0.000	0.965
Current President's Budget	0.474	1.065	0.967	0.000	0.967
Total Adjustments	-0.019	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	-0.019	0.000			
• Other Adjustments	0.000	0.000	0.002	0.000	0.002

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0208288F / *Intel Data Applications*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Radar Dynamic Cueing	0.474	1.065	0.967
Description: Develop algorithm to dynamically cue radar assets to increase collection capability and data relevance. ***FY 2023 Plans:*** Continue dynamic radar targeting efforts ***FY 2024 Plans:*** Continue dynamic radar targeting efforts ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding changed to match requirement.			
Accomplishments/Planned Programs Subtotals	0.474	1.065	0.967

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

This effort will be supported via the NASIC ATEP II contract.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208288F / *Intel Data Applications*	**Project (Number/Name)** 67A051 / *Space Superiority - Advanced Intelligence Systems*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	C/CPAF	Not specified. : TBD	-	-		-		-		-		-	Continuing	Continuing	-
NASIC ATEP II	TBD	NASIC : Dayton, OH	-	0.474	Apr 2022	1.065	Apr 2023	0.967	Apr 2024	-		0.967	Continuing	Continuing	-
		Subtotal	-	0.474		1.065		0.967		-		0.967	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	0.474		1.065		0.967		-		0.967	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208288F / *Intel Data Applications*	**Project (Number/Name)** 67A051 / *Space Superiority - Advanced Intelligence Systems*

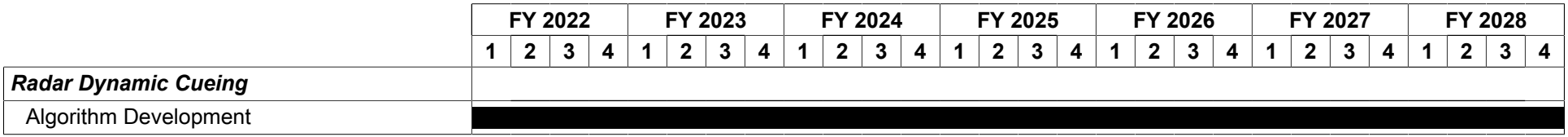

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0208288F / *Intel Data Applications*	**Project (Number/Name)** 67A051 / *Space Superiority - Advanced Intelligence Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Radar Dynamic Cueing				
Algorithm Development	1	2022	4	2028

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0301025F / *GeoBase*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	2.680	2.928	1.514	0.000	1.514	0.000	0.000	0.000	0.000	Continuing	Continuing
673280: *Ceit01*	-	2.680	2.928	1.514	0.000	1.514	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

The funding will allow the AF to modernize NexGen IT and develop interfaces with other CE data systems.

A. Mission Description and Budget Item Justification

Funds the research and development of AF Civil Engineer (CE) NexGen IT systems for all Total Force installations. The purpose for the funds are to develop/modernize NexGen IT, a Commercial-Off-The-Shelf (COTS) system; specifically to develop a Space Management/Utilization capability as well as new interfaces with other Civil Engineer data systems (i.e. Builder SMS). NexGen IT provides an integrated asset management system for the CE community with the capability to support cost accounting, Operations (Work Management and Material Control), Real Property, Project Management, and Energy Management. NexGen IT replaces several Legacy IT systems that lack the capability to meet present and future mission requirements and the ability to be compliant with Congressionally-mandated Financial Audit Improvement Readiness (FIAR).

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 emergent or unanticipated civilian pay expenses required to manage, execute, and deliver NexGen IT development/ modernization 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 element 0207479F.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0301025F / *GeoBase*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	2.782	2.928	2.988	0.000	2.988
Current President's Budget	2.680	2.928	1.514	0.000	1.514
Total Adjustments	-0.102	0.000	-1.474	0.000	-1.474
• 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	-0.102	0.000			
• Other Adjustments	0.000	0.000	-1.474	0.000	-1.474

Change Summary Explanation

FY24 reduced per OSD program budget decision due to the program not meeting identified standard execution benchmarks in FY22. Benchmark was not met as a result of delayed funding to execute a new start until continuing resolution was lifted. All FY22 funding was obligated, but expenditures did not meet the benchmark.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: NexGen IT Development	2.680	2.928	1.514
Description: Develop a Space Management/Space Utilization capability within NexGen IT; develop interfaces between NexGen IT and other CE data systems (a COTS program). ***FY 2023 Plans:*** Develop a Space Management/Space Utilization capability within NexGen IT; develop interfaces between NexGen IT and other CE data systems (a COTS program). ***FY 2024 Plans:*** Develop a Space Management/Space Utilization capability within NexGen IT; develop interfaces between NexGen IT and other CE data systems (a COTS program). ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY24 reduced per OSD program budget decision due to the program not meeting identified standard execution benchmarks in FY22. Benchmark was not met as a result of delayed funding to execute a new start until continuing resolution was lifted. All FY22 funding was obligated, but expenditures did not meet the benchmark.			
Accomplishments/Planned Programs Subtotals	2.680	2.928	1.514

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0301025F / *GeoBase*

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

The requirement will be executed thru the Air Force Life Cycle Management Center Enterprise Information Systems Directorate (AFLCMC/HIM) on an existing contract vehicle.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0301025F / *GeoBase*	Project (Number/Name) 673280 / *Ceit01*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Develop CE NexGen IT	C/CPFF	Not specified. : TBD	-	2.680	Aug 2022	2.928		1.514		-		1.514	Continuing	Continuing	-
		Subtotal	-	2.680		2.928		1.514		-		1.514	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	2.680		2.928		1.514		-		1.514	Continuing	Continuing	N/A

Remarks

The funding will allow the AF to modernize NexGen IT and develop interfaces with other CE data systems.

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0301025F / *GeoBase*	**Project (Number/Name)** 673280 / *Ceit01*

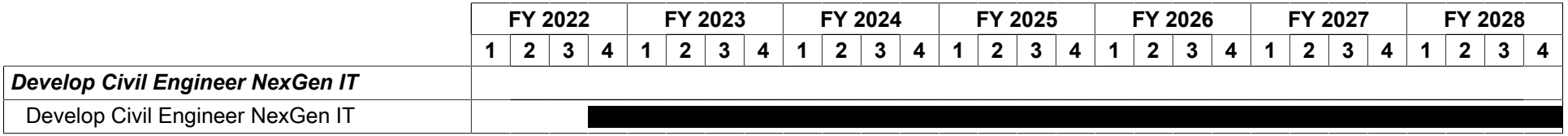

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0301025F / *GeoBase*	**Project (Number/Name)** 673280 / *Ceit01*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Develop Civil Engineer NexGen IT				
Develop Civil Engineer NexGen IT	4	2022	4	2028

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0301112F / *Nuclear Planning and Execution System (NPES)*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	0.000	14.738	16.158	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	30.896
673768: *Nuclear Planning and Execution System (NPES)*	0.000	13.680	16.158	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	29.838
674212: *NLCC Decision Support System*	0.000	1.058	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.058

Note

In FY24, efforts in PE 0301112F, Nuclear Planning & Execution System (NPES), Project 673768, NPES Recapitalization/ Decision Support Service (DSS), Project 674212 National Leadership Command Capability (NLCC) Decision Support Service, will be transferred to PE 0304100F, Strategic Mission Planning and Execution Systems (SMPES), aligning legacy PEs under a single PE to begin the SMPES integration efforts.

A. Mission Description and Budget Item Justification

Nuclear Planning and Execution System (NPES): NPES develops and delivers a software system to conduct nuclear command and control (NC2) adaptive planning and execution at fixed and mobile sites in real time. NPES is an automated information system that supports all phases of nuclear conflict and provides for various levels of support of all command and control software engineering (C2SES) projects. The NPES Legacy program encompassed cyber related investments necessary for a successful operational application/system delivery, for fixed command centers, distributive sites and mobile platforms. The NPES Recapitalization (Recap) program succeeded the NPES Legacy program succeeded NPES Legacy and provides communication interfaces with software development, data management, software re-engineering and operations to include requirements validation and training. NPES Recap modernizes decision support, knowledge management, information visualization, an integrated-fused depiction of global battle space, and common missile event picture.

Decision Support Service (DSS): DSS will develop and deliver software that directly supports POTUS. DSS will improve situational awareness, aggregate strategic-level information, and provide a common visual display that is resilient and mobile.

This effort includes decomposing system, functional and non-functional requirements in order to design, build, and field a new NPES application software baseline via agile, development operations [DevOps], and user-centered design principles. Further, the effort includes developing written artifacts to document system / software engineering elements appropriate for an Agile DevOps software development effort.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force					Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*		**R-1 Program Element (Number/Name)** PE 0301112F / *Nuclear Planning and Execution System (NPES)*			
B. Program Change Summary ($ in Millions)	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**
Previous President's Budget	15.120	0.000	0.000	0.000	0.000
Current President's Budget	14.738	16.158	0.000	0.000	0.000
Total Adjustments	-0.382	16.158	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	16.158			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.382	0.000			
• Other Adjustments	0.000	0.000	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0301112F / *Nuclear Planning and Execution System (NPES)*	Project (Number/Name) 673768 / *Nuclear Planning and Execution System (NPES)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
673768: *Nuclear Planning and Execution System (NPES)*	0.000	13.680	16.158	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	29.838
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2024, efforts in PE 0301112F Nuclear Planning & Execution System (NPES), Project 673768, NPES Recapitalization were transferred to PE 0304100F, Strategic Mission Planning & Execution System (SMPES), Project 675029, Strategic Mission Planning & Execution System (SMPES), aligning legacy PEs under a single PE to begin the SMPES integration efforts.

A. Mission Description and Budget Item Justification

Nuclear Planning and Execution System: NPES develops and delivers a software system to conduct nuclear command and control [NC2] adaptive planning and execution at fixed and mobile sites in real time. NPES is an automated information system that supports all phases of nuclear conflict and provides for various levels of support of all command and control software engineering [C2SES] projects.

NPES Legacy encompassed cyber related investments necessary for a successful operational application/system delivery, for fixed command centers, distributive sites and mobile platforms. NPES Recapitalization [Recap] succeeded NPES Legacy and provides communication interfaces with software development, data management, software re-engineering and operations to include requirements validation and training. NPES Recap modernizes decision support, knowledge management, information visualization, an integrated-fused depiction of global battle space, and common missile event picture.

This is a Section 804 Alpha Phase rapid software prototyping effort. This effort includes decomposing system, functional and non-functional requirements in order to design, build, and field a new NPES application software baseline via agile, development operations [DevOps], and user-centered design principles. Further, the effort includes developing written artifacts to document system / software engineering elements appropriate for an Agile/DevOps software development effort.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver NPES weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F, 0605833F, 0605832F, and 0605898F.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Nuclear Planning and Execution System [NPES] Modernization	13.680	6.533	0.000	-	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0301112F / *Nuclear Planning and Execution System (NPES)*	**Project (Number/Name)** 673768 / *Nuclear Planning and Execution System (NPES)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Description: The NPES program will use proven and mature software engineering, technologies, and design tenets to provide a modern, secure, interoperable and reliable Nuclear Command and Control [NC2] capability for USSTRATCOM and other users as appropriate. ***FY 2023 Plans:*** - will update and/or replace existing system software and improve reliability and sustainability. - will also seek to reduce total ownership cost. ***FY 2024 Base Plans:*** Work for this effort will be completed in PE 0304100F. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** See PE 0304100F, Strategic Mission Planning and Execution System.					
Title: Decision Support Service ***Description:*** Product Development ***FY 2023 Plans:*** Activities supported with FY23 funding include, but are not limited to the following: -Will conduct cybersecurity tabletop exercises -Will further develop and evaluate integrated technologies and prototype systems -Will develop server-side software, integrate, and perform rapid fielding initiatives -Will develop high availability failover capability to support NC2 operational requirements -Will develop, test, and implement capability requirements for continuity of operations and continuity of government communications -Will conduct integrated government developmental test & evaluation and operational test & evaluation to characterize performance and cybersecurity posture ***FY 2024 Base Plans:*** See PE 0304100F, Strategic Mission Planning and Execution System (SMPES) ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:***	-	9.625	0.000	0.000	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0301112F / *Nuclear Planning and Execution System (NPES)*	**Project (Number/Name)** 673768 / *Nuclear Planning and Execution System (NPES)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Funding transferred to PE 0304100F, Strategic Mission Planning and Execution System (SMPES)					
Accomplishments/Planned Programs Subtotals	13.680	16.158	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 Line Item 833140: *Strategic Command and Control*	2.401	2.443	2.487	-	2.487	-	-	-	-	0.000	7.331

Remarks

D. Acquisition Strategy

NPES will develop, test, and field a renewed Nuclear Command and Control [NC2] capability for combatant commanders using an evolutionary acquisition approach with development contracts that are negotiated and awarded in a competitive environment. Additionally, select government agencies will be used to conduct relevant analyses and provide other required support. NPES will exploit AFLCMC/HBC agile software development economies of scale to enable developers to build and integrate software at the Top Secret level vice paying to build duplicate capabilities at other government or contractor facilities.

This effort includes decomposing system, functional and non-functional requirements in order to design, build, and field a new NPES application software baseline via agile, development operations [DevOps], and user-centered design principles. Further, the effort includes developing written artifacts to document system / software engineering elements appropriate for an Agile/DevOps software development effort.

Funds agile software development activities and a secure software development environment. Software development environment will meet classification/security regulations/criteria, which will promote competition.

The Air Force Life Cycle Management Center at Hanscom AFB, [AFLCMC/HB] and the 55th CONS at Offutt AFB will be the contracting authorities for NPES and provide necessary program management, contracts, legal, and financial management support.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0301112F / *Nuclear Planning and Execution System (NPES)*	Project (Number/Name) 673768 / *Nuclear Planning and Execution System (NPES)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Development	Various	NG : Offutt AFB, NE	0.000	7.428	Nov 2021	3.451	Dec 2022	-		-		-	Continuing	Continuing	-
Development Suites & Infrastructure	C/TBD	NG : Offutt AFB, NE	0.000	-		-		-		-		-	Continuing	Continuing	-
DSS Prototype Development	C/T&M	NG : Offutt AFB, NE	0.000	-		6.638	Feb 2023	-		-		-	0.000	6.638	-
		Subtotal	0.000	7.428		10.089		-		-		-	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DevOps Support	Various	Various : Offutt AFB, NE	0.000	3.152	Feb 2022	1.199	Feb 2023	-		-		-	Continuing	Continuing	-
Technical Engineering Services	Various	Various : Offutt AFB, NE	0.000	0.883	Nov 2021	0.628	Jun 2023	-		-		-	Continuing	Continuing	-
DSS DevOps Support	Various	TBD : Offutt AFB, NE	0.000	-		1.967	Apr 2023	-		-		-	0.000	1.967	-
DSS Engineering Support	SS/ Various	MITRE : Offutt AFB, NE	0.000	-		0.324	Jan 2023	-		-		-	0.000	0.324	-
		Subtotal	0.000	4.035		4.118		-		-		-	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
T&E	Various	Various : Offutt AFB, NE	0.000	0.457	Feb 2022	0.078	Jan 2023	-		-		-	Continuing	Continuing	-
		Subtotal	0.000	0.457		0.078		-		-		-	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0301112F / *Nuclear Planning and Execution System (NPES)*	Project (Number/Name) 673768 / *Nuclear Planning and Execution System (NPES)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Services	C/CPAF	Not specified. : Offutt AFB, NE	0.000	1.760	Jun 2022	1.219	Feb 2023	-		-		-	0.000	2.979	-
DSS Management Services	C/TBD	TBD : Offutt AFB, NE	0.000	-		0.654	Mar 2023	-		-		-	0.000	0.654	-
		Subtotal	0.000	1.760		1.873		-		-		-	0.000	3.633	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	13.680		16.158		-		-		-	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0301112F / *Nuclear Planning and Execution System (NPES)*	**Project (Number/Name)** 673768 / *Nuclear Planning and Execution System (NPES)*

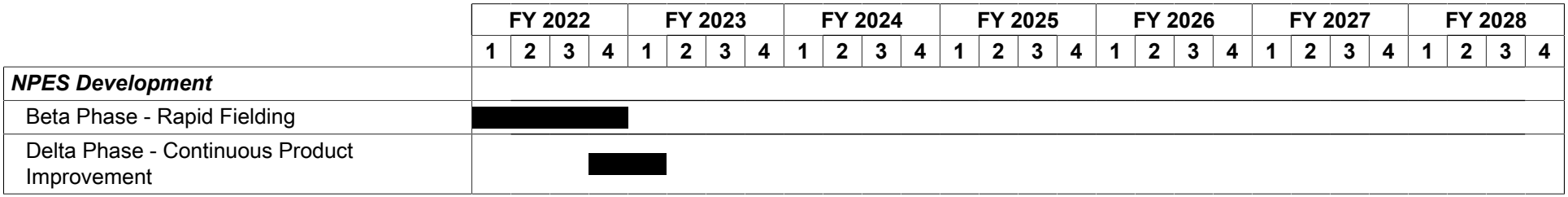

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0301112F / *Nuclear Planning and Execution System (NPES)*	**Project (Number/Name)** 673768 / *Nuclear Planning and Execution System (NPES)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
NPES Development				
Beta Phase - Rapid Fielding	1	2022	4	2022
Delta Phase - Continuous Product Improvement	4	2022	1	2023

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0301112F / *Nuclear Planning and Execution System (NPES)*	Project (Number/Name) 674212 / *NLCC Decision Support System*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
674212: *NLCC Decision Support System*	0.000	1.058	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.058
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Decision Support Service [DSS]: DSS will develop and deliver software that directly supports strategic leaders. DSS will improve situational awareness, aggregate strategic-level information, and provide a common visual display that is resilient and mobile.

FY24 project efforts are detailed in PE 0304100F, Strategic Mission Planning and Execution System [SMPES].

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: DSS Development	1.058	0.000	0.000	-	0.000
Description: Product Development ***FY 2023 Plans:*** Activities supported with FY23 funding include, but are not limited to the following: -Will conduct cybersecurity tabletop exercises -Will further develop and evaluate integrated technologies and prototype systems -Will develop server-side software, integrate, and perform rapid fielding initiatives -Will develop high availability failover capability to support NC2 operational requirements -Will develop, test, and implement capability requirements for continuity of operations and continuity of government communications -Will conduct integrated government developmental test & evaluation and operational test & evaluation to characterize performance and cybersecurity posture ***FY 2024 Base Plans:*** See PE 0304100F, Strategic Mission Planning and Execution System (SMPES) ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding transferred to PE 0304100F, Strategic Mission Planning and Execution System (SMPES)					
Accomplishments/Planned Programs Subtotals	1.058	0.000	0.000	-	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0301112F / *Nuclear Planning and Execution System (NPES)*	**Project (Number/Name)** 674212 / *NLCC Decision Support System*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

DSS will develop, test, and field a decision support service capability for use from the combatant commander and above. DSS will use agile development to rapidly prototype, develop software, and field the solutions. DSS will use existing government contract vehicles when advantageous or create development contracts that are negotiated and awarded in a competitive environment.

Program management for the DSS program is under direction of Program Executive Officer Digital, located at Hanscom AFB, MA. The Air Force Life Cycle Management Center (AFLCMC) located at Hanscom AFB, MA and the 55th Contracting Squadron at Offutt AFB, NE are the contracting authorities for the DSS program. AFLCMC provides contracting, legal, comptroller, programmatic, engineering, test, and logistics support.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0301112F / *Nuclear Planning and Execution System (NPES)*	Project (Number/Name) 674212 / *NLCC Decision Support System*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prototype Development	C/T&M	NG : Offutt AFB, NE	0.000	-		0.000	Feb 2023	-		-		-	0.000	0.000	-
Visualization Development	C/Various	Various : Offutt AFB, NE	0.000	0.097	Apr 2022	-		-		-		-	0.000	0.097	-
		Subtotal	0.000	0.097		0.000		-		-		-	0.000	0.097	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DevOps Support	Various	TBD : Offutt AFB, NE	0.000	0.309	Feb 2022	0.000	Apr 2023	-		-		-	0.000	0.309	-
Engineering/Test Support	C/CPAF	KBR Wyle : Offutt AFB, NE	0.000	0.309	May 2022	-		-		-		-	0.000	0.309	-
Engineering Support	SS/ Various	MITRE : Offutt AFB, NE	0.000	0.295	Nov 2021	0.000	Jan 2023	-		-		-	0.000	0.295	-
		Subtotal	0.000	0.913		0.000		-		-		-	0.000	0.913	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Services	C/TBD	TBD : Offutt AFB, NE	0.000	0.048	Apr 2022	0.000	Mar 2023	-		-		-	0.000	0.048	-
		Subtotal	0.000	0.048		0.000		-		-		-	0.000	0.048	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	1.058		0.000		-		-		-	0.000	1.058	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0301112F / *Nuclear Planning and Execution System (NPES)*	**Project (Number/Name)** 674212 / *NLCC Decision Support System*

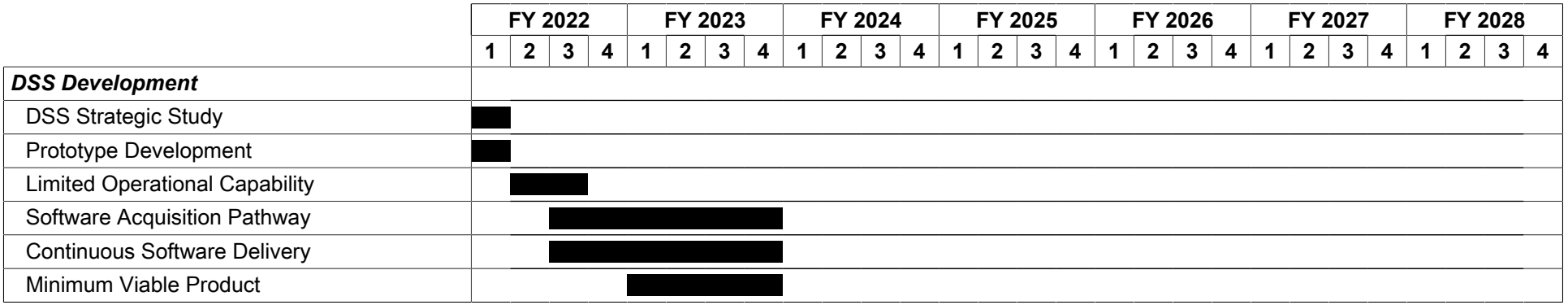

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0301112F / *Nuclear Planning and Execution System (NPES)*	**Project (Number/Name)** 674212 / *NLCC Decision Support System*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
DSS Development				
DSS Strategic Study	1	2022	1	2022
Prototype Development	1	2022	1	2022
Limited Operational Capability	2	2022	3	2022
Software Acquisition Pathway	3	2022	4	2023
Continuous Software Delivery	3	2022	4	2023
Minimum Viable Product	1	2023	4	2023

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0301113F / *Cyber Security Intelligence Support*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	5.224	8.972	8.476	0.000	8.476	11.107	11.053	11.280	11.688	Continuing	Continuing
671931: *TECH SURVEIL COUNTER MEAS EQPT*	-	5.224	8.972	8.476	0.000	8.476	11.107	11.053	11.280	11.688	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Mission Description: Provides funding to the Air Force owned DoD Cyber Crime Center to fund continued development and modifications of cybersecurity tools and activities to support DoD-wide military intelligence efforts to include CADO-IS (formerly CI-PED) and STORMSYSTEM. Activities include but are not limited to development of software/hardware systems, integration and transition of lab-developed cyber capabilities, developmental testing, operational evaluation, manpower, studies, analysis, pilots, demonstrations, and risk reduction efforts to improve protection of critical technologies.

In FY 2022, PE 0305103F, Cyber Security Initiative, Project 671931, Tech Surveillance Counter Measures, efforts were transferred to PE 03031113F, Cyber Security Intelligence Support, Project 671931, Tech Surveillance Counter Measurement Equipment, in order to more appropriately categorize the funding according to purpose.

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, 0605832F, 0605833F, 0605898F, 0606398F. In FY2022 $0 was expended for civilian pay expenses in this program element, and in FY2023 $0 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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	5.224	8.972	9.711	0.000	9.711
Current President's Budget	5.224	8.972	8.476	0.000	8.476
Total Adjustments	0.000	0.000	-1.235	0.000	-1.235
• 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	-1.235	0.000	-1.235

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0301113F / *Cyber Security Intelligence Support*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Cyber Security Intelligence Support	5.224	8.972	8.476
Description: Provides funding to the Air Force DoD Cyber Crime Center to fund continued development and modifications of cybersecurity tools and activities to support DoD-wide military intelligence efforts to include CADO-IS [formerly CI-PED] and STORMSYSTEM. Activities include but are not limited to development of software/hardware systems, integration and transition of lab-developed cyber capabilities, developmental testing, operational evaluation, manpower, studies, analysis, pilots, demonstrations, and risk reduction efforts to improve protection of critical technologies. ***FY 2023 Plans:*** - Continue to provide professional and technical subject matter expertise to the development and modification of cybersecurity tools and activities to support DoD-wide military intelligence efforts. - Continue to design and maintain enhanced ability to support research, prototyping, development, and testing of cybersecurity tools to synchronize collection, focus operational activity, and rapidly share intelligence to support DoD-wide military intelligence efforts. ***FY 2024 Plans:*** - Continue to provide professional and technical subject matter expertise to the development and modification of cybersecurity tools and activities to support DoD-wide military intelligence efforts. - Continue to design and maintain enhanced ability to support research, prototyping, development, and testing of cybersecurity tools to synchronize collection, focus operational activity, and rapidly share intelligence to support DoD-wide military intelligence efforts. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding decreased due to decreased requirements.			
Accomplishments/Planned Programs Subtotals	5.224	8.972	8.476

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

Utilize a tailorable acquisition strategy that facilitates the rapid update and delivery of material and nonmaterial solutions to operational military intelligence efforts. This approach allows flexibility for solutions to enter the acquisitions process at any phase of the acquisition life cycle. Cyber Security Intelligence Support provides the rapid development environment and DevOps capacity to meet urgent operational needs/requirements in the protection of critical technologies.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0301113F / *Cyber Security Intelligence Support*	Project (Number/Name) 671931 / *TECH SURVEIL COUNTER MEAS EQPT*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Cyber Security Intelligence Support	TBD	TBD : TBD	-	5.224	Oct 2021	8.972	Oct 2022	8.476	Oct 2023	-		8.476	Continuing	Continuing	-
		Subtotal	-	5.224		8.972		8.476		-		8.476	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	5.224		8.972		8.476		-		8.476	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0301113F / *Cyber Security Intelligence Support*	**Project (Number/Name)** 671931 / *TECH SURVEIL COUNTER MEAS EQPT*

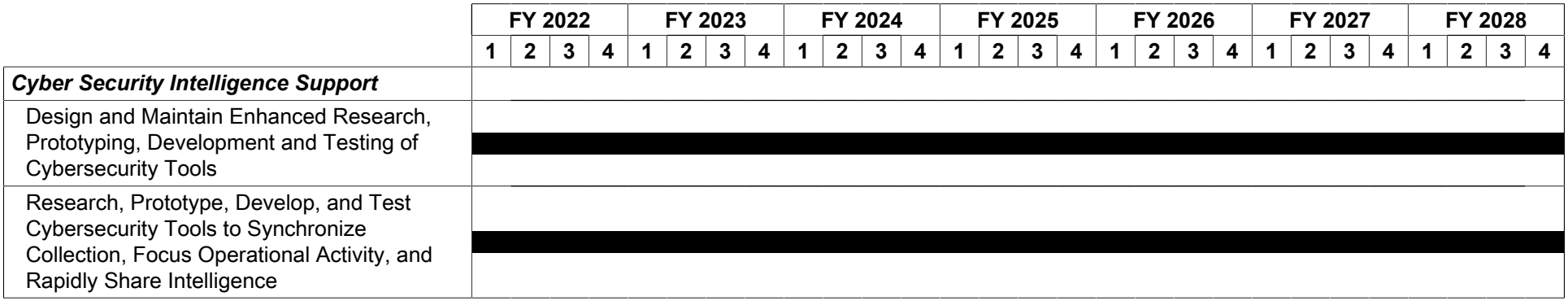

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0301113F / *Cyber Security Intelligence Support*	**Project (Number/Name)** 671931 / *TECH SURVEIL COUNTER MEAS EQPT*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Cyber Security Intelligence Support				
Design and Maintain Enhanced Research, Prototyping, Development and Testing of Cybersecurity Tools	1	2022	4	2028
Research, Prototype, Develop, and Test Cybersecurity Tools to Synchronize Collection, Focus Operational Activity, and Rapidly Share Intelligence	1	2022	4	2028

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0301401F / *AF Multi-Domain Non-Traditional ISR Battlespace Awareness*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	2.463	3.069	2.890	0.000	2.890	56.173	57.572	58.745	60.868	0.000	241.780
67A051: *Space Superiority - Advanced Intelligence Systems*	-	2.463	3.069	2.890	0.000	2.890	56.173	57.572	58.745	60.868	0.000	241.780
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Cross Domain Tactical OPIR Processing delivers a mechanism providing reach-back support for battlespace awareness functions and manages the timely transfer of newly developed tools to operational users.

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 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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	2.463	3.069	3.367	0.000	3.367
Current President's Budget	2.463	3.069	2.890	0.000	2.890
Total Adjustments	0.000	0.000	-0.477	0.000	-0.477
• 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	-0.477	0.000	-0.477

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: TAC OPIR Processing	2.463	3.069	2.890

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0301401F / *AF Multi-Domain Non-Traditional ISR Battlespace Awareness*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Develop tactical OPIR processing comprised of software development, controlled multi-level security interface that provides data access and processing services for a robust and flexible network architecture. ***FY 2023 Plans:*** Continue to work tactical OPIR processing ***FY 2024 Plans:*** Continue to work tactical OPIR processing ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding decreased due to decrease in requirements.			
Accomplishments/Planned Programs Subtotals	2.463	3.069	2.890

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

All contracts funded in this program will be awarded using competitive procedures to the maximum extent possible.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0301401F / *AF Multi-Domain Non-Traditional ISR Battlespace Awareness*	Project (Number/Name) 67A051 / *Space Superiority - Advanced Intelligence Systems*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Cross Domain OPIR	C/CPFF	NASIC : Dayton, OH	-	2.463	Oct 2021	3.069	Oct 2022	2.890	Oct 2023	-		2.890	Continuing	Continuing	-
		Subtotal	-	2.463		3.069		2.890		-		2.890	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	2.463		3.069		2.890		-		2.890	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0301401F / *AF Multi-Domain Non-Traditional ISR Battlespace Awareness*	**Project (Number/Name)** 67A051 / *Space Superiority - Advanced Intelligence Systems*

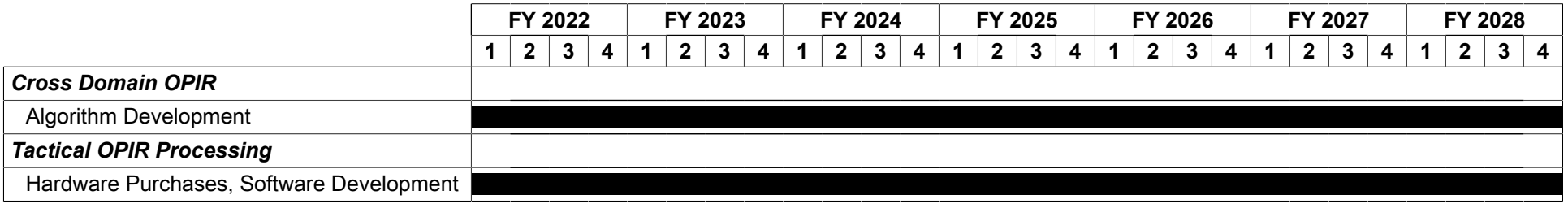

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0301401F / *AF Multi-Domain Non-Traditional ISR Battlespace Awareness*	**Project (Number/Name)** 67A051 / *Space Superiority - Advanced Intelligence Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Cross Domain OPIR				
Algorithm Development	1	2022	4	2028
Tactical OPIR Processing				
Hardware Purchases, Software Development	1	2022	4	2028

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0302015F / *E-4B National Airborne Operations Center (NAOC)*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	22.798	25.701	39.868	0.000	39.868	26.767	24.715	5.000	3.000	0.000	147.849
674777: *E-4B Aircraft Modernization*	-	22.798	25.701	39.868	0.000	39.868	26.767	24.715	5.000	3.000	0.000	147.849
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This program, BA 7, PE 0302015F, project 674777, E-4B Systems Integration Laboratory (SIL), is a new start.

A. Mission Description and Budget Item Justification

The four (4) aircraft E-4B National Airborne Operations Center (NAOC) fleet satisfies the military need for an airborne operations center with communications capabilities permitting military and civilian leadership to monitor and control military and civil national assets during all phases of conflict (nuclear and non-nuclear) or natural disaster. The E-4B NAOC fleet also satisfies the military requirement to provide a highly survivable node of the National Military Command System (NMCS).

This program's developmental modifications include, but are not limited to, upgrades and enhancements to aircraft structures, propulsion system, fuel system, environmental control system, electrical generation and distribution systems, flight safety and navigation systems (with their associated communications equipment), and the Systems Integration Lab. Modifications may enhance the aircraft's mission capabilities necessary for the E-4B fleet to execute its mission, to include but not limited to those necessary for the Senior Leadership Command, Control and Communications System (SLC3S), National Leadership Command Capability (NLCC), and Nuclear Command, Control, and Communications (NC3). Funds may also be used to explore and develop modifications, upgrades, and future systems required to meet evolving mission requirements. This budget supports the following developmental modifications and studies/projects currently underway or planned for accomplishment:

- The Mobile User Objective System (MUOS) program upgrades the E-4B's Ultra-High Frequency (UHF) Radio transmitters to be MUOS capable to meet E-4B Capability Development Document (CDD) and CJCSI 6250.01F requirements. MUOS provides securable data and full duplex voice communications while simultaneously monitoring a second frequency. The MUOS upgrade will provide interoperability with MUOS waveforms for voice and data communications and with other nuclear and national command and control (C2) centers and aircraft by replacing the legacy USC-42 UHF SATCOM radios with a MUOS capable radio. FY22 was the last year of funding for this program.

- Survivable Super High Frequency (SSHF) will upgrade and replace portions of the E-4B's Jam-Resistant Secure Communications (JRSC) system to meet existing Presidential Policy Directive (PPD)-35 and National Security Presidential Directive (NSPD)-51/Homeland Security Presidential Directive (HSPD)-20 requirements and to ensure continued connectivity and interoperability as satellite and communications infrastructure evolves. Expected modifications include, but are not limited to, component and sub-system upgrades and replaces portions of the current Super High Frequency (SHF) system that are obsolete or near end of service life. A replacement to the SHF system is required as secure, survivable communications capability transitions from the Defense Satellite Communications System (DSCS). A risk-reduction study was completed in FY19 to further define the acquisition strategy of the SSHF program. The program will be acquired in 2 increments: Increment

1 will include technical solutions such as upgrading the existing modems, systems integration lab, and Ka-band system. Increment 2 will add new modem technology, new Ku-band system, common workstation, and upgrades to the X-band system.

The total cost of the E-4B SSHF Inc 2 RP Middle Tier of Acquisition effort is 172.50 million, including RDT&E. E-4B SSHF Inc 2 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.

- The E-4B Systems Integration Laboratory (SIL) program will develop a test environment configured to represent the mission systems of the E-4B with connectivity to mission networks and services. E-4B SIL started as the Test Accreditation Integration Lab (TAIL) 5 for development of the E-4B SSHF program. The E-4B SIL program will expand the capabilities of TAIL 5 beyond SSHF to include the other mission communication systems within the E-4B. The E-4B SIL is necessary to minimize modernization and technical refresh schedules by reducing time on aircraft for install, test, ground connections/configurations, technical orders, redlines/rework, and training. Schedule reduction by the E-4B SIL will directly support increased Aircraft Availability (AA). The E-4B SIL will be developed in three blocks in FY24-FY27: Block 1 will focus on voice systems, Block 2 will focus on data systems, and Block 3 will integrate the remaining communication systems.

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 0.0M was expended for civilian pay expenses in this program element, and in FY23 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.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	26.331	25.701	21.212	0.000	21.212
Current President's Budget	22.798	25.701	39.868	0.000	39.868
Total Adjustments	-3.533	0.000	18.656	0.000	18.656
• 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	-3.533	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	18.656	0.000	18.656

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0302015F / *E-4B National Airborne Operations Center (NAOC)*

Change Summary Explanation

FY22 adjustments for -5.033 reprogramming on FY22-11PA and +1.5M from internal reprogramming
FY24 increase of 3.6M to properly align funding for SSHF, and 15.0M for the E-4B SIL block 1 development

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: E-4B Mobile User Objective System (MUOS)	2.000	0.000	0.000
Description: The MUOS program upgrades E-4B Ultra-High Frequency (UHF) Radio transmitters to be MUOS capable to meet the E-4B CDD and CJCSI 6250.01F. MUOS provides securable data and full duplex voice communications while simultaneously monitoring a second frequency. The MUOS upgrade will provide interoperability with MUOS waveforms for voice and data communications and with other nuclear and national C2 centers and aircraft by replacing the legacy USC-42 UHF Satellite Communication (SATCOM) radio system. ***FY 2023 Plans:*** No FY23 efforts ***FY 2024 Plans:*** No FY24 efforts			
Title: Survivable SHF	20.798	25.701	24.868
Description: Survivable Super High Frequency (SSHF) will upgrade and replace portions of the E-4B's Jam-Resistant Secure Communications (JRSC) system to meet existing Presidential Policy Directive (PPD)-35 and National Security Presidential Directive (NSPD)-51/Homeland Security Presidential Directive (HSPD)-20 requirements and to ensure continued connectivity and interoperability as satellite and communications infrastructure evolves. Expected modifications include, but are not limited to, component and sub-system upgrades and replaces of portions of the current SHF system that are obsolete or near end of service life. A replacement to the SHF system is required as secure, survivable communications capability transitions from the Defense Satellite Communications System (DSCS). A risk-reduction study was completed in FY19 to further define the acquisition strategy of the SSHF program. The program will be acquired in 2 increments: Increment 1 will include technical solutions such as upgrading the existing modems, systems integration lab, and Ka-band system. Increment 2 will add new modem technology, new Ku-band system, common workstation, and upgrades to the X-band system. ***FY 2023 Plans:*** - Continue Increment 2 development activities. - Continue design of common workstation. - Continue development of new modem technology. ***FY 2024 Plans:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0302015F / *E-4B National Airborne Operations Center (NAOC)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Continue Increment 2 development activities. - Continue design of common workstation. - Continue development of new modem technology. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** In FY24 development efforts will transition to prototype and SIL integration.			
Title: E-4B Systems Integration Laboratory (SIL) ***Description:*** The E-4B Systems Integration Laboratory (SIL) program will develop a test environment configured to represent the mission systems of the E-4B with connectivity with mission networks and services. E-4B SIL started as the Test Accreditation Integration Lab (TAIL) 5 for development of the E-4B SSHF program. The E-4B SIL program will expand the capabilities of TAIL 5 beyond SSHF to include the other mission communication systems within the E-4B. The E-4B SIL is necessary to minimize modernization and technical refresh schedules by reducing time on aircraft for install, test, ground connections/configurations, technical orders, redlines/rework, and training. Schedule reduction by the E-4B SIL will directly support increased Aircraft Availability (AA). The E-4B SIL will be developed in three blocks in FY24-FY27 to support AA: Block 1 will focus on voice systems, Block 2 will focus on data systems, and Block 3 will integrate the remaining communication systems. ***FY 2023 Plans:*** No FY23 efforts ***FY 2024 Plans:*** Begin Block 1 (voice system) development ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY24 is the first year of funding for this effort	0.000	0.000	15.000
Accomplishments/Planned Programs Subtotals	22.798	25.701	39.868

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• APAF 05 Line Item E00400: *E-4B Nat Airborne Ops Center (NAOC)*	19.081	5.973	13.055	-	13.055	32.962	36.767	44.408	45.334	0.000	197.580
• APAF 06 Line Item 000999: *Initial Spares/Repair Parts*	0.000	5.000	0.363	-	0.363	0.372	0.378	0.387	0.395	0.000	6.895

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0302015F / *E-4B National Airborne Operations Center (NAOC)*

E. Acquisition Strategy

Acquisition Strategy: The acquisition strategy for each specific modification differs based on the urgency of the requirement, definition of the capability, and technology readiness level of the components.

The Acquisition Strategy for Survivable SHF is a Section 804 Middle Tier Acquisition (MTA). Increment 1 Rapid Prototype MTA was approved in April 2019. Increment 2 Rapid Prototype MTA was approved in December 2021.

Management Strategy: Program management for all aircraft modifications is executed by the Commercial Derivative Aircraft Division at Tinker AFB, Oklahoma. The Program Executive Officer (PEO) for Presidential and Executive Airlift, at Wright Patterson, Ohio provides management oversight.

Contracting Strategy: The contracting strategy differs for each individual modification, but normally includes an initial engineering study contract followed by a development contract. Production installations and sustainment are typically accomplished with the E-4B Contractor Logistics Support (CLS) contract.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0302015F / *E-4B National Airborne Operations Center (NAOC)*	**Project (Number/Name)** 674777 / *E-4B Aircraft Modernization*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MUOS	SS/CPIF	Raytheon : Largo, FL	-	2.000	Sep 2022	-		-		-		-	0.000	2.000	13.000
Survivable SHF	C/CPFF	L-3 : SLC, UT	-	20.798	Sep 2022	25.701	Jan 2023	24.868	Jan 2024	-		24.868	0.000	71.367	120.000
E-4B SIL	SS/CPFF	L-3 : SLC, UT	-	-		-		15.000	Apr 2024	-		15.000	0.000	15.000	50.000
		Subtotal	-	22.798		25.701		39.868		-		39.868	0.000	88.367	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	22.798		25.701		39.868		-		39.868	0.000	88.367	N/A

Remarks

FY22, FY23, & FY24 SSHF funding supports development, integration, and test of prototype SSHF system under L-3Harris contract.

FY22 MUOS funding supports prototype integration efforts.

FY24 SIL funding supports Block 1 development efforts.

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0302015F / *E-4B National Airborne Operations Center (NAOC)*	**Project (Number/Name)** 674777 / *E-4B Aircraft Modernization*

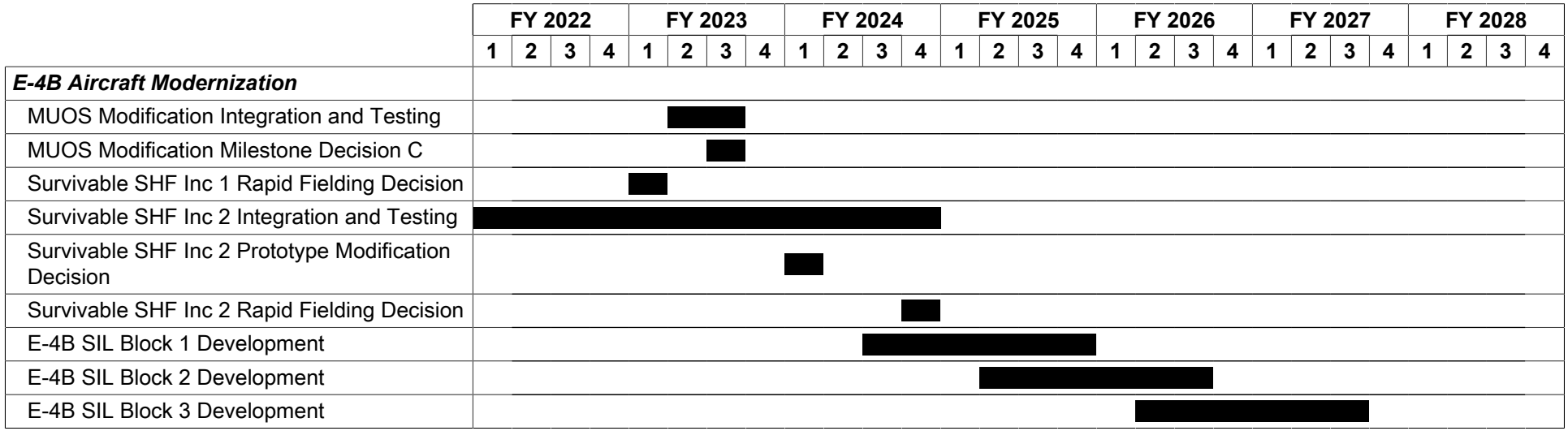

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0302015F / *E-4B National Airborne Operations Center (NAOC)*	**Project (Number/Name)** 674777 / *E-4B Aircraft Modernization*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
E-4B Aircraft Modernization				
MUOS Modification Integration and Testing	2	2023	3	2023
MUOS Modification Milestone Decision C	3	2023	3	2023
Survivable SHF Inc 1 Rapid Fielding Decision	1	2023	1	2023
Survivable SHF Inc 2 Integration and Testing	1	2022	4	2024
Survivable SHF Inc 2 Prototype Modification Decision	1	2024	1	2024
Survivable SHF Inc 2 Rapid Fielding Decision	4	2024	4	2024
E-4B SIL Block 1 Development	3	2024	4	2025
E-4B SIL Block 2 Development	2	2025	3	2026
E-4B SIL Block 3 Development	2	2026	3	2027

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0303004F / *EIT CONNECT*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.000	0.000	32.900	0.000	32.900	32.902	0.000	0.000	0.000	0.000	65.802
673100: *Operational System Development - Hq USAF Only*	-	0.000	0.000	32.900	0.000	32.900	32.902	0.000	0.000	0.000	0.000	65.802
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This program, BA 7, PE 0303004F, project 673100, Enterprise IT Diverse Data-Routing Network, is a new start.

A. Mission Description and Budget Item Justification

This Department of the Air Force (DAF) Operational Imperative effort accelerated a whole of nation approach to establish a reliable and resilient diverse data transport solution within the enterprise, in direct support of "Distributed Basing and Agile Combat Employment (ACE)" and "Readiness of the DAF to transition to a Wartime Posture Against a Peer Competitor" activities to ensure full integration of tactical communications at the edge will connect at the tyranny of the time and distance, across the Joint Force, DAF Enterprise, and allies.

The activity builds upon the deployment and connectivity of solutions being delivered under the DAF Advanced Battle Management System (ABMS) Program Element 64003F. The DAF executed Task Force Sentinel Stand (TFSS) to assess cyber COMREL at the tactical edge. TFSS proved warfighters have a critical need to take their endpoint devices to austere locations and still access needed classified data without High Assurance IP Encryptor devices. Connectivity will allow relevant mission data requirements to the edge and through space with diverse access paths to deter adversary intrusions. This will include the SD-WAN (Software-Defined Wide Area Network) routing layer to transport content across nodes through both government and commercial communication paths. Through this effort the DAF will deploy, connect, and test SD-WAN solutions in direct support of PACAF, AFFORGEN and ACE initiatives, to allow Combat Air Forces to connect, move and maneuver, and recover safely, reducing risk to mission and life.

DAF CIO's vision is to provide resilient, software-defined, transport and portable end points that create efficiencies and resiliency in transport by creating a "Black Fabric" that allows multiple providers to transport multiple classifications, rather than the historic and vulnerable approach of 1 fiber, 1 network, 1 classification. SD-WAN work initiated in Fiscal Year 2023 is a key foundational effort provides an essential Cyber and Information Technology Management Initiatives.

Specifically, in FY24, funding was allocated to initiate activities to support deployment, connection and testing of an Operational EIT SD-WAN network in an "operational prototype" configuration, to demonstrate distributed edge intelligence and C2 "on-the-move." Funding will initiate deployment of network capability that could in the future, if successful, be scaled for employment across any DAF (or DoD) installation or weapon system. FY24 and beyond funds are focused on the following outcomes:

- (FY24) Plan/direct/deploy material and non-material solutions for a test campaign to codify operational capabilities for a multi-nodal, multi-level security, SD-WAN for better understand the utility of the integrated SD-WAN architecture to satisfy enterprise-wide IT needs across multiple classification levels.

- (FY25+) Codify requirements, through experimentation and evaluation activities, for provisioning future network solutions to proliferate and sustain the SD-WAN architecture for any DAF installation or weapon system.
- (FY25+) Define the DAF level standards for ensuring access to a proliferated SD-WAN architecture, which aligns with analogous technologies employed in the private sector today, to allow the widest possible adoption of this capability in the future.
- (FY25+) Deliver critical near-term infrastructure for OI championed ACE needs and to demonstrate a technology that supports broader Joint All Domain C2 objectives.

Valant Shield 22, Agile Reaper 23-1 and other planned exercises are underway to further define requirements for SD-WAN, ACE and AFFORGEN employment of these cutting-edge capabilities that are AOR specific and challenging today.

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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	32.900	0.000	32.900
Total Adjustments	0.000	0.000	32.900	0.000	32.900
• 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	32.900	0.000	32.900

Change Summary Explanation

FY 2022: N/A.

FY 2023: N/A

FY 2024: Reflects 32.9M increase to deploy/connect for secure, multi-level security, "black fabric" to support DAF agile combat employment requirements. Fiscal Year 2024 funding is a new start effort that will scale upon the ABMS SD-WAN architecture to build out and test against the initial multi-nodal network.
SD-WAN has been the capability of choice to enable flexible options to connect to the strongest and most reliable signal in the PACAF AOR (Cellular/ SATCOM commercial/military pathways).

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303004F / *EIT CONNECT*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Enterprise IT Diverse Data-Routing Network	-	0.000	32.900
Description: To ensure the efficient use of DAF investment in the tactical communications at the edge to execute ACE design and validate broader DAF level requirements that provide resilient, distributed, and secure connectivity—including mobile computing and multiple communications pathways (government and commercial space, cellular, wireless, fiber)—to mitigate adversary threats to our critical Enterprise Information Technology infrastructure during both normal/peacetime operations and in wartime operations. Initial deployments will support of PACAF/INDOPACOM. ***FY 2023 Plans:*** N/A ***FY 2024 Plans:*** - In partnership with DAF PEO C3BM and the ABMS program, will award task order to facilitate deployment, test and validation of network capability that could in the future, if successful, be scaled for employment across any DAF (or potentially DoD) installation or weapon system. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** As a new start activity in FY24, increase is tied to the award and deployment of initial EIT, SD-WAN based "black fabric" capability.			
Accomplishments/Planned Programs Subtotals	-	0.000	32.900

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303004F / *EIT CONNECT*	**Project (Number/Name)** 673100 / *Operational System Development - Hq USAF Only*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Enterprise IT Diverse-Data Routing Network	TBD	TBD : TBD	-	-		-		32.900	Feb 2024	-		32.900	Continuing	Continuing	-
		Subtotal	-	-		-		32.900		-		32.900	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		-		32.900		-		32.900	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303004F / *EIT CONNECT*	**Project (Number/Name)** 673100 / *Operational System Development - Hq USAF Only*

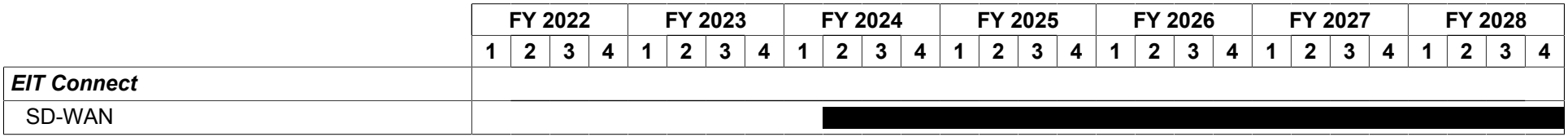

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303004F / *EIT CONNECT*	**Project (Number/Name)** 673100 / *Operational System Development - Hq USAF Only*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
EIT Connect				
SD-WAN	2	2024	4	2028

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0303089F / *Cyberspace Operations Systems*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.000	0.000	4.881	0.000	4.881	9.758	10.097	10.383	10.697	Continuing	Continuing
676002: *Cyber Systems Modernization*	-	0.000	0.000	4.881	0.000	4.881	9.758	10.097	10.383	10.697	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This program, BA 7, PE 0303089F, project 676002, Cyber Systems Modernization, is a new start.

A. Mission Description and Budget Item Justification

Cyber Systems Modernization will focus on development of new approaches and stay technologically current to inform the spiral delivery of data analytics, visualization, dashboards, with an emphasis of delivering capabilities which directly enable mission, threat, and network awareness across the DAF.

Development will focus on improvement of visualization dashboards to provide cyber situational awareness (SA) and decision support tools for the PACAF AOR. Development teams will produce AF-specific software modules and/or enhancements to existing suites of cyber C2 software (to include the Joint Cyber Command and Control (JCC2) program of record)- including software to provide cyber C2 to Mission Defense Teams, provide SA capes to CDCCs, provide Cyber SA for weapon systems, and provide SA/C2 capes for the AFIN SOC.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. In FY 2023 0.000M 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 effort is Budget Activity 7, Operational System Development because efforts are necessary to upgrade current systems.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303089F / *Cyberspace Operations Systems*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	4.881	0.000	4.881
Total Adjustments	0.000	0.000	4.881	0.000	4.881
• 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	4.881	0.000	4.881

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Cyber Systems Modernization	-	-	4.881
Description: Capabilities developed/delivered will support integration of existing Cyber C2 solutions into the cross functional mission analysis scope of work to support: 1) Sensor Strategy deployment in support of Secretary of the Air Forces' Operational Imperative number 7, line of effort 4. 2) Identification and monitoring of control systems 3) C2 support of Mission Defense Teams 4) Situational Awareness to Cyber Service Security Providers ***FY 2024 Plans:*** - Will develop requirements for PACAF-focused cyber C2 SA/dashboard capabilities - Will initiate PACAF AOR mapping/monitoring of mission relevant terrain-cyber at all domains - Will survey fielded cyber C2 systems to assess adaptability to meet/support cyber C2/dashboard mission needs - Will scale and deliver capability through an agile development model to rapidly deliver operational capabilities ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Effort initiated in FY24			
Accomplishments/Planned Programs Subtotals	-	-	4.881

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 835080: *AFNET*	-	78.027	154.911	-	154.911	59.177	60.377	60.081	73.148	Continuing	Continuing

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303089F / *Cyberspace Operations Systems*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost

Remarks

E. Acquisition Strategy

The Cyber Situational Awareness cyber C2 visualization/dashboard effort will be executed by the Joint Cyber Command and Control (JCC2) Program Office (AFLCMC/HNCJ). JCC2, an approved Software Acquisition Pathway (SWAP) program, is in the Software Acquisition Execution Phase which enables continuous integration and delivery of software capability at the speed of relevance. JCC2 will apply agile acquisition tenants to the programmatic, design/engineering, test, and delivery aspects to provide an ability to deliver Situational Awareness/C2 capabilities to the warfighter in a rapid manner, and will leverage this capability to deliver PACAF-AOR focused visualization/dashboard tools and applications to meet specified mission requirements. The JCC2 program office may leverage existing contract vehicles, or if required to meet specified PACAF AOR needs, award new contract vehicles/task orders to deliver a continuous integration/continuous development pipeline to facilitate the rapid development, integration, and fielding of capabilities to remain responsive to evolving warfighter requirements.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303089F / *Cyberspace Operations Systems*	Project (Number/Name) 676002 / *Cyber Systems Modernization*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development	TBD	TBD : TBD	-	-		-		4.081	Feb 2024	-		4.081	Continuing	Continuing	-
		Subtotal	-	-		-		4.081		-		4.081	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMO PSC	Various	Not specified. : TBD	-	-		-		0.500	Feb 2024	-		0.500	Continuing	Continuing	-
		Subtotal	-	-		-		0.500		-		0.500	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Spt	PO	Not specified. : TBD	-	-		-		0.300	Feb 2024	-		0.300	Continuing	Continuing	-
		Subtotal	-	-		-		0.300		-		0.300	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		-		4.881		-		4.881	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303089F / *Cyberspace Operations Systems*	**Project (Number/Name)** 676002 / *Cyber Systems Modernization*

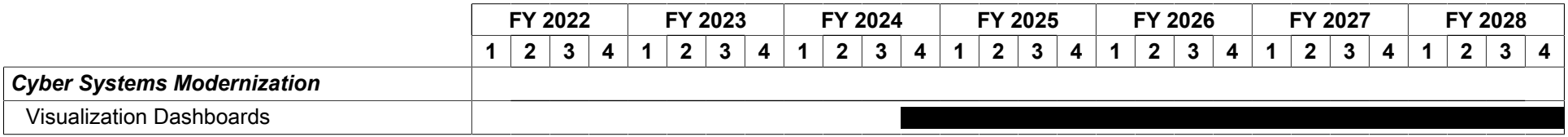

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303089F / *Cyberspace Operations Systems*	**Project (Number/Name)** 676002 / *Cyber Systems Modernization*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Cyber Systems Modernization				
Visualization Dashboards	4	2024	4	2028

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	51.681	35.548	33.567	0.000	33.567	13.535	11.530	7.653	7.930	Continuing	Continuing
672832: *MEECN System Improvements*	-	0.971	1.023	1.047	0.000	1.047	1.071	1.097	0.008	0.008	Continuing	Continuing
672835: *Common VLF/LF Receiver Inc 2*	-	31.981	15.143	29.520	0.000	29.520	12.464	10.433	7.645	7.922	Continuing	Continuing
676030: *Global ASNT Inc 2*	-	18.729	19.382	3.000	0.000	3.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

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.

The Minimum Essential Emergency Communications Network (MEECN) portfolio modernizes the systems necessary to effectively provide assured communications connectivity between the President and the strategic deterrence forces in stressed environments.

MEECN System Improvements (MSI) is a long-range planning effort with users (Air Force Global Strike Command (AFGSC), Air Combat Command (ACC), United States Space Force (USSF), Air Mobility Command (AMC), Air Force Special Operations Command (AFSOC), US Strategic Command (USSTRATCOM), and the US Navy (USN)) to monitor and assess the performance of existing NC3 systems and develop recommendations for strategic and tactical architecture upgrades, requirements, and issues based on available and emerging technologies. MSI is used to conduct technology testing; analyze technology strategies; conduct requirement trade space analysis, technology maturation and risk reduction efforts, and mission analysis; and build technology roadmaps as proactive support to the NC3 community. MSI performs analysis, integration, and testing activities for the NC3 Weapon System.

The Common Very Low Frequency/Low Frequency (VLF/LF) Receiver (CVR) Increment 2 (CVRi2) Program will develop and produce a modular open systems approach (MOSA) compliant, advanced, adaptable VLF/LF receiver. As the USAF VLF receiver integrator, the VLF Enterprise Program Office will continue to be responsible for VLF sustainment to include configuration management of the CVR Increment 1 (CVRi1) materiel solution while also providing management support to the B-52 VLF Modernization Program for its procurement and production of the directed VLF receiver. The VLF Enterprise Program Office will provide the same management support to other legacy NC3 platforms' VLF receiver requirements.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*

The total cost of the CVR Inc 2 Middle Tier of Acquisition effort is 103.81 million, including RDT&E. The CVR Inc 2 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 project 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 elements 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY2022 0.208M was expended for civilian pay expenses in this project, and FY2023 1.399M is forecasted for civilian pay expenses in this project.

The Global Aircrew Strategic Network Terminal (Global ASNT) program replaces inadequate, unsustainable strategic communications equipment at bomber, tanker and reconnaissance Wing Command Posts (WCPs), Nuclear Task Forces and Munitions Support Squadrons (MUNSS) and for Mobile Support Teams (MSTs). Global ASNT is a ground-based system that will provide survivable, secure communication paths to receive Emergency Action Messages (EAMs), Force Management messages, and Force Direction messages and disseminate them to bomber, tanker, and reconnaissance aircrews.

Global ASNT is being fielded in separate capability increments.

Global ASNT Increment 1 (Inc 1) fields required Extremely High Frequency/Advanced Extremely High Frequency (EHF/AEHF) capabilities and replaces inadequate, unsustainable strategic mobile and fixed-site Single Channel Anti-jam Man-Portable (SCAMP) terminals and Secure, Mobile, Anti-Jam, Reliable, Tactical - Terminal (SMART-T) equipment. FY19 was the last year of RDT&E funding for Global ASNT Inc 1; development is complete, full rate production is in process, and fielding of terminals commenced in 2QFY22.

Global ASNT Increment 2 (Inc 2) Block 1 delivers a replacement Aircrew Alerting System (AAS) consisting of personal and general area alerting as well as Ultra High Frequency (UHF) line of sight (LOS) voice communications to bomber, tanker, and reconnaissance aircraft. Increment 2 replaces aging legacy Electromagnetic Pulse Hardened Dispersal Communication (EHDC) and Aircrew Alerting Communications Electromagnetic Pulse (AACE) systems.

The total cost of the Global ASNT Inc 2 Middle Tier of Acquisition effort is 104.90 million, including RDT&E and procurement of prototype units. The Global ASNT Inc 2 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 project 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 elements 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY22 0.000M was expended for civilian pay expenses in this project, and in FY23 1.263M is forecasted for civilian pay expenses in this project.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	58.165	41.171	11.754	0.000	11.754
Current President's Budget	51.681	35.548	33.567	0.000	33.567
Total Adjustments	-6.484	-5.623	21.813	0.000	21.813
• Congressional General Reductions	0.000	-5.623			
• 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	-4.944	0.000			
• SBIR/STTR Transfer	-1.540	0.000			
• Other Adjustments	0.000	0.000	21.813	0.000	21.813

Change Summary Explanation

FY22: AF FY22-51 PA DoD FY22-11 PA reprogramming decrease of -8.744M, reprogramming add of 3.800M for MEECN V2 and SBIR Reduction of -1.540M

FY23: Congressional Directed Reduction for FFRDC of -5.623M

FY24: Properly phased 11.813M to Global ASNTi2 and 10.000M add for CVRi2

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*	Project (Number/Name) 672832 / *MEECN System Improvements*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
672832: *MEECN System Improvements*	-	0.971	1.023	1.047	0.000	1.047	1.071	1.097	0.008	0.008	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

MSI is a long-range planning effort with users (Air Force Global Strike Command (AFGSC), Air Combat Command (ACC), United States Space Force (USSF), Air Mobility Command (AMC), Air Force Special Operations Command (AFSOC), US Strategic Command (USSTRATCOM), and the US Navy) to monitor and assess the performance of existing NC3 systems and develop recommendations for strategic and tactical architecture upgrades, requirements, and issues based on available and emerging technologies. MSI is used to conduct technology testing; analyze technology strategies; conduct requirement trade space analysis, technology maturation and risk reduction efforts, and mission analysis; and build technology Roadmaps as proactive support to the NC3 community. MSI performs analysis, integration, and testing activities for the NC3 Weapon System.

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 $0.0M was expended for civilian pay expenses in this program element, and in FY23 $0.0M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: MEECN System Improvements	0.971	1.023	1.047
Description: MSI is used to conduct technology testing, analyze technology strategies, conduct requirement trade space analysis, technology maturation and risk reduction efforts, and mission analysis, and build technology Roadmaps as proactive support to the NC3 community. MSI may also be used to execute test bed activities and exercise participation related to Advanced Battle Management System (ABMS) and JADC2 demonstrations and execute contracts in support of next generation NC3 systems and sub-systems			
FY 2023 Plans: - Complete MSI Summary Report - Perform analysis of engineering issues and technology insertion - Evaluate integrated technology, representative modes, and prototype systems - Perform analysis, integration, and testing activities - Conduct NC3 Connectivity Performances updates			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*	**Project (Number/Name)** 672832 / *MEECN System Improvements*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Conduct first phase of an in-depth cybersecurity evaluation of the VLF receiver as fielded ***FY 2024 Plans:*** - Complete MSI Summary Report - Perform analysis of engineering issues and technology insertion - Perform analysis, integration, and testing activities - Conduct studies and analysis for the assessment and modernization of the AF NC3 Weapon System (AN/USQ-225) - Conduct analysis of the performance/condition of NC3 platforms' VLF receiver Group A elements (e.g., antennas, power source, cabling/wiring, human machine interface (HMI), etc.) - Develop messaging, waveform, mode, and system standards and documentation - Conduct studies, analysis, proof-of-concept, and prototyping for the assessment and modernization of the AF NC3 Weapon System (AN/USQ-225) - Conduct second phase of an in-depth cybersecurity evaluation of the VLF receiver as fielded ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to inflation			
Accomplishments/Planned Programs Subtotals	0.971	1.023	1.047

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

MSI will continue to evaluate the performance of the NC3 Weapon System by assessing performance and technology areas for improvement with the assistance of expert technical support from FFRDCs and UARCs [MITRE, Massachusetts Institute of Technology (MIT) Lincoln Labs, Johns Hopkins University/Applied Physics Laboratory (JHU/APL) and Georgia Tech Research Institute (GTRI)]. It may also include competitively awarded technical support contracts with industry and/or academia.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*	**Project (Number/Name)** 672832 / *MEECN System Improvements*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MSI NC3 Roadmap / NC3 Connectivity Performances Update Cybersecurity Evaluation	Various	JHU/APL - Laurel, MD : Laurel, MD	-	0.374	Feb 2022	0.675	Mar 2023	0.754	Mar 2024	-		0.754	Continuing	Continuing	0.000
Antenna Study	Various	MIT/LL - Lexington, MA : Lexington, MA	-	0.400	Mar 2022	-		-		-		-	Continuing	Continuing	-
		Subtotal	-	0.774		0.675		0.754		-		0.754	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support	Various	Various : Various	-	0.197	Apr 2022	0.345	Dec 2022	0.290	Apr 2023	-		0.290	Continuing	Continuing	-
		Subtotal	-	0.197		0.345		0.290		-		0.290	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MSI PSC (Eng/Acq Spt/ Travel/IMPAC)	Various	Various : Various	-	0.000	Mar 2022	0.003	Jan 2023	0.003	Jan 2024	-		0.003	Continuing	Continuing	0.000
		Subtotal	-	0.000		0.003		0.003		-		0.003	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	0.971		1.023		1.047		-		1.047	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*	**Project (Number/Name)** 672832 / *MEECN System Improvements*

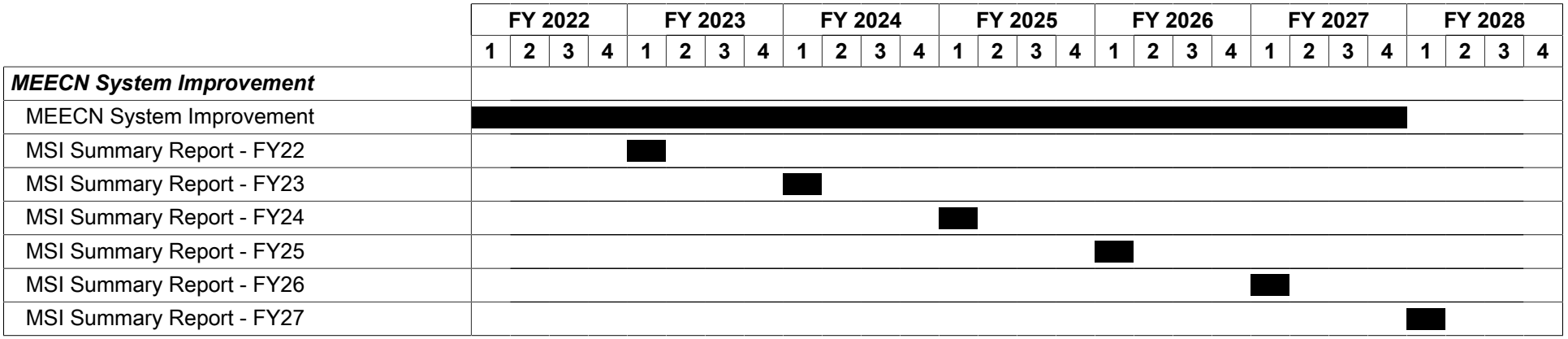

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*	**Project (Number/Name)** 672832 / *MEECN System Improvements*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
MEECN System Improvement				
MEECN System Improvement	1	2022	4	2027
MSI Summary Report - FY22	1	2023	1	2023
MSI Summary Report - FY23	1	2024	1	2024
MSI Summary Report - FY24	1	2025	1	2025
MSI Summary Report - FY25	1	2026	1	2026
MSI Summary Report - FY26	1	2027	1	2027
MSI Summary Report - FY27	1	2028	1	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*	Project (Number/Name) 672835 / *Common VLF/LF Receiver Inc 2*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
672835: *Common VLF/LF Receiver Inc 2*	-	31.981	15.143	29.520	0.000	29.520	12.464	10.433	7.645	7.922	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Common Very Low Frequency/Low Frequency (VLF/LF) Receiver (CVR) Increment 2 (CVRi2) Program will develop and produce a modular open systems approach (MOSA) compliant, advanced, adaptable VLF/LF receiver. As the USAF VLF receiver integrator, the VLF Enterprise Program Office will continue to be responsible for VLF sustainment to include configuration management of the CVR Increment 1 (CVRi1) materiel solution while also providing management support to the B-52 VLF Modernization Program for its procurement and production of the directed VLF receiver. The VLF Enterprise Program Office will provide the same management support to other legacy NC3 platforms' VLF receiver requirements.

The total cost of the CVRi2 Middle Tier of Acquisition effort is 103.81M million, including RDT&E and procurement of prototype units. CVRi2 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 project 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 elements 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY2022 0.208M was expended for civilian pay expenses in this project, and FY2023 1.399M is forecasted for civilian pay expenses in this project.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: CVR Inc 2	31.981	15.143	29.520
Description: Post-award of delivery order for prototype development employing a Middle Tier Acquisition (MTA) approach. ***FY 2023 Plans:*** - Continue development of the modular open systems approach (MOSA) compliant, advanced, adaptable VLF/LF receiver - Hold CVRi2 Reviews: System Requirements Review (SRR), System Functional Review (SFR), and Preliminary Design Review (PDR) - Provide CVRi2 digital models to lead platform program for its Milestone B/Contract Award - Conduct studies for ICBM programs ***FY 2024 Plans:*** - Hold CVRi2 Critical Design Review (CDR) - Provide CVRi2 engineering design models (EDMs) to lead platform			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*	**Project (Number/Name)** 672835 / *Common VLF/LF Receiver Inc 2*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Complete studies to develop/adapt CVRi2 for follow on NC3 platforms ICBM forces			
FY 2023 to FY 2024 Increase/Decrease Statement: Funding increased to support Middle Tier Acquisition (MTA) effort/contract award, to provide upgraded modular open systems approach (MOSA) compliant, advanced, adaptable VLF/LF receiver in order to meet user requirements.			
Accomplishments/Planned Programs Subtotals	31.981	15.143	29.520

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• APAF 05 0303131F: *CVR i2*	0.000	0.000	0.000	-	0.000	0.000	12.181	10.175	5.215	Continuing	Continuing

Remarks

N/A

D. Acquisition Strategy

Employing a Middle Tier Acquisition (MTA) Rapid Prototyping (RP) approach, CVR Inc 2 used the Advanced Battle Management Systems (ABMS) Indefinite Delivery/ Indefinite Quantity (IDIQ) Broad Area Announcement (BAA) to release a fair opportunity proposal request (FOPR). After the Fair Opportunity Team (FOT) evaluation and recommendation, the Fair Opportunity Decision Authority (FODA) awarded Collins Aerospace a delivery order (DO) to develop an Open Systems Architecture (OSA)- compliant, advanced VLF/LF receiver prototype. The Survivable Airborne Operations Center (SAOC) is the lead platform, and the system will be adaptable to other platforms. The Program will propose inclusion of other follow on platforms to the AFPEONC3. The RP phase will result in production representative model (PRM) prototypes and conclude with a successful demonstration of the prototype in an operationally relevant environment. The Program will then transition to either a Milestone C or an MTA Rapid Fielding (RF) phase to compete a contract for production and fielding to meet SAOC and following platforms' timeline requirements. Per the approved Acquisition Strategy, the Program will present an Acquisition Strategy Panel (ASP) for Production and Fielding to AFPEO NC3 for a production decision.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*	**Project (Number/Name)** 672835 / *Common VLF/LF Receiver Inc 2*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Early Development (TMRR/prototyping)	C/CPFF	Rockwell Collins Inc : Cedar Rapids, IA	-	22.126	Jul 2022	10.276	Jun 2023	16.251	Feb 2024	-		16.251	Continuing	Continuing	-
Prime Contract ECOs	Various	Various : TBD	-	0.000	Jun 2022	0.000	Jan 2024	1.217	Mar 2024	-		1.217	Continuing	Continuing	-
MITRE (DMS)	Various	Cost : Bedford, MA	-	2.920	Oct 2021	0.000	Oct 2022	2.409	Oct 2023	-		2.409	Continuing	Continuing	-
GFE	Various	Various : Various	-	0.047	Aug 2022	0.000	Apr 2023	-		-		-	Continuing	Continuing	-
NSA Certification	Various	Various : Fort Meade, MD	-	0.065	Aug 2022	0.065	Aug 2023	0.187	Feb 2024	-		0.187	Continuing	Continuing	-
		Subtotal	-	25.158		10.341		20.064		-		20.064	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Direct Cite Civilian Pay	Various	Various : Hanscom, MA	-	0.208	Sep 2022	1.399	Sep 2023	0.440	Sep 2024	-		0.440	Continuing	Continuing	-
		Subtotal	-	0.208		1.399		0.440		-		0.440	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	C/CPAF	96th Test Wing : Eglin AFB	-	0.775	Jul 2023	0.000	Feb 2024	0.535	Jul 2024	-		0.535	Continuing	Continuing	-
		Subtotal	-	0.775		0.000		0.535		-		0.535	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*	**Project (Number/Name)** 672835 / *Common VLF/LF Receiver Inc 2*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PSC (Eng/Acq Spt/Travel/ IMPAC)	Various	Various : Hanscom, MA	-	5.840	May 2022	3.403	Apr 2023	5.628	Apr 2024	-		5.628	Continuing	Continuing	-
MITRE (PSC)	Various	Various : Bedford, MA	-	0.000	Sep 2022	0.000	May 2023	2.853	Oct 2023	-		2.853	Continuing	Continuing	-
		Subtotal	-	5.840		3.403		8.481		-		8.481	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	31.981		15.143		29.520		-		29.520	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*	**Project (Number/Name)** 672835 / *Common VLF/LF Receiver Inc 2*

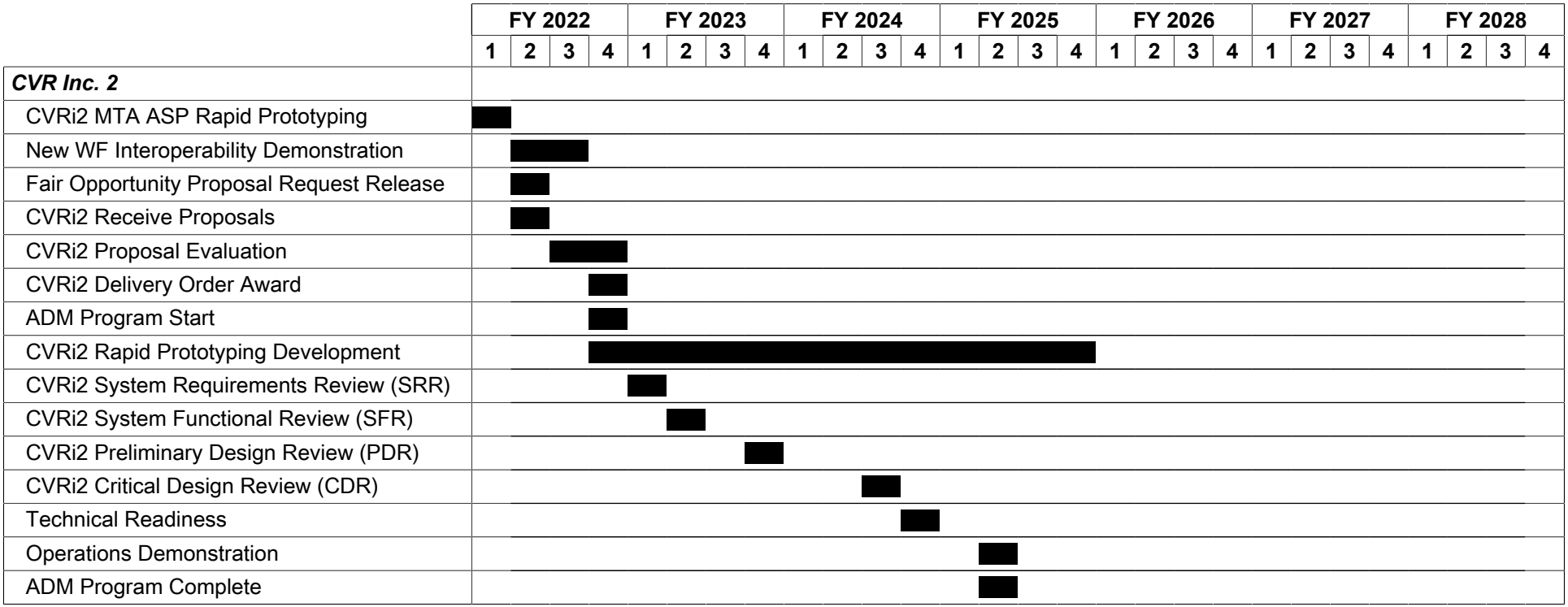

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*	**Project (Number/Name)** 672835 / *Common VLF/LF Receiver Inc 2*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
CVR Inc. 2				
CVRi2 MTA ASP Rapid Prototyping	1	2022	1	2022
New WF Interoperability Demonstration	2	2022	3	2022
Fair Opportunity Proposal Request Release	2	2022	2	2022
CVRi2 Receive Proposals	2	2022	2	2022
CVRi2 Proposal Evaluation	3	2022	4	2022
CVRi2 Delivery Order Award	4	2022	4	2022
ADM Program Start	4	2022	4	2022
CVRi2 Rapid Prototyping Development	4	2022	4	2025
CVRi2 System Requirements Review (SRR)	1	2023	1	2023
CVRi2 System Functional Review (SFR)	2	2023	2	2023
CVRi2 Preliminary Design Review (PDR)	4	2023	4	2023
CVRi2 Critical Design Review (CDR)	3	2024	3	2024
Technical Readiness	4	2024	4	2024
Operations Demonstration	2	2025	2	2025
ADM Program Complete	2	2025	2	2025

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*	Project (Number/Name) 676030 / *Global ASNT Inc 2*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
676030: *Global ASNT Inc 2*	-	18.729	19.382	3.000	0.000	3.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Global ASNT Increment 2 (Inc 2) replaces aging legacy strategic communications equipment at bomber, tanker and reconnaissance Wing Command Posts (WCPs), Nuclear Task Forces, Munitions Support Squadrons (MUNSS), and Mobile Support Teams (MSTs). Global ASNT Inc 2 is a ground-based system that will provide survivable, secure communication paths to disseminate Emergency Action Messages (EAMs) to bomber, tanker, and reconnaissance aircrews.

Global ASNT Inc 2 is being fielded in 3 separate capability incremental blocks; all 3 blocks are High-Altitude Electro-Magnetic Pulse (HEMP) and Radiation Hazard (RADHAZ) protected.

Global ASNT Inc 2 Block 1 delivers a replacement Aircrew Alerting System (AAS) consisting of Ultra High Frequency (UHF) personal and general alerting equipment replacing EHDC and AACE systems. Global ASNT Inc 2 Blocks 2 and 3 provide High Frequency (HF) capabilities and other enhancements, Block 2 and 3 requirements are currently deferred to focus on the highest priority needs.

The total cost of the Global ASNT Inc 2 Middle Tier of Acquisition effort is 120.3 million, including RDT&E and procurement of prototype units. Global ASNT Inc 2 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 project 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 elements 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY22 0.000M was expended for civilian pay expenses in this project, and in FY23 1.263M is forecasted for civilian pay expenses in this project.

This program element may include necessary revised Security Classification Guide (SCG) implementation activities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Global ASNT Inc 2, Block 1	18.729	19.382	3.000
Description: Middle Tier Acquisition - Rapid Prototyping			
FY 2023 Plans: - Non-HEMP Environmental Testing - Non-HEMP Developmental Testing			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*	**Project (Number/Name)** 676030 / *Global ASNT Inc 2*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Non-HEMP Operational Demonstration - HEMP Preliminary Design Review (PDR) ***FY 2024 Plans:*** - HEMP Critical Design Review (CDR) - HEMP Environmental Testing ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Decrease in funds due to transition from development to procurement activities.			
Accomplishments/Planned Programs Subtotals	18.729	19.382	3.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 05 0303131F: *Minimum Essential Emergency Communications Network (MEECN)*	0.000	13.094	40.760	-	40.760	81.799	54.569	0.000	0.000	Continuing	Continuing

Remarks

D. Acquisition Strategy

Global ASNT Inc 2 Block 1 is leveraging the Rapid Prototyping MTA pathway for development and the program plans to transition to a Rapid Fielding MTA.

Pending success of Block 1, Blocks 2 and 3 will utilize the same MTA Prototype acquisition approach to continue rapid development and delivery of capabilities to the warfighter.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*	**Project (Number/Name)** 676030 / *Global ASNT Inc 2*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	C/CPAF	Various : Bedford, MA	-	12.412	Dec 2021	11.307	Jul 2023	3.000	Jan 2024	-		3.000	Continuing	Continuing	-
		Subtotal	-	12.412		11.307		3.000		-		3.000	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Direct Cite Civilian Pay	Various	Various : Bedford, MA	-	0.000	Oct 2021	1.263	Oct 2022	-		-		-	Continuing	Continuing	-
Information Assurance	SS/CPAF	Booz Allen Hamilton : Bedford, MA	-	0.167	May 2022	0.085	May 2023	-		-		-	Continuing	Continuing	-
		Subtotal	-	0.167		1.348		-		-		-	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Planning	PO	96 TW : Eglin AFB, FL	-	0.861	Mar 2022	1.316	Jan 2023	-		-		-	Continuing	Continuing	-
		Subtotal	-	0.861		1.316		-		-		-	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PSC - (Eng/Acq Support, Travel)	C/CPAF	Various : Bedford, MA	-	2.751	Apr 2022	2.724	Apr 2023	-		-		-	Continuing	Continuing	-
PSC-MITRE	C/CPAF	Not specified. : TBD	-	2.538	Oct 2021	2.687	Oct 2022	-		-		-	Continuing	Continuing	-
		Subtotal	-	5.289		5.411		-		-		-	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*	Project (Number/Name) 676030 / *Global ASNT Inc 2*	

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	18.729		19.382		3.000		-		3.000	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*	**Project (Number/Name)** 676030 / *Global ASNT Inc 2*

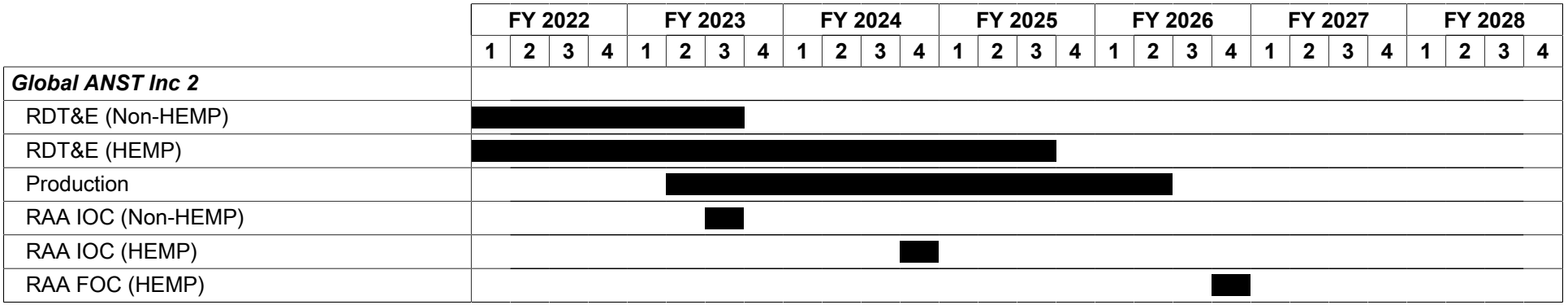

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*	**Project (Number/Name)** 676030 / *Global ASNT Inc 2*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Global ANST Inc 2				
RDT&E (Non-HEMP)	1	2022	3	2023
RDT&E (HEMP)	1	2022	3	2025
Production	2	2023	2	2026
RAA IOC (Non-HEMP)	3	2023	3	2023
RAA IOC (HEMP)	4	2024	4	2024
RAA FOC (HEMP)	4	2026	4	2026

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303133F / *High Frequency Radio Systems*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	0.000	0.000	40.000	0.000	40.000	0.000	0.000	0.000	0.000	0.000	40.000
675046: *Systems Engineering & Integration*	-	0.000	0.000	40.000	0.000	40.000	0.000	0.000	0.000	0.000	0.000	40.000
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This budget line funds the Airborne High Frequency Radio Modernization (AHFRM) Middle Tier of Acquisition (MTA) program. The program is designed to replace existing legacy AN/ARC-190 High Frequency (HF) radios with a modernized HF radio, the AN/ARC-260. This replacement radio provides digital, software defined HF capability for 1,300 aircraft (most of which require multiple AN/ARC-260s) across 14 distinct Global Strike, Military Airlift (MAF) and refueling platforms within the US Air Force, US Navy, and US Coast Guard.

The AN/ARC-190 is end-of-life and is currently the only HF radio capability within these 14 aircraft platforms. It is anticipated the AN/ARC-190 radio will fall below supply chain thresholds beginning in FY23. This Federal Aviation Administration (FAA) Minimum Equipment Listing (MEL) requires a secure Long-Range Communication System (LRCS) on all aircraft performing transoceanic flights, and therefore, will ground any aircraft without this capability. Without the completion of the AHFRM program, any aircraft platform without a functioning LRC radio will be unable to perform any transoceanic flight until a replacement radio is procured outside of current supply chain reserves. The replacement AN/ARC-260 radio is the only Air Force airborne HF digital radio in development to address this anticipated capability gap.

Impacted aircraft include AC-130J, B-1, B-52, C-5, C-17, C-130J, E-3, E-4B, E-6B, EC-130J, HC-130J, KC-130H, KC-135, and MC-130J.

The new AN/ARC-260 radio provides critical long-range HF communications when satellite communications are unavailable due to nature and/or man-made disruptions. It will incorporate new technologies such as 3G/4G Automatic Link Establishment and Low Probability of Intercept/Detection/Geolocation features, as well as accommodate the development of new technologies through software upgrades and open architecture. Finally, the AN/ARC-260 radio will be critical in providing a survivable/secure communications path.

FY24 funding supports the completion of the MTA rapid prototyping phase and minimizes any negative impact resulting from asset availability. The AHFRM program began in FY19 and is currently at the end of its rapid prototyping phase, having successfully developed a capable prototype. FY24 funding efforts include prototype maturation, test asset development, developmental and operational testing (DT/OT), and production readiness activities required to transition into a Major Capability Acquisition (MCA) program.

The AHFRM program received FY19 and FY20 funding to begin its rapid prototyping efforts. In FY22, the Survivable Airborne Operations Center (SAOC) program (PE 0604288F) provided 38.2M FY22 funding to continue AHFRM program development. The SAOC FY22 PB supports use of RDT&E funds for external subsystems that

heavily impact their technical baseline. The AHFRM program directly supports SAOC derived requirements and meets bona fide need requisites for FY22 work. Because the program received FY22 funding through the SAOC program, this program is not considered a New Start due to the Skip Rule.

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 FY22 0.000M was expended for civilian pay expenses in this program element, and in FY23 0.000M is forecasted for civilian pay expenses in this program element.

The total cost of the Airborne HF Radio Modernization Middle Tier of Acquisition effort is 156.01 million, including RDT&E. The Airborne HF Radio Modernization is fully funded across the Future Years Defense 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.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	40.000	0.000	40.000
Total Adjustments	0.000	0.000	40.000	0.000	40.000
• 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	40.000	0.000	40.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: High Frequency Radio System	0.000	0.000	40.000
Description: Development of High Frequency Radio System			
FY 2023 Plans: N/A			
FY 2024 Plans: Activities supported with FY24 funding include, but are not limited to the following:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303133F / *High Frequency Radio Systems*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Will complete radio prototype - Will develop production representative test assets for aircraft integration - Will complete test readiness and perform Operational Testing - Will publish test results and final reports to appropriate stakeholders in support of decision reviews and certification of asset readiness - Will garner fielding strategy approval ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increase due to contract close-out activities to support completion of ARC-260 radio development. With FY24 funding, program will complete development of prototypes, perform operational and development testing and prepare fielding activities. The ARC-260 replaces 2500 AN/ARC-190 High Frequency end-of-life radios that provide assured communication in a satellite denied or heavily contested environment.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	40.000

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Major Thrust - Program received FY22 funding ($38.2M) from the SAOC program (PE 0604288F) to continue development.

Because the program received FY22 funding through the SAOC program, this program is not considered a New Start due to the Skip Rule.

E. Acquisition Strategy

The Service Acquisition Executive (SAE) designated the AHFRM program a MTA Rapid Prototyping effort on 4 Sep 2018. To date, the program completed a competitive rapid prototyping effort and awarded a 5-year/$176M pre/post-production contract to BAE Systems in December 2021. AHFRM is tentatively scheduled to transition from an MTA to an MCA program in 2024.

The Milestone Decision Authority for the AHFRM program is the Air Force Program Executive Officer - Agile Combat Support. Program management for the AHFRM program is located at Robins AFB, GA. The Air Force Life Cycle Management Center - Combat Avionics Division (AFLCMC/WNX) provides contracting, legal, comptroller, programmatic, engineering, test, and logistics support.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303133F / *High Frequency Radio Systems*	Project (Number/Name) 675046 / *Systems Engineering & Integration*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prototype Maturation	C/FFP	Not specified. : TBD	-	-		-		6.300	Nov 2023	-		6.300	0.000	6.300	-
Product Readiness	C/FFP	Not specified. : TBD	-	-		-		11.000	Nov 2023	-		11.000	0.000	11.000	-
		Subtotal	-	-		-		17.300		-		17.300	0.000	17.300	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Sustainment Planning	C/FFP	Not specified. : TBD	-	-		-		2.500	Nov 2023	-		2.500	0.000	2.500	-
Data Capture	C/FFP	Not specified. : TBD	-	-		-		2.100	Nov 2023	-		2.100	0.000	2.100	-
		Subtotal	-	-		-		4.600		-		4.600	0.000	4.600	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Test	PO	Not specified. : TBD	-	-		-		2.600	Nov 2023	-		2.600	0.000	2.600	-
Test Assets	C/CPAF	Not specified. : TBD	-	-		-		5.500	Mar 2024	-		5.500	0.000	5.500	-
		Subtotal	-	-		-		8.100		-		8.100	0.000	8.100	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support Costs	C/FFP	Not specified. : TBD	-	-		-		10.000	Nov 2023	-		10.000	0.000	10.000	-
		Subtotal	-	-		-		10.000		-		10.000	0.000	10.000	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303133F / *High Frequency Radio Systems*	Project (Number/Name) 675046 / *Systems Engineering & Integration*	

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		-		40.000		-		40.000	0.000	40.000	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303133F / *High Frequency Radio Systems*	**Project (Number/Name)** 675046 / *Systems Engineering & Integration*

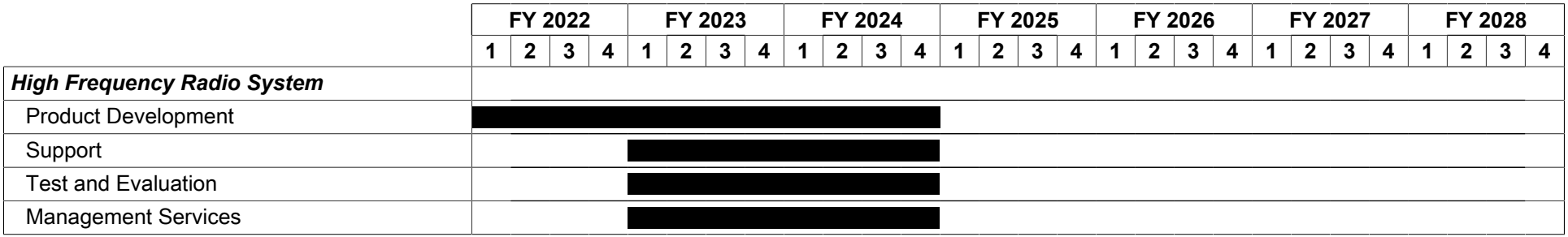

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303133F / *High Frequency Radio Systems*	**Project (Number/Name)** 675046 / *Systems Engineering & Integration*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
High Frequency Radio System				
Product Development	1	2022	4	2024
Support	1	2023	4	2024
Test and Evaluation	1	2023	4	2024
Management Services	1	2023	4	2024

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	12.795	70.263	95.523	0.000	95.523	64.450	66.058	67.413	69.853	Continuing	Continuing
675100: *Cryptographic Modernization*	-	12.795	70.263	63.040	0.000	63.040	64.450	66.058	67.413	69.853	Continuing	Continuing
675200: *Cryptographic Modernization 2 (CM2)*	-	0.000	0.000	32.483	0.000	32.483	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

Information Systems Security Program (ISSP) - Includes resources, manpower authorizations, necessary facilities and equipment required to perform INFOSEC research and development, to provide INFOSEC services, to procure INFOSEC products required to secure telecommunications and information systems when such products are separately procurable from host systems, and to provide INFOSEC maintenance and support. Also includes costs associated with the protection afforded to telecommunications and information systems which process sensitive data and efforts to ensure confidentiality, integrity, and availability of the information and the system.

The ISSP Element provides centrally-funded cradle-to-grave research, development, acquisitions, supply, sustainment, depot maintenance, and demilitarization of the Air Force (AF) cryptographic and key distribution/management systems. ISSP delivers on rising national, DoD, and AF priorities to address cyber security threats and increasing war-fighter dependence on cyberspace. The AF and the DoD require the capability to securely collect, process, store, and disseminate an uninterrupted flow of information, while denying an adversary the ability to intercept, collect, destroy, interpret, or manipulate our information flows. Secure communication allows the DoD to achieve and maintain decision superiority, the key to successful application of the military instrument of national power in modern, high-tempo, full-spectrum operations. AF Communications Security (COMSEC) equipment protects information such as war-fighter positions, mission planning, target strikes, commanders' orders, intelligence, force strength, and force readiness. When an adversary is capable of interpretation, manipulation, or destruction of the information used by the war-fighter, DoD military forces will suffer significant and/or devastating mission degradation that can result in loss of life and resources and/or exceptionally grave damage to national security.

The overall focus of the Research, Development, Test, and Evaluation (RDT&E) efforts within this program is to transform electronic key delivery and cryptographic devices to meet the next generation war-fighting requirements. These efforts are driven by the National Security Agency's (NSA) mandates to address decertifications, new requirements, and end of life issues. NSA requires an inventory of cryptographic devices that are more robust, modular, scalable, capable, net-centric, and durable. This enables more effective and efficient performance including reduced inventory, expanded data rates, simplified upgrades, lower life cycle costs, and ensured global information grid-compatibility.

This program element may include 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 0605831F. In FY22 0.780M was expended for civilian pay expenses in this program element, and in FY23 0.300M is forecasted for civilian pay expenses in this program element.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*

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 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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	8.032	70.582	62.897	0.000	62.897
Current President's Budget	12.795	70.263	95.523	0.000	95.523
Total Adjustments	4.763	-0.319	32.626	0.000	32.626
• 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	-0.237	0.000			
• Other Adjustments	0.000	-0.319	32.626	0.000	32.626

Change Summary Explanation

FY23 Other Adjustments was for FFRDC.

FY24 Other Adjustments was for higher DAF priority to address crypto vulnerabilities.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303140F / *Information Systems Security Program*	Project (Number/Name) 675100 / *Cryptographic Modernization*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675100: *Cryptographic Modernization*	-	12.795	70.263	63.040	0.000	63.040	64.450	66.058	67.413	69.853	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The AF Cryptographic Modernization (CM) effort modernizes cryptographic devices protecting critical national security information across multi-domain operations. This AF effort supports an integrated effort across the cyber domain to transform to next-generation cryptographic capabilities. It provides U.S. forces and multinational and interagency partners the multi-domain security needed to protect the flow and exchange of strategic, operational, and tactical information in accordance with national and international policy/standards, and the validated requirements of decision makers, warfighters, and the intelligence community. The AF Cryptographic Modernization 2 (CM2) effort is required by Chairman Joint Chiefs of Staff Notice (CJCSN) 6510 and NSA Decertification Messages (CED-31-15/037-21/032-16) for the need to add quantum resistance to the existing high assurance cryptographic products. This effort will allow protection against advanced & evolving quantum computing threats. All existing crypto devices will be vulnerable and must be modernized to be quantum resilient. The majority of the development effort includes hardware changes to the existing crypto devices.

The CM effort is a holistic AF-wide "modern" cryptographic strategy to provide long-term, evolving protection of NC3, ISR, PKI, KME, and nearly all AF platforms and ground networks. CM will provide the required enhanced security for all AF voice, data, and video capabilities on the battlefield and throughout the DoD enterprise, and will enable the integration of new capabilities to AF users through development of a new DoD Cryptographic Modernization 2 (CM2) Initial Capabilities Document (ICD) dated 15 July 2021.

To accomplish this effort, it is executed in three phases: replacement, modernization, and transformation. The replacement phase of the program focused on updating and/or replacing out-of-date algorithms along with unsustainable cryptographic products. The modernization phase provides crypto devices with common solutions that are more robust, modular, scalable, and provide durability to existing cryptographic end items, as well as updating midterm aging/unsupportable crypto equipment. The third phase, transformation, provides common joint solutions which enable secure, transparent, multi-domain, network-centric capabilities. Activities also include studies and analysis to support both current program planning/execution and future program planning.

This program element may include 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 0605831F. In FY22 0.780M was expended for civilian pay expenses in this program element, and in FY23 0.300M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Technology Development (TD)	7.386	45.345	33.317

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 675100 / *Cryptographic Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Technology Development (TD) provides the initial development efforts needed to tackle the current and upcoming quantum computing threat for Crypto Modernization 2. TD will stand up all acquisition efforts for over 13 devices to become quantum resilient, reprogrammable architecture to ensure long service life. Capabilities slated for modernization include classified data at rest if data storage is comprised or captured; NC2 and NC3 requirements, secure voice and data, and remote rekey. ***FY 2023 Plans:*** - Establish and conduct multiple contract award activities using a pre-existing, pre-competed contract vehicle; efforts include crypto for Network Enabled Weapons, Strategic Deterrence, High Speed networks, Software Mods, Multi-Function Encryption, Beyond Line of Sight Comms, Crypto Situational Awareness, Remote ReKey-NexGen, and Space COMSEC ground operating equipment to enable quantum resilience - Work with NSA on implementation of new algorithms standards to share with defense contractors on CM2 efforts - Enable artificial intelligence and machine learning capabilities for the Joint All Domain Command and Control (JADC2) by developing and delivering NSA cryptologic solutions to secure communications and data for tactical and strategic level data - Conduct architectural modeling and simulation efforts that drive rapid algorithm and capability evolution to defend against evolving threats; these digital engineering efforts will provide the standardization across the AF - Begin Crypto Enterprise Management Software Acquisition Pathway Phase 0 (Planning Phase), conduct efforts to design, architect and define user stories for a Minimum Viable Product (MVP) that will enhance traceability, accountability, status and situational awareness of CCI ***FY 2024 Plans:*** -Will execute development contract activities for Network Enabled Weapons, Strategic Deterrence, High Speed networks, software mods, Multi-Function Encryption, Crypto Situational Awareness and Space COMSEC ground operating equipment - Will award contract for Remote ReKey-NexGen for crypto development - Will continue to work with NSA on implementation of new algorithms standards to share with defense contractors on CM2 efforts - Will continue to further enable artificial intelligence and machine learning capabilities for the Joint All Domain Command and Control (JADC2) by developing and delivering NSA cryptologic solutions to secure communications and data for tactical and strategic level data - Will establish development contracts for incorporating quantum resilience for additional Network Enabled Weapons, Beyond Line-of-Sight Comms, and High Speed Crypto - Will execute Crypto Enterprise Management program to build infrastructure for crypto situational awareness ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding decreased to support other higher priority Air Force requirements.			
Title: IFF Mode 5	3.091	13.820	16.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 675100 / *Cryptographic Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Modernization of the Identification Friend or Foe (IFF) Mode 5 devices enables the warfighter to engage and accurately identify friendly or enemy forces as friend or foe. It prevents fratricide during target engagements and provides authentication and encryption/decryption services. The modernized devices will be quantum resilient and prevent enemy disruption of IFF functions. They will enhance the needed security for interrogations and response. These encryption devices operate within military aircraft, fixed, and transportable ground stations when connected to an interrogator and/or transponder. The Identification Friend or Foe (IFF) Mode 5 crypto models KIV-77 and KIV-78 require permanent modification. The modification of these devices are required to address quantum threats, produce-ability and algorithm re-programmability mandated by the National Security Agency (NSA) and the 2019 Chairman of the Joint Chiefs of Staff Notice (CJCSN) 6510. ***FY 2023 Plans:*** - Award and execute the new development contract for the KIV-77A IFF Mode 5 device to address quantum threats, produce-ability and algorithm re-programmability and obtain NSA certification in support of the CM2 ICD (dated Jul 2021) - Finalize development of the KIV-78A IFF Mode 5 device to address quantum threats, produce-ability and algorithm re-programmability and obtain NSA certification ***FY 2024 Plans:*** - Continue development for the KIV-77A IFF Mode 5 device to address quantum threats, produce-ability and algorithm re-programmability and obtain NSA certification in support of the CM2 ICD (dated Jul 2021) ***FY 2023 to FY 2024 Increase/Decrease Statement:*** - Funding increased due to awarding development contract for the KIV-77A IFF Mode 5 device			
Title: Algorithm Transition Compliance and Support ***Description:*** Supports Air Combat Command (AF lead for Cyber Superiority) in Algorithm Transition Compliance and provides Information Assurance (IA) support by investigating and analyzing all utilized cryptographic algorithms and hundreds of cryptographic equipment types to support the transformation effort in becoming quantum resilient. This includes the development of prototyping efforts to include the development of a software program of a centralized near real-time accountability of AF COMSEC equipment that reports compliance to AF/DoD Leadership. In addition, it will provide automated software updates to crypto devices (networked & non-networked), and field modernized cryptography, replacing outdated inventory, algorithms, and quantum computing. ***FY 2023 Plans:*** - Conduct tech maturation for the new NSA algorithm integrations across all crypto devices	2.118	3.700	3.780

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 675100 / *Cryptographic Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Work across all MAJCOMs to ensure the Department of the Air Force is implementing enterprise crypto solutions to reduce logistical footprints and sustainment costs ***FY 2024 Plans:*** - Will continue tech maturation efforts to reduce risk on the new algorithm integrations across all crypto devices - Will continue to work across all MAJCOMs to ensure the Department of the Air Force is implementing enterprise crypto solutions to reduce logistical footprints and sustainment costs ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY23 to FY24 increase due to projected support inflation rates			
Title: Space Modular Common Crypto (SMCC) ***Description:*** The SMCC architecture is being studied for quantum resilient impacts underneath the CM2 TD line. ***FY 2023 Plans:*** - Continue performance assessments and perform quantum resilience studies ***FY 2024 Plans:*** - Will continue performance assessments and perform quantum resilience studies	0.100	0.100	0.100
Title: Classified Data At Rest (CDAR) ***Description:*** CDAR will provide the capability to render classified data at rest unusable to adversaries if data storage is captured or compromised, eliminating policy compliance shortfalls. The development of CDAR is a NSA approved modernized cryptographic solution(s) for use in 30 ISR, C2, and EW platforms exposed to hostile/uncontrolled environments. The enterprise cryptographic solution will encrypt/decrypt Top Secret and Below (TSAB) data at rest residing in a variety of data storage environments. ***FY 2023 Plans:*** - Continue 3-year development contract effort for Increment 1: Single-channel device - Begin 3-year development contract effort for Increment 2: Multi-channel device ***FY 2024 Plans:*** - Will complete 3-year development contract for Increment 1: Single-channel device	0.100	7.298	9.843

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 675100 / *Cryptographic Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Will continue 3-year development contract for Increment 2: Multi-channel device			
FY 2023 to FY 2024 Increase/Decrease Statement: Funding increased to ramp up development for Increment 2: Multi-channel device			
Accomplishments/Planned Programs Subtotals	12.795	70.263	63.040

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 831010: *COMSEC Equipment*	66.792	91.817	98.600	-	98.600	63.192	64.789	67.170	68.593	Continuing	Continuing

Remarks

Remarks: Other Program Funding reflects Crypto Modernization (CM) portion of Information Systems Security Program (ISSP) OPAF total.

D. Acquisition Strategy

Implement AF portion of the DoD's Cryptographic Modernization (CM) Initiative through modernization/modification efforts, in varying stages of the acquisition cycle, with focus on minimizing life cycle costs. The CM portfolio of component acquisition projects is executing using a variety of approaches that vary from an evolutionary acquisition strategy using spiral development (for new component development) to incremental improvement leveraging leading-edge, certified non-developmental items (for modernization). Contract type is selected for each of the individual projects based upon its acquisition approach and its unique technology risks. A mixture of fixed-price and cost-reimbursement contracts have been selected which maximize the best value for the Government.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 675100 / *Cryptographic Modernization*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Tech Development	Various	MULTIPLE : MULTIPLE	-	5.177	Jan 2022	29.817	Feb 2023	10.071	Feb 2024	-		10.071	Continuing	Continuing	-
IFF Mode 5	Various	MULTIPLE : MULTIPLE	-	1.955	Feb 2022	11.332	Feb 2023	13.080	Feb 2024	-		13.080	Continuing	Continuing	-
Space Modular Common Crypto (SMCC)	Various	MULTIPLE : MULTIPLE	-	0.100	Feb 2022	0.100	Feb 2023	0.100	Feb 2024	-		0.100	Continuing	Continuing	-
Algorithm Transition Compliance and Support	Various	MULTIPLE : MULTIPLE	-	3.466	Apr 2022	3.700	Nov 2022	3.780	Nov 2023	-		3.780	Continuing	Continuing	-
CDAR	Various	MULTIPLE : MULTIPLE	-	0.100	Jun 2022	7.298	Feb 2023	9.843	Feb 2024	-		9.843	Continuing	Continuing	-
		Subtotal	-	10.798		52.247		36.874		-		36.874	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IFF Mode 5	C/CPAF	Not specified. : TBD	-	0.422	Jan 2022	2.488	Jan 2023	2.920	Jan 2024	-		2.920	Continuing	Continuing	-
		Subtotal	-	0.422		2.488		2.920		-		2.920	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration (PMA)	Various	Various : Various	-	1.575	Dec 2021	15.528	Dec 2022	23.246	Dec 2023	-		23.246	Continuing	Continuing	-
		Subtotal	-	1.575		15.528		23.246		-		23.246	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	12.795		70.263		63.040		-		63.040	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303140F / *Information Systems Security Program*	Project (Number/Name) 675100 / *Cryptographic Modernization*	

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 675100 / *Cryptographic Modernization*

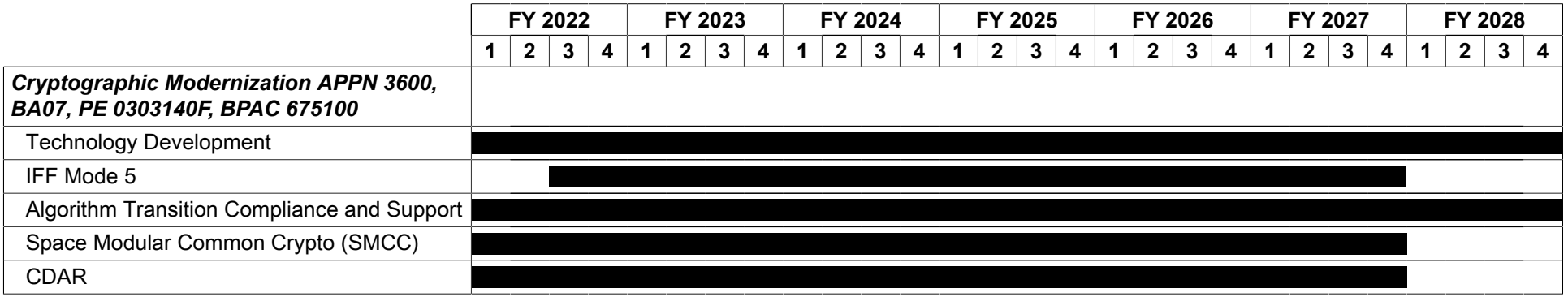

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 675100 / *Cryptographic Modernization*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Cryptographic Modernization APPN 3600, BA07, PE 0303140F, BPAC 675100				
Technology Development	1	2022	4	2028
IFF Mode 5	3	2022	4	2027
Algorithm Transition Compliance and Support	1	2022	4	2028
Space Modular Common Crypto (SMCC)	1	2022	4	2027
CDAR	1	2022	4	2027

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303140F / *Information Systems Security Program*	Project (Number/Name) 675200 / *Cryptographic Modernization 2 (CM2)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675200: *Cryptographic Modernization 2 (CM2)*	-	0.000	0.000	32.483	0.000	32.483	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The AF Cryptographic Modernization 2 (CM2) effort modernizes cryptographic devices protecting critical national security information across multi-domain operations. This Department of the Air Force (DAF) effort supports an integrated effort across the cyber domain to transform to next-generation cryptographic capabilities. It provides U.S. forces and multinational and interagency partners the multi-domain security needed to protect the flow and exchange of strategic, operational, and tactical information in accordance with national and international policy/standards, and the validated requirements of decision makers, warfighters, and the intelligence community. The CM2 modernization effort is required by Chairman Joint Chiefs of Staff Notice (CJCSN) 6510 and NSA Decertification Messages (CED-31-15/037-21/032-16) from FY23 for the need to add Quantum Resilience to the existing high assurance cryptographic products. This effort will allow protection against advanced & evolving quantum computing threats. All existing crypto devices will be vulnerable and must be modernized to be quantum resilient. Most of the development effort includes hardware changes to the existing crypto devices.

The CM2 effort is a holistic AF-wide "modern" cryptographic strategy to provide long-term, evolving protection of NC3, ISR, PKI, KME, and nearly all AF platforms and ground networks. CM2 will provide the required enhanced security for all AF voice, data, and video capabilities on the battlefield and throughout the DoD enterprise. This effort requires studies, proof of concepts, and prototype efforts to accurately address the evolving quantum computing threats in the years to come and ramp up efforts accordingly.

In FY24 PB $32.5M of CM Technology Development moved from BPAC 675100 (CM) to BPAC 675200 (CM2).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Technology Development (TD)	-	0.000	32.483
Description: Cryptographic Modernization 2 (CM2) will provide crypto devices with common solutions that are more robust, modular, scalable, and provide durability to existing cryptographic end items, as well as updating midterm aging/unsupportable crypto equipment. All existing crypto devices will be vulnerable and must be modernized to be Quantum Resilient. The development efforts includes hardware and software changes to the existing crypto devices while identifying new efforts necessary for development to address the refined CM2 Minimum Threshold Requirements.			
FY 2023 Plans: No FY2023 plans			
FY 2024 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 675200 / *Cryptographic Modernization 2 (CM2)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
-Will execute development contract activities for Network Enabled Weapons, Strategic Deterrence, High Speed networks, software mods, Multi-Function Encryption, Crypto Situational Awareness and Space COMSEC ground operating equipment - Will award contract for Remote ReKey-NexGen for crypto development - Will continue to work with NSA on implementation of new algorithms standards to share with defense contractors on CM2 efforts - Will continue to further enable artificial intelligence and machine learning capabilities for the Joint All Domain Command and Control (JADC2) by developing and delivering NSA cryptologic solutions to secure communications and data for tactical and strategic level data - Will establish development contracts for incorporating quantum resilience for additional Network Enabled Weapons, Beyond Line-of-Sight Comms, and High Speed Crypto - Will execute Crypto Enterprise Management program to build infrastructure for crypto situational awareness ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased from FY2023 to FY2024 by $32.483M to focus on Crypto Modernization 2 (CM2) efforts.			
Accomplishments/Planned Programs Subtotals	-	0.000	32.483

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Implement AF portion of the DoD's Cryptographic Modernization 2 (CM2) Initiative through modernization/modification efforts, in varying stages of the acquisition cycle, with focus on minimizing life cycle costs. The CM portfolio of component acquisition projects is executing using a variety of approaches that vary from an evolutionary acquisition strategy using spiral development (for new component development) to incremental improvement leveraging leading-edge, certified non-developmental items (for modernization). Contract type is selected for each of the individual projects based upon its acquisition approach and its unique technology risks. A mixture of fixed-price and cost-reimbursement contracts have been selected which maximize the best value for the Government.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 675200 / *Cryptographic Modernization 2 (CM2)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technology Development (TD)	C/CPAF	Not specified. : TBD	-	-		-		32.483	Jan 2024	-		32.483	Continuing	Continuing	-
		Subtotal	-	-		-		32.483		-		32.483	Continuing	Continuing	N/A

Remarks

In FY24 PB we we anticipate all development funding from 675100 will transfer to 675200

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		-		32.483		-		32.483	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 675200 / *Cryptographic Modernization 2 (CM2)*

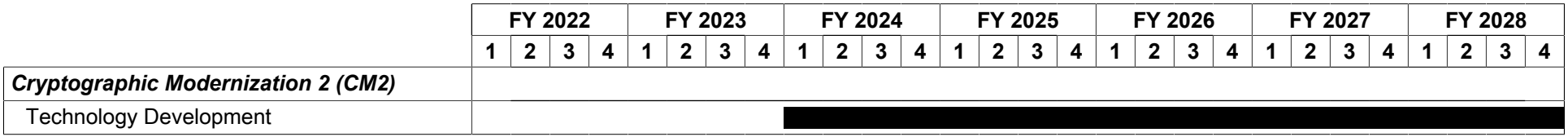

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 675200 / *Cryptographic Modernization 2 (CM2)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Cryptographic Modernization 2 (CM2)				
Technology Development	1	2024	4	2028

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303142F / *Global Force Management - Data Initiative*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	0.435	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.435
676027: *Global Force Mgt Initative*	-	0.435	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.435
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Global Force Management Data Initiative (GFM DI) is a Joint Staff and the Office of the Secretary of Defense (OSD) initiative to standardize force structure data, making it visible, accessible, and understandable across the Department of Defense (DoD). This initiative is accomplished through each service's Organizational Server. The Air Force Organizational Server (AFOS) consumes data from various Air Force Authoritative Data Sources (ADSs), validates it, formats it in a consistent force structure data standard, and publishes it for consumption by programs of record that use force structure data. The AFOS is the ADS for Air Force Authorized Force Structure and provides critical unit, billet, crew platform, vehicle, and command relationship data within the Air Force to the Joint Staff (J8) for war and contingency planning, by providing visibility of the entire force structure as a function of time: past, present and future.

The AFOS produces consistent force structure data in the Global Force Management Information Exchange Model format that is well defined, centrally managed, and inter-operable as a standardized representation of the organization's hierarchy in all other programs of record that use force structure data. The GFM-DI AFOS integrates the four force management processes (Assignment, Manpower & Personnel, Readiness, and Allocation), and ensures the data is available to meet the needs of all Air Force, Joint, and DoD planners, warfighters, decision-makers, senior leaders and associated systems and functions.

GFM-DI utilized funding to perform studies and innovative integration efforts for common technology capabilities such as cloud migration, technology development, and mobile application.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapons 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 0.0M was expended for civilian pay expenses in this program element, and in FY23 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303142F / *Global Force Management - Data Initiative*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.452	0.000	0.000	0.000	0.000
Current President's Budget	0.435	0.000	0.000	0.000	0.000
Total Adjustments	-0.017	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	-0.017	0.000	0.000	0.000	0.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Global Force Management - Data Initiative	0.435	0.000	-
Description: The GFM-DI is a combination of net-centric services designed to provide access to information on the operational availability of USAF forces and equipment. GFM-DI is part of a Joint GFM, (each service has a GFM-DI), directed by OSD and the JCS. ***FY 2023 Plans:*** No funding requested in FY23. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A			
Accomplishments/Planned Programs Subtotals	0.435	0.000	-

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

The program utilized an evolutionary acquisition strategy resulting in the migration to a Joint Information Environment (JIE) - compliant platform, replacement of system Commercial-Off-the-Shelf (COTS) components with newer, more capable elements, and additional software releases to implement additional requirements.

The sustainment structure will be Firm-Fixed Price contract.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303142F / *Global Force Management - Data Initiative*

The Air Force Organizational Server (AFOS) PMO utilizes a mix of Service Level Agreements (SLA) and Interface Requirement Agreements with AFOS stakeholders and support agencies as part of its management strategy. SLAs will be developed with the Lead Developmental Test Organization and the Capabilities Integration Environment at Maxwell AFB-Gunter Annex. The AFOS PMO maintains Memorandum of Agreements (MOAs) with several AFOS input and output systems, including Manpower Programming & Execution Systems, Air Force Directory Services, Air Force Equipment Management System, and Force Structure Data Management.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303142F / *Global Force Management - Data Initiative*	Project (Number/Name) 676027 / *Global Force Mgt Initative*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
GFM-DI AFOS / Development Contract	C/FFP	Appddiction : San Antonio, TX	-	0.435	Dec 2021	-		-		-		-	Continuing	Continuing	-
		Subtotal	-	0.435		-		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	0.435		-		-		-		-	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303142F / *Global Force Management - Data Initiative*	**Project (Number/Name)** 676027 / *Global Force Mgt Initative*

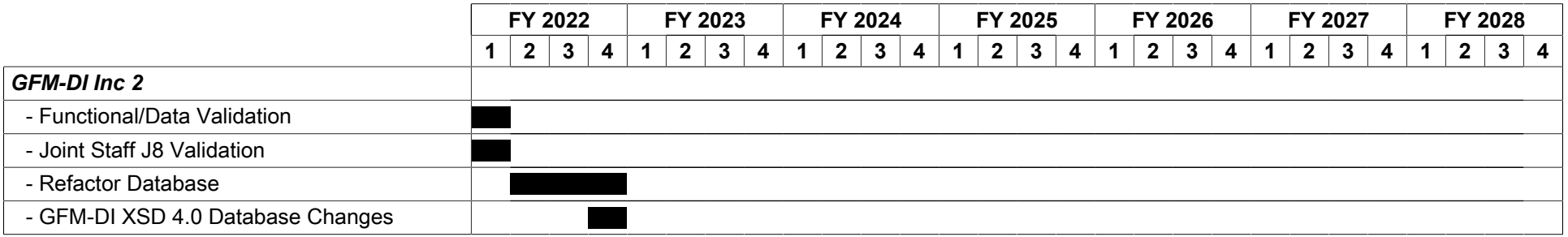

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303142F / *Global Force Management - Data Initiative*	**Project (Number/Name)** 676027 / *Global Force Mgt Initative*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
GFM-DI Inc 2				
- Functional/Data Validation	1	2022	1	2022
- Joint Staff J8 Validation	1	2022	1	2022
- Refactor Database	2	2022	4	2022
- GFM-DI XSD 4.0 Database Changes	4	2022	4	2022

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303248F / *All Domain Common Platform*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	60.894	46.540	71.296	0.000	71.296	88.492	87.421	92.422	88.667	Continuing	Continuing
673248: *Air Force Command and Control (C2) Comm*	-	0.000	0.000	71.296	0.000	71.296	88.133	86.990	91.927	88.159	Continuing	Continuing
675218: *Applications Development*	-	60.894	46.540	0.000	0.000	0.000	0.359	0.431	0.495	0.508	Continuing	Continuing

Note

The All Domain Common Platform (ADCP) program was removed from the BA-08 Software Pilot Program (PE 0308606F). All funding was transferred back to the original sources in PE 0303248F.

In FY2024, PE 0303248F, All Domain Common Platform, Project 675218, Applications Development efforts were transferred to PE 0303248F, All Domain Common Platform, Project 673248, Air Force Command and Control (C2) Common Platform, in order to better align program efforts.

A. Mission Description and Budget Item Justification

This budget line funds the the All Domain Common Platform (ADCP), an extensible cloud-based Infrastructure and Platform as a Service (IaaS/PaaS) hosting medium built to deliver highly resilient Command and Control (C2) mission applications and data to Airmen deployed around the world. The ADCP is a warfighting capability that enables on-boarded users to build, deploy, and monitor mission applications to the end state of production. Having applications operational in various environments ensures data is accessible as it is needed across United States Air Force (USAF) mission sets. The ADCP's collection of technologies, services, and tooling enables warfighter outcomes by abstracting away technical complexity and enabling the deployment of products onto its infrastructure.

ADCP is the primary path to production for modernized C2 systems. ADCP is in collaboration with all primary customers of the platform and environment to include Air Operations Center (AOC), Intelligence Programs, the Department of the Air Force Rapid Capabilities Office (DAF RCO), and others. ADCP is USAF's contributing platform to Joint All-Domain Command and Control (JADC2) for user-facing C2 capability with the resiliency requirements met through the escalating phases of warfare.

Funding directly supports the design, development, testing and evaluation, engineering, and the product management and program management to build functionality and scalability of the platform. It also supports the security and cyber security required for ADCP's continuous authority to operate (cATO). To speed product development, funding supports enablement services, data science, data engineering, machine learning, artificial intelligence, and process automation. Last, funding supports the network and platform architecture, as well as prototyping efforts to increase platform, communications, and network capabilities. ADCP uses Agile methodologies and Development, Security, and Operations (DevSecOps) practices to deliver improved capabilities at scale, in support of mission requirements. ADCP is an evolving, delivered and managed product distributed to customers ensuring the requisite tools and services needed to securely build, deploy and sustain successful C2 mission applications.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303248F / *All Domain Common 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 FY22, 12.012M was expended for civilian pay expenses in this program element. In FY23, 15.465M is forecasted for civilian pay expenses.

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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	64.000	0.000	0.000	0.000	0.000
Current President's Budget	60.894	46.540	71.296	0.000	71.296
Total Adjustments	-3.106	46.540	71.296	0.000	71.296
• 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	47.053			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-2.106	0.000			
• Other Adjustments	-1.000	-0.513	71.296	0.000	71.296

Change Summary Explanation

FY22, -$1.000M Below Threshold Reprogramming to PE 0102417F TACMOR
FY23, +$47.053M transfer after denial of BA-08 funding in PE 0308606F

Program Changes table does not account for:
FY22, +$9.999M Below Threshold Reprogramming from PE 0207410F AOC
FY23, -$1.551M SBIR tax

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303248F / *All Domain Common Platform*	Project (Number/Name) 673248 / *Air Force Command and Control (C2) Comm*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
673248: *Air Force Command and Control (C2) Comm*	-	0.000	0.000	71.296	0.000	71.296	88.133	86.990	91.927	88.159	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY2024, PE 0303248F, All Domain Common Platform, Project 675218, Applications Development efforts were transferred to PE 0303248F, All Domain Common Platform, Project 673248, Air Force Command and Control (C2), in order to better align program efforts.

A. Mission Description and Budget Item Justification

This budget line funds the ADCP, an extensible cloud-based IaaS/PaaS hosting medium built to deliver highly resilient C2 mission applications and data to Airmen deployed around the world. The ADCP is a warfighting capability that enables on-boarded users to build, deploy, and monitor mission applications to the end state of production. Having applications operational in various environments ensures data is accessible as it is needed across Air Force mission sets. The ADCP's collection of technologies, services, and tooling enables warfighter outcomes by abstracting away technical complexity and enabling the deployment of products onto its infrastructure.

ADCP is the primary path to production for modernized C2 systems. ADCP is in collaboration with all primary customers of the platform and environment to include AOC, Intelligence Programs, the DAF RCO, and others. ADCP is USAF's contributing platform to JADC2 for user-facing C2 capability with the resiliency requirements met through the escalating phases of warfare.

Funding directly supports the design, development, testing and evaluation, engineering, and the product management and program management to build functionality and scalability of the platform. It also supports the security and cyber security required for ADCP's cATO. To speed product development, funding supports enablement services, data science, data engineering, machine learning, artificial intelligence, and process automation. Last, funding supports the network and platform architecture, as well as prototyping efforts to increase platform, communications, and network capabilities. ADCP uses Agile methodologies and DevSecOps practices to deliver improved capabilities at scale, in support of mission requirements. ADCP is an evolving, delivered and managed product distributed to customers ensuring the requisite tools and services needed to securely build, deploy and sustain successful C2 mission applications.

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 FY22, 12.012M was expended for civilian pay expenses in this program element. In FY23, 15.465M is forecasted for civilian pay expenses.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: ADCP Development	0.000	0.000	71.296

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303248F / *All Domain Common Platform*	**Project (Number/Name)** 673248 / *Air Force Command and Control (C2) Comm*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Funding directly supports the design, development, testing and evaluation, engineering, and the product management and program management to build functionality and scalability of the platform. It also supports the security and cyber security required for ADCP's cATO. To speed product development, funding supports enablement services, data science, data engineering, machine learning, artificial intelligence, and process automation. Last, funding supports the network and platform architecture, as well as prototyping efforts to increase platform, communications, and network capabilities. ADCP uses Agile methodologies and DevSecOps practices to deliver improved capabilities at scale, in support of mission requirements. ADCP is an evolving, delivered and managed product distributed to customers ensuring the requisite tools and services needed to securely build, deploy and sustain successful C2 mission applications. ***FY 2023 Plans:*** See PE 0303248F All Domain Common Platform, Project 675218 Applications Development ***FY 2024 Plans:*** -Will complete construction of resilient production Kubernetes-based platform and migrate existing customers -Will deliver enhanced security observability tooling in support of application customers and platform services -Will continue to support Continuous Integration/Continuous Delivery (CI/CD) pipelines -Will scale resilient containerized architecture -Will increase automation for monitoring and tracking services for application customer usage -Will continue to improve operational- and wing-level C2 mission application resilience and reliability, and decrease lead time for new capability delivery -Will continue transition to commercially managed platform and infrastructure services on available public cloud service provider offerings ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding transferred from PE 0303248 All Domain Common Platform, Project 675218 Applications Development. Funding increased due to transition to a cloud-based, open-source architecture supporting global mission applications and the development of a resilient and secure platform.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	71.296

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 833140: *Strategic Command And Control*	0.668	30.738	9.991	-	9.991	5.427	1.859	1.903	28.654	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303248F / *All Domain Common Platform*	**Project (Number/Name)** 673248 / *Air Force Command and Control (C2) Comm*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 834530: *Air & Space Operations Center (AOC)*	0.000	1.893	0.963	-	0.963	0.511	0.522	0.540	0.552	Continuing	Continuing

Remarks

D. Acquisition Strategy

The ADCP program is operating under authority FY20 NDAA, Section 800, Software Acquisition Pathway (SWP). ADCP will leverage a modular contracting strategy that focuses on evolving needs, continuous market research, and streamlined solicitation procedures. ADCP leverages both small and large business contracts for specialized services and enterprise ADCP to adopt commercial best practices for software development and to continue scaling of the modern Infrastructure as a Service/Platform as a Service (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 ADCP 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 ADCP program. AFLCMC provides contracting, legal, comptroller, programmatic, engineering, test, and logistics support.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303248F / *All Domain Common Platfo rm*	**Project (Number/Name)** 673248 / *Air Force Command and Control (C2) Comm*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ADCP Development	Various	Various : TBD	-	0.000		0.000		28.150		-		28.150	Continuing	Continuing	-
ADCP Data Science	C/Various	Various : TBD	-	0.000		0.000		5.373		-		5.373	Continuing	Continuing	-
		Subtotal	-	0.000		0.000		33.523		-		33.523	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ADCP Direct Mission Support	C/CPAF	Various : TBD	-	0.000		0.000		4.356		-		4.356	Continuing	Continuing	-
ADCP Civilian Direct Cite Authority for Product Development	C/CPAF	Not specified. : TBD	-	0.000		0.000		17.453		-		17.453	Continuing	Continuing	-
		Subtotal	-	0.000		0.000		21.809		-		21.809	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ADCP Development	TBD	Not specified. : TBD	-	-		-		0.207		-		0.207	Continuing	Continuing	-
		Subtotal	-	-		-		0.207		-		0.207	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ADCP Engineering Services	Various	Various : TBD	-	0.000		0.000		5.144		-		5.144	Continuing	Continuing	-
ADCP Program Support	C/Various	Various : TBD	-	0.000		0.000		10.613		-		10.613	Continuing	Continuing	-
		Subtotal	-	0.000		0.000		15.757		-		15.757	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303248F / *All Domain Common Platform*	Project (Number/Name) 673248 / *Air Force Command and Control (C2) Comm*	

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	0.000		0.000		71.296		-		71.296	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303248F / *All Domain Common Platform*	**Project (Number/Name)** 673248 / *Air Force Command and Control (C2) Comm*

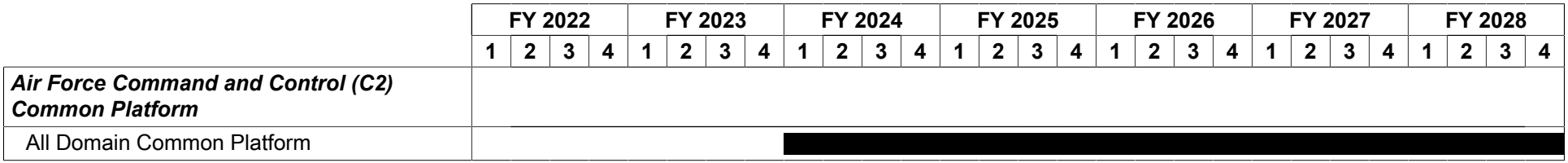

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303248F / *All Domain Common Platform*	**Project (Number/Name)** 673248 / *Air Force Command and Control (C2) Comm*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Air Force Command and Control (C2) Common Platform				
All Domain Common Platform	1	2024	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303248F / *All Domain Common Platform*	Project (Number/Name) 675218 / *Applications Development*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675218: *Applications Development*	-	60.894	46.540	0.000	0.000	0.000	0.359	0.431	0.495	0.508	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

The All Domain Common Platform (ADCP) program was removed from the BA-08 Software Pilot Program (PE 0308606F). All funding was transferred back to the original sources in PE 0303248F.

In FY2024, PE 0303248F, All Domain Common Platform, Project 675218, Applications Development efforts were transferred to PE 0303248F, All Domain Common Platform, Project 673248, Air Force Command and Control (C2) Common Platform, in order to better align program efforts.

A. Mission Description and Budget Item Justification

This budget line funds the ADCP, an extensible cloud-based IaaS/PaaS hosting medium built to deliver highly resilient C2 mission applications and data to Airmen deployed around the world. The ADCP is a warfighting capability that enables on-boarded users to build, deploy, and monitor mission applications to the end state of production. Having applications operational in various environments ensures data is accessible as it is needed across Air Force mission sets. The ADCP's collection of technologies, services, and tooling enables warfighter outcomes by abstracting away technical complexity and enabling the deployment of products onto its infrastructure.

ADCP is the primary path to production for modernized C2 systems. ADCP is in collaboration with all primary customers of the platform and environment to include AOC, Intelligence Programs, the DAF RCO, and others. ADCP is USAF's contributing platform to JADC2 for user-facing C2 capability with the resiliency requirements met through the escalating phases of warfare.

Funding directly supports the design, development, testing and evaluation, engineering, and the product management and program management to build functionality and scalability of the platform. It also supports the security and cyber security required for ADCP's cATO. To speed product development, funding supports enablement services, data science, data engineering, machine learning, artificial intelligence, and process automation. Last, funding supports the network and platform architecture, as well as prototyping efforts to increase platform, communications, and network capabilities. ADCP uses Agile methodologies and DevSecOps practices to deliver improved capabilities at scale, in support of mission requirements. ADCP is an evolving, delivered and managed product distributed to customers ensuring the requisite tools and services needed to securely build, deploy and sustain successful C2 mission applications.

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 FY22, 12.012M was expended for civilian pay expenses in this program element. In FY23, 15.465M is forecasted for civilian pay expenses.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303248F / *All Domain Common Platform*	**Project (Number/Name)** 675218 / *Applications Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: ADCP Development	60.894	46.540	0.000
Description: Funding directly supports the design, development, testing and evaluation, engineering, and the product management and program management to build functionality and scalability of the platform. It also supports the security and cyber security required for ADCP's cATO. To speed product development, funding supports enablement services, data science, data engineering, machine learning, artificial intelligence, and process automation. Last, funding supports the network and platform architecture, as well as prototyping efforts to increase platform, communications, and network capabilities. ADCP uses Agile methodologies and DevSecOps practices to deliver improved capabilities at scale, in support of mission requirements. ADCP is an evolving, delivered and managed product distributed to customers ensuring the requisite tools and services needed to securely build, deploy and sustain successful C2 mission applications. ***FY 2023 Plans:*** -Will deliver security observability tooling in support of application customers and platform services -Will support Continuous Integration/Continuous Delivery (CI/CD) pipelines -Will migrate to containerized architecture -Will automate monitoring and tracking services for application customer usage -Will improve operational-level C2 mission application resilience and reliability, and decrease lead time for new capability delivery -Will begin transition to commercially managed platform and infrastructure services on available public cloud service provider offerings ***FY 2024 Plans:*** See PE 0303248F, All Domain Common Platform, Project 673248, Air Force Command and Control (C2) Common Platform ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding transferred to PE 0303248F, All Domain Common Platform, Project 673248, Air Force Command and Control (C2) Common Platform. Funding increased due to transition to a cloud-based, open-source architecture supporting global mission applications and the development of a resilient and secure platform.			
Accomplishments/Planned Programs Subtotals	60.894	46.540	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 833140: *Strategic Command And Control*	0.668	30.738	9.991	-	9.991	5.427	1.859	1.903	28.654	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303248F / *All Domain Common Platform*	**Project (Number/Name)** 675218 / *Applications Development*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 834530: *Air & Space Operations Center (AOC)*	0.000	1.893	0.963	-	0.963	0.511	0.522	0.540	0.552	Continuing	Continuing

Remarks

FY22 to FY23 Project 675218 Applications Development funding incorrect due to a database error. Project 675218 Applications Development funding should equal FY22: $70.894M; FY23: $44.989M.

D. Acquisition Strategy

The ADCP program is operating under authority FY20 NDAA, Section 800, Software Acquisition Pathway (SWP). ADCP will leverage a modular contracting strategy that focuses on evolving needs, continuous market research, and streamlined solicitation procedures. ADCP leverages both small and large business contracts for specialized services and enterprise ADCP to adopt commercial best practices for software development and to continue scaling of the modern Infrastructure as a Service/Platform as a Service (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 ADCP 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 ADCP program. AFLCMC provides contracting, legal, comptroller, programmatic, engineering, test, and logistics support.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303248F / *All Domain Common Platfo rm*	Project (Number/Name) 675218 / *Applications Development*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ADCP Development	Various	Various : TBD	-	20.633	Dec 2021	17.759	Dec 2022	-		-		-	0.000	38.392	-
ADCP Data Science	C/Various	Various : TBD	-	11.169	Apr 2022	3.293	Apr 2023	-		-		-	0.000	14.462	-
		Subtotal	-	31.802		21.052		-		-		-	0.000	52.854	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ADCP Direct Mission Support	C/CPFF	Various : TBD	-	5.972	Dec 2021	1.232	Dec 2022	-		-		-	0.000	7.204	-
ADCP Civilian Direct Cite Authority for Product Development	C/CPAF	Not specified. : TBD	-	12.012	Apr 2022	15.465	Apr 2023	-		-		-	Continuing	Continuing	-
		Subtotal	-	17.984		16.697		-		-		-	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ADCP Engineering Services	Various	Various : TBD	-	3.206	Oct 2021	2.177	Oct 2022	-		-		-	0.000	5.383	-
ADCP Program Support	C/Various	Various : TBD	-	7.902	Dec 2021	6.614	Dec 2022	-		-		-	0.000	14.516	-
		Subtotal	-	11.108		8.791		-		-		-	0.000	19.899	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	60.894		46.540		-		-		-	Continuing	Continuing	N/A

Remarks

The All Domain Common Platform (ADCP) program was removed from the BA-08 Software Pilot Program (PE 0308606F). All funding was transferred back to the original sources in PE 0303248F.

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303248F / *All Domain Common Platform*	**Project (Number/Name)** 675218 / *Applications Development*

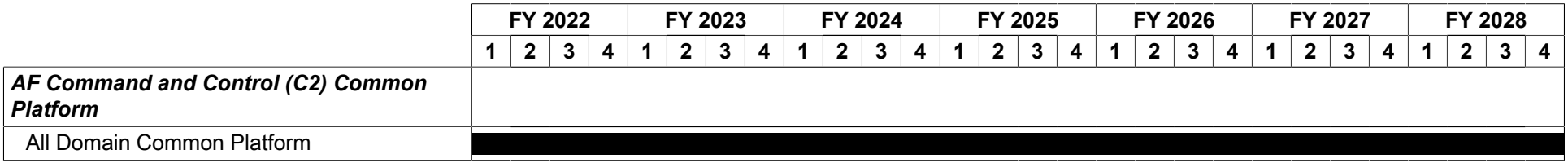

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303248F / *All Domain Common Platform*	**Project (Number/Name)** 675218 / *Applications Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
AF Command and Control (C2) Common Platform				
All Domain Common Platform	1	2022	4	2028

Note

The All Domain Common Platform (ADCP) program was removed from the BA-08 Software Pilot Program (PE 0308606F). All funding was transferred back to the original sources in PE 0303248F.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303260F / *Joint Military Deception Initiative*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	0.000	2.588	4.682	0.000	4.682	7.311	7.867	0.000	0.000	Continuing	Continuing
674550: *Air Base Resiliency*	-	0.000	2.588	4.682	0.000	4.682	7.311	7.867	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Detailed information on Air Base Resiliency remains classified and will be provided on a need-to-know basis.

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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.000	2.588	4.671	0.000	4.671
Current President's Budget	0.000	2.588	4.682	0.000	4.682
Total Adjustments	0.000	0.000	0.011	0.000	0.011
• 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	0.011	0.000	0.011

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Air Base Resiliency	-	2.588	4.682
Description: Detailed information on Air Base Resiliency remains classified and will be provided on a need-to-know basis.			
FY 2023 Plans: Detailed information on Air Base Resiliency remains classified and will be provided on a need-to-know basis.			
FY 2024 Plans:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303260F / *Joint Military Deception Initiative*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Detailed information on Air Base Resiliency remains classified and will be provided on a need-to-know basis. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase to cover increasing requirements.			
Accomplishments/Planned Programs Subtotals	-	2.588	4.682

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303260F / *Joint Military Deception Initiative*	Project (Number/Name) 674550 / *Air Base Resiliency*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Air Base Resiliency	TBD	Not specified. : TBD	-	-		2.588	Apr 2023	4.682	Apr 2024	-		4.682	Continuing	Continuing	-
		Subtotal	-	-		2.588		4.682		-		4.682	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		2.588		4.682		-		4.682	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303260F / *Joint Military Deception Initiative*	**Project (Number/Name)** 674550 / *Air Base Resiliency*

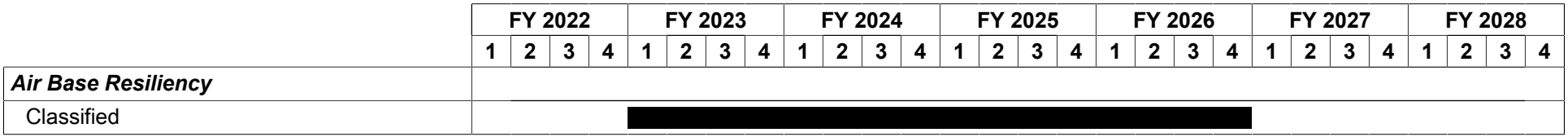

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303260F / *Joint Military Deception Initiative*	**Project (Number/Name)** 674550 / *Air Base Resiliency*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Air Base Resiliency				
Classified	1	2023	4	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0304100F / *Strategic Mission Planning & Execution System (SMPES)*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	0.000	0.000	64.944	0.000	64.944	70.698	72.694	78.612	79.349	Continuing	Continuing
674212: *NLCC Decision Support System*	-	0.000	0.000	9.675	0.000	9.675	4.910	3.671	3.672	3.805	Continuing	Continuing
675029: *Strategic Mission Planning & Execution System*	-	0.000	0.000	55.269	0.000	55.269	65.788	69.023	74.940	75.544	Continuing	Continuing

Note

In FY24, the following efforts will be transferred to PE 0304100F, Strategic Mission Planning and Execution System (SMEPS): PE 0101324F, Integrated Strategic Planning & Analysis Network (ISPAN) and PE 0301112F Nuclear Planning & Execution System (NPES) / Decision Support Service (DSS).

A. Mission Description and Budget Item Justification

This budget line funds the Strategic Mission Planning and Execution System (SMPES). SMPES will be the USAF and U.S. strategic nuclear forces' principal nuclear planning and analysis tool; including access to consequence analysis tools and deliberate, adaptive, and crisis action planning for strategic deterrence. SMPES consolidates the following six independently managed programs into one system: 1) Integrated Strategic Planning and Analysis Network (ISPAN); 2) Global Adaptive Planning Collaborative Information Environment (GAP CIE); 3) Decision Support Service (DSS); 4) Nuclear Planning and Execution System (NPES); 5) Force Status Readiness (FSR); and 6) Force Survivability Analysis and Management (FSAM). Funding from legacy PECS 0101324F ISPAN, 0301112F NPES and DSS, have been consolidated into PEC 0304100F SMPES.

ISPAN provides full-spectrum global strike, and coordinated space, missile defense, and information operations capabilities to meet deterrent and decisive national security objectives. Contemporary and legacy versions of ISPAN create one of the most complex classified computer systems in the Department of Defense, and the only national force level planning system. ISPAN Increment 5 (INC 5) modernizes the Mission Planning and Analysis System (MPAS) software that develops Joint Staff Level I - IV nuclear and conventional attack options for national and theater requirements, while conducting continuous agile software development for classified and unclassified networks. Located at U.S. Strategic Command (USSTRATCOM), ISPAN supports the Unified Command Plan and Nuclear Posture Review. 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 (C4ISR) to enable the joint warfighter to deter and detect strategic attacks against the U.S. and its allies.

GAP-CIE is a web-based, collaborative, and joint operation planning (JOP) application that enables combatant commanders and strategic leaders the ability to rapidly integrate course of action development. GAP-CIE includes two functional components that enable subject matter experts to instantaneously share situational awareness perspectives. The GAP-CIE planning environment provides deliberative planning, crisis action planning, and decision support tools, and the Global Situational Awareness Tool (GSAT) which supports combatant commanders' ability to view geospatial, temporal, and relational planning data. Through GAP-CIE, combatant command staffs, subordinate commands, and other agencies work in partnership to plan operations, develop orders, and share awareness dashboards online.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0304100F / *Strategic Mission Planning & Execution System (SMPES)*

DSS will develop and deliver software that directly supports strategic leaders. DSS will improve situational awareness, aggregate strategic-level information, and provide a common visual display that is resilient and mobile.

NPES develops and delivers a software system to conduct nuclear command and control (NC2) adaptive planning and execution at fixed and mobile sites in real time. NPES Legacy encompassed cyber related investments necessary for a successful operational application/system delivery, for fixed command centers, distributive sites, and mobile platforms. NPES Recapitalization (Recap) succeeded NPES Legacy and provides communication interfaces with software development, data management, software re-engineering and operations to include requirements validation and training.

FSR provides decision-makers and planners with real-time status of U.S. nuclear forces. FSR is the focal point of the Command and Control Enterprise Database (C2EDB). Through FSR, C2EDB stores information related to the USSTRATCOM NC2 mission and enables combatant commanders the ability to monitor the statuses of missiles, aircraft, submarines, key personnel, and other items.

FSAM enables the Warning System Controller (WSC) to track the status of all USSTRATCOM assigned strategic aircraft and missiles. Through FSAM, WSC provides additional capabilities to USSTRATCOM including, but not limited to: 1) tracking the location of hostile threat aircraft and missile systems; 2) processing and displaying potential US force vulnerabilities; and 3) providing force management/force survival (FM/FS) analysis tools to USSTRATCOM senior leaders.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon systems capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in PE 0605830F.

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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	64.944	0.000	64.944
Total Adjustments	0.000	0.000	64.944	0.000	64.944
• 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	64.944	0.000	64.944

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0304100F / *Strategic Mission Planning & Execution System (SMPES)*	Project (Number/Name) 674212 / *NLCC Decision Support System*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
674212: *NLCC Decision Support System*	-	0.000	0.000	9.675	0.000	9.675	4.910	3.671	3.672	3.805	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY24, efforts in PE 0301112F Nuclear Planning & Execution System (NPES) /Decision Support Service (DSS), will be transferred to PE 0304100F, Strategic Mission Planning and Execution Systems (SMPES).

A. Mission Description and Budget Item Justification

This program is NOT a new start. In FY 2024, PE 0301112F, Nuclear Planning & Analysis Network (NPES), Project 674212, NLCC Decision Support Service efforts were transferred to PE 0304100F, Strategic Mission Planning & Execution System (SMPES), Project 674212, NLCC Decision Support Service, aligning legacy PEs under single PE to begin SMPES integration efforts. This budget line funds the National Leadership Command Capability (NLCC) Decision Support Service (DSS). NLCC DSS is a Nuclear Command and Control software application that directly supports decision-making calculus. DSS will provide a common visual display to bolster national-level situational awareness and enhance support to strategic-level decision making.

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: DSS Development	-	0.000	9.675	0.000	9.675
Description: Funds will be used for the development, integration, and test activities of NLCC DSS ***FY 2023 Plans:*** See PE 0301112F, Nuclear Planning & Execution System (NPES), Project 674212, Decision Support Service (DSS). ***FY 2024 Base Plans:*** Activities will include, but are not limited to the following: -Will complete data integration and rapid fielding initiatives -Will refine prototype development that includes high availability failover capability to support NC2 operational requirements -Will further development, testing, and implementation of capability requirements for continuity of operations and continuity of government communications					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304100F / *Strategic Mission Planning & Execution System (SMPES)*	**Project (Number/Name)** 674212 / *NLCC Decision Support System*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
-Will conduct integrated government developmental test & evaluation and operational test & evaluation to characterize performance and cybersecurity posture ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding transferred from PE 0301112F to PE 0304100F.					
Accomplishments/Planned Programs Subtotals	-	0.000	9.675	0.000	9.675

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

DSS has implemented the Agile DevOps Continuous Integration / Continuous Delivery (CI/CD) acquisition strategy with development contracts that are negotiated and awarded in a competitive environment. DSS will consider the best contract options to implement the Agile DevOps CD/CI strategy. Other activities are also accomplished through the use of various contracting vehicles such as Military Interdepartmental Purchase Requests (MIPRs).

DSS is in the Software Acquisition Pathway (SWaP) since its Acquisition Decision Memorandum was signed on 11 May 22, entering in the Execution Phase, to accelerate delivery of a finished product.

Program management for the DSS 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 55th Contracting Squadron at Offutt AFB, NE are the contracting authorities for the DSS program. AFLCMC provides contracting, legal, comptroller, programmatic, engineering, test, and logistics support.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304100F / *Strategic Mission Planning & Execution System (SMPES)*	**Project (Number/Name)** 674212 / *NLCC Decision Support System*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Rouge Blue Software Factory (RBSF) Development	C/T&M	Various : Bellevue, Offutt AFB, NE	-	-		-		1.072	Jan 2024	0.000		1.072	Continuing	Continuing	-
Visualization Development	C/CPIF	Various : Bellevue, Offutt AFB, NE	-	-		-		6.724	Jan 2024	0.000		6.724	Continuing	Continuing	-
		Subtotal	-	-		-		7.796		0.000		7.796	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DevOps Support	C/FFP	John Hopkins Univ/ Various : Bellevue, Offutt AFB, NE	-	-		-		0.250	Jan 2024	-		0.250	Continuing	Continuing	-
IT Support	C/CPAF	Various : Bellevue, Offutt AFB, NE	-	-		-		0.120	Jun 2024	-		0.120	Continuing	Continuing	-
Engineering Support	SS/FFP	MITRE : Bellevue, Offutt AFB, NE	-	-		-		0.404	Nov 2023	-		0.404	Continuing	Continuing	-
		Subtotal	-	-		-		0.774		-		0.774	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Ops Support	C/CPIF	Various : Bellevue, Offutt AFB, NE	-	-		-		1.105	Feb 2024	-		1.105	Continuing	Continuing	-
		Subtotal	-	-		-		1.105		-		1.105	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		-		9.675		0.000		9.675	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0304100F / *Strategic Mission Planning & Execution System (SMPES)*	Project (Number/Name) 674212 / *NLCC Decision Support System*	

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304100F / *Strategic Mission Planning & Execution System (SMPES)*	**Project (Number/Name)** 674212 / *NLCC Decision Support System*

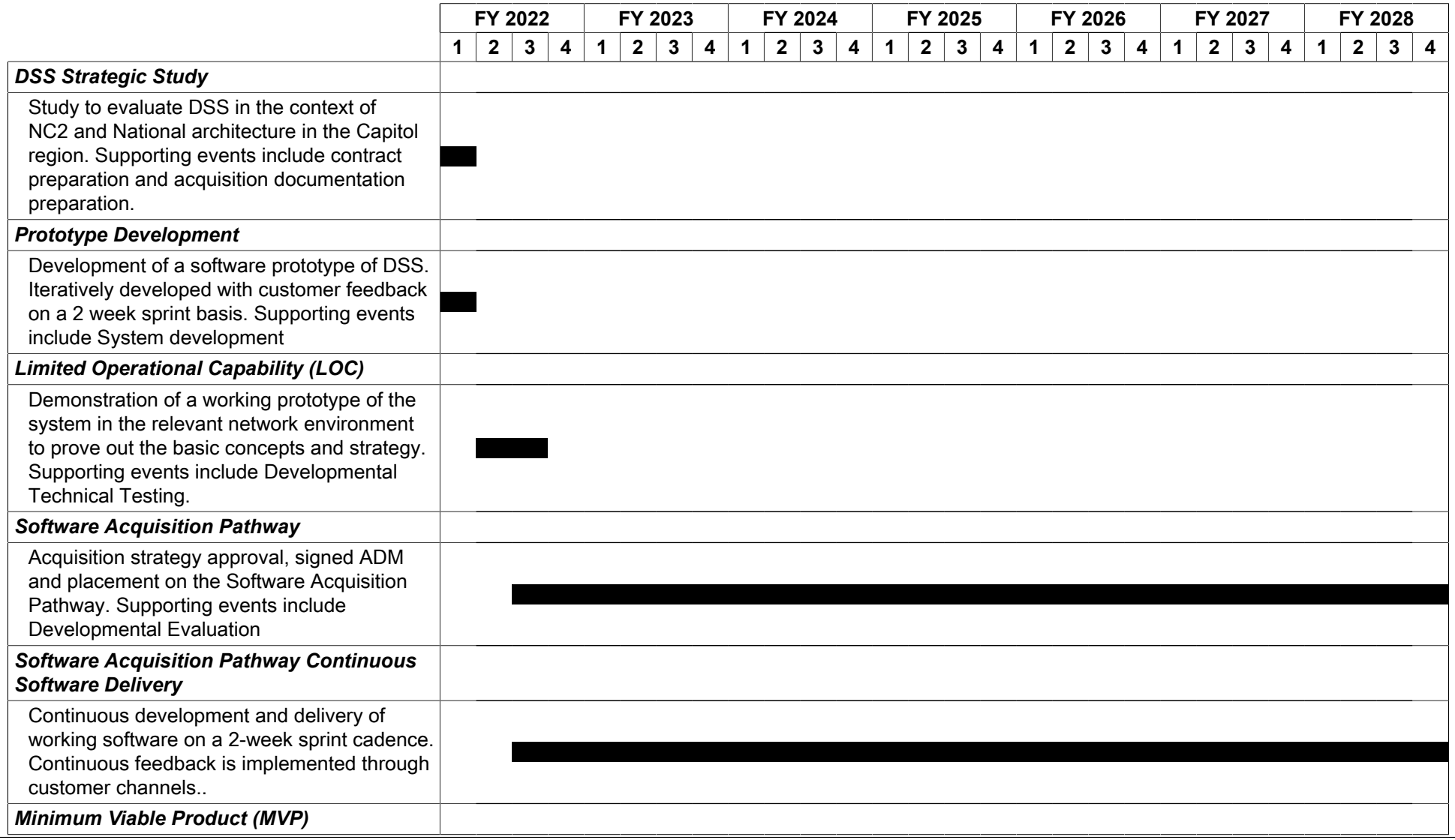

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304100F / *Strategic Mission Planning & Execution System (SMPES)*	**Project (Number/Name)** 674212 / *NLCC Decision Support System*

	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Delivery of an operationally available article of software for user evaluation and preliminary use. Supporting evens include Developmental Evaluation.									[redacted]																			

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304100F / *Strategic Mission Planning & Execution System (SMPES)*	**Project (Number/Name)** 674212 / *NLCC Decision Support System*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
DSS Strategic Study				
Study to evaluate DSS in the context of NC2 and National architecture in the Capitol region. Supporting events include contract preparation and acquisition documentation preparation.	1	2022	1	2022
Prototype Development				
Development of a software prototype of DSS. Iteratively developed with customer feedback on a 2 week sprint basis. Supporting events include System development	1	2022	1	2022
Limited Operational Capability (LOC)				
Demonstration of a working prototype of the system in the relevant network environment to prove out the basic concepts and strategy. Supporting events include Developmental Technical Testing.	2	2022	3	2022
Software Acquisition Pathway				
Acquisition strategy approval, signed ADM and placement on the Software Acquisition Pathway. Supporting events include Developmental Evaluation	3	2022	4	2028
Software Acquisition Pathway Continuous Software Delivery				
Continuous development and delivery of working software on a 2-week sprint cadence. Continuous feedback is implemented through customer channels..	3	2022	4	2028
Minimum Viable Product (MVP)				
Delivery of an operationally available article of software for user evaluation and preliminary use. Supporting evens include Developmental Evaluation.	4	2023	4	2024

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0304100F / *Strategic Mission Planning & Execution System (SMPES)*	Project (Number/Name) 675029 / *Strategic Mission Planning & Execution System*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675029: *Strategic Mission Planning & Execution System*	-	0.000	0.000	55.269	0.000	55.269	65.788	69.023	74.940	75.544	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Program is NOT a new start. In FY 2024, PE 0101324F, Integrated Strategic Planning and Analysis Network (ISPAN), Project 675029, ISPAN Increment 5, PE 0301112F and Nuclear Planning & Execution Network (NPES), Project 673768, NPES Recapitalization, efforts were transferred to PE 0304100F, Strategic Mission Planning and Execution System (SMPES), Project 675029, Strategic Mission Planning and Execution System (SMPES), aligning legacy PEs under single PE to begin SMPES integration efforts.

SMPES will be the USAF and U.S. strategic nuclear forces' principal nuclear planning and analysis tool for accessing consequence analysis tools and strategic deterrence. SMPES consolidates the following six independently managed programs into one system: 1) Integrated Strategic Planning and Analysis Network (ISPAN); 2) Global Adaptive Planning Collaborative Information Environment (GAP CIE); 3) Decision Support Service (DSS); 4) Nuclear Planning and Execution System (NPES); 5) Force Status Readiness (FSR); and 6) Force Survivability Analysis and Management (FSAM).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Development	0.000	0.000	55.269	0.000	55.269
Description: Funds will be used for the development, integration, test, and fielding activities of NC3 enterprise solutions					
FY 2023 Plans: Activities supported with FY23 funding included in PE 0301112F and 010324F.					
FY 2024 Base Plans: Activities will include, but are not limited to the following: -Will field activities to develop software architecture and enable software acquisition pathway enhancement -Will produce new software capability to enable the user representatives to conduct operational testing & evaluation -Will enhance efficiency by dedicating 30% of funding on the development and implementation of enterprise solutions -Will continue pursuing software acquisition pathways for development and fielding activities for software architecture					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304100F / *Strategic Mission Planning & Execution System (SMPES)*	**Project (Number/Name)** 675029 / *Strategic Mission Planning & Execution System*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
-Will enhance cybersecurity and continue the lifecycle procurement of commercial based hardware and software components -Will refine prototype development that includes high availability failover capability to support NC2 operational requirements -Will conduct integrated government developmental test & evaluation and operational test & evaluation to characterize performance and cybersecurity posture -Will further development, testing, and implementation of capability requirements for continuity of operations and continuity of government communications -Will refine and implement cybersecurity requirements, situational awareness picture development, incorporation of classified capabilities, and integration into NPES architecture ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding transferred from PE 0101324F, Integrated Strategic Planning & Analysis Network (ISPAN) and 0301112F to PE 0304100F, Nuclear Planning & Execution System (NPES).					
Accomplishments/Planned Programs Subtotals	0.000	0.000	55.269	0.000	55.269

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 833560: *Integrated Strat Plan & Analy Network (ISPAN)*	-	-	3.850	0.000	3.850	7.353	6.421	7.102	9.722	Continuing	Continuing

Remarks

D. Acquisition Strategy

The acquisition strategy builds agile software engineering solutions and modification of existing capabilities using an evolutionary acquisition approach to standardize SMPES. SMPES will leverage commercial best practices of Agile DevOps to integrate 6 systems into a system of services construct. SMPES operates under authority FY20 NDAA, Section 800, Software Acquisition Pathway.

The SMPES program will implement Agile DevOps Continuous Integration / Continuous Delivery (CI/CD) to develop and modernize software for the combatant commanders; producing a secure software development environment located in existing space at Offutt AFB, NE. Software development environment will meet

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304100F / *Strategic Mission Planning & Execution System (SMPES)*	**Project (Number/Name)** 675029 / *Strategic Mission Planning & Execution System*

classification/security regulations/criteria, which will promote competition. The program will consider the best contract options to implement the Agile DevOps CI/CD strategy. Other activities are also accomplished through the use of various contracting vehicles such as Military Interdepartmental Purchase Requests (MIPRs).

SMPES will leverage both small and large business contracts for application and system services.

Program management for the SMPES program is under direction of Program Executive Officer Digital, located at Hanscom AFB, MA. The Air Force Life Cycle Management Center (AFLCMC) located at Hanscom AFB, MA and the 55th Contracting Squadron at Offutt AFB, NE are the contracting authorities for the SMPES program. AFLCMC provides contracting, legal, comptroller, programmatic, engineering, test, and logistics support.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0304100F / *Strategic Mission Planning & Execution System (SMPES)*	Project (Number/Name) 675029 / *Strategic Mission Planning & Execution System*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Development - NPES, Targeting, Missiles	C/CPAF	Northrop Grumman : Bellevue, Offutt AFB, NE	-	-		-		16.025	Dec 2023	-		16.025	Continuing	Continuing	-
Primary Development - Air Vehicle & Quality Review-Mission Planning & Analysis Common Service (QR MPACS)	C/CPAF	Leidos : Bellevue, Offutt AFB, NE	-	-		-		8.599	Nov 2023	-		8.599	Continuing	Continuing	-
Primary Development - Global Strike & Intell	C/CPAF	Lockheed Martin : Bellevue, Offutt AFB, NE	-	-		-		2.600	Feb 2024	-		2.600	Continuing	Continuing	-
RBSF	C/CPAF	Various : Various, NE	-	-		-		5.733	Nov 2023	-		5.733	Continuing	Continuing	-
		Subtotal	-	-		-		32.957		-		32.957	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DevOps Support	C/FP	Various : Bellevue, Offutt AFB, NE	-	-		-		6.882	Jan 2024	-		6.882	Continuing	Continuing	-
Technical Engineering Services	C/FFP	Various : Bellevue, Offutt AFB, NE	-	-		-		1.489	Feb 2024	-		1.489	Continuing	Continuing	-
Engineering Support	C/CPAF	Various : Bellevue, Offutt AFB, NE	-	-		-		8.315	Feb 2024	-		8.315	Continuing	Continuing	-
		Subtotal	-	-		-		16.686		-		16.686	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304100F / *Strategic Mission Planning & Execution System (SMPES)*	**Project (Number/Name)** 675029 / *Strategic Mission Planning & Execution System*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support	SS/TBD	Various : Bellevue, Offutt AFB, NE	-	-		-		0.086	Feb 2024	-		0.086	Continuing	Continuing	-
		Subtotal	-	-		-		0.086		-		0.086	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PSC	C/Various	Various : Bellevue, Offut AFB, NE	-	-		-		5.540	Nov 2023	-		5.540	Continuing	Continuing	-
		Subtotal	-	-		-		5.540		-		5.540	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		-		55.269		-		55.269	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304100F / *Strategic Mission Planning & Execution System (SMPES)*	**Project (Number/Name)** 675029 / *Strategic Mission Planning & Execution System*

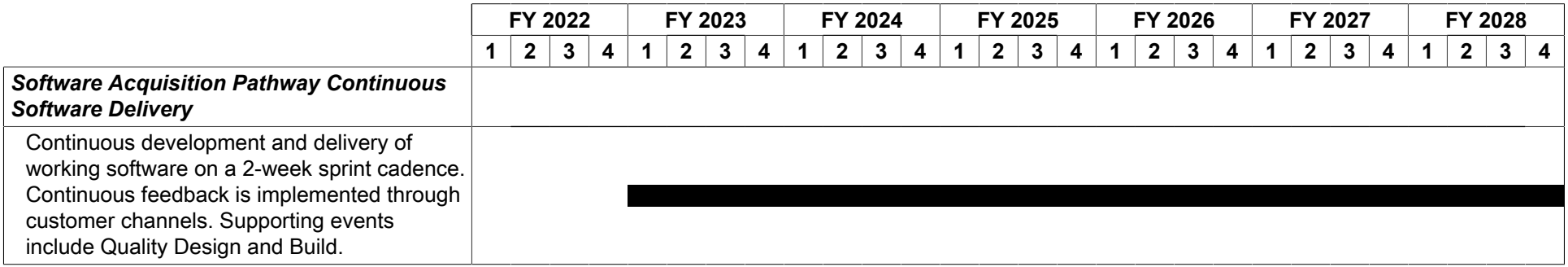

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304100F / *Strategic Mission Planning & Execution System (SMPES)*	**Project (Number/Name)** 675029 / *Strategic Mission Planning & Execution System*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Software Acquisition Pathway Continuous Software Delivery				
Continuous development and delivery of working software on a 2-week sprint cadence. Continuous feedback is implemented through customer channels. Supporting events include Quality Design and Build.	1	2023	4	2028

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0304260F / *Airborne SIGINT Enterprise*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	88.645	109.528	108.947	0.000	108.947	89.499	94.518	96.560	100.054	Continuing	Continuing
675180: *RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)*	-	42.774	42.439	43.443	0.000	43.443	41.843	45.673	46.714	48.404	Continuing	Continuing
675183: *Common Development (Airborne SIGINT Development - Common Development)*	-	24.148	39.849	47.902	0.000	47.902	29.657	30.396	31.019	32.141	0.000	235.112
675185: *COMPASS BRIGHT*	-	14.194	12.313	9.495	0.000	9.495	9.709	9.953	10.157	10.525	Continuing	Continuing
675186: *Special Programs (Airborne SIGINT Development - Special Platforms)*	-	7.529	14.927	8.107	0.000	8.107	8.290	8.496	8.670	8.984	Continuing	Continuing

Note

Project 675185, (COMPASS BRIGHT), changed from (Non-Traditional SIGINT (NTS))

A. Mission Description and Budget Item Justification

This program funds multi-domain, multi-Intelligence, Surveillance and Reconnaissance (ISR) research, development, test and evaluation (RDT&E) efforts in support of the National Defense Strategy (NDS), as applied by the Air Force in the Next Generation ISR Dominance Flight Plan. Specifically, Program Element (PE) 0304260F provides authorized and appropriated funding to Signals Intelligence (SIGINT) RDT&E efforts for utilization on airborne platforms.

The future ISR portfolio will consist of multi-domain, multi-intelligence systems to meet emerging ISR threats across the entire conflict spectrum. The Airborne SIGINT Enterprise (ASE) PE is integral to developing the SIGINT component of the multi-domain, multi-ISR system capable of maintaining the warfighter's decision advantage through all ranges of military operations, to include highly contested environments (HCEs).

ASE Program funds are distributed to projects based on the development priorities established by the USAF SIGINT Capabilities Working Group (SCWG), which is chartered to guide the ASE capability investment. When required, the USAF may move funds between ASE projects, developing the highest priority projects in response to urgent (e.g., JUON) and emerging (e.g., JEON) warfighter needs.

The ASE Program participates in the development, integration, testing, and implementation of International and Air Force standards (e.g., North Atlantic Treaty Organization (NATO) standardization) to ensure Joint, Allied, and Coalition interoperability with ASE fielded systems. ASE funds lead the modernization efforts including existing airborne platform sensors, and where appropriate, their interfaces with the Air Force Distributed Common Ground System (AF DCGS). The ASE Program approach is a synergistic development effort providing Air Force-wide ISR capabilities consistent with the NDS.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*

ASE will use the Air Force SIGINT Architecture (AFSA) for planning and decision-making. AFSA is focused on employing open architecture standards whenever possible, to allow maximum effectiveness, efficiency and flexibility of development upgrades with multi-domain interoperability. The primary goal is to produce an open system architecture-based, capability-focused SIGINT investment strategy for the USAF.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver emergent or unanticipated weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F. In FY22 0.643M was expended for civilian pay expenses in this program element, and in FY23 0.779M is forecasted for civilian pay expenses in this program element.

The FY24 funding request was reduced by 11.267 to account for the availability of prior year execution balances.

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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	93.546	108.528	120.214	0.000	120.214
Current President's Budget	88.645	109.528	108.947	0.000	108.947
Total Adjustments	-4.901	1.000	-11.267	0.000	-11.267
• 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	-4.901	1.000	-11.267	0.000	-11.267

Change Summary Explanation

The FY24 funding was reduced by 11.267 to account for the availability of prior year execution balances.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0304260F / *Airborne SIGINT Enterprise*	Project (Number/Name) 675180 / *RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675180: *RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)*	-	42.774	42.439	43.443	0.000	43.443	41.843	45.673	46.714	48.404	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports design studies, engineering analysis, non-recurring engineering, and other efforts associated with the integration and modification of the RC-135 SIGINT sensors and their associated air and ground components. Through extensive utilization of commercial-off-the-shelf (COTS) based solutions to field needed capabilities, it also incurs a need for continuous identification of suitable replacements for components affected by Diminishing Manufacturing Sources and integration efforts consistent with the COTS technology cycle. These efforts provide required engineering for preliminary assessments of technical feasibility, operability, or military utility as well as specific engineering implementations integrated into the various baseline modifications. 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. These funds will be disbursed among the RC-135V/W RIVET JOINT, the RC-135U COMBAT SENT, and the RC-135S COBRA BALL programs. Funding reflects the SCWG priorities and the accomplishment of other Airborne SIGINT Enterprise initiatives.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: RC-135 SIGINT Development ***Description:*** Non-Recurring Engineering for the RC-135 signals intelligence systems. See Classified Budget Exhibits (PE 0305207F) ***FY 2023 Plans:*** - Developing SIGINT efforts for the RC-135 fleet to include new signal sets and upgrades to current capabilities. See PE 0305207F for classified details. Classified requirements POC is HAF AF/A2OO (704) 614-7317. ***FY 2024 Base Plans:*** - Will continue SIGINT development efforts for the RC-135 fleet to include new signal sets and upgrades to current capabilities. See PE 0305207F for classified details. Classified requirements POC is HAF AF/A2OO (704) 614-7317. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Minor increase due to inflation	42.774	42.439	43.443	-	43.443
Accomplishments/Planned Programs Subtotals	42.774	42.439	43.443	-	43.443

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675180 / *RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• APAF 05 Line Item DARP01: *RC-135*	207.596	213.428	220.138	-	220.138	222.554	225.912	231.006	235.814	Continuing	Continuing

Remarks

The funds within Program 0305207F procure all necessary aircraft modifications for the RC-135 program and include those funds necessary to field SIGINT capabilities developed under Project 675180 of the ASE. Not all procurement funds in #DARPO1: RC-135 are for ASE SIGINT projects.

D. Acquisition Strategy

Aircraft, aircraft sensor systems, and associated ground support system modifications planned include the procurement, fielding and logistical support for future RC-135V/W RIVET JOINT, RC-135U COMBAT SENT and RC-135S COBRA BALL baseline configurations. Development and integration is managed by the Big Safari Systems Group. They employ evolutionary acquisition approaches to field incremental capability improvements.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0304260F / *Airborne SIGINT Enterprise*	Project (Number/Name) 675180 / *RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
RC-135 SIGINT Development	SS/ Various	L3 Harris : Greenville, TX	-	42.774	Jan 2022	42.439	Jan 2023	43.443	Jan 2024	-		43.443	Continuing	Continuing	-
		Subtotal	-	42.774		42.439		43.443		-		43.443	Continuing	Continuing	N/A

Remarks

Above contract method/type will be CPFF and FFP

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	42.774		42.439		43.443		-		43.443	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675180 / *RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)*

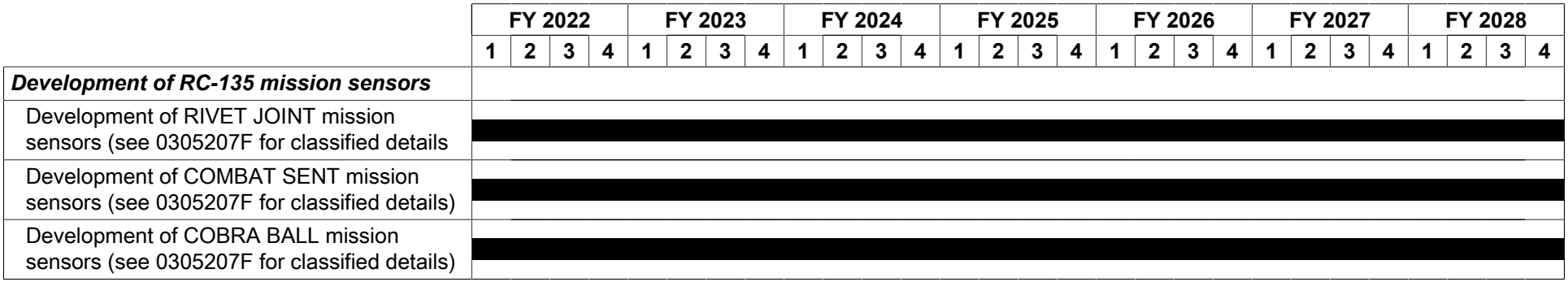

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675180 / *RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Development of RC-135 mission sensors				
Development of RIVET JOINT mission sensors (see 0305207F for classified details	1	2022	4	2028
Development of COMBAT SENT mission sensors (see 0305207F for classified details)	1	2022	4	2028
Development of COBRA BALL mission sensors (see 0305207F for classified details)	1	2022	4	2028

Note

Requirements documentation is classified. Classified requirements POC is HAF AF/A2/6UO (703) 614-7317

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0304260F / *Airborne SIGINT Enterprise*	Project (Number/Name) 675183 / *Common Development (Airborne SIGINT Development - Common Development)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675183: *Common Development (Airborne SIGINT Development - Common Development)*	-	24.148	39.849	47.902	0.000	47.902	29.657	30.396	31.019	32.141	0.000	235.112
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Common Development project supports airborne SIGINT design studies, engineering analysis, non-recurring engineering (NRE), program management, risk reduction, and other efforts associated with support to fielded SIGINT sensors and their associated air and ground components. The Common Development project also supports the development and integration of new sensor capabilities, quick reaction capabilities, and capabilities to address emerging needs as identified by the SIGINT Capabilities Working Group (SCWG). Finally, the Common Development project supports replacement components affected by Diminishing Manufacturing Sources and Material Shortages (DMSMS).

Future SIGINT sensors are being developed through the implementation of open architecture concepts that enable the rapid integration of new signals of interests. Future SIGINT sensor efforts will address needs identified in the National Defense Strategy, and SECAF Operational Imperatives, and Next Generation ISR Dominance Flight Plan in order to sustain SIGINT operations in a highly contested environment. The efforts include, but are not limited to, demonstrating SIGINT capabilities using a CI-6 family of systems sensor on a current USAF platform, demonstrating integration of a CI-6 family of systems sensor with the Distributed Common Ground System (DCGS), conducting trade studies and integration planning for CI-6 family of systems sensor improvements, developing Low-Cost UAS Sensor Technology (LOCUST), and furthering the development of CRESTONE to counter emerging threats.

This project also supports overarching Airborne SIGINT Enterprise (ASE) common development to include, but not limited to, the Air Force SIGINT Architecture maintenance, SIGINT modeling and simulation efforts, and technology development and risk reduction through the Air Force Research Lab managed Open Architecture Technology Lab (OATL). Capability improvements needed to exploit service identified signals of interest will be identified as priorities by the Air Force SCWG. This project provides the warfighter increased SIGINT combat capability via rapid acquisition. Capability enhancements are implemented as soon as the ASE technology achieves satisfactory risk levels. ASE developed Sensors will be integrated and tested on available platforms, funding permitting.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver technology and sensor capabilities. The use of such program funds would be in addition to civilian pay expenses budgeted in program element 0605827F. In PY23 $0.843M and in CY24 $0.861M was expended for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Common SIGINT Development	24.148	39.849	47.902	-	47.902

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675183 / *Common Development (Airborne SIGINT Development - Common Development)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Description: Develop and test common open architecture compliant SIGINT systems to include but not limited to CI-6, LOCUST, and CRESTONE. Additionally, will advance testing capabilities through the Open Architecture Technology Lab for current and future SIGINT sensors. ***FY 2023 Plans:*** - Continue to develop new signals capabilities and enhancements. Details are classified. - Continue to enhance OATL infrastructure to support future SIGINT sensor development and testing. - Demonstration, development, and integration activities for the CI-6 family of systems. - Continue to evaluate open architecture compliance of SIGINT sensor prototypes in the OATL. - Develop capabilities that address emerging needs, as identified by the SCWG, such as LOCUST. ***FY 2024 Base Plans:*** - Will continue to develop new signals capabilities and enhancements. Details are classified. - Will continue to enhance OATL infrastructure to support future SIGINT sensor development and testing. - Will pursue necessary follow-on efforts to CI-6 studies and demonstrations conducted in FY22 and FY23. - Will continue to evaluate open architecture compliance of SIGINT sensor prototypes in the OATL. - Will continue to develop capabilities that address emerging needs, as identified by the SCWG. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase from FY23 to FY24 due to ramp up of CI-6 trade studies, development, and integration activities as well as the ramp up of LOCUST development activities.					
Accomplishments/Planned Programs Subtotals	24.148	39.849	47.902	-	47.902

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• APAF 05 Line Item HAWK00: *RQ-4 Mods*	117.382	0.000	-	-	-	-	-	-	-	167.265	284.647
• RDTE 07 PE 0305202F: *Dragon U-2*	3.920	0.000	-	-	-	-	-	-	-	0.000	3.920

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675183 / *Common Development (Airborne SIGINT Development - Common Development)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost

Remarks

Not all Other Program Funding is associated with SIGINT.

D. Acquisition Strategy

SIGINT capabilities will be developed and integrated onto various platforms using an evolutionary acquisition approach to field incremental capability improvements, leveraging the OATL to incorporate platform agile, open system architecture. Attritable platforms and sensors will be evaluated as solutions to some requirements. Requirements are validated and prioritized by the SCWG (SIGINT Capability Working Group).

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675183 / *Common Development (Airborne SIGINT Development - Common Development)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Open Architecture Technology Lab (OATL)	Various	AFRL / VTS / BRSC / NPD : Rome, NY	-	2.792	Jul 2022	2.000	Apr 2023	2.000	Apr 2024	-		2.000	Continuing	Continuing	-
CI-6 Sensor SW Development/Support	C/CPFF	BAE Systems : Hudson, NH	-	5.678	Jul 2022	15.900	May 2023	14.833	May 2024	-		14.833	Continuing	Continuing	-
CI-6 Ground SW Support/ Demo	C/CPFF	LM RMS : Littleton, CO	-	3.550	Jul 2022	4.025	May 2023	5.000	May 2024	-		5.000	Continuing	Continuing	-
CI-6 Aircraft Integration/ Demo	C/CPFF	LMA : Palmdale, CA	-	6.000	Jul 2022	7.000	May 2023	8.000	May 2024	-		8.000	Continuing	Continuing	-
Air Force SIGINT Architecture (AFSA)	Various	AECOM : Annapolis Junction, MD	-	3.720	May 2022	2.798	Jan 2023	4.000	Jan 2024	-		4.000	Continuing	Continuing	-
CRESTONE	Various	DOE / SNL : Albuquerque, NM	-	-		-		3.000	Jun 2024	-		3.000	Continuing	Continuing	-
LOCUST	Various	AFRL / VTS / BRSC / NPD : Rome, NY	-	-		2.131	Apr 2023	5.689	Mar 2024	-		5.689	Continuing	Continuing	-
		Subtotal	-	21.740		33.854		42.522		-		42.522	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA	Various	Various : Dayton, OH	-	2.408	May 2022	5.995	Jan 2023	5.380	Jan 2024	-		5.380	Continuing	Continuing	-
		Subtotal	-	2.408		5.995		5.380		-		5.380	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	24.148		39.849		47.902		-		47.902	Continuing	Continuing	N/A

Remarks

- FY23 funding increased due to ramping up CI-6 and future SIGINT programs.
- Open Architecture Technology Lab (OATL) technology development and risk reduction efforts will continue to demonstrate rapid technology insertion.

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675183 / *Common Development (Airborne SIGINT Development - Common Development)*

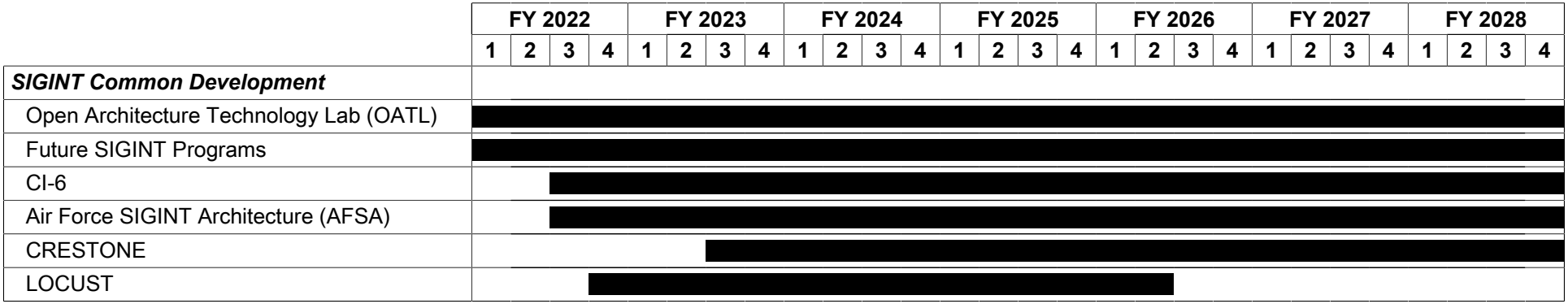

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675183 / *Common Development (Airborne SIGINT Development - Common Development)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SIGINT Common Development				
Open Architecture Technology Lab (OATL)	1	2022	4	2028
Future SIGINT Programs	1	2022	4	2028
CI-6	3	2022	4	2028
Air Force SIGINT Architecture (AFSA)	3	2022	4	2028
CRESTONE	3	2023	4	2028
LOCUST	4	2022	2	2026

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0304260F / *Airborne SIGINT Enterprise*	Project (Number/Name) 675185 / *COMPASS BRIGHT*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675185: *COMPASS BRIGHT*	-	14.194	12.313	9.495	0.000	9.495	9.709	9.953	10.157	10.525	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The COMPASS BRIGHT program develops, demonstrates, and rapidly transitions advanced Air Force specific SIGINT and MULTI-INT capabilities against emerging and future target signals of interest. This program pursues SIGINT technologies for program transition, to include Communications Intelligence (COMINT), Electronic Intelligence (ELINT), Audio, Analytics, Special Signals of Interest, and Radio Frequency Measurement and Signature Intelligence (MASINT). Compass Bright will pursue MULTI-INT capabilities such as but not limited to, cross-cue and fusion from other INTs such as GEOINT, in order to create a holistic ISR picture for the warfighter and the IC. The COMPASS BRIGHT program objective is to mature technologies for application in SIGINT and MASINT systems or subsystems. Production and integration of these developed technologies will be conducted by the appropriate programs. COMPASS BRIGHT projects are selected through a data call process, whereby the USAF evaluates proposals from the laboratories, platforms, and other government agencies, to select those projects that are most promising.

The program office authority extends to accomplishment of out-of-cycle COMPASS BRIGHT efforts. These tasks may be filtered through the SIGINT Capability Working Group (SCWG) outside the normal vetting process to expedite acquisition of high-end capabilities for the warfighter.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver technology and sensor capabilities. The use of such program funds would be in addition to civilian pay expenses budgeted in program element 0605827F.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: COMPASS BRIGHT Tech Development	14.194	12.313	9.495	-	9.495
Description: Develops projects in the SIGINT and MASINT areas for transition to the RC-135 fleet, other intelligence, surveillance, and reconnaissance platforms. ***FY 2023 Plans:*** - Initiate, continue, and complete various SIGINT projects to include enhanced ELINT exploitation, COMINT, Audio exploitation, signals of interest prosecution, and NTISR. - FY24 Project selection process initiated. ***FY 2024 Base Plans:*** - Will initiate, continue, and complete various SIGINT projects to include enhanced ELINT exploitation, COMINT, Audio exploitation, signals of interest prosecution, and NTISR.					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675185 / *COMPASS BRIGHT*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
- FY25 Project selection process will be initiated. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Decrease down to normal levels of funding after having budget zero'd out in 2019 and increased over FY20-23.					
Accomplishments/Planned Programs Subtotals	14.194	12.313	9.495	-	9.495

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• APAF 05 Line Item DARP01: *RC-135*	207.596	212.828	219.499	-	219.499	220.967	224.045	228.860	-	Continuing	Continuing
• APAF 06 Line Item DARP01: *RC-135*	51.305	25.661	55.452	-	55.452	55.903	56.741	57.970	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

Air Force Life Cycle Management Center/Intelligence, Surveillance, and Reconnaissance and Special Operations Forces Directorate (AFLCMC/WI) will execute COMPASS BRIGHT and Operational Reconnaissance efforts through technology development and demonstration contracts which leverage existing laboratory relationships and other existing contractual vehicles, with future development projects emphasizing full and open competition.

On an annual basis, the SIGINT Capabilities Working Group (SCWG) reviews developmental technologies against warfighter capabilities and requirements based on strategic roadmaps. Projects advancing the technological maturity of promising sensors and processing capabilities are reviewed and prioritized into a recommended list for senior executive direction to implement for the coming fiscal year.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0304260F / *Airborne SIGINT Enterprise*	Project (Number/Name) 675185 / *COMPASS BRIGHT*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
COMPASS BRIGHT	Various	Multiple : Various	-	2.872	Nov 2021	2.313	Nov 2022	3.345	Nov 2023	-		3.345	Continuing	Continuing	-
AFRL/RI Projects	C/CPFF	Multiple : Rome/ Griffiss	-	8.443	Nov 2022	8.223	Nov 2022	4.250	Nov 2023	-		4.250	Continuing	Continuing	-
		Subtotal	-	11.315		10.536		7.595		-		7.595	Continuing	Continuing	N/A

Remarks

On an annual basis, the SIGINT Capabilities Working Group (SCWG) reviews developmental technologies against warfighter capabilities and requirements based on strategic roadmaps. Projects advancing the technological maturity of promising sensors and processing capabilities are reviewed and prioritized into a recommended list for senior executive direction to implement for the coming fiscal year.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Compass Bright PMA	Various	Various : Various, OH	-	2.879	Apr 2022	1.777	Jan 2023	1.900	Jan 2024	-		1.900	Continuing	Continuing	-
		Subtotal	-	2.879		1.777		1.900		-		1.900	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	14.194		12.313		9.495		-		9.495	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675185 / *COMPASS BRIGHT*

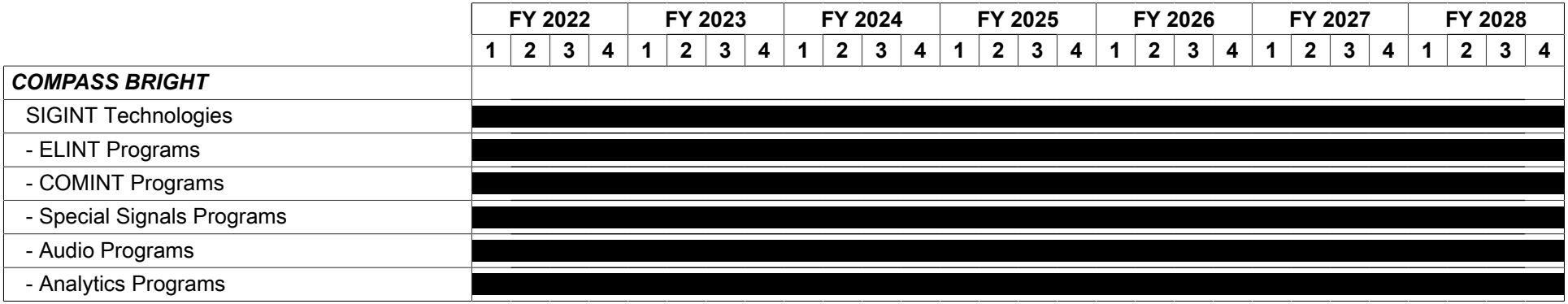

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675185 / *COMPASS BRIGHT*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
COMPASS BRIGHT				
SIGINT Technologies	1	2022	4	2028
- ELINT Programs	1	2022	4	2028
- COMINT Programs	1	2022	4	2028
- Special Signals Programs	1	2022	4	2028
- Audio Programs	1	2022	4	2028
- Analytics Programs	1	2022	4	2028

Note

On an annual basis, the SCWG reviews developmental technologies against warfighter capabilities and requirements based on strategic roadmaps. Projects advancing the technological maturity of promising sensors and processing capabilities are reviewed and prioritized into a recommended list for senior executive direction to implement for the coming fiscal year. As a result, the USAF will move funds between projects periodically to develop the highest priority projects in response to urgent and emerging warfighter needs.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0304260F / *Airborne SIGINT Enterprise*	Project (Number/Name) 675186 / *Special Programs (Airborne SIGINT Development - Special Platforms)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675186: *Special Programs (Airborne SIGINT Development - Special Platforms)*	-	7.529	14.927	8.107	0.000	8.107	8.290	8.496	8.670	8.984	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports special SIGINT studies as well as the development and integration of advanced SIGINT capabilities for special programs including, but not limited to: quick reaction capability sensors, the processing, exploitation, and dissemination associated with these systems, and other efforts approved by the USAF SCWG. Development efforts will include, but are not limited to: new signal sets, antenna improvements, sensitivity upgrades, and data distribution upgrades, and new/advanced deployment capabilities. This project provides the war fighter with near term combat capabilities with increased capability improvements accomplished as technologies and risks achieve satisfactory levels. Sensors will be integrated and tested on various platforms including the MQ-9A remotely piloted aircraft.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: SIGINT Development	7.529	14.927	8.107	0.000	8.107
Description: Develop, update, and test SIGINT capabilities for QRC and normalized special programs SIGINT projects. ***FY 2023 Plans:*** - Will continue to modernize SIGINT systems used by the MQ-9A and other platforms. -Congressional add will be used to accelerate development of Protected Precision Navigation and Timing (PPNT) technologies and Quick Reaction Capabilities (QRC) to address changing Combatant Commander SIGINT requirements ***FY 2024 Base Plans:*** - Will continue to modernize SIGINT systems used by the MQ-9A and other platforms. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding decrease to normal levels due to $7M congressional mark in FY23					
Accomplishments/Planned Programs Subtotals	7.529	14.927	8.107	0.000	8.107

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675186 / *Special Programs (Airborne SIGINT Development - Special Platforms)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

SIGINT capabilities will be integrated to various classified platforms using an evolutionary acquisition approach. Capabilities and prototypes will be developed by Other Government Agencies and transitioned to select vendors as production needs develop.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675186 / *Special Programs (Airborne SIGINT Development - Special Platforms)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Airborne SIGINT Development - Special Platforms	Various	Various : Various	-	7.209	Jan 2022	14.590	Jan 2023	7.763	Jan 2024	0.000		7.763	Continuing	Continuing	-
		Subtotal	-	7.209		14.590		7.763		0.000		7.763	Continuing	Continuing	N/A

Remarks

Upgrades the quick reaction capability sensors already on the MQ-1/9 fleet

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Flight Test	Various	Various : Various	-	0.320	May 2022	0.337	May 2023	0.344	May 2024	0.000		0.344	Continuing	Continuing	-
		Subtotal	-	0.320		0.337		0.344		0.000		0.344	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	7.529		14.927		8.107		0.000		8.107	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675186 / *Special Programs (Airborne SIGINT Development - Special Platforms)*

	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
SIGINT Development																												
MQ-9 Sensor 1 Modernization																												
MQ-9 Sensor 2 Modernization																												
MQ-9 Sensor Upgrades																												

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675186 / *Special Programs (Airborne SIGINT Development - Special Platforms)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SIGINT Development				
MQ-9 Sensor 1 Modernization	1	2022	4	2028
MQ-9 Sensor 2 Modernization	1	2022	4	2028
MQ-9 Sensor Upgrades	1	2022	4	2028

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0304310F / *Commercial Economic Analysis*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	3.632	4.221	4.635	0.000	4.635	4.192	4.294	4.377	4.530	Continuing	Continuing
675896: *Commercial Economic Analysis*	-	3.632	4.221	4.635	0.000	4.635	4.192	4.294	4.377	4.530	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

To preserve Air Force and DoD military advantage from commercial and economic risk, the Office of Commercial Economic Analysis (OCEA) produces in-depth analytical assessments and advanced risk mitigation strategies based on commercially available industry, market, and economic information. These assessments and strategies support the decision making efforts of Service, Department of Defense, and Whole of Government to protect National Security Innovation Base equities and sustain the U.S. competitive advantage.

The funding request provides for an enterprise analytic platform providing a technical prototype which will aggregate risk data and produce mitigation strategies and impact analytic products, i.e. mature big data architecture, higher domain connectivity, continuous assessment capability and integrate external applications. The funding also supports continuous assessment of the commercially available information to ensure it is accurate, current, and relevant.

Additional classified details can be found in OSD Comptroller's classified Justification Book Volume 6.

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 0.00M was expended for civilian pay expenses in this program element, and in CY 0.00M is forecasted for civilian pay expenses in this program 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0304310F / *Commercial Economic Analysis*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	3.770	4.542	4.635	0.000	4.635
Current President's Budget	3.632	4.221	4.635	0.000	4.635
Total Adjustments	-0.138	-0.321	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	-0.138	-0.321			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.000	0.000	0.000

Change Summary Explanation

The FY23 decrement is due to a mark for FFRDC Reduction (Sec 8026(e))

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Commercial Economic Analysis	3.632	4.221	4.635
Description: Develop solutions to protect the National Security Innovation Base from adversary information attacks and protect the U.S. technological advantage. Research, develop, test and evaluate Commercial Economic Analysis capabilities, systems, tools, data, products, and services through a disciplined, yet agile, process that ensures commercial economic modeling pilots, risk management constructs, decision support tools, and continuous monitoring capabilities are available for Air Force sectors and segments of the National Security Innovation Base. Additional classified details can be found in OSD Comptroller's classified Justification Book Volume 6.			
FY 2023 Plans: FY23 funding will use existing contracts and Commercial Solutions Openings (CSO) purchase orders for a continuation of modular components and data architecture framework supporting risk management, risk mitigation, and non-traditional support capabilities. Classified details can be found in OSD Comptroller's classified Justification Book Volume 6.			
FY 2024 Plans:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0304310F / *Commercial Economic Analysis*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
FY24 funding will continue to use existing contracts and Commercial Solutions Openings (CSO) purchase orders for a continuation of modular components and data architecture framework supporting risk management, risk mitigation, and non-traditional support capabilities. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase based on inflation.			
Accomplishments/Planned Programs Subtotals	3.632	4.221	4.635

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• O&M 030431F: *Commercial Economic Analysis*	20.319	20.465	20.674	-	20.674	23.587	24.004	24.483	24.933	Continuing	Continuing

Remarks

N/A

E. Acquisition Strategy

Pursue competitively awarded contracts for follow-on to existing contract and task orders, with emphasis on system integration and corresponding data architectures. IDIQ task orders and specific system integration, cloud connectivity, and data contracts are the cornerstone of OCEA RDT&E activities.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304310F / *Commercial Economic Analysis*	**Project (Number/Name)** 675896 / *Commercial Economic Analysis*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Data Integration	C/FFP	Dun & Bradstreet : Reston, VA	-	1.994	May 2022	1.453	May 2023	1.112	May 2024	-		1.112	Continuing	Continuing	-
Data Applications	C/FP	Strider : Fairfax, VA	-	1.500	Jul 2022	2.380	Jul 2023	3.135	Jul 2024	-		3.135	Continuing	Continuing	-
		Subtotal	-	3.494		3.833		4.247		-		4.247	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Hosting Services	SS/FFP	AWS (C2S) : Seattle, WA	-	0.138	Sep 2022	0.388	May 2023	0.388	May 2024	-		0.388	Continuing	Continuing	-
N/A	TBD	Not specified. : TBD	-	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	-	0.138		0.388		0.388		-		0.388	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	3.632		4.221		4.635		-		4.635	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304310F / *Commercial Economic Analysis*	**Project (Number/Name)** 675896 / *Commercial Economic Analysis*

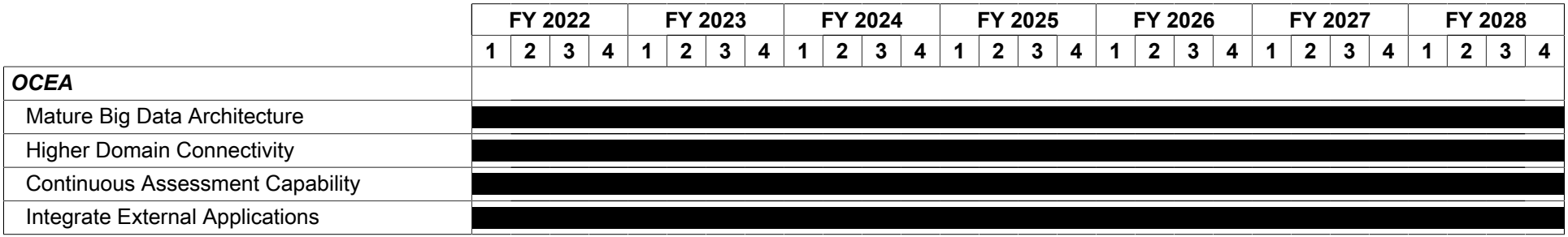

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304310F / *Commercial Economic Analysis*	**Project (Number/Name)** 675896 / *Commercial Economic Analysis*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
OCEA				
Mature Big Data Architecture	1	2022	4	2028
Higher Domain Connectivity	1	2022	4	2028
Continuous Assessment Capability	1	2022	4	2028
Integrate External Applications	1	2022	4	2028

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305015F / *C2 Air Operations Suite - C2 Info Services*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.000	7.708	13.751	0.000	13.751	13.500	13.888	14.159	14.451	Continuing	Continuing
675218: *Applications Development*	-	0.000	7.708	13.751	0.000	13.751	13.500	13.888	14.159	14.451	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2023, DevOps efforts in PE 0207522F, Airbase Air Defense Systems (ABADS), Project 675218, Applications Development efforts were transferred to PE 0305015F, C2 Air Operations Suite - C2 Info Services, Project 675218, Applications Development.

A. Mission Description and Budget Item Justification

This budget line funds the development of Command and Control, Incident Management, Emergency Response Application (C2IMERA), a C2 system that addresses installation commander's and staff's ability to support Airfield, Flight and Emergency Operations. C2IMERA funds provide enhanced installation C2 to improve decision speed, quality, and lethality by incorporating direct user feedback, connecting people, automating daily operations, and integrating data from myriad systems. C2IMERA receives input from users and system interfaces and displays data on the real-time, interactive Common Operating Picture (COP) and consolidated dashboards. C2IMERA also provides a theater level Higher Headquarters (HHQ) module to aggregate critical data theater-wide to improve real-time awareness. C2IMERA provides automated updates via the COP, as well as notifications via emails and alerts, alleviating the need for briefings, meetings, and radio communication(s).
The C2IMERA operational concept has three capability areas:
• C2 collaboration across the Wing - operate/fight the base
• Wing Situational Awareness
• Wing Collaboration/reporting to HHQ (i.e., Air Operations Center (AOC), the Air Force Forces (AFFOR), Command Center etc.)

Requirements also include supporting base operations, mission management and monitoring, HHQ Information Exchange Requirements (IERs), Emergency Action Messaging, Situation Reports (SITREP) automation, and other key enablers supporting the operational concept.

FY24 funds will support the Agile DevOps of enhanced architecture to make C2IMERA more scalable, add integrations and enhance data automation. This includes architecting the application to operate in Degraded, Disconnected, Intermittent and Low-Bandwidth (D-DIL) environments to support key operational concepts such as Agile Combat Employment. Funds will also support scaling C2IMERA to additional CONUS and OCONUS Air Force installations.

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 FY22, $0.000M was expended for civilian pay expenses in this program element, and in FY23, $0.797M is forecasted for civilian pay expenses in this program element.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305015F / *C2 Air Operations Suite - C2 Info Services*

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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.000	8.097	8.282	0.000	8.282
Current President's Budget	0.000	7.708	13.751	0.000	13.751
Total Adjustments	0.000	-0.389	5.469	0.000	5.469
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	-0.389			
• 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	5.469	0.000	5.469

Change Summary Explanation

Program Changes table does not account for:
FY23, -$0.209M for SBIR tax

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Command and Control, Incident Management, Emergency Response Application (C2IMERA)	0.000	7.708	13.751

Description: C2IMERA will improve Installation command and control by connecting people, integrating data, and automating daily operations. The aggregation of theater data and activities enhances Operational C2 as well as increases decision speed and operational advantage. This is accomplished by incorporating direct user feedback, connecting people, automating daily operations, and integrating data from myriad systems. C2IMERA receives input from users and system interfaces and the data is displayed on the real-time, interactive COP. C2IMERA provides automated updates via the COP, as well as notifications via emails and alerts, alleviating the need for briefings, meetings, and radio communication(s).

FY 2023 Plans:

Activities supported with FY23 funding include, but are not limited to the following:
-Will develop Advanced Battle Management System (ABMS)/Joint All Domain Command and Control (JADC2) integrations and capabilities.
-Will share C2IMERA data with Air Base Air Defense Missile Defense (ABADS(MD)).
-Will support architectural improvements to enable transition from a monolithic codebase to a scalable microservices codebase.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305015F / *C2 Air Operations Suite - C2 Info Services*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
-Will expand Higher Headquarters capabilities and data aggregation. -Will lead and manage program through daily interaction with contractor and key stakeholders. -Will identify, monitor, mitigate and report program and known risks associated with software and testing. -Will develop efforts for interoperability with external agencies as required. -Will develop system integration & interoperability with operational C2 systems. -Will conduct C2 tabletop exercises. -Will conduct contractor integration testing of components & subsystems. -Will verify, validate, and accredit modeling & simulation tools for use in test. -Will conduct integrated contractor/government developmental test & evaluation to characterize performance and cybersecurity posture. -Will garner Foreign Disclosure Office approval for foreign partners to gain access to the application. -Will garner approval for 2-year ATO renewal. ***FY 2024 Plans:*** Activities supported with FY24 funding include, but are not limited to the following: -Will expand on D-DIL capabilities in support of JADC2/ACE. -Will integrate with ABADS(MD). -Will complete microservices architecture improvements and deprecation of monolith baseline. -Will develop two-way communications between HHQ and installation C2IMERA systems. -Will expand map layer services. -Will lead and manage program through daily interaction with contractor and key stakeholders. -Will identify, monitor, mitigate and report program and known risks associated with software and testing. -Will expand integration with the joint C2 framework. -Will begin transition to multi-tenant capabilities. -Will integrate with Kessel Run's Rebel Alliance data sharing service. -Will integrate with the Kessel Run All-Domain Operations Suite (KRADOS) applications. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased to expand foundational capabilities, increase integrations, and scale across the global enterprise.			
Accomplishments/Planned Programs Subtotals	0.000	7.708	13.751

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305015F / *C2 Air Operations Suite - C2 Info Services*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• RDTE 07 0604617F: *Agile Combat Support*	0.000	8.199	5.645	-	5.645	0.000	0.000	0.000	-	0.000	13.844

Remarks

FY23 Project 675218 Applications Development funding incorrect due to a database error. Project 675218 Applications Development should equal FY23: $7.499M.

E. Acquisition Strategy

The acquisition strategy builds on agile software engineering methodologies and modernization of existing capabilities utilizing evolutionary acquisition. Using Section 804, timelines are reduced by modularizing both software engineering solutions and the associated contracting and funding strategies. This enables dynamic resource allocation based on current warfighter needs. The desired end state is continuous delivery of Software. In FY20, the decision was made to transition from Middle Tier of Acquisition (MTA), Section 804 Rapid prototyping/Fielding to the Software Acquisition Pathway. This program is dependent on support from the All Domain Common Platform (ADCP).

Program management for the C2IMERA 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 C2IMERA program. AFLCMC provides contracting, legal, comptroller, programmatic, engineering, test, and logistics support.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305015F / *C2 Air Operations Suite - C2 Info Services*	Project (Number/Name) 675218 / *Applications Development*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C2IMERA Development	TBD	TBD : TBD	-	-		4.477	Jan 2023	9.432	Jan 2024	-		9.432	Continuing	Continuing	-
		Subtotal	-	-		4.477		9.432		-		9.432	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C2IMERA Test Support	PO	96th Test Wing : Eglin, FL	-	-		0.250	Jan 2023	0.265	Jan 2024	-		0.265	Continuing	Continuing	-
		Subtotal	-	-		0.250		0.265		-		0.265	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C2IMERA Program Support	C/Various	Not specified. : Hanscom AFB, MA	-	-		2.592	Jul 2023	3.245	Jan 2024	-		3.245	Continuing	Continuing	-
C2IMERA Systems Engineer	SS/ Various	Not specified. : Hanscom AFB, MA	-	-		0.389	Oct 2022	0.809	Oct 2023	-		0.809	Continuing	Continuing	-
		Subtotal	-	-		2.981		4.054		-		4.054	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		7.708		13.751		-		13.751	Continuing	Continuing	N/A

Remarks

FY23: C2IMERA funding transferred from PE 0207522F, Airbase Air Defense Systems (ABADS), Project Number 675218, Applications Development.

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305015F / *C2 Air Operations Suite - C2 Info Services*	**Project (Number/Name)** 675218 / *Applications Development*

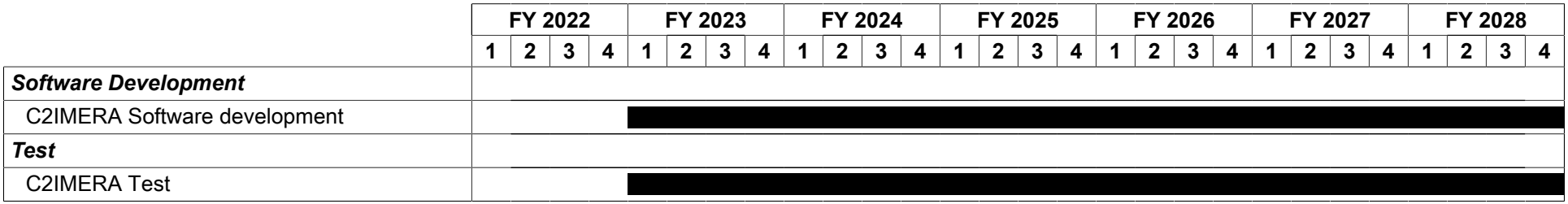

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305015F / *C2 Air Operations Suite - C2 Info Services*	**Project (Number/Name)** 675218 / *Applications Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Software Development				
C2IMERA Software development	1	2023	4	2028
Test				
C2IMERA Test	1	2023	4	2028

Note

See PE 0207522F, Airbase Air Defense Systems (ABADS), Project Number 675218, Applications Development for previous development events.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305020F / *CCMD Intelligence Information Technology*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	1.663	1.751	1.660	0.000	1.660	1.832	1.878	1.917	1.987	Continuing	Continuing
674901: *Ccmd Intelligence Information Technology*	-	1.663	1.751	1.660	0.000	1.660	1.832	1.878	1.917	1.987	Continuing	Continuing

A. Mission Description and Budget Item Justification

Combatant Command Intelligence Enterprise Management Support Office (CCI EMSO) guides the development, modernization, alignment, and integration of Combatant Command Intelligence (CCI) enterprise capabilities and systems as part of the Defense Intelligence Enterprise. This program focuses on information technology (IT) and data centric gaps, and builds consensus across the Combatant Commands, Combat Service Agencies, and services to accelerate enterprise IT solutions to the Warfighter. It also provides foundational data analytics, enterprise architectural research, and modeling across the CCI community. CCI EMSO includes a cloud-based research and assessment computing environment leveraging advance computing and storage technologies. It provides data-driven research, portfolio assessment and management, and decision support to enable OUSD(I&S)'s governance and management of the CCMD Intelligence Enterprise. Combatant Commands (CCMDs) require a cohesive, flexible innovative IT enterprise that rapidly transforms and adapts to ensure intelligence content informs solution analysis, planning, warfighter operations, and strategic decision making. This program office actively engages with the CCMDs and service providers to refine requirements, identify potential solutions, and advocate for the modernization, alignment, and integration of enterprise capabilities critical to the warfighter. CCI EMSO champions CCMD Intelligence IT requirements during the implementation of DoD's Digital Transformation Strategy and OUSD(I&S) Digital Transformation Campaign Plan. The CCI EMSO is at the nexus of multiple service providers, networks, systems, applications, classification levels, and funding. The vast majority of these IT services are tailored to Intelligence Community (IC) users vice CCMD-specific missions or needs.

OUSD(I&S) and Joint Staff sponsored a capabilities based assessment resulting in an Intelligence System Initial Capability Document (IS-ICD - JROCM 094-16) and a Doctrine, Organization, Training, materiel, Logistics, Personnel, Facilities - Policy (DOTmLPF-P) Change Request (DCR - JROCM 088-17). In response, OUSD(I&S) coordinated with the Air Force to create the CCI EMSO, formerly Combatant Command Intelligence Information Technology Provisional Program Activity Office (CCIIT PPAO). OUSD(I&S) Digital Transformation Campaign Plan directs CCI EMSO to support the modernization and management of the CCI IT Enterprise for the CCMDs. This program enables long term research and evaluation of systems and processes capable of supporting the CCI Enterprise.

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 $0.00M was expended for civilian pay expenses in this program element, and in CY $0.00M is forecasted for civilian pay expenses in this program 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force					Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*			R-1 Program Element (Number/Name) PE 0305020F / *CCMD Intelligence Information Technology*		
B. Program Change Summary ($ in Millions)	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**
Previous President's Budget	1.663	1.751	1.787	0.000	1.787
Current President's Budget	1.663	1.751	1.660	0.000	1.660
Total Adjustments	0.000	0.000	-0.127	0.000	-0.127
• 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	-0.127	0.000	-0.127

Change Summary Explanation

The BY funding request was reduced by $0.127 million to account for the availability of prior year execution balances.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305020F / *CCMD Intelligence Information Technology*	Project (Number/Name) 674901 / *Ccmd Intelligence Information Technology*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
674901: *Ccmd Intelligence Information Technology*	-	1.663	1.751	1.660	0.000	1.660	1.832	1.878	1.917	1.987	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

N/A

A. Mission Description and Budget Item Justification

Combatant Command Intelligence Enterprise Management Support Office (CCI EMSO) guides the development, modernization, alignment, and integration of Combatant Command Intelligence (CCI) enterprise capabilities and systems as part of the Defense Intelligence Enterprise. This program focuses on information technology (IT) and data centric gaps, and builds consensus across the Combatant Commands, Combat Service Agencies, and services to accelerate enterprise IT solutions to the Warfighter. It also provides foundational data analytics, enterprise architectural research, and modeling across the CCI community. CCI EMSO includes a cloud-based research and assessment computing environment leveraging advance computing and storage technologies. It provides data-driven research, portfolio assessment and management, and decision support to enable OUSD(I&S)'s governance and management of the CCMD Intelligence Enterprise. Combatant Commands (CCMDs) require a cohesive, flexible innovative IT enterprise that rapidly transforms and adapts to ensure intelligence content informs solution analysis, planning, warfighter operations, and strategic decision making. This program office actively engages with the CCMDs and service providers to refine requirements, identify potential solutions, and advocate for the modernization, alignment, and integration of enterprise capabilities critical to the warfighter. CCI EMSO champions CCMD Intelligence IT requirements during the implementation of DoD's Digital Transformation Strategy and OUSD(I&S) Digital Transformation Campaign Plan. The CCI EMSO is at the nexus of multiple service providers, networks, systems, applications, classification levels, and funding. The vast majority of these IT services are tailored to Intelligence Community (IC) users vice CCMD-specific missions or needs.

OUSD(I&S) and Joint Staff sponsored a capabilities based assessment resulting in an Intelligence System Initial Capability Document (IS-ICD - JROCM 094-16) and a Doctrine, Organization, Training, materiel, Logistics, Personnel, Facilities - Policy (DOTmLPF-P) Change Request (DCR - JROCM 088-17). In response, OUSD(I&S) coordinated with the Air Force to create the CCI EMSO, formerly Combatant Command Intelligence Information Technology Provisional Program Activity Office (CCIIT PPAO). CCI EMSO is tasked to address these gap areas for the CCMDs. This program enables long term research and evaluation of systems and processes capable of supporting the CCI Enterprise.

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 0.00M was expended for civilian pay expenses in this program element, and in CY 0.00M is forecasted for civilian pay expenses in this program element.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305020F / *CCMD Intelligence Information Technology*	**Project (Number/Name)** 674901 / *Ccmd Intelligence Information Technology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Combatant Command Intelligence Information Technology (CCMD Intel IT)	1.663	1.751	1.660
Description: Development, modification, and integration of new functionality to support improved end-to-end service delivery against one or more of six validated requirements areas within the CCIIT Enterprise operational mission set. ***FY 2023 Plans:*** Continuation of efforts: The RDT&E funds will be used to continue to research, test and evaluate multiple software tools and workflows impacting the CCI Enterprise. Complex research and evaluation of emerging data structures, visualization tools, and cross domain services directly address multiple Joint Requirements Oversight Council (JROC) requirements and CCMD Integrated Priority Lists (IPLs). N/A ***FY 2024 Plans:*** Continuation of efforts: The RDT&E funds will be used to continue to research, test and evaluate multiple software tools and workflows impacting the CCI Enterprise. Complex research and evaluation of emerging data structures, visualization tools, and cross domain services directly address multiple Joint Requirements Oversight Council (JROC) requirements and CCMD Integrated Priority Lists (IPLs). ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Program decrease due to HQ USAF under-execution review findings.			
Accomplishments/Planned Programs Subtotals	1.663	1.751	1.660

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• O&M PE 0305020F: *CCMD Intelligence Information Technology*	12.586	13.130	10.362	-	10.362	13.674	14.060	14.316	14.602	Continuing	Continuing

Remarks

The FY 2024 President's Budget O&M reduction was due to HQ USAF reprogramming of MIP funds to support a MILCON Project.

D. Acquisition Strategy

RDT&E funds will be applied as modifications to existing contract vehicles to address identified requirements and align and integrate capabilities across the enterprise critical to the warfighter.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305020F / *CCMD Intelligence Information Technology*	Project (Number/Name) 674901 / *Ccmd Intelligence Information Technology*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IT Cloud Hosting for Application Development	C/FFP	Other Contracting : Fairfax, VA	-	0.266	Jun 2022	0.241	May 2023	0.253	Nov 2023	-		0.253	Continuing	Continuing	-
		Subtotal	-	0.266		0.241		0.253		-		0.253	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SETA Support for Test and Evaluation Services	C/T&M	Other Contracting : Fairfax, VA	-	1.397	Feb 2022	1.510	Mar 2023	1.407	Dec 2023	-		1.407	Continuing	Continuing	-
		Subtotal	-	1.397		1.510		1.407		-		1.407	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	1.663		1.751		1.660		-		1.660	Continuing	Continuing	N/A

Remarks

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305020F / *CCMD Intelligence Information Technology*	**Project (Number/Name)** 674901 / *Ccmd Intelligence Information Technology*

	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Solution Analysis																												
Research intelligence capabilities / gaps / software and develop work-flows and requirements. Program will evaluate existing and potential software.																												
Requirements Development Solution																												
Refinement of requirements to match user input for added capability																												

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305020F / *CCMD Intelligence Information Technology*	**Project (Number/Name)** 674901 / *Ccmd Intelligence Information Technology*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Solution Analysis				
Research intelligence capabilities / gaps / software and develop work-flows and requirements. Program will evaluate existing and potential software.	1	2022	4	2028
Requirements Development Solution				
Refinement of requirements to match user input for added capability	1	2022	4	2028

Note

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305022F / *ISR Modernization & Automation Dvmt (IMAD)*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	15.888	13.138	18.680	0.000	18.680	23.869	24.492	24.988	25.831	Continuing	Continuing
675197: *Core Technology*	-	12.740	9.781	15.214	0.000	15.214	20.337	20.876	21.302	22.016	Continuing	Continuing
675306: *Analysis Enterprise*	-	3.148	3.357	3.466	0.000	3.466	3.532	3.616	3.686	3.815	Continuing	Continuing

A. Mission Description and Budget Item Justification

AF ISR Modernization, Automation and Development (IMAD) program develops and demonstrates technology required to implement Machine Learning (ML), Artificial Intelligence (AI), Cloud Computing Environment, Automation and machine intelligence on ISR systems. SECAF directed the Air Force to invest in a more automated environment to relieve strain on manpower in the out years. IMAD was started in calendar year (CY) 2020 to create ISR enterprise-wide effects using machine intelligence (AI, ML, Cloud) as described in the Next Generation ISR Dominance Flight Plan. IMAD consist of:
(1) Core Technologies in support of Algorithmic Warfare: technologies using algorithms to support USAF ISR, Joint, and the Intelligence Community (IC) operations at the scale and speed required in modern warfare against our adversaries and supports the National Defense Strategy (NDS) priority of operating at the "speed of relevance." Algorithmic technologies such as Machine Learning (ML) and Artificial Intelligence (AI) continues to reshape current sense, identify, attribute, and share Processing, Exploitation and Dissemination (PED) models to meet sustainable and effective ISR digital solutions while identifying efficiencies and thrive in a complex operating environment.
(2) Analysis Enterprise in support of Kill Chain Automation: USAF ISR must adapt large data sets and condition it into mission ready data sets, allowing personnel to discover, manage, and analyze data and transform it into real-time intelligence products. ISR Modernization, Automation and Development (IMAD) is an Air Force program managed by Air Combat Command (ACC) that funds investment in digital innovation projects submitted by the field and ISR enterprise partners. Investment funds are programmed to deliver machine learning capabilities (AI/ML). Replace manpower-intensive approaches which cannot keep pace with the future speed and volume of data. In addition, IMAD answers field ISR technologies that shift to a common cloud environment and operate at the tactical edge which applies new methodologies; advanced artificial intelligence and machine learning; ensures data is accessible, discoverable, and interoperable; and delivers decision advantage from detection to mission execution.

IMAD Supports National Defense Strategy priority of operating at the "speed of relevance."

IMAD supports Next Generation ISR Dominance Flight 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 FY22 0.00M was expended for civilian pay expenses in this program element, and in FY23 0.00M is forecasted for civilian pay expenses in this program element.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305022F / *ISR Modernization & Automation Dvmt (IMAD)*

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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	15.888	13.138	19.780	0.000	19.780
Current President's Budget	15.888	13.138	18.680	0.000	18.680
Total Adjustments	0.000	0.000	-1.100	0.000	-1.100
• 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	-1.100	0.000	-1.100

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305022F / *ISR Modernization & Automation Dvmt (IMAD)*	Project (Number/Name) 675197 / *Core Technology*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675197: *Core Technology*	-	12.740	9.781	15.214	0.000	15.214	20.337	20.876	21.302	22.016	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Supports National Defense Strategy priority of operating at the "speed of relevance."

Supports Next Generation ISR Dominance Flight 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 FY22 0.00M was expended for civilian pay expenses in this program element, and in FY23 0.00M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Algorithmic Warfare	12.740	9.781	15.214
Description: SECAF directed the AF to invest in a more automated environment to relieve strain on manpower in the out years. Algorithmic Warfare can provide world-class ISR support to Joint Operations at the scale and speed required in modern warfare against our adversaries. This effort supports National Defense Strategy of operating at the "speed of relevance." ***FY 2023 Plans:*** Continue to develop ISR algorithmic Warfare - automation of tools and machine learning algorithms. Continue to investigate AI methods. ***FY 2024 Plans:*** Continue to develop ISR algorithmic Warfare - automation of tools and machine learning algorithms. Continue to investigate AI methods. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased to match requirement.			
Accomplishments/Planned Programs Subtotals	12.740	9.781	15.214

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305022F / *ISR Modernization & Automation Dvmt (IMAD)*	**Project (Number/Name)** 675197 / *Core Technology*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305022F / *ISR Modernization & Automation Dvmt (IMAD)*	Project (Number/Name) 675197 / *Core Technology*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Algorithmic Warfare	TBD	HAF/A2 : Pentagon, DC	-	12.740	Nov 2021	9.781	Nov 2022	15.214	Nov 2023	-		15.214	Continuing	Continuing	-
		Subtotal	-	12.740		9.781		15.214		-		15.214	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	12.740		9.781		15.214		-		15.214	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305022F / *ISR Modernization & Automation Dvmt (IMAD)*	**Project (Number/Name)** 675197 / *Core Technology*

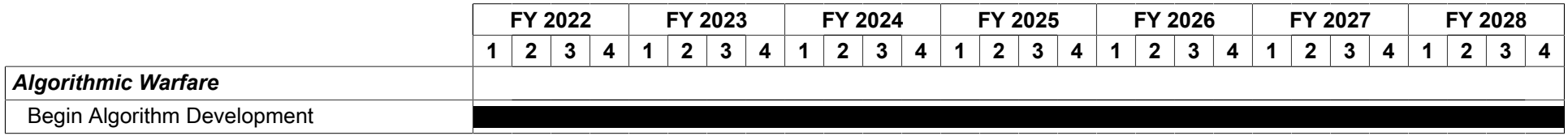

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305022F / *ISR Modernization & Automation Dvmt (IMAD)*	**Project (Number/Name)** 675197 / *Core Technology*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Algorithmic Warfare				
Begin Algorithm Development	1	2022	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305022F / *ISR Modernization & Automation Dvmt (IMAD)*	Project (Number/Name) 675306 / *Analysis Enterprise*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675306: *Analysis Enterprise*	-	3.148	3.357	3.466	0.000	3.466	3.532	3.616	3.686	3.815	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

AF ISR must adapt large data sets and condition it into mission sets, allowing personnel to discover, manage, and analyze data and transform it into living intelligence. Kill Chain Automation applies new methodologies; advances automation and machine learning algorithms; ensures data is accessible, agreeable, and interoperable; and delivers decision advantage.

Supports National Defense Strategy priority of operating at the "speed of relevance."

Supports Next Generation ISR Dominance Flight 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 FY22 0.00M was expended for civilian pay expenses in this program element, and in FY23 0.00M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Kill Chain Automation	3.148	3.357	3.466
Description: AF's first ISR investment to work large data sets, automation, COTS IT tolls, and data aggregation.			
FY 2023 Plans: Continue to fund software development to automate ISR analyst workflows; analysts currently spend 80 percent of their time searching for data and 20 percent of their time making sense of information. Human-machine teaming allows humans and machines to focus on activities they each do best			
FY 2024 Plans: Continue to fund software development to automate ISR analyst workflows; analysts currently spend 80 percent of their time searching for data and 20 percent of their time making sense of information. Human-machine teaming allows humans and machines to focus on activities they each do best			
FY 2023 to FY 2024 Increase/Decrease Statement:			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305022F / *ISR Modernization & Automation Dvmt (IMAD)*	**Project (Number/Name)** 675306 / *Analysis Enterprise*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Funded increased due to inflation			
Accomplishments/Planned Programs Subtotals	3.148	3.357	3.466

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305022F / *ISR Modernization & Automation Dvmt (IMAD)*	Project (Number/Name) 675306 / *Analysis Enterprise*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Kill Chain Automation	C/Various	HAF/A2 : Pentagon, DC	-	3.148	Dec 2021	3.357	Dec 2022	3.466	Dec 2023	-		3.466	Continuing	Continuing	-
		Subtotal	-	3.148		3.357		3.466		-		3.466	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	3.148		3.357		3.466		-		3.466	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305022F / *ISR Modernization & Automation Dvmt (IMAD)*	**Project (Number/Name)** 675306 / *Analysis Enterprise*

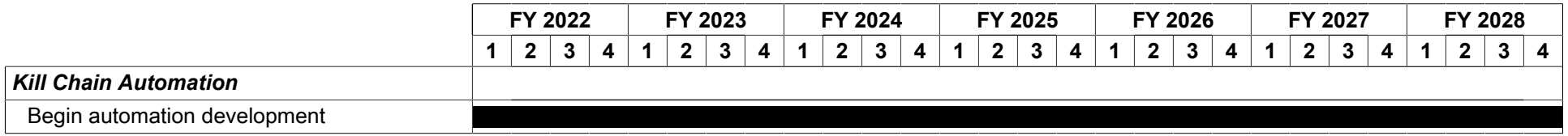

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305022F / *ISR Modernization & Automation Dvmt (IMAD)*	**Project (Number/Name)** 675306 / *Analysis Enterprise*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Kill Chain Automation				
Begin automation development	1	2022	4	2028

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force												Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305099F / *Global Air Traffic Management (GATM)*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	4.658	4.533	5.031	0.000	5.031	5.142	5.273	5.380	5.575	Continuing	Continuing
674689: *Global Access Architecture*	-	4.658	4.533	5.031	0.000	5.031	5.142	5.273	5.380	5.575	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program element funds the Air Force Life Cycle Management Center (AFLCMC) Aerospace Management Systems Division (AMSD), the designated Air Force (AF) Communications, Navigation, Surveillance/Air Traffic Management (CNS/ATM) and Navigation Safety Center of Excellence (COE).

The COE provides centralized avionics expertise to Headquarters Air Force, AF Major Commands (MAJCOM), and weapon system program offices. This funding enables the COE to participate, influence, and vote in government and industry technical forums as well as U.S. and international civil aviation standards bodies such as the Federal Aviation Administration (FAA), International Civil Aviation Organization (ICAO), Radio Technical Commission for Aeronautics (RTCA), the DoD Airlines Electronic Engineering Committee (AEEC) and others. These organizations are responsible for the development and assessment of international civil aviation standards for safe and efficient flight operations in worldwide airspace. This centralized CNS/ATM technical expertise capability supports all MAJCOMs and AF weapon system program offices.

The COE develops strategies to update and implement CNS/ATM capability requirements on AF weapon systems, as well as tailor the GPMs to each airframe's unique avionics architecture and operational mission. Efforts include but are not limited to performance assessment, test support, performance monitoring, interoperability testing, cybersecurity assessments, and the development of CNS/ATM capabilities for unmanned platforms. Currently, the COE supports all AF Program Office work to modernize interfaces that support GPS M-Code, ARC-210 replacements, SATCOM upgrades, and performance based navigation.

The COE performs periodic and event driven audits of National Geospatial-Intelligence Agency (NGA) Digital Aeronautical Flight Information File (DAFIF). This electronic navigation database contains critical safety of flight information used by the majority of DoD flight crews to fly Instrument Flight Rules (IFR) procedures, safely navigate airways and fly Instrument Approach Procedures (IAPs) to civil and military airfields worldwide.

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 $0.000 million was expended for civilian pay expenses in this program element, and in FY23 $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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305099F / *Global Air Traffic Management (GATM)*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	4.672	4.895	5.020	0.000	5.020
Current President's Budget	4.658	4.533	5.031	0.000	5.031
Total Adjustments	-0.014	-0.362	0.011	0.000	0.011
• 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	-0.014	-0.362	0.011	0.000	0.011

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: CNS/ATM COE Administration of DoD Avionics Equipment Catalog (CNS/ATM II)	0.425	0.457	0.164
Description: In accordance with AFPAM 63-129 Section 2.7.7 and AFI 63-101 Section 5.4.6.2, the CNS/ATM COE maintains a centralized Indefinite Delivery/Indefinite Quantity (ID/IQ) contract which contains pre-approved products for use by implementing aircraft SPOs. These include or will include: navigation safety avionics equipment/components, navigation data, and technical engineering services. Supports numerous DoD, US Federal Agencies, and Foreign Military Sales program offices. Provide preferred customer pricing and extended warranty. ***FY 2023 Plans:*** Continue development and administration of the CNS/ATM II contract. Include new transponder products and SW capability updates. ***FY 2024 Plans:*** Continuation of the CNS/ATM II contract activities and monitor Federal and Military CNS/ATM mandates for potential inclusion onto future contracts. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding decreased due to reduced contract activities and requirements.			
Title: CNS/ATM COE Digital Aeronautical Flight Information File (DAFIF) Management	2.117	2.038	2.434
Description: Perform periodic audits of the processes and procedures utilized by organizations involved in the development and distribution of critical safety of flight electronic databases used by aircrews to fly instrument flight rules procedures worldwide.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305099F / *Global Air Traffic Management (GATM)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Ensures the validity of multiple sources of information critical to implementation of international performance based navigation (PBN) standards. ***FY 2023 Plans:*** Continue efforts with DoD agencies and the FAA to audit/certify electronic navigational databases and sources, and develop performance based procedures required to operate without restriction in the National Airspace System (NAS) and in international civil aviation environments. Continue to publish procedures and databases with sufficient accuracy/performance necessary to operate manned and remotely piloted aircraft globally. ***FY 2024 Plans:*** Continuation of efforts with DoD agencies and the FAA to audit/certify electronic navigational databases and sources; and, develop performance based procedures required to operate without restriction in the National Airspace System (NAS) and in international civil aviation environments to include but not limited to publishing procedures and update databases to ensure accuracy/performance parameters necessary to operate manned and remotely piloted aircraft globally. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to amplified CNS/ATM COE DAFIF Management efforts.			
Title: CNS/ATM COE Standards Bodies Engagement and Generic Performance Matrix (GPM) Development	2.116	2.038	2.433
Description: Participate in technical forums to understand and influence civil aviation standards and incorporate DoD interests to ensure safe and efficient access of AF manned and unmanned aircraft to the global airspace. Create new and/or revise GPMs used by AF platform program offices to ensure aircraft comply with civil aviation requirements. Tailor GPMs for program offices to apply standards to unique aircraft avionics architectures. Assist 30+ aircraft program offices with the development of CNS/ATM related test and evaluation plans, the analysis of test/performance data, and the assessment of aircraft CNS/ATM performance through preparation of a Performance Assessment Report (PAR). ***FY 2023 Plans:*** Prioritize participation in technical forums and civil aviation standards bodies based on funding and operational requirements of AF platforms. Continue development of generic and tailor performance matrices to ensure AF manned and remotely piloted aircraft are capable and certified to operate safely and efficiently in worldwide civil airspace in accordance with emerging performance based CNS/ATM requirements. Continue to support AF aircraft platform program office test and design reviews, analysis of test/performance data, and performance assessment reports. Prioritize manpower support to provide deliverable products such as the TPM or PAR to ACAT 1 and reportable modification programs across the AF fleet. Support will be provided to AF platform program offices based on manpower availability and operational requirements of AF platforms. ***FY 2024 Plans:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305099F / *Global Air Traffic Management (GATM)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Continue development of generic and tailored performance matrices to ensure manned and remotely piloted aircraft are proficient and certified to operate safely and effectively in worldwide civil airspace in accordance with emerging performance-based CNS/ATM requirements to include but not limited to program office test and design reviews, analysis of test/performance data, and performance assessment reports. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to slight ramp up of CNS/ATM COE Standards Bodies Engagement and GPM Development activities.			
Accomplishments/Planned Programs Subtotals	4.658	4.533	5.031

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

A strategic pause was implemented to the CNS/ATM Storefront due to FY 2023 funding reduction. The COE will re-assess future goals and plans for the application to adequately develop and sustain the Storefront in the FYDP.

E. Acquisition Strategy

This program provides contractor Advisory and Assistance Service (A&AS) and other technical experts support to the Air Force Life Cycle Management Center (AFLCMC) Aerospace Management Systems Division (AMSD), the designated Air Force (AF) Communications, Navigation, Surveillance/Air Traffic Management (CNS/ATM) and Navigation Safety Center of Excellence (COE).

These services are acquired via the issuance of task/delivery orders against existing contractor support contract vehicles available to the CNS/ATM COE.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305099F / *Global Air Traffic Management (GATM)*	Project (Number/Name) 674689 / *Global Access Architecture*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prime Contracts	C/CPAF	Not specified. : TBD	-	0.353	Oct 2021	0.361	Oct 2022	0.065	Oct 2023	-		0.065	Continuing	Continuing	-
		Subtotal	-	0.353		0.361		0.065		-		0.065	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CNS/ATM Center of Excellence: Technical support for CNS/ATM requirement assessments, GPM development, DAFIF navigation data chain audits/certification, and CNS/ATM ID/IQ contract management.	C/T&M	MITRE : Bedford, MA	-	2.541	Oct 2021	2.667	Oct 2022	2.771	Oct 2023	-		2.771	Continuing	Continuing	-
CNS/ATM Center of Excellence: Technical support for operational requirement assessments, GPM development, DAFIF navigation data chain audits/certification, and CNS/ATM ID/IQ contract management.	C/CPFF	Oasis Systems : Lexington, MA	-	1.176	Jul 2022	1.409	Jul 2023	2.095	Jul 2024	-		2.095	Continuing	Continuing	-
		Subtotal	-	3.717		4.076		4.866		-		4.866	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support Costs - (Contract Services)	C/T&M	Oasis Systems : Lexington, MA	-	0.563	Jul 2022	0.000	Jul 2023	0.000	Jul 2024	-		0.000	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305099F / *Global Air Traffic Management (GATM)*	Project (Number/Name) 674689 / *Global Access Architecture*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support Costs - (Other Govt Costs)	Various	Various : Bedford, MA	-	0.025	Oct 2021	0.096	Oct 2022	0.100	Oct 2023	-		0.100	Continuing	Continuing	-
		Subtotal	-	0.588		0.096		0.100		-		0.100	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	4.658		4.533		5.031		-		5.031	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305099F / *Global Air Traffic Management (GATM)*	**Project (Number/Name)** 674689 / *Global Access Architecture*

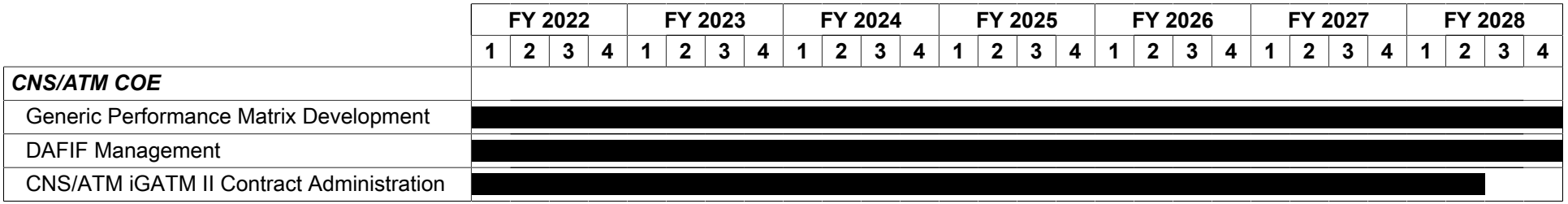

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305099F / *Global Air Traffic Management (GATM)*	**Project (Number/Name)** 674689 / *Global Access Architecture*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
CNS/ATM COE				
Generic Performance Matrix Development	1	2022	4	2028
DAFIF Management	1	2022	4	2028
CNS/ATM iGATM II Contract Administration	1	2022	2	2028

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305103F / *Cyber Security Initiative*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	0.279	0.091	0.301	0.000	0.301	0.303	0.310	0.316	0.328	Continuing	Continuing
671931: *TECH SURVEIL COUNTER MEAS EQPT*	-	0.279	0.091	0.301	0.000	0.301	0.303	0.310	0.316	0.328	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Integrate MDCO network sensor collections and analytical capabilities to enable data sharing.

In FY 2022, PE 0305103F, Cyber Security Initiative, Project 671931, Tech Surveillance Counter Measures, efforts were transferred to PE 03031113F, Cyber Security Intelligence Support, Project 671931, Tech Surveillance Counter Measurement Equipment, in order to more appropriately categorize the funding according to purpose.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver Cyber Security Initiative capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605831F, 0605827F, 0605828F, 0605829F, 0605832F, 0605833F, 0605898F, 0606398F. In FY22 $0.0M was expended and in FY23 $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.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.290	0.091	0.301	0.000	0.301
Current President's Budget	0.279	0.091	0.301	0.000	0.301
Total Adjustments	-0.011	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	-0.011	0.000			
• Other Adjustments	0.000	0.000	0.000	0.000	0.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305103F / *Cyber Security Initiative*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Tech Surveill Counter Mess Equipment	0.279	0.091	0.301
Description: CI Process Exploit Dissemination (PED) ***FY 2023 Plans:*** Continue to integrate MDCO network sensor collections ***FY 2024 Plans:*** Continue to integrate MDCO network sensor collections ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to increased requirements.			
Accomplishments/Planned Programs Subtotals	0.279	0.091	0.301

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

Integrate MDCO sensor collection and analysis.

Acquisition strategy for program efforts will be assessed as program requires. Competitive contracts will be used to the maximum extent possible.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305103F / *Cyber Security Initiative*	**Project (Number/Name)** 671931 / *TECH SURVEIL COUNTER MEAS EQPT*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Sensor Collection Development	C/CPAF	Not specified. : TBD	-	0.279	Oct 2021	0.091	Oct 2022	0.301	Oct 2024	-		0.301	Continuing	Continuing	-
		Subtotal	-	0.279		0.091		0.301		-		0.301	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	0.279		0.091		0.301		-		0.301	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305103F / *Cyber Security Initiative*	**Project (Number/Name)** 671931 / *TECH SURVEIL COUNTER MEAS EQPT*

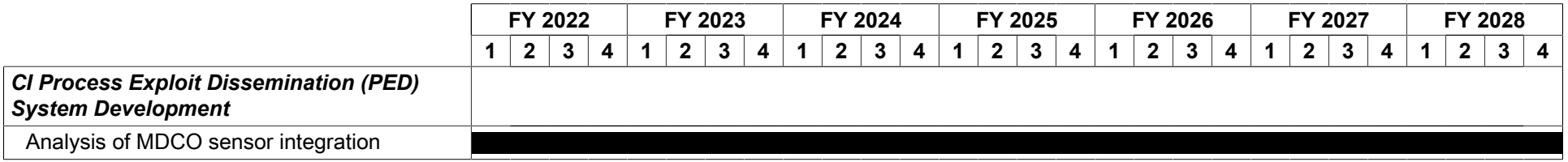

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305103F / *Cyber Security Initiative*	**Project (Number/Name)** 671931 / *TECH SURVEIL COUNTER MEAS EQPT*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
CI Process Exploit Dissemination (PED) System Development				
Analysis of MDCO sensor integration	1	2022	4	2028

Note

Integrate MDCO sensor collection and analysis.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305111F / *Weather Service*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	36.524	56.457	26.329	0.000	26.329	28.773	29.650	30.357	32.647	Continuing	Continuing
672738: *Weather Service*	-	36.524	56.457	26.329	0.000	26.329	28.773	29.650	30.357	32.647	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This budget activity funds the operational development necessary to acquire and modernize Air Force Weather Service [AFWS] capabilities in support of the 2022 National Defense Strategy's [NDS] three lines of effort. To improve readiness for a more lethal force, AFWS provides timely, accurate, resilient, and relevant environmental information to enable global battlespace situational awareness for the Air Force [AF], Army, Special Operations Forces [SOF], Space Force [USSF], combatant commands, the Intelligence Community [IC], and other government agencies. AFWS provides climate impacts and assessments, as well as space and terrestrial weather sensing, forecasting, and weather analytic capabilities, at home station and deployed, in order to deliver critical environmental information in support of decision makers to gain the asymmetric advantage during the full spectrum of air and space combat operations. AFWS decreases the risk to mission and risk to force by increasing the lethality, effectiveness, and survivability of Department of Defense [DoD] weapon systems. To strengthen alliances and partnerships, AFWS development efforts integrate DoD, government agency, commercial, and international partner environmental data and software with AFWS information systems for processing, storing, exploiting, and disseminating all-domain weather information for analysis, forecasting, mission integration, and greater interoperability. To ensure greater performance and affordability for the Department of the AF, AFWS sensors and information systems are being modernized through improvements to architecture and system efficiency, cybersecurity, joint all-domain command and control [JADC2] and sensing grid integration, migration to cloud computing, artificial intelligence and machine learning [AI/ML] initiatives, and expanding agile software development, rapid delivery, and integration practices. The AF Weather Enterprise digital transformation and cloud migration effort modernizes key capabilities providing the military advantage to accurately predict environmental impacts optimizing mission planning, targeting, weaponeering, mission execution, battle damage assessment, and space systems operations. AFWS aligns activities under four capability areas: Weather Data Collection, Weather Data Analysis and Dissemination, Weather Forecasting, and Product Tailoring/
Warfighter Applications [PTWA]. This alignment ensures an integrated and systems-oriented approach to program management decisions. Of these four capability areas, three (Weather Data Analysis and Dissemination, Weather Forecasting, and PTWA) are addressed by APPN 3600, BA 07, PE 0305111F, Project 672738 - Weather Service. Effective FY 2021, a portion of the APPN 3600 funding and activities from Weather Data Analysis and Dissemination and Weather Forecasting were migrated to the PTWA capability area to better address development of applications, software, command and control [C2] system integration, and web interfaces that directly impact the warfighter within the Weather Application Rapid Production [WARPspeed] program of record. For FY 2021, WDA Increment 5 and WARPspeed programs of record were approved as Software Acquisition Pathway Programs.

1. Weather Data Collection provides automated atmospheric and ground-based space environmental sensing capabilities at fixed and deployed locations worldwide. The data gathered by multiple sensor systems is exploited for environmental battlespace awareness, characterization, safety of flight, resource protection, and satellite anomaly assessments and impacts.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305111F / *Weather Service*

2. Weather Data Analysis and Dissemination provides a cybersecure cloud computing-based platform supporting large-scale environmental data ingest, processing, and product generation, Continuous Integration/Continuous Delivery [CI/CD] and AI/ML environments for AFWS software development and deployment, and machine-to-machine dissemination of specific, mission-tailored weather data on-demand to support warfighter operations, weapon system interoperability, rapidly integrating into C2 nodes, and shortening the Combatant Commander kill chain. The Weather Data Analysis and Dissemination capability area includes activities for Weather Data Analysis Increment 5 [WDA Inc 5].

3. Weather Forecasting provides global and regional advanced scientific numerical weather and climate prediction capabilities for automated, high-resolution forecast products supporting mission planning and execution with an emphasis on clouds, theater scale weather, aerosol/chemical constituents, hydrology, machine learning, and space environmental characterization. Weather Forecasting includes activities for Numerical Weather Modeling [NWM] and Space Weather Analysis and Forecast System [SWAFS]. In FY 2023, the SWAFS portion of the APPN 3600 funding and activities from AF PE 0305111F, Weather Service, were transferred to the USSF PE 1203940SF, Space Situational Awareness Operations.

4. Product Tailoring Warfighter Applications [PTWA] provides software applications that provide and enhance environmental information to support rapid warfighter decision-making. PTWA includes the program, Weather Applications Rapid Production [WARPspeed], which is a suite of software applications developed and delivered across multiple security classification levels. WARPspeed encompasses weather workflow tools and decision aids used to tailor terrestrial and space environmental information, which include both Forecaster-in-the-Loop [FITL] and automated machine-to-machine processes enhanced by AI/ML. WARPspeed leverages the WDA Inc 5 cloud computing, data processing, and CI/CD and AI/ML platforms to rapidly develop, deliver, and sustain software capabilities, whether deployed into the AF Weather Virtual Private Cloud [AFW-VPC] or to warfighter processing nodes at the edge.

Activities include research and analysis to support current program planning. Management Service costs include Federally Funded Research and Development Centers [FFRDC] and Advisory and Assistance Service [A&AS]. The total cost of the ExMet Rapid Fielding Middle Tier of Acquisition effort is 59M, including RDT&E and procurement of prototype units. ExMet MTA Rapid Fielding program will end in 4FY23 with full funding and will continue through the FYDP as a fully-funded ACAT III program of record.
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 Weather Service 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 0 was expended for civilian pay expenses in this program element, and in FY23 0.170M 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305111F / *Weather Service*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	39.228	11.716	13.318	0.000	13.318
Current President's Budget	36.524	56.457	26.329	0.000	26.329
Total Adjustments	-2.704	44.741	13.011	0.000	13.011
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	31.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-1.390	13.741			
• SBIR/STTR Transfer	-1.314	0.000			
• Other Adjustments	0.000	0.000	13.011	0.000	13.011

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 672738: *Weather Service*		
Congressional Add: *Commercial Weather Data Pilot (CWDP) Program*	9.634	10.000
Congressional Add: *Research on Atmospheric Rivers*	1.500	5.000
Congressional Add: *Dust Emission Forecasting*	-	5.000
Congressional Add: *Air Force Weather Transformation*	-	8.000
Congressional Add: *Machine Learning Weather Forecast*	-	3.000
Congressional Add Subtotals for Project: 672738	11.134	31.000
Congressional Add Totals for all Projects	11.134	31.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Expeditionary Weather - MTA Rapid Fielding (ExMet - MTA RF)	-	0.371	0.549	-	0.549
Description: Funding enables rapid fielding of Air Force Weather's Joint All-Domain Command and Control (JADC2) system of systems solution that supports mission specific launch and recovery operations via multi and single person UTCs. ExMet systems and capabilities address AF expeditionary operations needs highlighted in the 2022 NDS and AF/A3 Functional Concept for Expeditionary Weather operations. FY23 funding continues integration of components and applications into ExMET systems which was previously enabled by SBIR funding.					

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305111F / *Weather Service*	

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
FY 2023 Plans: Funding will support component integration and testing of forecasting applications. ***FY 2024 Base Plans:*** Funding will support component integration and testing of the Integrated Weather Observing System (IWOS). ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase funds will help in Development, integration, and refinement of SATCOM solutions and cybersecurity requirements.					
Title: Weather Data Analysis Increment 5 (WDA Inc 5) ***Description:*** WDA Inc 5 institutes a cloud computing-based platform enabling a transition from agile development to a CI/CD pipeline for software development and deployment efforts which will enable rapid updates to functionality and security measures. The WDA Inc 5 cloud computing platform will also provide an enterprise big data analytics capability and AI/ML platform, as well as supporting and funding development and deployment of web services, data management, platform monitoring, application on-boarding, and platform user management. Finally, the program will provide both classified and unclassified cloud computing platforms that communicate directly with C2 customers. ***FY 2023 Plans:*** Funding will support the CI/CD pipeline modernization for weather software and applications and will further AI/ML platform integration and new satellite data integration to the AFW-VPC platform. ***FY 2024 Base Plans:*** Funding will support the CI/CD pipeline modernization for weather software and applications and will further AI/ML platform integration and new satellite data integration to the AFW-VPC platform. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increase will be associated CI/CD processes associated with cloud migration	1.969	4.084	4.314	-	4.314
Title: Numerical Weather Modeling (NWM) ***Description:*** The NWM program transitioned High Performance Computing (HPC) System 11 into operations in early FY2022, transitioned legacy weather models to System 11 at the end of FY 2022, which enhanced and expanded the computing	8.734	11.239	12.769	-	12.769

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305111F / *Weather Service*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
capability to begin supporting machine learning models' development. NWM also provides data and products used to issue advisories and warnings for DoD resource protection, as well as DoD and IC mission planning. NWM integrates with the Air Force Weather Weapon System's Weather Data Analysis (WDA) Inc 5 processing centers to analyze and predict weather phenomena. ***FY 2023 Plans:*** - Continue METSAT exploitation and integration efforts for cloud forecasting applications. - Continue terrain modeling enhancement and integration, which includes hydrology streamflow capability and seasonal-to- sub-seasonal forecast capability development. - Continue Oak Ridge National Laboratory (ORNL) RDT&E collaboration tasks, focusing on model code optimization and hydrology prediction capabilities. ***FY 2024 Base Plans:*** Continue METSAT exploitation and integration efforts for cloud forecasting applications, terrain modeling, and ORNL model code optimization and hydrology prediction. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Minor budget changes due to consolidation of machine learning projects, specifically GSWR from WARPspeed to NWM, and slight variations in individual project levels of effort.					
Title: Weather Applications Rapid Production (WARPspeed) ***Description:*** WARPspeed develops and delivers a suite of software applications across multiple security classification levels to provide and enhance environmental intelligence to support rapid warfighter decision making. Major software developments include: the BIFROST Portal, Mission Services, Global Synthetic Weather Radar (GSWR), weather C2 visualization plug-ins and integration, and other forecast and climatology applications. ***FY 2023 Plans:*** Continue BIFROST Portal development which will provide a single front entry point into the Air Force Weather Enterprise for all html-based capabilities for environmental content and services on classified enclaves.	8.282	9.763	8.697	-	8.697

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305111F / *Weather Service*	

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
- Continue to enhance Mission Services, to include integration of contrails and cloud-free line of sight (CFLOS) machine learning-based forecasts into environmental impacts web services. - Continue to develop weather C2 visualization plug-ins to integrate weather data and software applications with various C2 systems. - Continue to enhance GSWR via new commercial data sources and improved machine learning techniques. ***FY 2024 Base Plans:*** Continue BIFROST Portal development and mission-focused weather workflow applications for weather and non-weather operators, as well as contrails, CFLOS, C2 integration, and GSWR enhancements. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding will remain relatively constant to ensure applications are ready for cloud migration.					
Title: Space Weather Analysis and Forecast System (SWAFS)	3.365	0.000	0.000	-	0.000
Description: In FY 2023, the SWAFS portion of PE 0305111F, Project 672738, Weather Service, was transferred to PE 1203940SF, Space Situational Awareness Operations, Project 67A018, Ground Based Space Environmental Monitoring in order to align current AF ground-based space sensing projects to the USSF. The SWAFS legacy baseline is currently being redesigned and upgraded under the Space Domain Awareness Environmental Toolkit for Defense (SET4D) effort to satisfy Space Domain Awareness goals for a modern cloud hosted infrastructure that is cyber resilient and integrated with the Unified Data Library. The Energetic Charged Particle Hazard Assessment System (ECP HAS) is one of several models and applications within the SET4D environment designed to inform satellite operators of hazards and the impacts of those hazards to their spacecraft that will provide warfighters with the environmental awareness to safely sustain their respective orbits and missions. ***FY 2023 Plans:*** N/A ***FY 2024 Base Plans:***					

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305111F / *Weather Service*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A					
Title: JEON EC-0015 ***Description:*** OSD JEON EC-0015 ***FY 2023 Plans:*** N/A ***FY 2024 Base Plans:*** N/A ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A	3.040	0.000	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals	25.390	25.457	26.329	0.000	26.329

	FY 2022	FY 2023
Congressional Add: Commercial Weather Data Pilot (CWDP) Program ***FY 2022 Accomplishments:*** FY22 CWDP 10M funding, 2.5M went to Tomorrow.io (with AFWERX matching) and 7.5M was dedicated to the DIU Commercial Solution Offerings (CSO) process. ***FY 2023 Plans:*** The plan for FY23 CWDP funds is to award the available options on contracts with the Defense Innovation Unit (DIU) and the Commercial Solutions Offerings (CSO) we established during FY 22, as well as incorporate the data quality and weather model assessment into the JCSDA Data Assimilation contract. Additionally, one new award towards near-earth Radio Occultation improved sensing is likely with residual funding resulting from the aforementioned contract negotiations.	9.634	10.000
Congressional Add: Research on Atmospheric Rivers ***FY 2022 Accomplishments:*** Will analyze and evaluate the impact of assimilating the Atmospheric Rivers (AR) recon flight-level, dropsonde, and buoy data with the JEDI/Model for Prediction Across Scales (MPAS) system,	1.500	5.000

	FY 2022	FY 2023
with the goal to generate improved initial conditions and short-range forecasts and simulations of cloud fields in the presence of atmospheric rivers. ***FY 2023 Plans:*** Atmospheric Rivers (AR) Phase II tasks: Task 1: Impact of AR Recon Flight-level, Dropsonde, and Buoy Data Task 2: Impact of Global Navigation Satellite System (GNSS) RO data on AR Prediction Task 3: Impact of ARO data on the Prediction of ARs Task 4: Modeling Resilience During Loss of Foundational Data Potential tasks for AR Phase 3 - Tied to FY23 funding. Roughly 50% will be pushed to the 53 WRS for dropsondes - leaving $2.5M in FY23. The NAVGEM includes an aerosol component and will need a method to determine how to inject aerosols in the project. The drought/flood component of ARs (trafficability) could be some of the UNL GCDI/LIS data into the project. An outlook could incorporate ML and the use of ensembles for better forecasting/probability forecasting.		
Congressional Add: Dust Emission Forecasting ***FY 2023 Plans:*** This is a new effort to provide funds to conduct research and development work with dust emission forecast analysis.	-	5.000
Congressional Add: Air Force Weather Transformation ***FY 2023 Plans:*** Funding will incorporate cloud migrating updates for the enterprise to continue their efforts into cloud operations while enhancing software applications and security. This funding will also provide capabilities into enhancing our data structure to VAULTIS which ensures we are aligned to DoD's authoritative C2 databases.	-	8.000
Congressional Add: Machine Learning Weather Forecast ***FY 2023 Plans:*** Research machine learning forecasting capabilities and incorporate them into the Air Force Weather Enterprise modeling to assist in existing AI/ML functions.	-	3.000
Congressional Adds Subtotals	11.134	31.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305111F / *Weather Service*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 Line Item 833070: *Weather Observation Forecast*	32.376	20.548	28.592	-	28.592	31.710	32.116	33.061	33.793	0.000	212.196
• RDTE 04 0604002F: *Air Force Weather Services Research*	0.951	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.951

Remarks

E. Acquisition Strategy

AF Weather has adopted a CI/CD approach to delivering capabilities rapidly and routinely using multiple contracts to support a family of systems through development, fielding and sustainment.

Cost Plus contracts are utilized for software development and sustainment and Fixed Firm Price contracts for Commercial-off-the-shelf [COTS] systems and Contract Logistics Support [CLS] efforts. Pre-competed General Services Administration [GSA], Defense Logistics Agency, and Defense Micro-Electronics Activity [DMEA] contract vehicles are leveraged when appropriate, and competitive and small-business awards are favored.

AFWS is jointly managed by the Air Force and the Space Force's Space Systems Command (SSC). The Air Force Program Executive Officer for Digital (AFPEO Digital) manages the ground-based atmospheric sensing and data analysis, atmospheric forecast systems, and PTWA. The Space Force Program Executive Officer for Space Domain Awareness and Combat Power (SFPEO/SDACP) manages the ground-based segments of space environment collection platforms as well as SWAFS.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305111F / *Weather Service*	Project (Number/Name) 672738 / *Weather Service*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ExMet	C/CPAF	Not specified. : TBD	-	-		0.000	Mar 2023	0.549	Mar 2024	-		0.549	Continuing	Continuing	-
WDA INC 5, Develop web service, big data analytics, and ML/AI platform capabilities	C/CPAF	NextGen Federal Systems : Morgantown, WV	-	1.773	Feb 2022	3.638	Feb 2023	4.314	Feb 2024	-		4.314	Continuing	Continuing	-
WARPspeed (BIFROST, Mission Services, GSWR)	Various	Various : Various	-	8.245	Feb 2022	9.103	Feb 2023	8.697	Feb 2024	-		8.697	Continuing	Continuing	-
Commercial Weather Pilot Program	C/FFP	Various : Various	-	9.634	Jun 2022	10.000		-		-		-	Continuing	Continuing	-
Research on Atmospheric Rivers	Various	Various : Various	-	1.500	Jun 2022	5.000		-		-		-	Continuing	Continuing	-
Machine Learning	Various	Various : Various	-	-		3.000		-		-		-	Continuing	Continuing	-
AF Weather Transformation	Various	Various : Various	-	-		8.000		-		-		-	Continuing	Continuing	-
Dust Emission Forecasting	Various	Various : TBD	-	-		5.000		-		-		-	Continuing	Continuing	-
NWM 1 - Perform software enhancements to the mesoscale production model	MIPR	NCAR : Boulder, CO	-	-		-		-		-		-	Continuing	Continuing	-
NWM 2 - Improve land information system (LIS) application, providing earth surface boundary characterization for numerical modeling	Reqn	NASA : Greenbelt, MD	-	-		-		-		-		-	Continuing	Continuing	-
NWM - Develop and improve data assimilation techniques, system/ software optimization, and expanded system ingest/ integration for enhanced modeling capabilities	Various	Various : Various	-	9.315	Jan 2022	9.412	Jan 2023	12.769	Jan 2024	-		12.769	Continuing	Continuing	-
SWAFS Magnetospheric Energized Charged Particle (ECP) Hazard	PO	AFRL : Annapolis, MD	-	2.659	Jan 2022	0.000		0.000		-		0.000	0.000	2.659	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305111F / *Weather Service*	Project (Number/Name) 672738 / *Weather Service*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Assessment System (HAS) Model Integration															
		Subtotal	-	33.126		53.153		26.329		-		26.329	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
46th TS/JITC AFLCMC	WR	46 TS : Offutt AFB, NE	-	0.166	Dec 2021	0.675	Dec 2022	-		-		-	Continuing	Continuing	-
		Subtotal	-	0.166		0.675		-		-		-	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration AFLCMC	C/CPFF	AFLCMC : Hanscom AFB, MA	-	2.526	Oct 2021	2.629	Oct 2022	-		-		-	Continuing	Continuing	-
FFRDC SMC	RO	Aerospace Corp : El Segundo, CA	-	0.706	Jan 2022	-		-		-		-	Continuing	Continuing	-
		Subtotal	-	3.232		2.629		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	36.524		56.457		26.329		-		26.329	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305111F / *Weather Service*	**Project (Number/Name)** 672738 / *Weather Service*

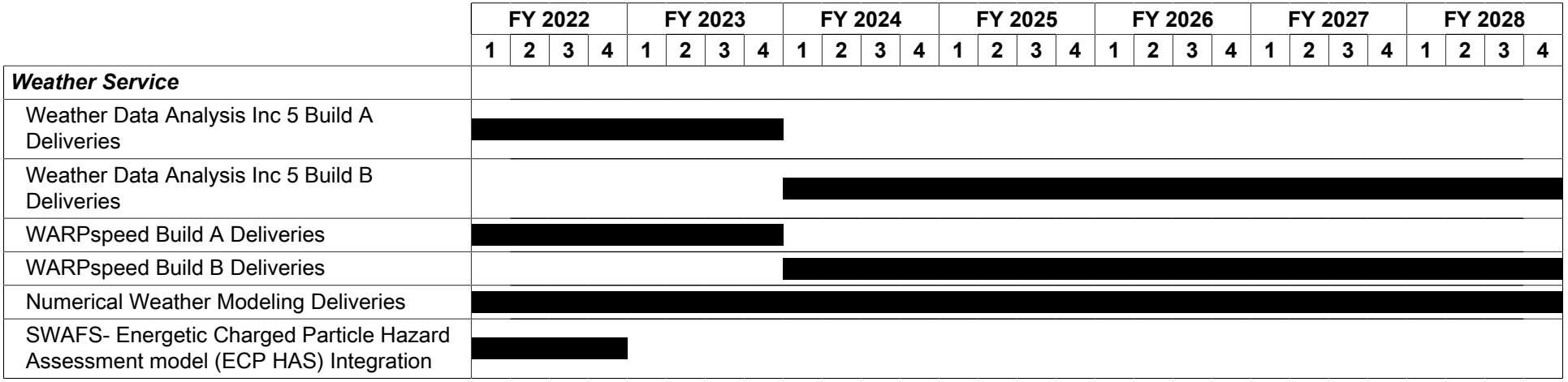

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305111F / *Weather Service*	**Project (Number/Name)** 672738 / *Weather Service*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Weather Service				
Weather Data Analysis Inc 5 Build A Deliveries	1	2022	4	2023
Weather Data Analysis Inc 5 Build B Deliveries	1	2024	4	2028
WARPspeed Build A Deliveries	1	2022	4	2023
WARPspeed Build B Deliveries	1	2024	4	2028
Numerical Weather Modeling Deliveries	1	2022	4	2028
SWAFS- Energetic Charged Particle Hazard Assessment model (ECP HAS) Integration	1	2022	4	2022

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force												Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305114F / *Air Traffic Control, Approach, and Landing System (ATCALS)*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	15.266	8.367	8.751	0.000	8.751	15.116	17.852	13.953	11.461	0.000	90.766
673587: *Air Traffic Control System*	-	15.266	8.367	8.751	0.000	8.751	15.116	17.852	13.953	11.461	0.000	90.766
Quantity of RDT&E Articles	-	-	1	3	-	3	-	-	-	-		

A. Mission Description and Budget Item Justification

To support the Air Force worldwide flying mission, the Air Traffic Control (ATC) Future Technologies (AFT) program element funds research, development, and management of fielded and emerging air traffic control communications, surveillance, automation, positioning, and precision approach and landing systems. AFT supports the 2023 NDAA and 2023 National Defense Strategy (NDS) approach to "improve our ability to integrate, defend, and reconstitute our surveillance and decision systems… despite adversary means of interference or deception" by researching and developing technology and strategies to support Agile Combat Employment (ACE) adaptive basing and agile basing concepts of operation as well as modernizing airfield operations commensurate to the current operating environment.

AFT is comprised of a portfolio of projects focused on identifying and documenting capability gaps and associated mitigating technologies in multiple areas of aircraft launch and recovery for both fixed and expeditionary operations. These gaps and technologies will be outlined in a bridging strategy, capability-based assessments, and AFT capability roadmaps. AFT also pursues RDT&E opportunities in the organization, training, and equipping of ATC-associated career fields and any new civil ATCALS technologies that may have military utility.

FY24 ATCALS development efforts will continue to research and develop new ATCALS capabilities necessary to ensure enduring, resilient, efficient, and safe air operations. These may include, but not be limited to: military and civil airspace interoperability; lightweight, multi-function expeditionary systems technology; development of a Man-Portable TACAN Electronically Scanned Antenna (MP-TACAN ESA) and high-power beacon transponder. As these technologies and architectures mature, fixed base and deployable ground system upgrades will be coordinated and fielded concurrently with related manned and unmanned aircraft avionics capabilities that may be required. When implemented, these efforts will enable DoD aircraft to enhance safety, security, efficiency, and affordability of global flight operations.

The FY24 funding request was reduced by $1.124 million to account for the availability of prior year execution balances.

The MP-TACAN ESA is a Middle Tier Acquisition (MTA) effort. The MP-TACAN ESA MTA effort is $6.338M including RDT&E and procurement of prototype units. The MP-TACAN ESA is fully across the Future Years Defense Program.

FY24 RDT&E funding for PE 0305114F, ATCALS MP-TACAN ESA is in compliance with budgeted end items per the approved test strategy and FY23 Omnibus, Sec. 8059.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305114F / *Air Traffic Control, Approach, and Landing System (ATCALS)*

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 $0.000M was expended for civilian pay expenses in this program element, and in FY23 $0.153M 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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	15.749	8.511	7.418	0.000	7.418
Current President's Budget	15.266	8.367	8.751	0.000	8.751
Total Adjustments	-0.483	-0.144	1.333	0.000	1.333
• 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	-0.483	0.000			
• Other Adjustments	0.000	-0.144	1.333	0.000	1.333

Change Summary Explanation

There were no Congressional Adds in FY2023.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Air Traffic Control (ATC) Future Technologies (AFT)	12.879	6.795	5.956	0.000	5.956
Description: Focus is on aircraft launch and recovery, airspace interoperability, expeditionary technology development and prototyping, optimization of flight capability and adherence to safety of flight mandates. AFT will continue coordination with the FAA to develop an Infill radar certification process to mitigate windfarm interference with air traffic control radar systems and evaluate technologies supporting multiple functions such as Airfield Operations and Counter-small Unmanned Arial systems (Cs-UAS) in a single system operating in a tactical environment.					

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305114F / *Air Traffic Control, Approach, and Landing System (ATCALS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
FY 2023 Plans: Continue with ATC Future Technologies Analyses and Research to drive innovation for the Airfield Operations community which include the following tasks: - Continue development of the Lightweight Deployable Instrument Landing System (LD-ILS). - Continue to develop the MATS tactical operations automation and communications equipment, with access to multiple radar and weather sensor feeds for display of airspace and air traffic controller visual support capability to visualize an integrated local and Beyond Visual Line of Sight (BVLOS) airspace picture. - Continue the development and maturation of Multi-Function Tactical Radar System (MTRS) technology including, but not limited to a single wideband actively electronic scanned array to detect multiple types of air targets and export the data to multiple processing systems to provide air defense, force protection, ATC/airspace control and weather, and C2 information to determine the actual size of the system, coverage capabilities, and MTRS effectiveness. - Continue development of the Man-Portable TACAN high power beacon transponder amplifier to increase range of coverage. - Continue to coordinate with the Man-Portable TACAN Replacement and Electronically Scanned Antenna Development Programs. - Continue monitoring complimentary and GPS alternative PNT developments to ensure early integration into ATCALS plans and programs. - Continue development of threshold parameters and requirements for certification of Infill Radar systems in the National Airspace System. - Begin testing and evaluation of Lightweight Deployable Instrument Landing System. - Continue to mature the Airfield Operations Accelerator/Testbed facility.					
FY 2024 Base Plans: Continue AFT Analyses and Research to drive innovation for the Airfield Operations community which include the following tasks: - Will continue development of the Lightweight Deployable Instrument Landing System (LD-ILS), to include analysis and test and evaluation. - Will demonstrate a pre-production MATS capability to visualize an integrated local and BVLOS airspace picture. - Will continue the development and maturation of MTRS technology including, but not limited to a single wideband actively electronic scanned array to detect multiple types of air targets and export the data to multiple					

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305114F / *Air Traffic Control, Approach, and Landing System (ATCALS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
processing systems to provide protection, ATC/airspace control, and C2 information via experimentation to determine the actual size of the system, coverage capabilities, and MTRS effectiveness. - Will continue to develop the Man-Portable TACAN high power beacon transponder amplifier to increase range of coverage. - Will continue to coordinate with the Man-Portable TACAN Replacement and Electronically Scanned Antenna Development Programs. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding was reduced $1.124M to account for the availability of prior year execution balance. This reduction was partially offset by a $0.3M inflationary adjustment.					
Title: Man-Portable Electronically Scanned Antenna (MP-TACAN ESA) ***Description:*** Develops new electronically scanned antenna to replace the existing Man-Portable Tactical Air Navigation (TACAN) mechanical antenna. The new antenna will reduce system weight, improve reliability, and extend battery life. The Development and Test Effort includes one prototype antenna and three additional antennas for qualification testing. The Man-Portable TACAN provides aircraft with point-to-point navigation and instrument flight approaches to forward operating sites/landing zones, and is critical to mission success in adverse weather conditions. It replaces 40+ year old legacy systems that are no longer supportable. The Man-Portable TACAN also supports the 2022 NDAA and 2022 National Defense Strategy for rapidly deployable, adaptive, and scalable family of systems. Through FY29, a total of 68 systems will be procured (58 for the Active Duty and 10 for the Air National Guard). ***FY 2023 Plans:*** - Conduct Preliminary Design Review - Continue prototype development and antenna subassemblies - Complete System Test Plan - Conduct Critical Design Review in July - Deliver prototype antenna for Developmental Test and Evaluations (DT&E)	1.982	1.572	2.795	-	2.795

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305114F / *Air Traffic Control, Approach, and Landing System (ATCALS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
- Conduct DT&E ***FY 2024 Base Plans:*** - Will manufacture three qualification units - Will conduct Qualification Testing - Will complete Preliminary and final Qualification Test Reports - Will conduct Performance Test Demonstration with Government furnished Beacon/Transponder - Will conduct Operational Testing in May 2024 ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increase due to purchase of three additional antennas for qualification testing and evaluation. The Availability of additional antennas minimizes schedule risk during the testing period.					
Title: NOTAMs Software Development ***Description:*** The DoD NOTAMs system provides aircrews and airfield operations personnel with air field conditions, temporary flight restrictions, navigation aid and airfield lighting outages, and special instructions for departing or landing at DoD airfields. Funding continues NOTAMs software development to incorporate International Civil Aviation Organization (ICAO) required digital codes, formats, and queries that enhance flight safety. ***FY 2023 Plans:*** No funds required. Effort completed with FY22 funds. ***FY 2024 Base Plans:*** No funds required. Program complete ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Program complete. No FY24 funds required.	0.405	0.000	0.000	-	0.000
Accomplishments/Planned Programs Subtotals	15.266	8.367	8.751	0.000	8.751

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305114F / *Air Traffic Control, Approach, and Landing System (ATCALS)*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 0305114F: *Air Traffic Control, Approach, and Landing System*	6.024	5.971	11.845	0.000	11.845	11.323	11.648	11.877	12.115	0.000	70.803

Remarks

E. Acquisition Strategy

ATCALS is a basket program element with multiple programs in various stages of acquisition which provide the air traffic control infrastructure to support peacetime and wartime missions. The ATC Future Technology (AFT) portfolio is focused on fixed-based and lightweight, scalable, readily deployable ATC equipment to support the National Defense Strategy. Current contracting efforts include, but are not limited to, Multi-Function Tactical Radar, Man-Portable TACAN high power beacon transponder, Man-Portable Electronically Scanned Antenna, Lightweight Deployable Instrument Landing System, Infill Radar certification process and evaluation of a sensor agnostic Mobile Air Traffic Surveillance System.

Contract types include, but are not limited to, full and open competition, Other Transaction Authority, Small Business Innovative Research (SBIR) and Small Business Technology Transfer (STTR). Other activities such as Infill Radar certification are executed via Military Inter-Departmental Purchase Requests, and Project Orders with various organizations (FAA, MITRE, Army, Navy and the Air Force Flight Standards Agency).

The Air Force Program Executive Officer (PEO) Digital is the Milestone Decision Authority (MDA) for ATCALS. PEO Digital has further delegated MDA authority for specific programs within the ATCALS Enterprise. Program support, cost, contracts, logistics, and financial management support is managed by the Air Force Life Cycle Management Center Aerospace Management Systems Division (AFLCMC/HBA).

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305114F / *Air Traffic Control, Approach, and Landing System (ATCALS)*	**Project (Number/Name)** 673587 / *Air Traffic Control System*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AFT Expeditionary Technology Development and Prototyping	C/FFP	AFLCMC/HBA : Hanscom AFB, MA	-	2.838	Mar 2022	4.932	Mar 2023	3.626	Mar 2024	-		3.626	Continuing	Continuing	-
Man-Portable TACAN Electronically Scanned Antenna	C/FFP	AFLCMC/HBAA : Tinker AFB, OK	-	1.757	Jul 2022	1.306	Jan 2023	2.370	Jan 2024	-		2.370	0.000	5.433	-
NOTAMs Software	C/CPAF	AFDW/PK : Andrews AFB, MD	-	0.405	May 2022	0.000	May 2023	0.000		-		0.000	0.000	0.405	-
		Subtotal	-	5.000		6.238		5.996		-		5.996	Continuing	Continuing	N/A

Remarks

FY24 funding includes procurement of three antennas for qualification testing. One prototype antenna funded in FY23.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AFT Research/Analysis	MIPR	FAA : Washington, DC	-	2.188	Mar 2022	0.469	Oct 2022	0.942	Oct 2023	-		0.942	Continuing	Continuing	-
AFT Travel	Various	Not specified. : TBD	-	0.090	Mar 2022	0.030	Jan 2023	0.169	Jan 2024	-		0.169	Continuing	Continuing	-
AFT Civilian Direct Cite Authorizations	Allot	AFLCMC/FZA : TBD	-	0.000		0.153	Oct 2022	0.156	Oct 2023	-		0.156	0.000	0.309	-
		Subtotal	-	2.278		0.652		1.267		-		1.267	Continuing	Continuing	N/A

Remarks

Various contract types, performing activity and citry/states are result of the use of Military Interdepartmental Purchase Requests (MIPR), Purchase Requests (PR), Project Orders (PO), etc. that are sent to multiple agencies in support of some tasks.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305114F / *Air Traffic Control, Approach, and Landing System (ATCALS)*	**Project (Number/Name)** 673587 / *Air Traffic Control System*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AFT Remote Air Traffic Control Tower Capability EOA	WR	Various : Various	-	0.500	Mar 2022	0.015	Jul 2023	0.240	Mar 2024	-		0.240	0.000	0.755	-
AFT ATCALS Operational Test & Evaluation	WR	Various : Various	-	0.250	Jul 2022	0.245	Jul 2023	0.139	Jul 2024	-		0.139	Continuing	Continuing	-
Infill Radar Wind Turbine Radar Interference Mitigation	MIPR	FAA/AFRL : Wash DC/Rome, NY	-	1.926	Apr 2022	0.000		0.000		-		0.000	0.000	1.926	-
Mobile Air Traffic Surveillance System MATS	MIPR	Various : Various	-	4.817	Sep 2022	-		-		-		-	0.000	4.817	-
MP TACAN Government Test	MIPR	Various : Various	-	-		0.041		0.086		-		0.086	Continuing	Continuing	-
		Subtotal	-	7.493		0.301		0.465		-		0.465	Continuing	Continuing	N/A

Remarks

FY23 to FY24 increase funds relocation of the Remote Air Traffic Control Tower at a new location. Includes teardown, transportation, setup, and system performance flight check.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Man-Portable TACAN Electronically Scanned Antenna Program Support Cost PSC	C/FFP	AFLCMC/HBAA : Tinker AFB, OK	-	0.225	Jul 2022	0.225	Jul 2023	0.339	Jul 2024	-		0.339	0.000	0.789	-
AFT Program Support Cost PSC Contractor Services AFLCMC AFLCMC/HBAG, Hanscom AFB	C/CPFF	Various : Hanscom AFB, MA	-	0.270	Jul 2022	0.951	Jul 2023	0.684	Jul 2024	-		0.684	Continuing	Continuing	-
		Subtotal	-	0.495		1.176		1.023		-		1.023	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305114F / *Air Traffic Control, Approach, and Landing System (ATCALS)*	Project (Number/Name) 673587 / *Air Traffic Control System*	

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	15.266		8.367		8.751		-		8.751	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305114F / *Air Traffic Control, Approach, and Landing System (ATCALS)*	**Project (Number/Name)** 673587 / *Air Traffic Control System*

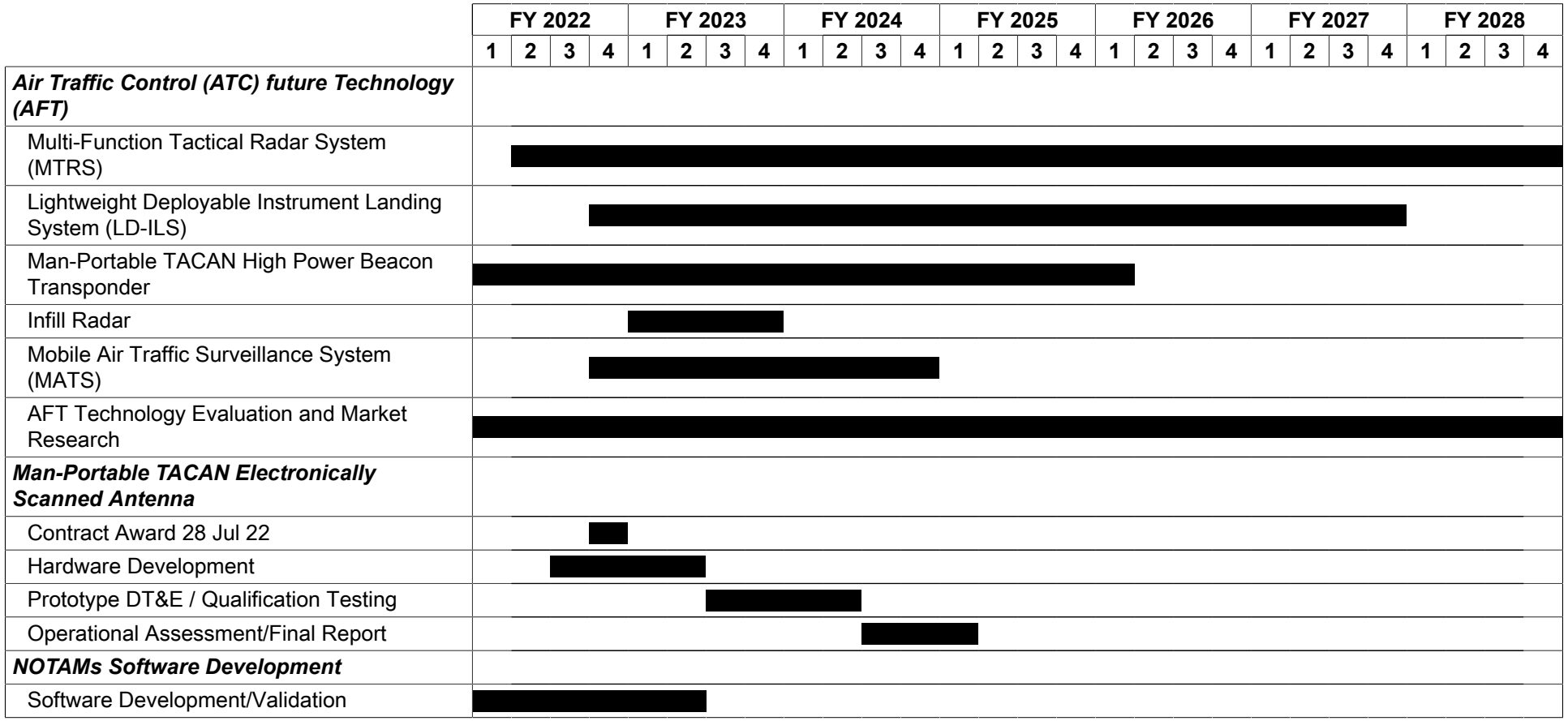

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305114F / *Air Traffic Control, Approach, and Landing System (ATCALS)*	**Project (Number/Name)** 673587 / *Air Traffic Control System*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Air Traffic Control (ATC) future Technology (AFT)				
Multi-Function Tactical Radar System (MTRS)	2	2022	4	2028
Lightweight Deployable Instrument Landing System (LD-ILS)	4	2022	4	2027
Man-Portable TACAN High Power Beacon Transponder	1	2022	1	2026
Infill Radar	1	2023	4	2023
Mobile Air Traffic Surveillance System (MATS)	4	2022	4	2024
AFT Technology Evaluation and Market Research	1	2022	4	2028
Man-Portable TACAN Electronically Scanned Antenna				
Contract Award 28 Jul 22	4	2022	4	2022
Hardware Development	3	2022	2	2023
Prototype DT&E / Qualification Testing	3	2023	2	2024
Operational Assessment/Final Report	3	2024	1	2025
NOTAMs Software Development				
Software Development/Validation	1	2022	2	2023

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305116F / *Aerial Targets*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	1.488	1.365	6.915	0.000	6.915	7.672	5.089	1.764	1.828	Continuing	Continuing
675136: *Target Systems Development*	-	1.488	1.365	6.915	0.000	6.915	7.672	5.089	1.764	1.828	Continuing	Continuing

A. Mission Description and Budget Item Justification

Full-scale Aerial Targets (FSAT), Subscale Aerial Targets (SSAT), and companion Target Control Systems (TCS) assure the effectiveness and currency of warfighter weapon systems to combat real-world enemy fighters and cruise missiles. Aerial targets support adherence to Public Law Title 10, Section 2366, which requires major systems and munitions programs to conduct live fire survivability and lethality testing before full rate production. Targets are used to validate operational missile/weapon system effectiveness and fighter Operational Flight Program (OFP) updates. Targets are required for developmental/operational testing for all air-to-air and surface-to-air missiles, and for the F-22A, F-35, F-18, F-16, F-15, among other aircraft. Funding supports simulator development and improvements on the QF-16 FSAT, BQM-167A SSAT, and updates of Target Control Systems and specialized target payload subsystems for requirements such as: missile scoring, electronic attack (EA), infrared (IR) countermeasures, radar/IR signature augmentation, and chaff and flare dispensing systems. Enables analysis, development and prototyping of threat emulations/ simulations, and presentation of evolving threat scenarios and target area environments to prepare for emerging weapons development activities. Development is required to evolve aerial targets and target control capabilities to meet current and future threats. Air Force is the executive agent for full-scale aerial targets.

The Aerial Targets Program 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. Invests in analytical, information management, data management, digital environments, and networks directly supporting development and sustainment of this program's capabilities, while leveraging DoD and DAF enterprise IT solutions.

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, 0606398F. In FY22 0.0M was expended for civilian pay expenses in this program element, and in FY23 0.0M is forecasted for civilian pay expenses in this program element.

The FY2024 funding request was reduced by 0.545 million to account for the availability of prior year execution balances.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305116F / *Aerial Targets*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	1.528	1.365	1.646	0.000	1.646
Current President's Budget	1.488	1.365	6.915	0.000	6.915
Total Adjustments	-0.040	0.000	5.269	0.000	5.269
• 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	-0.040	0.000	5.269	0.000	5.269

Change Summary Explanation

FY24 increase for enhancements required for the Target Control System (TCS) Upgrade

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305116F / *Aerial Targets*	Project (Number/Name) 675136 / *Target Systems Development*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675136: *Target Systems Development*	-	1.488	1.365	6.915	0.000	6.915	7.672	5.089	1.764	1.828	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Full-scale Aerial Targets (FSAT), Subscale Aerial Targets (SSAT), and companion Target Control Systems (TCS) assure the effectiveness and currency of warfighter weapon systems to combat real-world enemy fighters and cruise missiles.

The BQM-167A Air Force Subscale Aerial Target (AFSAT) is a reusable jet-powered target aircraft measuring approximately 20 feet long with a mission to simulate threat aircraft for testing and evaluation of surface-to-air, ship-to-air, or air-to-air missiles. The target accomplishes this mission through the use of optional payloads including chaff and flare, electronic attack (EA), and infrared (IR) devices. Funding supports continued improvement of overall performance enhancement efforts to meet evolving threats. Funding supports development, improvements, and updates of target control systems and specialized target payload subsystems for requirements to include, but not limited to: missile scoring, EA and IR countermeasures, radar and IR signature augmentation, chaff and flare dispensing systems, and overall target threat emulation.

EA payload upgrades provide new techniques and capabilities critical to subscale, mid-scale, and full-scale targets to realistically emulate current and emerging foreign threat systems in support of weapons testing.

TCS provides a myriad of sub-systems that, together, deliver the capability to control and track mission aerial targets and to track a mix of other critical mission participants (to include relay platforms, shooters, and the missile system under test). In this role, TCS ensures an optimum integrated aerial target environment that enhances both weapon system assessments and companion aircrew skills, and the full safety of mission participants throughout the conduct and fulfillment of Test and Evaluation (T&E) objectives. Funding supports continued improvement of TCS capabilities to effectively meet the multi-service T&E demands of current and future warfighter weapon systems.

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 0.0M was expended for civilian pay expenses in this program element, and in FY23 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 developmental 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 year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: AF Subscale Aerial Target (AFSAT) Development	0.976	0.888	1.157

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305116F / *Aerial Targets*	**Project (Number/Name)** 675136 / *Target Systems Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Provide enhancements to AFSAT ability to emulate emerging threats in support of weapon testing. ***FY 2023 Plans:*** Continue system upgrades to support expanded AFSAT capabilities to support achieving emulation of emerging threat targets as our adversaries develop and expand their arsenals. ***FY 2024 Plans:*** Continue system upgrades to support expanded AFSAT capabilities to support achieving emulation of emerging threat targets as our adversaries develop and expand their arsenals. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increase due to efforts associated with integrated flight controller.			
Title: Target Control System (TCS) ***Description:*** Provide system enhancements to Advance Airborne Threat Target Control System (AATTCS), formerly known as Gulf Range Drone Control System (GRDCS), for command and control and tracking of aerial targets. Funding may be utilized for development/augmentation/modification of control systems to fulfill gaps in functional capabilities identified in 2018 ACC Capabilities Analysis of target control systems. Gaps relate to creating the emulation of next generation enemy aircraft threats. ***FY 2023 Plans:*** Continue system upgrades to include, but not limited to, AATTCS software/hardware updates to support implementing QF-16, AFSAT, TCS enhancements and future TCS capability enhancements in order to close capability gaps identified by users. ***FY 2024 Plans:*** Continue system upgrades to include, but not limited to, AATTCS software/hardware updates to support implementing QF-16, AFSAT, TCS enhancements and future TCS capability enhancements in order to close capability gaps identified by users. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increase to address frequency encroachment issues of commercial users and continue system modernization enhancements to include but not limited to the Advanced Aerial Threat Target Control System (AATTCS) software updates to support implementing QF-16 and AFSAT enhancements.	0.413	0.378	5.758
Title: Next Generation Aerial Target (NGAT) ***Description:*** NGAT seeks to conduct early systems engineering and risk reduction activities to identify and mitigate the major risks associated with developing a new aerial target for live fire surface-to-air, ship-to-air, and air-to-air missile tests. ***FY 2023 Plans:***	0.099	0.099	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305116F / *Aerial Targets*	**Project (Number/Name)** 675136 / *Target Systems Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Continue to conduct engineering analysis to identify candidate configurations and concepts that lead to early identification of technical risks in integrating advanced electronic attack systems in prototype airframes. Results of these studies will be used to select the most promising concepts for further evaluation and follow on detailed design, integration, ground and flight test of the candidate configurations. ***FY 2024 Plans:*** There are no NGAT activities planned for FY24. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding decreased due to no NGAT activities planned for FY24.			
Accomplishments/Planned Programs Subtotals	1.488	1.365	6.915

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• APAF 04 Line Item 10TRGT: *Target Drones*	112.443	128.906	74.543	-	74.543	61.181	55.043	51.562	53.309	0.000	536.987
• APAF 06 000999: *Initials Spares*	0.600	0.401	0.641	-	0.641	0.653	0.663	0.677	0.691	0.000	4.326
• APAF 07 000074: *War Consumables*	4.759	4.994	5.083	-	5.083	5.178	5.261	5.375	5.483	0.000	36.133
• APAF 07 Line Item 000075: *Other Production Charges*	16.450	17.188	17.493	-	17.493	17.812	18.105	18.497	18.867	0.000	124.412

Remarks

APAF, BA 04: Target Drones 10TRGT - Full Scale and Subscale Aerial Targets assure warfighters' weapon systems will perform effectively against real-world enemy fighters and cruise missiles. Adheres to Public Law title 10, Section 2366 "Live fire/Lethality" developmental/operational test requirements.

APAF, BA 06: Initial Spares/Repair Parts - Aircraft Initial Spares are required to fill the initial pipeline or inventory for all new aircraft systems, including modifications, support equipment, and other production categories. Initial spares include peculiar repairable and consumable components, assemblies, and sub-assemblies that must be available for issues at all levels of supply in time to support newly fielded end items.

APAF, BA 07: War Consumables - AFSAT Rocket-Assisted Take-Off (RATO) requirements executed at Hill AFB. A RATO is used in the initial launch phase to obtain appropriate speed and altitude.

APAF, BA 07: Other Production Charges - ALQ-167 and/or DLQ-9 Electronic Attack (EA) payloads for target drones including support equipment. Payloads emulate threat aircraft electronic countermeasures and jamming capabilities.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305116F / *Aerial Targets*	**Project (Number/Name)** 675136 / *Target Systems Development*

D. Acquisition Strategy

The AFSAT acquisition strategy is a sole source follow-on contract. The Target Control System acquisition strategy includes several small projects to provide enhancements to TCS (to include AATTCS) and will be accomplished with other government agencies and contracts as needed. EA Payloads acquisition strategy includes several small projects managed by the US Navy program office to provide enhancements to the target payloads for aerial targets. Similarly, the acquisition strategy for NGAT includes multiple contract awards to various contractors as well as support from other government agencies.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305116F / *Aerial Targets*	Project (Number/Name) 675136 / *Target Systems Development*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Air Force Subscale Aerial Target (AFSAT) Product Improvements	SS/ Various	Various : CA	-	0.976	Aug 2022	0.886	Dec 2022	1.160	Dec 2023	-		1.160	Continuing	Continuing	-
Target Control System	Various	Eglin AFB : FL	-	0.413	Nov 2021	0.479	Nov 2022	5.755	Nov 2023	-		5.755	Continuing	Continuing	-
Next Generation Aerial Target (NGAT)	Various	Various : TBD	-	0.099	Mar 2022	0.000	Dec 2022	0.000		-		0.000	Continuing	Continuing	-
		Subtotal	-	1.488		1.365		6.915		-		6.915	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	1.488		1.365		6.915		-		6.915	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305116F / *Aerial Targets*	**Project (Number/Name)** 675136 / *Target Systems Development*

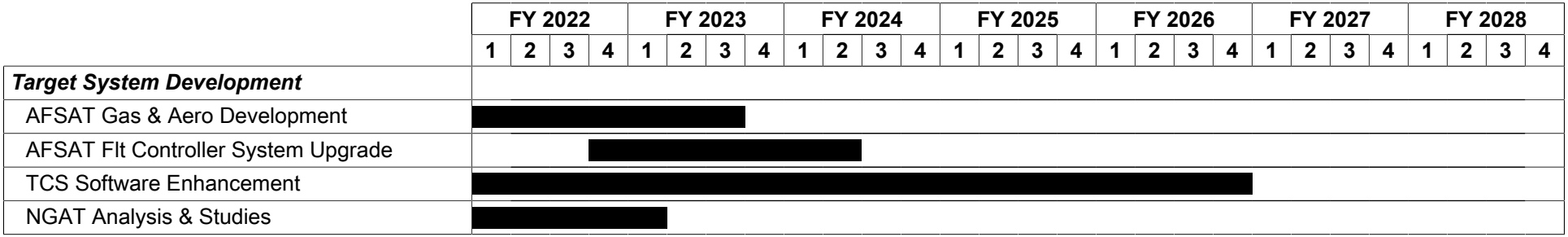

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305116F / *Aerial Targets*	**Project (Number/Name)** 675136 / *Target Systems Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Target System Development				
AFSAT Gas & Aero Development	1	2022	3	2023
AFSAT Flt Controller System Upgrade	4	2022	2	2024
TCS Software Enhancement	1	2022	4	2026
NGAT Analysis & Studies	1	2022	1	2023

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305128F / *Security and Investigative Activities*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.214	0.223	0.352	0.000	0.352	0.480	0.491	0.501	0.519	Continuing	Continuing
671931: *TECH SURVEIL COUNTER MEAS EQPT*	-	0.214	0.223	0.352	0.000	0.352	0.480	0.491	0.501	0.519	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Technical Surveillance Countermeasures [TSCM] develops future technologies designed to find, fix, track, and neutralize law enforcement and counterintelligence threats to the Department of the Air Force (DAF). The technologies will enable criminal and counterintelligence investigations and operations involving high-tech crimes and cyber activities. The technologies are unique, complex, and the equipment must be continuously updated to ensure state-of-the-art capabilities are utilized to counter increasingly sophisticated threats targeting DAF equities.

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 FY2022 $0.000M was expended for civilian pay expenses in this program element, and in FY2023 $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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.223	0.223	0.469	0.000	0.469
Current President's Budget	0.214	0.223	0.352	0.000	0.352
Total Adjustments	-0.009	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	0.000	0.000			
• Other Adjustments	-0.009	0.000	-0.117	0.000	-0.117

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305128F / *Security and Investigative Activities*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: TSCM	0.214	0.223	0.352
Description: These funds will support development of next generation Technical Surveillance Countermeasures (TSCM) capabilities, and specialized law enforcement and counterintelligence restricted tools necessary to counter threats, and exploit cyberspace, digital media storage and mobile audio/visual/data communications for operational and felony-level investigative activities. ***FY 2023 Plans:*** Continue development of law enforcement and counterintelligence restricted tools. ***FY 2024 Plans:*** Will continue development of law enforcement and counterintelligence restricted tools. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to increased program requirements.			
Accomplishments/Planned Programs Subtotals	0.214	0.223	0.352

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

Market Research and acquisition channels. These funds will support iterative development of next generation Technical Surveillance Countermeasures (TSCM) capabilities, and specialized law enforcement and counterintelligence restricted tools necessary to counter threats, and exploit cyberspace, digital media storage and mobile audio/visual/data communications for operational and felony-level investigative activities. Market research is continuously conducted jointly with partner DoD and USG entities, and once complete, acquisition channels are coordinated and deconflicted.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305128F / *Security and Investigative Activities*	Project (Number/Name) 671931 / *TECH SURVEIL COUNTER MEAS EQPT*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TSCM R/D	MIPR	HQ AFOSI : Quantico, VA	-	0.214	Apr 2022	0.223	Apr 2023	0.352	Apr 2024	-		0.352	Continuing	Continuing	-
		Subtotal	-	0.214		0.223		0.352		-		0.352	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	0.214		0.223		0.352		-		0.352	Continuing	Continuing	N/A

Remarks

These funds will support development of next generation Technical Surveillance Countermeasures (TSCM) capabilities, and specialized law enforcement and counterintelligence restricted tools necessary to counter threats, and exploit cyberspace, digital media storage and mobile audio/visual/data communications for operational and felony-level investigative activities.

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305128F / *Security and Investigative Activities*	**Project (Number/Name)** 671931 / *TECH SURVEIL COUNTER MEAS EQPT*

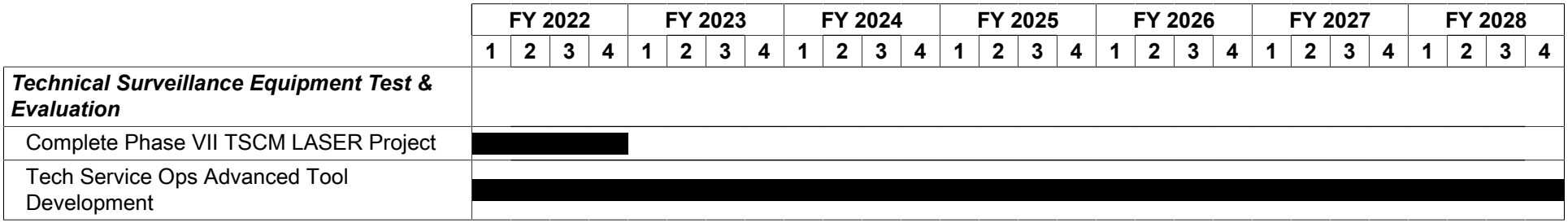

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305128F / *Security and Investigative Activities*	**Project (Number/Name)** 671931 / *TECH SURVEIL COUNTER MEAS EQPT*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Technical Surveillance Equipment Test & Evaluation				
Complete Phase VII TSCM LASER Project	1	2022	4	2022
Tech Service Ops Advanced Tool Development	1	2022	4	2028

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305146F / *Defense Joint Counterintelligence Activities*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	8.733	8.328	6.930	0.000	6.930	6.375	6.534	6.668	6.909	Continuing	Continuing
671931: *TECH SURVEIL COUNTER MEAS EQPT*	-	8.733	8.328	6.930	0.000	6.930	6.375	6.534	6.668	6.909	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Technical Surveillance Countermeasures (TSCM) develops future technologies capable of thwarting advanced hostile force and foreign intelligence technical capabilities. The technologies will provide secure environments for austere mission planning locations and theater commander centers, and will collect information for counterintelligence (CI) operations in support of DoD and AF requirements.

CI Cyber activities enable the Department of the Air Force Office of Special Investigations to detect and neutralize covert activities conducted by Foreign Intelligence Entities seeking to compromise classified or sensitive information in cyberspace. The technologies provided will enhance state of the art capabilities to detect and neutralize criminal activities targeted against sensitive and classified AF and DoD information, activities, and technology.

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 0.000M was expended for civilian pay expenses in this program element, and in FY23 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305146F / *Defense Joint Counterintelligence Activities*	

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	8.733	8.328	7.009	0.000	7.009
Current President's Budget	8.733	8.328	6.930	0.000	6.930
Total Adjustments	0.000	0.000	-0.079	0.000	-0.079
• 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	0.000	0.000			
• Other Adjustments	0.000	0.000	-0.079	0.000	-0.079

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Technical Surveillance Countermeasures (TSCM)	0.526	0.527	0.412	0.000	0.412
Description: TSCM will develop future technologies capable of thwarting advanced, hostile force technical capabilities. They will be developed to provide secure environments to austere mission planning locations, theater commander centers, and will collect information for counterthreat operations in support of DoD and AF requirements. ***FY 2023 Plans:*** Continue advancement of counterintelligence equipment and software. ***FY 2024 Base Plans:*** Will continue advancement of counterintelligence equipment and software ***FY 2024 OCO Plans:*** N/a ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding decreased due to decreased requirements					
Title: Cyber Counterintelligence Pilot	8.207	7.801	6.518	-	6.518
Description: This effort builds OSI's cyber enclave to support various lines of effort, including COPPER CASTLE, JUPITER SENTINEL, and broader cyber threat pursuit activities.					

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305146F / *Defense Joint Counterintelligence Activities*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
FY 2023 Plans: Continue R&D for new iterations of Cyber Threat Pursuit Activities, COPPER CASTLE, and JUPITER SENTINEL. ***FY 2024 Base Plans:*** Will continue R&D for new iterations of Cyber Threat Pursuit Activities, COPPER CASTLE, and JUPITER SENTINEL. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding decreased due to decreased requirements					
Accomplishments/Planned Programs Subtotals	8.733	8.328	6.930	0.000	6.930

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 0305146F: *Defense Joint Counter Intelligence Program*	2.691	2.733	2.316	-	2.316	-	-	-	-	Continuing	Continuing

Remarks

E. Acquisition Strategy

Defense Joint Counterintelligence Program TSCM funds will be obligated on existing contracts with Naval Research Labs and DARPA. Counterintelligence (CI) Cyber funding will be obligated on an existing Air Force contract with MIT/Lincoln Labs, Sandia National Labs, and Air Force Research Labs.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305146F / *Defense Joint Counterintelligence Activities*	Project (Number/Name) 671931 / *TECH SURVEIL COUNTER MEAS EQPT*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Naval Research Lab	MIPR	Navy/Air Force : Williamsburg, VA	-	0.382	Jan 2022	0.383	Jan 2023	0.375	Mar 2024	-		0.375	Continuing	Continuing	-
MIT/Lincoln Labs	MIPR	Air Force : Lexington, MA	-	3.000	Mar 2022	3.000	Mar 2023	2.950	Mar 2024	-		2.950	Continuing	Continuing	-
Carnegie Mellon University	MIPR	Air Force : Pittsburgh, PA	-	0.200	Mar 2022	0.200	Mar 2023	0.000	Mar 2024	-		0.000	Continuing	Continuing	-
Sandia National Labs	MIPR	Air Force : Albuquerque, NM	-	0.500	Dec 2021	0.500	Dec 2022	0.500	Mar 2024	-		0.500	Continuing	Continuing	-
Air Force Research Labs	MIPR	Air Force : Rome, NY	-	4.651	Mar 2022	4.245	Mar 2023	3.105	Mar 2024	-		3.105	Continuing	Continuing	-
		Subtotal	-	8.733		8.328		6.930		-		6.930	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	8.733		8.328		6.930		-		6.930	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305146F / *Defense Joint Counterintelligence Activities*	**Project (Number/Name)** 671931 / *TECH SURVEIL COUNTER MEAS EQPT*

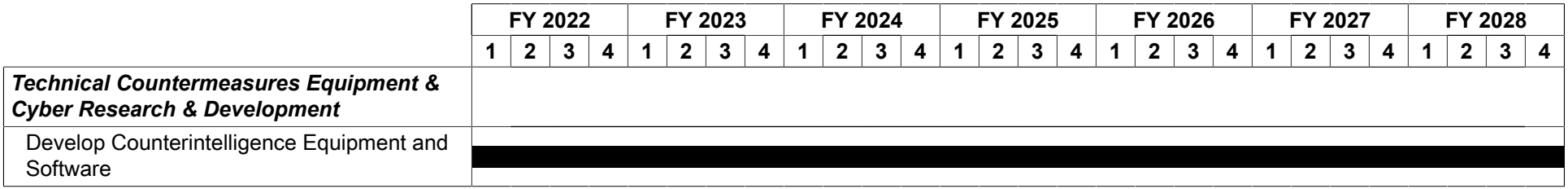

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305146F / *Defense Joint Counterintelligence Activities*	**Project (Number/Name)** 671931 / *TECH SURVEIL COUNTER MEAS EQPT*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Technical Countermeasures Equipment & Cyber Research & Development				
Develop Counterintelligence Equipment and Software	1	2022	4	2028

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305179F / *Integrated Broadcast Service (IBS)*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	21.335	14.123	21.588	0.000	21.588	18.865	19.255	19.647	20.358	Continuing	Continuing
674779: *Integrated Broadcast Service (IBS)*	-	21.335	14.123	21.588	0.000	21.588	18.865	19.255	19.647	20.358	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Integrated Broadcast Service (IBS) fulfills the warfighter's requirements for worldwide threat warning and situational awareness information with timely production and simultaneous dissemination of Intelligence, Surveillance, and Reconnaissance (ISR) derived combat information. It also provides target tracking data to support threat avoidance, targeting, force protection, and situational awareness. This information is continually refined in near real time by strategic, operational and tactical sensors.

IBS development efforts are comprised of the following:
- A Common Interactive Broadcast (CIB) on UHF (Ultra High Frequency) satellite channel using a Common Message Format (CMF), a Military Standard (MIL-STD) Common-waveform, a Joint Tactical Terminal (JTT), a Tactical Data Processor (TDP) to filter and display messages and data, and CMF analysis tools.
- IBS-Network Services (IBS-NS) includes two Global IBS Network Servers (GINS) and four Theater Interface Nodes (TINs) to support the geographic Combatant Commanders (COCOMs), all built to validated warfighter requirements.
-- Two GINS receive data from each theater and integrate this data into a worldwide picture available to all network/broadcast users.
-- Four regional TINs allow local and out-of-theater users (not directly receiving IBS broadcast) to receive the CIB information broadcast. Additionally, the TIN will receive and inject data into the CIB for producers without access to the theater CIB.

This PE funds the modernization and/or upgrades of these IBS elements (IBS-NS, CIB, and CMF), as well as the modernization elements in the Information Systems - Capabilities Development Document (IS-CDD), signed 4 Feb 21. This project will identify and implement an open system architecture that will accommodate growth as the migration continues to cloud hosted enterprise services. Additionally, IBS is a critical data information provider supporting Joint All Domain Command and Control (JADC2) and the emerging requirements for Advanced Battle Management System information exchange requirements.

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 $0.390M was expended for civilian pay expenses in this program element, and in FY23 $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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305179F / *Integrated Broadcast Service (IBS)*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	21.335	22.123	21.539	0.000	21.539
Current President's Budget	21.335	14.123	21.588	0.000	21.588
Total Adjustments	0.000	-8.000	0.049	0.000	0.049
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	-8.000			
• 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	0.049	0.000	0.049

Change Summary Explanation

FY23 program funds were Congressionally decreased by $8.000M for "Product Development Early to Need."

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Enterprise Development (IBS-NS, CIB, CMF, and receivers)	7.383	8.485	13.363
Description: Develops/tests/supports IBS over Mobile User Objective System (MUOS) Wideband Code Division Multiple Access (WCDMA) implementation, IBS-Alt Path enhancements, receiver software enhancements, Artificial Intelligence/Machine Learning (AI/ML) development, and modernization/upgrade efforts involving IBS-NS.			
FY 2023 Plans: - Continue to perform MUOS WCDMA software upgrades, alternate path development, and receiver software modifications - Continue to provide resilience to the IBS CIB UHF Broadcast by utilizing the MUOS WCDMA Satellite Communications (SATCOM) payload supporting the receipt of IBS on 1st generation MUOS terminals - Continue development of the IBS Thin Client, which provides a light-weight application to receive IBS information on mobile devices - Continue development of the CIB MUOS Group Integration - Many to Many, which achieves IBS Over the Air requirements on the MUOS - WCDMA payload - Continue to upgrade the resiliency of IBS to include polar coverage			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305179F / *Integrated Broadcast Service (IBS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Investigate AI/ML capabilities for incorporating into IBS Enterprise - Continue to provide modernization efforts in support of the IBS IS-CDD - Continue to upgrade the monitoring and control tools to assist in assured dissemination tasks at COCOM uplink watch sites, development, and fielding of Downlink Monitoring Element (DME) - Continue to synchronize and integrate with DOD Intelligence Community (IC) Cloud as a potential producer/consumer; the capability will provide a long-term searchable data store for IBS information - Continue to upgrade volumetric increase to provide ten times performance enhancement to throughput, storage and replay to address message volume; this will increase the Enterprise output - Continue to upgrade the CIB Planning Tool and IBS-NS capability at the CCMDs to allow automated planning to occur for active producers - Continue to upgrade the IBS Enterprise-level real-time and analytic views on Global and CCMDs watch floors; further integrate uplink sites with associated TIN by reducing equipment overhead and streamlining data flows - Continue to upgrade and transition current classified dissemination path to new architecture and enable SCI-level dissemination of IBS data			
FY 2024 Plans: - Will continue to perform MUOS WCDMA software upgrades, alternate path development, and receiver software modifications - Will continue to provide resilience to the IBS CIB UHF Broadcast by utilizing the Mobile User Objective System (MUOS) Wideband Code Division Multiple Access (WCDMA) SATCOM payload supporting the receipt of IBS on 1st generation MUOS terminals - Will continue development of the IBS Thin Client, which provides a light-weight application to receive IBS information on mobile devices			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305179F / *Integrated Broadcast Service (IBS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Will continue development of the CIB MUOS Group Integration - Many to Many, which achieves IBS Over the Air requirements on the MUOS - WCDMA payload - Will continue to upgrade the resiliency of IBS to include polar coverage - Will continue to investigate AI/ML capabilities for incorporating into IBS Enterprise - Will continue to provide modernization efforts in support of the IBS IS-CDD - Will continue to upgrade the monitoring and control tools to assist in assured dissemination tasks at COCOM uplink watch sites, development, and fielding of Downlink Monitoring Element (DME) - Will continue to synchronize and integrate with DOD Intelligence Community (IC) Cloud as a potential producer/consumer; the capability will provide a long-term searchable data store for IBS information - Will continue to upgrade volumetric increase to provide ten times performance enhancement to throughput, storage and replay to address message volume; this will increase the Enterprise output - Will continue to upgrade the CIB Planning Tool and IBS-NS capability at the CCMDs to allow automated planning to occur for active producers - Will continue to upgrade the IBS Enterprise-level real-time and analytic views on Global and CCMDs watch floors; further integrate uplink sites with associated TIN by reducing equipment overhead and streamlining data flows - Will continue to upgrade and transition current classified dissemination path to new architecture and enable SCI-level dissemination of IBS data - Will continue to provide modernization efforts in support of the IBS IS-CDD - Will continue to synchronize and integrate with DOD Intelligence Community (IC) Cloud as a potential producer/consumer; the capability will provide a long-term searchable data store for IBS information - Will continue to upgrade volumetric increase to provide ten times performance enhancement to throughput, storage and replay to address message volume; this will increase the Enterprise output			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305179F / *Integrated Broadcast Service (IBS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Will continue to upgrade the CIB Planning Tool and IBS-NS capability at the CCMDs to allow automated planning to occur for active producers - Will continue to upgrade the IBS Enterprise-level real-time and analytic views on Global and CCMDs watch floors; further integrate uplink sites with associated TIN by reducing equipment overhead and streamlining data flows - Will continue to upgrade and transition current classified dissemination path to new architecture and enable SCI-level dissemination of IBS data ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to increased requirements.			
Title: TDP and Analysis Tool Upgrades ***Description:*** Enhances Enterprise TDP and Common Message Format Analysis Tool (CMF-AT) ***FY 2023 Plans:*** - Continue enhancement of enterprise TDP and Common Message Format Analysis Tool (CMF-AT), also providing engineering expertise for IBS integration into a proliferate-Low Earth Orbit (p-LEO) constellation as a future alternate dissemination path ***FY 2024 Plans:*** - Will Continue enhancement of enterprise TDP and Common Message Format Analysis Tool (CMF-AT), also providing engineering expertise for IBS integration into a proliferate-Low Earth Orbit (p-LEO) constellation as a future alternate dissemination path ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to inflation factors and continued support of IBS Modernization Efforts	4.445	0.267	0.310
Title: Enterprise Support ***Description:*** Enterprise Systems Engineering/CMF Integration/CIB Integration ***FY 2023 Plans:*** - Continue to perform Enterprise Systems Engineering and CMF/CIB Integration, including support to Hybrid Cloud at the tactical edge evaluation and software development	5.859	4.571	5.110

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305179F / *Integrated Broadcast Service (IBS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Continue to upgrade and connect the Combatant Command (CCMD) J2 CIB planning function with the CCMD J6 Integrated Waveform planning function - Continue enhancement of uplink sites to handle operational surge increases - Investigate IBS architecture CMF parser library update requirements to support increased IBS volumetric message traffic ***FY 2024 Plans:*** - Will continue to perform Enterprise Systems Engineering and CMF/CIB Integration, including support to Hybrid Cloud at the tactical edge evaluation and software development - Will continue to upgrade and connect the Combatant Command (CCMD) J2 CIB planning function with the CCMD J6 Integrated Waveform planning function - Will continue enhancement of uplink sites to handle operational surge increases - Will continue to investigate IBS architecture CMF parser library update requirements to support increased IBS volumetric message traffic ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to inflation factors and continued support of IBS Modernization Efforts			
Title: Acquisition Support ***Description:*** Acquisition Support for Modernization ***FY 2023 Plans:*** - Monitor execution of modernization program efforts. - Refine IS-CDD initiatives into technical requirements for acquisition strategy approval and contract award(s) ***FY 2024 Plans:*** - Will monitor execution of modernization program efforts. - Will continue to refine more IS-CDD initiatives into technical requirements for acquisition strategy approval and contract award(s) ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to increased requirements.	3.110	0.000	1.750
Title: Test & Evaluation	0.538	0.800	1.055

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305179F / *Integrated Broadcast Service (IBS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Test & Evaluation of the IBS System ***FY 2023 Plans:*** - Perform Test and Evaluation activities of the NS systems/sub-systems components and CMF. ***FY 2024 Plans:*** - Will perform Test and Evaluation activities of the NS systems/sub-systems components and CMF. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to inflation factors and continued support of IBS Modernization Efforts			
Accomplishments/Planned Programs Subtotals	21.335	14.123	21.588

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 832070: *Intelligence Comm Equipment*	13.825	5.724	11.568	-	11.568	13.963	9.078	9.417	9.616	Continuing	Continuing

Remarks

E. Acquisition Strategy

IBS acquisition leverages three existing sole source, single award, IDIQ contracts to modernize the network architecture and broadcast dissemination.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305179F / *Integrated Broadcast Service (IBS)*	**Project (Number/Name)** 674779 / *Integrated Broadcast Service (IBS)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Enterprise Development	Various	OGA/Various : Multiple	-	7.383	Dec 2021	8.485	Dec 2022	13.363	Dec 2023	-		13.363	Continuing	Continuing	-
TDP and Analysis Tools	MIPR	NIWC : San Diego, CA	-	4.445	Dec 2022	0.267	Dec 2022	0.310	Dec 2023	-		0.310	Continuing	Continuing	-
		Subtotal	-	11.828		8.752		13.673		-		13.673	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Enterprise Support	SS/CPFF	MEIS (IMT)/L3 : Multiple	-	5.859	Jan 2022	4.571	Jan 2023	5.110	Jan 2024	-		5.110	Continuing	Continuing	-
Acquisition Support	SS/CPAF	GTRI : Atlanta, GA	-	3.110	Jun 2022	0.000		1.750	Jun 2024	-		1.750	Continuing	Continuing	-
		Subtotal	-	8.969		4.571		6.860		-		6.860	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Interoperability and Development Testing	MIPR	JITC : Ft Huachuca, AZ	-	0.250	Feb 2022	0.540	Dec 2022	0.785	Dec 2023	-		0.785	Continuing	Continuing	-
Responsible Test Organization (RTO)	PO	45th Test Sqn : Eglin AFB, FL	-	0.288	Oct 2021	0.260	Dec 2022	0.270	Dec 2023	-		0.270	Continuing	Continuing	-
		Subtotal	-	0.538		0.800		1.055		-		1.055	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	21.335		14.123		21.588		-		21.588	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305179F / *Integrated Broadcast Service (IBS)*	**Project (Number/Name)** 674779 / *Integrated Broadcast Service (IBS)*

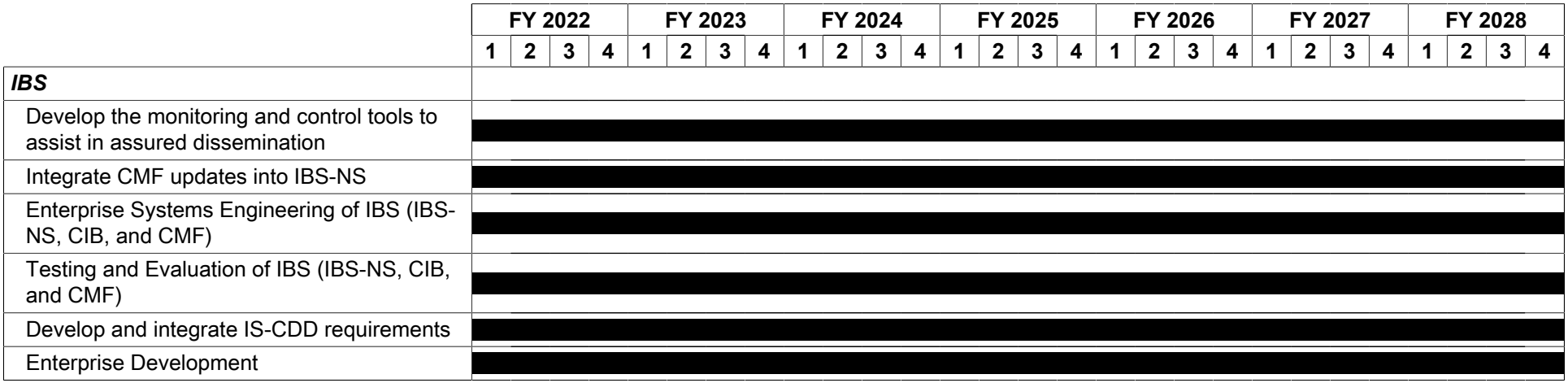

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305179F / *Integrated Broadcast Service (IBS)*	**Project (Number/Name)** 674779 / *Integrated Broadcast Service (IBS)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
IBS				
Develop the monitoring and control tools to assist in assured dissemination	1	2022	4	2028
Integrate CMF updates into IBS-NS	1	2022	4	2028
Enterprise Systems Engineering of IBS (IBS-NS, CIB, and CMF)	1	2022	4	2028
Testing and Evaluation of IBS (IBS-NS, CIB, and CMF)	1	2022	4	2028
Develop and integrate IS-CDD requirements	1	2022	4	2028
Enterprise Development	1	2022	4	2028

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305202F / *Dragon U-2*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	40.713	20.170	16.842	0.000	16.842	0.000	0.000	0.000	0.000	0.000	77.725
674820: *Sensor Development*	-	40.713	20.170	16.842	0.000	16.842	0.000	0.000	0.000	0.000	0.000	77.725
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The U-2S Dragon Lady platform is a high-demand/low-density aircraft equipped with modular sensor and data link systems providing flexible and mission essential Intelligence, Surveillance, and Reconnaissance [ISR] to the Combatant Commands, Joint and Combined forces, and the Intelligence Community in peacetime and wartime. The program supports core missions such as Sensitive Reconnaissance Operations [outlined in CJCSI 3250.01] supporting the National Defense Strategy, in addition to other missions that include execution of CCMD OPLANs and CONPLANs, Humanitarian Assistance/Disaster Response [HADR], Counter Violent Extremist Organizations, and third-party treaty verification/monitoring via the OLIVE HARVEST mission.

In the FY24 budget, the Air Force will maintain operational capability of the U-2 platform. Furthermore, FY24 efforts largely continue contracted efforts, which address safety of flight issues, reliability, Diminishing Manufacturing Sources and Material Shortages [DMSMS], maintainability, supportability, flight test, and integration of capability development activities in support of the broader ISR portfolio.

These efforts include, but are not limited to:

- completing flight test of Advanced Synthetic Aperture Radar System [ASARS] -2B/C, a high-altitude deep-look SAR system--ASARS 2B/C mitigates DMSMS with the current U-2 SAR sensor and processor, is multi-mode capable, and implements an open architecture radar environment. Processor development accomplishes risk reduction in a common effort with other programs and the ASARS-2C system is transferable to the broader ISR enterprise

- Avionics Technical Refresh phase 1 flight test and installation, which will partially resolve avionics DMSMS and safety of flight issues and establishes the Open Mission Systems (OMS) backbone needed to employ IP-based OMS sensors such as ASARS-2C and SYERS-2C OMS.

- mission planning software and quick reaction capabilities [QRCs]

Additionally, the U-2 program will continue to support emergent and/or experimental RDT&E efforts in support of Joint All-Domain Command and Control [JADC2] and Advanced Battle Management System [ABMS] as a platform surrogate for risk reduction in support of SECAF's Operational Imperative-2.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305202F / *Dragon U-2*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	35.846	20.170	20.604	0.000	20.604
Current President's Budget	40.713	20.170	16.842	0.000	16.842
Total Adjustments	4.867	0.000	-3.762	0.000	-3.762
• 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	4.867	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-3.762	0.000	-3.762

Change Summary Explanation

RDT&E funding has been decreased to only fund Avionics Technical Refresh Phase 1 efforts for the U-2. Expectations are for protective NDAA language to be waived during FY 2023 allowing the USAF to move forward with U-2 divestment in FY 2026. In anticipation of this, U-2 RDT&E is funded at a level sufficient to ensure fleet viability through the end of FY 2025.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: U-2 Aircraft Update Block 20.1	18.000	13.670	14.942
Description: Aircraft sustainment and/or enhancement efforts includes activities such as, but not limited to: trade studies, analysis, preliminary system engineering, system and subsystem testing or demonstrations, sensor specification development, avionics system upgrades, emergency egress system sustainability and suitability effort, mission planning system software and infrastructure migration, navigation system sustainability, advanced and agile systems, Open Mission Systems and Unmanned Aerospace Systems Command and Control Standard Initiative [OMS/UCI] standards compliance and integration, navigational technical refresh, helmet and Full Pressure Suit technical refresh, quick reaction capability [QRC] development, enhanced communications/SIGINT system sustainability and modernization, and tactical data-link [L-16, IBS, IFDL, MADL, etc.] efforts to meet operational requirements.			
FY 2023 Plans: Aircraft sustainment and/or enhancement development includes activities such as, but not limited to:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305202F / *Dragon U-2*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
development work to upgrade existing MFDs, expand capabilities of the avionics processor, common mission computers, cockpit displays, multi-level network attached storage devices, aircraft certification required to transmit Link 16 J-series messages, and other DMSMS components ***FY 2024 Plans:*** Aircraft sustainment and/or enhancement development includes activities such as, but not limited to: development work to upgrade existing MFDs, expand capabilities of the avionics processor, common mission computers, cockpit displays, multi-level network attached storage devices, and other DMSMS components ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding decreased due to USAF planned divestiture of U-2 in FY 2026			
Title: U-2 Payload Update Block 20.1 ***Description:*** Aircraft payload development supports sustainment and/or enhancement development includes activities such as, but not limited to: trade studies, analysis, preliminary system engineering, system and subsystem testing or demonstrations, sensor specification development, Advanced Synthetic Aperture Radar System [ASARS] development and test, SIGINT and multi-spectral sensor technical refresh integration and test, defensive systems, sensor range improvements, strategic and tactical data link [L-16, IBS, IFDL, MADL, etc.] design and integration. ***FY 2023 Plans:*** Integration and test of advanced backend processor with a new radar front end array / develops exportable advanced modes primarily focused on the highly contested environment ***FY 2024 Plans:*** Integration and test of advanced backend processor with a new radar front end array / develops exportable advanced modes primarily focused on the highly contested environment ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased to support higher labor costs.	22.713	6.500	1.900
Accomplishments/Planned Programs Subtotals	40.713	20.170	16.842

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305202F / *Dragon U-2*

E. Acquisition Strategy

Acquisition strategy for efforts to support aircraft modification and/or enhancement efforts will be assessed as required, based on current program activities.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305202F / *Dragon U-2*	**Project (Number/Name)** 674820 / *Sensor Development*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	C/CPAF	Not specified. : TBD	-	-		-		-		-		-	0.000	0.000	-
ASARS Phase 1 Enhancements Design	SS/CPFF	Raytheon/Lockheed Martin : El Segundo, CA	-	19.900	Nov 2021	-		-		-		-	0.000	19.900	0.000
ASARS Phase 2 Integration & Demonstration	SS/CPIF	Raytheon/Lockheed Martin Aeronautics : El Segundo, CA	-	1.613	Dec 2021	5.370	Dec 2022	-		-		-	0.000	6.983	0.000
Flight Test Support	SS/CPFF	Lockheed Martin Aeronautics : Palmdale, CA	-	-		-		-		-		-	0.000	0.000	0.000
Data Links Modernization	SS/CPFF	L3 Communications : Salt Lake City, UT	-	1.300	Jan 2022	3.400	Dec 2022	-		-		-	0.000	4.700	0.000
Navigation System	SS/CPFF	Lockheed Martin Aeronautics : Palmdale, CA	-	-		-		-		-		-	0.000	0.000	0.000
Emergency Egress System Sustainability and Suitability Effort	SS/CPFF	Lockheed Martin Aeronauti : Palmdale, CA	-	-		-		-		-		-	0.000	0.000	0.000
Avionics Technical Refresh	SS/CPFF	LMA : Palmdale, CA	-	17.600	Nov 2021	11.400	Nov 2022	16.842	Dec 2023	-		16.842	0.000	45.842	0.000
Loads and Environment Spectra Survey [L/ESS] Compliance and Flight Data Recorder Installation	SS/CPFF	LMA : Palmdale, CA	-	-		-		-		-		-	0.000	0.000	0.000
Electro-Optical/Infrared Sensor Technical Refresh	SS/CPFF	Lockheed Martin Aeronautics : Palmdale, CA	-	-		-		-		-		-	0.000	0.000	0.000
Mission Planning Software Technical Refresh	TBD	TBD : TBD	-	-		-		-		-		-	0.000	0.000	0.000
Electronic Warfare Suite [EWS] Advanced Threat	SS/CPFF	BAE : Nashua, NY	-	0.300	Nov 2021	-		-		-		-	0.000	0.300	22.100
SIGINT Modernization	C/CPAF	SwRI : Dayton, OH	-	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	-	40.713		20.170		16.842		-		16.842	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305202F / *Dragon U-2*	Project (Number/Name) 674820 / *Sensor Development*	

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	40.713		20.170		16.842		-		16.842	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305202F / *Dragon U-2*	**Project (Number/Name)** 674820 / *Sensor Development*

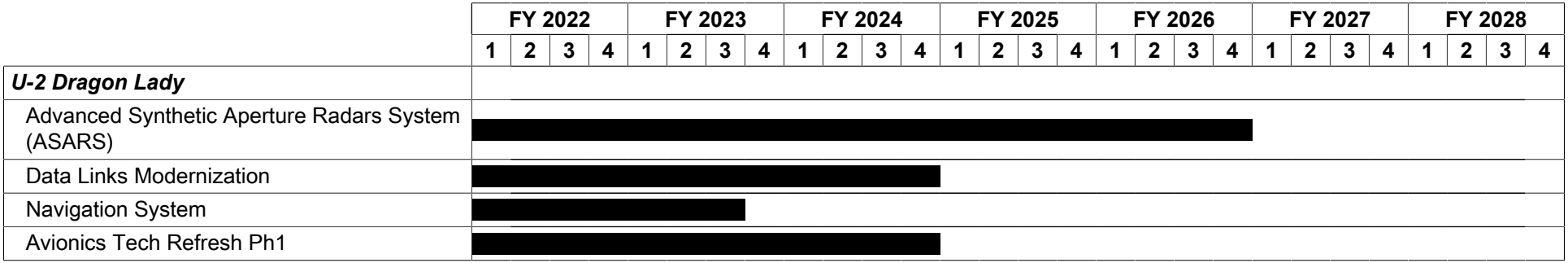

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305202F / *Dragon U-2*	**Project (Number/Name)** 674820 / *Sensor Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
U-2 Dragon Lady				
Advanced Synthetic Aperture Radars System (ASARS)	1	2022	4	2026
Data Links Modernization	1	2022	4	2024
Navigation System	1	2022	3	2023
Avionics Tech Refresh Ph1	1	2022	4	2024

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	108.291	70.048	43.158	0.000	43.158	47.810	26.863	27.117	69.660	Continuing	Continuing
672001: *Next-Generation Sensors*	-	20.184	0.000	0.000	0.000	0.000	0.000	0.000	0.000	25.806	Continuing	Continuing
672002: *Agile ISR*	-	5.413	1.690	8.910	0.000	8.910	8.106	8.259	8.266	0.000	Continuing	Continuing
672003: *Sensors Open System Architecture*	-	0.734	10.782	5.948	0.000	5.948	5.843	6.058	6.048	0.000	Continuing	Continuing
674818: *Imaging and Targeting Support*	-	24.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	30.587	Continuing	Continuing
674820: *Sensor Development*	-	30.344	48.692	18.928	0.000	18.928	24.231	0.000	0.000	0.000	0.000	122.195
675092: *JTC/SIL MUSE*	-	3.593	3.784	3.869	0.000	3.869	3.956	4.054	4.137	4.287	Continuing	Continuing
675291: *Gorgon Stare*	-	12.500	5.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	17.500
676025: *Data Compression*	-	11.523	0.100	5.503	0.000	5.503	5.674	8.492	8.666	8.980	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Airborne Reconnaissance System [ARS] Program develops and integrates next generation intelligence, surveillance, and reconnaissance [ISR] capabilities. ARS includes platform-agile sensor data processing; sensor products aiding assisted target recognition algorithms and other artificial intelligence activities [e.g. geolocation models, sensor-base exploitation tools, sensor networking capabilities]; and implementation of Sensor open architecture standards. The ARS Program includes the following efforts: Next-Generation Sensors [672001], Agile ISR [672002], Sensors Open System Architecture [672003], Imaging and Targeting Support [674818], Sensor Development [674820], JTS/SIL MUSE [675092], Gorgon Stare [675291], and Data Compression [676025].

The ARS PE is integral to developing multi-domain, multi-Intelligence [multi-INT] research, development, test and evaluation [RDT&E] Program of Record [PoR] efforts in support of the National Defense Strategy (NDS) and 2018 DoD Artificial Intelligence Strategy, as applied by the Air Force in the Next Generation ISR Dominance Flight Plan. Specifically, Program 0305206F provides authorized and appropriated funding to multi-INT RDT&E efforts for utilization on airborne platforms. This program traditionally provides a multi-INT venue for integration of technologies matured in both the Advanced Technology Sensors [0604257F] and Airborne SIGINT Enterprise [0304260F] programs.

NGS is a platform-agile suite of sensor technologies defined for the best flexibility and capability for an ever-changing scale of ISR missions. Execution of the NGS activities are founded upon three pillars: Open Standards, Artificial Intelligence [AI]/Machine Learning[ML] algorithms, and Advanced Platform-Agile Sensors. The power behind the NGS program is an open architectural system design that enables rapid third-party software and LRU insertion/replacement allowing for DevSecOps execution, onboard multi-modal and multi-INT processing real-time, sensor cross-cueing, and AI/ML application. The AI/ML algorithms will be used to enable assisted target detection and identification. NGS will anticipate and more quickly counter adversaries' future improvements in their abilities to hide from and defeat ISR sensors.

NGS efforts include, but are not limited to: Multi-Intelligence Common Open Architecture Reconnaissance Programs Standard [MI-COARPS], Advanced Platform-Agile Sensors, Assisted Target Recognition for ISR [ATRI], and Digital Engineering [DE], to include Model-Based Systems Engineering [MBSE]. Due to higher Air Force priorities in FY23, the activities were strategically paused and future FY24 efforts have moved to PE 64257F BPAC 642001 for continued prototyping, technology maturation, and risk reduction.

The Open Standards pillar of next generation capabilities is supported through MI-COARPS and Sensors Open Systems Architecture [SOSA] which coordinates advanced technologies and open architecture development for multi-INT sensor modalities. The AI/ML algorithm pillar of next generation capabilities will be supported by the Agile ISR and Data Compression efforts. Detection, Removal and Characterization Operations [DRACO] supports the development of a robust image quality improvement capability for airborne synthetic aperture radar [SAR] products. Additionally, the Reduction of Data Using Compression Enhancement [RDUCE] develops data compression algorithms, addressing current and future systems' bandwidth limitations. Consistent with NDS, algorithms are multi-INT sensor agile that are submitted for formal adoption by the DOD-Intelligence Community [IC] Joint Enterprise Standards Committee [JESC] GEOINT and SIGINT standards groups. Platform agile sensors pillar of next-generation capabilities will be supported by the Sensor Development effort, which includes the Advanced Synthetic Aperture Radar System [ASARS] front-end antenna array and receiver exciter advancements [ASARS-2B]. ASARS-2B follow-on RDT&E extends range, enhances SAR performance and introduces maritime capability, while laying the framework for future use of open architectures. Additional efforts that support the next generation capabilities include continuation of Gorgon Stare Wide Area Motion Imagery [WAMI] RDT&E and the Multiple Unified Simulation Environment [MUSE] Joint Technology Center/Systems Integration Lab [JTC/SIL] by supporting ISR Training.

This program element may include necessary emergent or unanticipated civilian pay expenses required to manage, execute, and deliver the ARS program 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 element 0605827F. In PY23 .261M and in CY24 .266M 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.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	108.291	55.048	56.694	0.000	56.694
Current President's Budget	108.291	70.048	43.158	0.000	43.158
Total Adjustments	0.000	15.000	-13.536	0.000	-13.536
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	15.000			
• 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	-13.536	0.000	-13.536

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 674818: *Imaging and Targeting Support*		
Congressional Add: *ASARS-2B*	24.000	-
Congressional Add Subtotals for Project: 674818	24.000	-
Project: 675291: *Gorgon Stare*		
Congressional Add: *Wide Area Motion Imagery*	12.500	5.000
Congressional Add Subtotals for Project: 675291	12.500	5.000
Congressional Add Totals for all Projects	36.500	5.000

Change Summary Explanation

FY22 Congressional Adds for ASARS-2B (24M) and Gorgon Stare (12.5M).
The decrease in FY24 from the previous President's Budget is due to a decrease in ASARS-2B development.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 672001 / *Next-Generation Sensors*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
672001: *Next-Generation Sensors*	-	20.184	0.000	0.000	0.000	0.000	0.000	0.000	0.000	25.806	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Due to higher Air Force priorities in FY23, the activities were strategically paused and future FY24 efforts have moved to PE 64257F BPAC 642001 for continued prototyping, technology maturation, and risk reduction.

A. Mission Description and Budget Item Justification

The Next Generation Sensors (NGS) program seeks to change the paradigm of Intelligence, Surveillance, and Reconnaissance (ISR) sensor acquisitions to deliver mission critical technology more quickly and cost effectively. NGS is a platform-agile suite of sensor technologies defined for the best flexibility and capability for an ever-changing scale of ISR missions. The power behind the NGS program is an open architectural system design that enables individual sensor upgrades and enhancements and mission-specific mode and algorithm applications, establishing a path to on-board multimodal and multi-INT processing, sensor cross-cueing, and artificial intelligence applications. NGS efforts include, but are not limited to: Multi-INT Common Open Architecture Reconnaissance Programs Standard (MI-COARPS), Advanced Platform-Agile Sensors, Assisted Target Recognition for ISR (ATRI), and Digital Engineering (DE), to include Model Based Systems Engineering (MBSE).

NGS program efforts are set by capability gaps within the Challenging Targets Initial Capabilities Document and as approved by the Capabilities Decision Memorandum (Signed Jan 2019). These requirements have been further verified, modeled, and developed through the Airborne Sensors for ISR (ASI) Analysis of Alternatives (AoA). Program requirements were further defined in the NGS Draft Capability Development Document (DCDD) approved on 21 February 2021.

This program element may include necessary emergent or unanticipated civilian pay expenses required to manage, execute, and deliver insert program name 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 element 0605827F. In FY22 2.449M was expended for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Next Generation Sensors	20.184	0.000	0.000
Description: Mold current and future ISR into a platform-agile, non-proprietary, autonomous multi-INT cross cueing solution that is designed based on mission requirements. Sensors will have to penetrate up to highly contested domains and survive to operate. This project will also increase interoperability by developing common standards and interfaces for mission and sensor systems.			
FY 2023 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 672001 / *Next-Generation Sensors*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
N/A. ***FY 2024 Plans:*** Next Generation Sensors has moved to PE 64257F BPAC 642001 for continued prototype and tech development. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** No change to budget. Zeroed in FY23 and FY24. FY24 funds moved to PE 64257F BPAC 642001.			
Accomplishments/Planned Programs Subtotals	20.184	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A - FY24 NGS activities and acquisition strategy have moved to PE 64257F BPAC 642001.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 672001 / *Next-Generation Sensors*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Triple Raven ATD	Various	Various : TBD	-	0.000	Feb 2022	-		-		-		-	0.000	0.000	-
NGS Sensors	Various	Various : TBD	-	3.645	Feb 2022	-		-		-		-	0.000	3.645	-
NGS Algorithms (ATRI)	Various	Various : TBD	-	5.846	Feb 2022	-		-		-		-	0.000	5.846	-
NGS Standards (OA)	Various	Various : TBD	-	5.141	Dec 2021	-		-		-		-	0.000	5.141	-
Raging Parakeet JCTD	Various	Various : TBD	-	0.000	Dec 2021	-		-		-		-	0.000	0.000	-
Digital Engineering (DE), Model Based Systems Engineering (MBSE)	Various	Various : TBD	-	3.000	Oct 2021	-		-		-		-	0.000	3.000	-
		Subtotal	-	17.632		-		-		-		-	0.000	17.632	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA: Other Gov't costs	Various	Not specified. : TBD	-	2.552	Oct 2021	-		-		-		-	Continuing	Continuing	-
		Subtotal	-	2.552		-		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	20.184		-		-		-		-	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 672001 / *Next-Generation Sensors*

	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Next Generation Sensors																												
Sensors	[redacted]																											
Algorithm Development (ATRI)	[redacted]																											
Standards (Open Architecture)	[redacted]																											
Raging Parakeet JCTD	[redacted]																											
Model Based Systems Engineering	[redacted]																											

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 672001 / *Next-Generation Sensors*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Next Generation Sensors				
Sensors	1	2022	4	2022
Algorithm Development (ATRI)	1	2022	4	2022
Standards (Open Architecture)	1	2022	4	2022
Raging Parakeet JCTD	1	2022	4	2022
Model Based Systems Engineering	1	2022	4	2022

Note

Due to higher AF priorities in FY23, the activities were strategically paused and future FY24 efforts have moved to PE 64257F BPAC 642001 for continued prototyping and technology development.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 672002 / *Agile ISR*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
672002: *Agile ISR*	-	5.413	1.690	8.910	0.000	8.910	8.106	8.259	8.266	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY2023, PE 0305206F, (Airborne Reconnaissance Systems), Project 674818, (Imaging and Targeting Support) efforts related to Agile Pod will transfer to Project 672002, (Agile ISR)in order to provide greater visibility and transparency. This project is not a new start.

A. Mission Description and Budget Item Justification

The Agile ISR BPAC matures, develops, and deploys projects started under the Imaging & Targeting Support (I&TS) program in support of current and future platform agnostic, non-proprietary, autonomous, multi-INT cross cueing ISR solutions based on Advanced Battle Management System (ABMS) and Joint All-domain Command and Control (JADC2) mission requirements. This includes, but is not limited to, High Altitude Long Endurance (HALE) platform development, Detection Removal and Characterization Operations (DRACO), support and development of AgilePod, and other projects. Portions of the developmental efforts under Agile ISR are classified.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver technology and sensor capabilities. The use of such program funds would be in addition to civilian pay expenses budgeted in program element 0605831F.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: DRACO	5.413	1.590	6.910
Description: Detection Removal and Characterization Operations (DRACO) is a robust Image Quality improvement capability for Airborne Synthetic Aperture Radar (SAR) products. The software resides in multiple locations on the ground and future efforts will migrate algorithms to airborne platforms supporting the Air Force, Army, Navy and other customers. DRACO efforts include but are not limited to development, design, fabrication, integration, demonstration, test, and transition of image quality improvement capabilities. This project originated under the I&TS program. All other details are classified.			
FY 2023 Plans: - Continue to mature, develop and deploy DRACO capabilities in order to give the warfighter a more efficient and effective tool. - Continue to complete DRACO 6.0 efforts in 1QFY24. - Continue to increase interoperability by developing common standards and interfaces. - Continue to increase access and expand user base. - Continue the DRACO SAR Clean-up AI/ML Reduction (SCAR) development effort.			
FY 2024 Plans: - Will complete the DRACO SCAR development effort.			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 672002 / *Agile ISR*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Will continue to mature, develop and deploy DRACO capabilities in order to give the warfighter a more efficient and effective tool. - Will initiate DRACO 7.0 efforts in 2QFY24. - Will continue to increase interoperability by developing common standards and interfaces. - Will continue to increase access and expand user base to include cloud based deployment of the capability to enable ready access to IC Partners. - Will integrate DRACO, assisted target recognition, and SAR compression algorithm into a software suite referenced as SAR Clean-up AI/ML Reduction (SCAR) Package. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increased Air Force priority in FY24 supporting completion of DRACO 6.0, increased interoperability, and kicking off DRACO 7.0 efforts.			
Title: AgilePod ***Description:*** AgilePod is a government-owned, open standards pod capable of multiple payloads including but not limited to ISR, communications, and EW. It consists of multiple variants and provides a rapid fielding capability for payloads to any aircraft in the DOD inventory that can carry an external store. ***FY 2023 Plans:*** - Continue to develop AgilePod variants for multi-platform use. ***FY 2024 Plans:*** - Will continue to develop AgilePod variants for multi-platform use. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increased to support AgilePod development for multi-platform use and increased Air Force priority.	0.000	0.100	2.000
Accomplishments/Planned Programs Subtotals	5.413	1.690	8.910

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Capabilities will be developed and integrated onto various information systems and platforms using an agile acquisition approach. The projects will be executed and contracted with appropriate vendor(s) to deliver capability while driving competition where possible.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 672002 / *Agile ISR*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DRACO	SS/CPFF	Lockheed Martin : King of Prussisa, PA	-	5.119	Mar 2022	1.030	Jan 2023	5.910	Jan 2024	-		5.910	Continuing	Continuing	-
AgilePod	SS/CPFF	Jacobs/Leidos : Dayton, OH	-	-		0.100	Jan 2023	0.000	Jan 2024	-		0.000	Continuing	Continuing	-
		Subtotal	-	5.119		1.130		5.910		-		5.910	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA: Other Govt Cost	Various	Various: TBD : TBD	-	0.294	Nov 2021	0.560	Jan 2023	3.000	Jan 2024	-		3.000	Continuing	Continuing	-
		Subtotal	-	0.294		0.560		3.000		-		3.000	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	5.413		1.690		8.910		-		8.910	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 672002 / *Agile ISR*

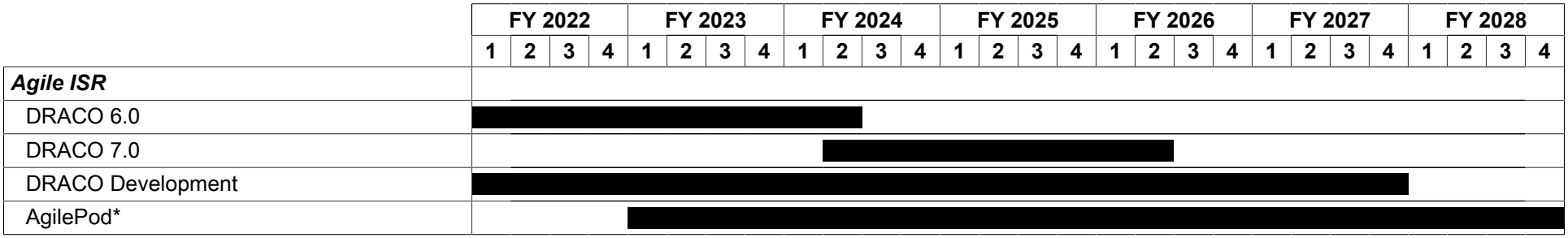

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 672002 / *Agile ISR*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Agile ISR				
DRACO 6.0	1	2022	2	2024
DRACO 7.0	2	2024	2	2026
DRACO Development	1	2022	4	2027
AgilePod*	1	2023	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 672003 / *Sensors Open System Architecture*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
672003: *Sensors Open System Architecture*	-	0.734	10.782	5.948	0.000	5.948	5.843	6.058	6.048	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Sensors Open System Architecture (SOSA) project develops common hardware standards and associated software interfaces in support of the development for modalities of sensors, such as: RADAR, SIGINT, EW, Communications and EO/IR (development of standards and open architecture interfaces for Hardware and Electrical/Mechanical interfaces) in support of multiple airborne reconnaissance platforms, both manned and unmanned. Its objectives are to develop, demonstrate, and rapidly upgrade/iterate advanced, interoperable, multi-platform solutions to reduce the find, fix, target, and track kill chain timeline, and to provide safe separation and collision avoidance for remotely piloted aircraft through development of abstraction interfaces for sense (such as RADAR, ADS-B, TCAS, Next Generation Sensors, ASIP, and ASARS) and avoid logic.

This project is designed to support development of the Next Generation Sensors program, as well as other AFLCMC/WI emerging and program of record needs. As part of the development effort SOSA will be funding and supporting first article development of key common hardware solutions.

The Open Architecture SIL (System Integration Laboratory) that supports SOSA will continue development of common hardware standards and associated software interfaces and provide a conformance/compliance program for industry partners and other DoD services.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver technology and sensor capabilities. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605831F.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Sensors Open System Architecture	0.734	10.782	5.948
Description: Description: The Sensors Open System Architecture (SOSA) project will execute activities to develop common hardware standards and associated software interfaces. ***FY 2023 Plans:*** - Continue to develop prototype of SOSA SAR/SIGINT capability - Continue to develop AgilePod internal electrical/mechanical interfaces - Continue to implement and execute hardware demonstrations - Continue to support EO/IR article prototyping			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 672003 / *Sensors Open System Architecture*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Continue to prepare and host open standards interoperability demonstrations ***FY 2024 Plans:*** - Will continue to develop prototype of SOSA SAR/SIGINT capability - Will continue to develop AgilePod internal electrical/mechanical interfaces - Will continue to implement and execute hardware demonstrations - Will continue to support EO/IR article prototyping - Will continue to prepare and host open standard interoperability demonstrations ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY23 to FY24 decrease due to FY23 congressional add. FY24 returning to normal levels.			
Accomplishments/Planned Programs Subtotals	0.734	10.782	5.948

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Coalition of Industry, DoD, and OGA partnerships to develop common hardware standards and associated software interfaces to support ACC and AFLCMC requirements for next generation sensors. Acquisition initiatives consist of prototype activities, risk reduction and demonstrations. Contracting strategy for FY23 and beyond is to be determined.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 672003 / *Sensors Open System Architecture*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SOSA Hardware Development	SS/FFP	Dynetics (JSIL) : Huntsville, AL	-	-		-		0.600	Oct 2023	-		0.600	Continuing	Continuing	-
SOSA Hardware Development (1)	SS/CPFF	Skayl : DC & Arizona, AZ	-	-		-		0.500	Mar 2024	-		0.500	Continuing	Continuing	-
SOSA Hardware Development (2)	SS/CPFF	DCS : Dayton, OH	-	0.439	Dec 2021	-		0.000	Mar 2024	-		0.000	Continuing	Continuing	-
SOSA Hardware Development (3)	SS/CPFF	CFD : Dayton, OH	-	-		0.487	Dec 2022	1.100	Mar 2024	-		1.100	Continuing	Continuing	-
SOSA Hardware Development (4)	SS/CPFF	GTRI Conformance : Atlanta, GA	-	-		-		0.500	Oct 2023	-		0.500	Continuing	Continuing	-
SOSA Hardware Development (5)	SS/CPFF	GTRI H/W Dev : Atlanta, GA	-	-		-		0.500	Jun 2024	-		0.500	Continuing	Continuing	-
SOSA Hardware Development (6)	SS/CPFF	BAH : Baltimore, MD	-	-		-		-		-		-	Continuing	Continuing	-
SOSA Hardware Development (7)	SS/CPFF	GTRI Hardware Upgrade : Atlanta, GA	-	-		-		1.440	Jan 2024	-		1.440	Continuing	Continuing	-
SOSA Hardware Development (8)	SS/CPFF	Leidos : Dayton, OH	-	0.200	Dec 2021	0.200	Dec 2022	1.308	Feb 2024	-		1.308	Continuing	Continuing	-
SOSA Hardware Development (9)	SS/FFP	Spectranetix/Pacific Def : El Segundo, CA	-	-		-		-		-		-	0.000	0.000	-
		Subtotal	-	0.639		0.687		5.948		-		5.948	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration (PMA)	Various	Not specified. : TBD	-	0.095	Dec 2021	10.095	Aug 2023	0.000		-		0.000	Continuing	Continuing	-
		Subtotal	-	0.095		10.095		0.000		-		0.000	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 672003 / *Sensors Open System Architecture*	

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	0.734		10.782		5.948		-		5.948	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 672003 / *Sensors Open System Architecture*

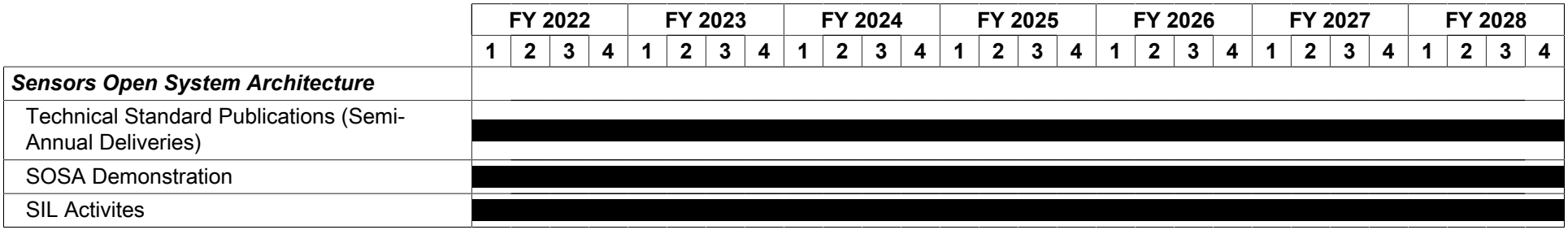

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 672003 / *Sensors Open System Architecture*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Sensors Open System Architecture				
Technical Standard Publications (Semi-Annual Deliveries)	1	2022	4	2028
SOSA Demonstration	1	2022	4	2028
SIL Activites	1	2022	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 674818 / *Imaging and Targeting Support*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
674818: *Imaging and Targeting Support*	-	24.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	30.587	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The purpose is to develop, mature, demonstrate, and rapidly transition next-generation, persistent, wide area surveillance and common imagery reconnaissance sensor capabilities (active and passive systems), including sensor data processing, for multiple airborne platforms, as well as sensor products to aid in rapid targeting (geolocation models, sensor-based exploitation tools, sensor networking capabilities).

Developmental efforts pursued include but are not limited to: Radar, Electro-Optical/Infrared, hyperspectral imagery (HSI), Lidar/Ladar, and other technologies to improve measurement and signature intelligence, polarimetric imaging, maritime search/track, foliage penetration, nuclear event detection, and other modalities; increased geolocation accuracy; increased dismount detection capability; advanced sensor data correlation; automated target detection; network centric warfare; and other ISR and associated planning and direction; collection; processing and exploitation; analysis and production; and dissemination capabilities. These efforts are intended to reduce both target search and kill chain timelines as well as supporting traditional intelligence activities. This project will also increase interoperability by developing common standards and interfaces.

The funds in this project are distributed in priority order, as supported by the Challenging Targets Initial Capabilities Document and set by the GCWG, for the goal of building a comprehensive GEOINT capability for the USAF. On an annual basis, developmental technologies are reviewed against warfighter capabilities and requirements based on strategic roadmaps and the results of the ASI AoA as prefaced in the Challenging Targets Initial Capabilities Document. Efforts advancing the technological maturity of promising sensors and processing capabilities are reviewed and prioritized into a recommended list for senior executive direction to implement in the coming year.

Activities also include studies and analysis to support both current program planning and execution and future program planning.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver technology and sensor capabilities. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: ISR Tech Dev	-	0.000	0.000
Description: Mold current and future ISR into platform agnostic, non-proprietary, autonomous Multi-INT fusion and cross cuing solutions that are designed based on capability and mission requirements. Develop technologies for airborne ISR sensors to include artificial intelligence-driven automatic sensing and low-cost attritable ISR sensors.			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 674818 / *Imaging and Targeting Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
FY 2023 Plans: N/A ***FY 2024 Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A			
Accomplishments/Planned Programs Subtotals	-	0.000	0.000

	FY 2022	FY 2023
Congressional Add: ASARS-2B	24.000	-
FY 2022 Accomplishments: Develop/design/fabricate/integrate/demonstrate/test and field deep look high altitude ISR radar capabilities.		
Congressional Adds Subtotals	24.000	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• RDTE 07 PE 0305202F: *Dragon U-2*	0.000	0.000	0.000	-	0.000	0.000	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

ASARS / High Altitude SAR technology maturation is conducted by Air Force Life Cycle Management Center/Intelligence, Surveillance, and Reconnaissance and Special Operations Forces (AFLCMC/WIN), in conjunction and cooperation with AFLCMC/HBG (Robins AFB) for test support.

Acquisition strategy is to maximize commercial and national development efforts and investment through multiple contracting methods, including the use of engineering change proposals to modify existing contracts and new contracts that were awarded both competitively or on a sole source basis.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 674818 / *Imaging and Targeting Support*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ASARS-2B EMD	SS/CPIF	Raytheon : El Segundo, CA	-	24.000	Jun 2022	-		-		-		-	0.000	24.000	170.430
		Subtotal	-	24.000		-		-		-		-	0.000	24.000	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	24.000		-		-		-		-	0.000	24.000	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 674818 / *Imaging and Targeting Support*

	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
ASARS-2B (Congressional Add)																												
ASARS-2B																												

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 674818 / *Imaging and Targeting Support*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
ASARS-2B (Congressional Add)				
ASARS-2B	1	2022	4	2022

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 674820 / *Sensor Development*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
674820: *Sensor Development*	-	30.344	48.692	18.928	0.000	18.928	24.231	0.000	0.000	0.000	0.000	122.195
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Sensors Development project increases the range and collection capability, interoperability and processing of the Advanced Synthetic Aperture Radar Systems [ASARS] through design, development, testing, and fielding efforts. The Sensors Development efforts advance the capability of ASARS for U-2 employment, and is a critical component for the multi-INT Next Generation Sensors, project 672001, efforts. ASARS-2B [front-end] & ASARS-2C [back-end] efforts provide critical advancements and risk reduction in SAR/Moving Target Indication capability to be implemented in the future multi-INT, platform agile capability that Next Generation Sensors will provide.

The ASARS effort is a fifth generation, deep-look, high-altitude, ISR radar that is the foundation for the radar component of the Next Generation Sensors [NGS] family of systems as outlined in the AFROC approved ASARS-2C draft Capabilities Development Document [CDD]. ASARS-2B [front-end] is the antenna and receiver exciter replacement. The ASARS-2C [back end] data processing efforts extend the ASARS-2B [front-end] radar capability using open architecture data processing and multi-platform integration. Open architecture improves performance and lowers cost by facilitating and enabling qualified third party software vendors to incorporate future multi-ISR capability to advance interoperability across joint operations. ASARS increases current capability and addresses National Defense Strategy Key Operational Problems and ISR Dominance flight plan.

This program element may include necessary emergent or unanticipated civilian pay expenses required to manage, execute, and deliver ASARS-2B 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 element 0605827F. In PY23 $.261M and in CY24 $.266M was expended for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Advanced Synthetic Aperture Radar System [ASARS]-2B (front-end)	30.344	48.692	15.128
Description: Develop, design, fabricate, integrate, test and field deep look high altitude ISR radar capabilities.			
FY 2023 Plans: - Finalize development, design, fabrication, integration and initial flight test for deep look high altitude ISR radar capabilities			
FY 2024 Plans: Will complete development, design, fabrication, integration and flight test for deep look high altitude ISR radar capabilities.			
FY 2023 to FY 2024 Increase/Decrease Statement:			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 674820 / *Sensor Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Decrease due to ramping down and completion of ASARS-2B development in FY24.			
Title: Advanced Synthetic Aperture Radar System [ASARS]-2C [back-end] ***Description:*** Integrate open radar processing architectures for enhanced RF capabilities and third party mode development. ***FY 2023 Plans:*** - N/A ***FY 2024 Plans:*** Will complete development, design, fabrication, integration and flight test for deep look high altitude ISR radar capabilities. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A	0.000	0.000	3.800
Accomplishments/Planned Programs Subtotals	30.344	48.692	18.928

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• RDTE 07 PE 0305202F: *Dragon U-2*	18.319	0.000	0.000	-	0.000	0.000	0.000	-	-	0.000	0.000

Remarks

A portion of the funding within the U-2 RDT&E line will be used to advance ASARS development / design/fabrication/integration/demonstration/testing and fielding deep look high altitude ISR radar capabilities.

D. Acquisition Strategy

ASARS / High Altitude SAR technology maturation is conducted by Air Force Life Cycle Management Center/Intelligence, Surveillance, and Reconnaissance and Special Operations Forces [AFLCMC/WIN], in conjunction and cooperation with AFLCMC/WIA [Robins AFB] for test support.
Acquisition strategy is to maximize commercial and national development efforts and investment through multiple contracting methods, including but not limited to the use of engineering change proposals to modify existing contracts and new contracts that were awarded both competitively or on a sole source basis.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 674820 / *Sensor Development*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ASARS-2B (front-end)	SS/CPIF	Raytheon : El Segundo, CA	-	30.194	Nov 2021	48.542	Nov 2022	12.735	Oct 2023	-		12.735	Continuing	Continuing	-
ASARS-2C (back-end)	SS/CPFF	Raytheon : El Segundo, CA	-	-		-		3.843	Oct 2023	-		3.843	Continuing	Continuing	-
		Subtotal	-	30.194		48.542		16.578		-		16.578	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA	Various	Not specified. : TBD	-	0.150	Jan 2022	0.150	Jan 2023	2.350	Jan 2024	-		2.350	Continuing	Continuing	-
		Subtotal	-	0.150		0.150		2.350		-		2.350	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	30.344		48.692		18.928		-		18.928	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 674820 / *Sensor Development*

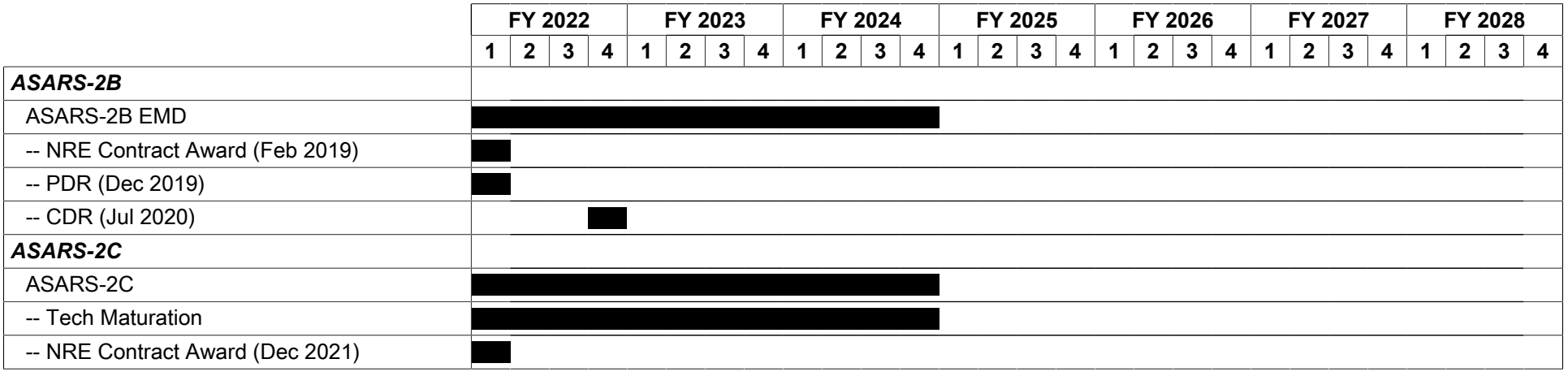

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 674820 / *Sensor Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
ASARS-2B				
ASARS-2B EMD	1	2022	4	2024
-- NRE Contract Award (Feb 2019)	1	2022	1	2022
-- PDR (Dec 2019)	1	2022	1	2022
-- CDR (Jul 2020)	4	2022	4	2022
ASARS-2C				
ASARS-2C	1	2022	4	2024
-- Tech Maturation	1	2022	4	2024
-- NRE Contract Award (Dec 2021)	1	2022	1	2022

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 675092 / *JTC/SIL MUSE*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675092: *JTC/SIL MUSE*	-	3.593	3.784	3.869	0.000	3.869	3.956	4.054	4.137	4.287	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Multiple Unified Simulation Environment (MUSE) is the DoD flight simulation/training system of choice for many Unmanned Aircraft Systems (UAS), RPA, and airborne platforms. MUSE is also known as the Air Force Synthetic Environment for Reconnaissance and Surveillance (AFSERS) in its Air Force training application. The MUSE/AFSERS is a software suite that simulates UAS/RPA (e.g., MQ-9) systems, tailored air vehicle & data links, and visualization systems used for payload product outputs-including Full Motion Video (FMV), Fixed Frame Imagery (FFI), Ground Moving Target Indicator (GMTI) data, and Link 16 (J2.2 and J3.5) tracking messages. Outputs are compliant with applicable DoD standards and are continually tested against actual ground data processors to ensure DoD systems interoperability.

The Services and Combatant Commanders have a requirement for training with a system that provides a real-time simulation environment containing multiple domain systems that can be integrated with larger force-on-force simulations. The MUSE creates a realistic operational environment supporting military utility assessment, architecture, and employment concept development. Training, Tactics, Techniques and Procedures (TTP) refinement, practice Processing, Exploitation and Dissemination (PED) of multi-domain information. Conduct emerging concepts experimentation, optimizing Command, Control, Communications, and Computing (C4) with warfighting exercises and experiments. MUSE is the preferred UAS/RPA simulation system used by US Combatant Commanders and Joint Services to support command and battle staff C4 training.

The MUSE also creates a realistic operational environment that supports: an embedded training capability for new UAS/RPA system Program Managers; tools to minimize acquisition and life cycle cost and schedule impacts. MUSE conducts emerging concepts experimentation, future systems exploration, systems integration, and technology insertion; applications for Joint and Service-specific warfighting exercises; and C4 training optimization.

MUSE is currently used by all Services and most unified commands simulating MQ-1, MQ-9, RQ-4, MQ-1C, M/RQ-5, RQ-7, national and commercial satellite systems, P-3, E-8 and the U-2 during warfighting exercises. The AFSERS provides National Imagery Transmission Format (NITF) information for simulated data collection systems, supporting PED training. The MUSE is also used as a mission rehearsal tool for current, on-going military combat operations. Most of the MUSE/AFSERS software suite components are also used in multiple airborne platform system training devices. Including the MQ-9 [Medium Altitude Long Endurance Tactical (MALET) JSIL Aircrew Trainer (MJAT)] and RQ-4 [Global Hawk Sensor Operator Part Task Trainer (GHSOPTT), and Global Hawk Weapon System Trainer (WST)].

The Joint Technology Center/Systems Integration Laboratory (JTC/SIL) is the training center of excellence supporting UAS and RPA programs for the Services. JTC/SIL provides the system engineering, test and integration, interoperability, rapid technology insertion to address MUSE training requirements. The JTC/SIL combines the UAS/RPA knowledge of communications standards (such as STANAGs 4586, 4607, 4545 and 4609) with Hardware in the Loop (HIL) testing, MUSE, integrating with other DoD modeling and simulation (M&S) architectures. For those airborne assets normally not available for training, the JTC/SIL provides surrogate systems and interfaces. The JTC/SIL contributes to the distributed training environments, virtually linking participants from various locations worldwide, and are routinely supported

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675092 / *JTC/SIL MUSE*

within the MUSE architecture. The JTC/SIL continues to develop leading edge technologies supporting the rapidly evolving UAS/RPA training requirements required to support NDS future fighting force.

MUSE project funds may be utilized to cover the GCWG Secretariat, studies and analysis activities, supporting current program planning, execution, and future program planning.

This program element may include necessary emergent or unanticipated civilian pay expenses required to manage, execute, and deliver JTC/SIL MUSE 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 element 0605827F.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Air Force Synthetic Environment for Reconnaissance and Surveillance (AFSERS) Development	3.593	3.784	3.869
Description: DoD's simulation/training system of choice for Intelligence Surveillance and Reconnaissance (ISR)systems, sensors, and platforms. Includes AFSERS, Common Ground Station Interface, and infrastructure support. ***FY 2023 Plans:*** - Continue update of sensor models and release new MUSE/AFSERS versions to reflect evolving RPA and ISR improvements to support theater level exercises such as CCPT (formerly Ulchi Freedom Guardian and Key Resolve), Yama Sakura, Talisman Saber, Pacific Sentry/Fury, Austere Challenge, and associated events. - Continue rapid response to Cyber Security threats as they are identified. - Continue modifying the MUSE/AFSERS to further compliance with all CAFDMO requirements - Continue optimization of software architecture and modularization to facilitate extensibility and scalability - Continue integration of the new high fidelity SAR model into the MUSE/AFSERS baseline which provides realistic imagery based upon material encoded terrain - Continue conducting integration testing with designated federations (such as ASCCE) to ensure joint interoperability with services - Continue performing DMON Integration: Support CAFDMO SPRs for AFSERS; Integration/Testing at Distributed Training Centers - Continue development and integration of Electronic Warfare (EW) modeling and simulation capabilities to include GPS jamming effects. - Continue enhancing and integrating UAS Swarming modeling and simulation - Continue building new ISR platform simulations with multi-sensor capability to include P-3 ORION & P-8 POSEIDON. - Continue integration of new high fidelity MTI capabilities ***FY 2024 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675092 / *JTC/SIL MUSE*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Will continue to update sensor models and release new MUSE/AFSERS versions to reflect evolving RPA and ISR improvements to support theater level exercises such as CCPT (formerly Ulchi Freedom Guardian and Key Resolve), Yama Sakura, Talisman Saber, Pacific Sentry/Fury, Austere Challenge, and associated events. - Will continue to rapidly respond to Cyber Security threats as they are identified. - Will continue to modify the MUSE/AFSERS to further compliance with all CAFDMO requirements - Will continue to optimize software architecture and modularization to facilitate extensibility and scalability - Will continue to integrate a new high fidelity SAR model into the MUSE/AFSERS baseline which provides realistic imagery based upon material encoded terrain - Will continue to conduct integration testing with designated federations (such as ASCCE) to ensure joint interoperability with services - Will continue to perform DMON Integration: Support CAFDMO SPRs for AFSERS; Integration/Testing at Distributed Training Centers - Will continue to develop and integrate Electronic Warfare (EW) modeling and simulation capabilities to include GPS jamming effects. - Will continue to enhance and integrate UAS Swarming modeling and simulation - Will continue to build new ISR platform simulations with multi-sensor capability to include P-3 ORION & P-8 POSEIDON. - Will continue to integrate new high fidelity MTI capabilities ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to inflation.			
Accomplishments/Planned Programs Subtotals	3.593	3.784	3.869

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• RDTE 07 PE 0305204A: *Tactical Unmanned Aerial Vehicles*	0.000	0.000	0.000	-	0.000	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

This is an enterprise services effort, jointly funded and centrally managed by the US Army. JTC/SIL falls under US Army Futures Command. US Army PE 0305204A funding ending after FY 2021. Additional continual Army funding expected from PEO STRI, JSJ7, exercise events, and other external Army users. AFLCMC/WIN MIPRs funds in support of Unmanned Aircraft Systems modeling and simulation efforts. The Air Force POC is Dr. Lillian-Campbell from AF Agency for Modeling & Simulation which falls under HAF/A3T.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 675092 / *JTC/SIL MUSE*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AFSERS Development	MIPR	Redstone Arsenal : Huntsville, AL	-	3.393	May 2022	3.584	Jul 2023	3.669	Dec 2023	-		3.669	Continuing	Continuing	-
		Subtotal	-	3.393		3.584		3.669		-		3.669	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Services	C/Various	Not specified. : TBD	-	0.200	May 2022	0.200	May 2023	0.200	May 2024	-		0.200	Continuing	Continuing	-
		Subtotal	-	0.200		0.200		0.200		-		0.200	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	3.593		3.784		3.869		-		3.869	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675092 / *JTC/SIL MUSE*

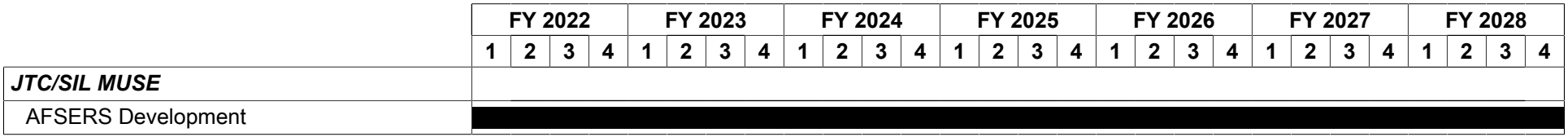

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675092 / *JTC/SIL MUSE*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
JTC/SIL MUSE				
AFSERS Development	1	2022	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 675291 / *Gorgon Stare*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675291: *Gorgon Stare*	-	12.500	5.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	17.500
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Gorgon Stare system is a podded airborne sensor suite that provides city-sized wide area airborne surveillance and was integrated on MQ-9 Reapers. The Air Force Requirements Oversight Council (AFROC) approved Air Combat Command's recommendation to transition Gorgon Stare from a Quick Reaction Capability (QRC) to an Air Force Enduring Capability in November 2014. Gorgon Stare's requirements are documented in the Gorgon Stare Wide Area Airborne Sensor draft Capabilities Development Document (CDD). The acquisition strategy for this Air Force podded sensor suite solution is sustainment of the current capability with any upgrades implemented via validated -1067s, Urgent Operational Needs, or requirements as documented in the program CDD.

Development efforts conducted with FY2021 Congressionally added funds included the continuation of the following capabilities: Tagging and Tracking Full Field of View (FFoV), Electro-optical (EO)/Infrared (IR) Co-Collect, Airborne Tip and Cue, and Image Quality Enhancements Phase II. Development efforts in FY2022 used Congressionally added funds to include the continuation of, MQ-9 Blk 5 Integration, FFoV tagging and tracking, and Airborne Tip and Cue Phase II capabilities. FY2022 activities also included studies and analysis to support both current program planning and execution as well as future program planning.

Development efforts in FY 2023 include completing Image Quality Enhancements Phase III efforts and MQ-9 Block 5 Integration, and additional improvements to Wide Area Motion Imagery technology.

The acquisition program manager has the authority to redirect funding as necessary to meet Gorgon Stare current and emerging Combatant Commander requirements to better meet the war fighting objectives.

This program element may include necessary emergent or unanticipated civilian pay expenses required to manage, execute, and deliver Gorgon Stare 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 element 0605831F.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
Congressional Add: Wide Area Motion Imagery	12.500	5.000
FY 2022 Accomplishments: Development efforts conducted with FY2021 Congressionally added funds included the continuation of the following capabilities: Tagging and Tracking Full Field of View (FFoV), Electro-optical (EO)/Infrared (IR) Co-Collect, Airborne Tip and Cue, and Image Quality Enhancements Phase II. Development efforts in FY2022 used Congressionally added funds to include the continuation of, MQ-9 Blk 5 Integration, FFoV tagging and tracking, and Airborne Tip and Cue Phase II capabilities. FY2022 activities also		

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675291 / *Gorgon Stare*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023
included studies and analysis to support both current program planning and execution as well as future program planning. ***FY 2023 Plans:*** Development efforts in FY 2023 include completing Image Quality Enhancements Phase III efforts and MQ-9 Block 5 Integration, and additional improvements to Wide Area Motion Imagery technology.		
Congressional Adds Subtotals	12.500	5.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• APAF 05 PRDTB3: *MQ-9 UAS Payloads*	40.800	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	40.800
• APAF 06 PRDTB3: *Gorgon Stare*	6.800	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.800

Remarks

D. Acquisition Strategy

The wide area airborne surveillance requirement is being delivered via the Gorgon Stare podded wide area motion imagery sensor suite integrated on the MQ-9 Reaper RPA. Gorgon Stare transitioned from a QRC to an Air Force Enduring Capability under AFROC authority in November 2014. The program is executed by the 645th Aeronautical Systems Group, Intelligence, Surveillance, and Reconnaissance and Special Operations Forces Directorate as a post-Milestone C program. The sensor suite will be sustained in its current configuration. Any future capability upgrades will be fielded as a result of validated -1067s or Urgent Operational Needs, or requirements as documented in the program CDD.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 675291 / *Gorgon Stare*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Gorgon Stare System Development	SS/CPFF	Sierra Nevada Corporation : Sparks, NV	-	12.500		5.000	Apr 2023	-		-		-	0.000	17.500	12.500
		Subtotal	-	12.500		5.000		-		-		-	0.000	17.500	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	12.500		5.000		-		-		-	0.000	17.500	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675291 / *Gorgon Stare*

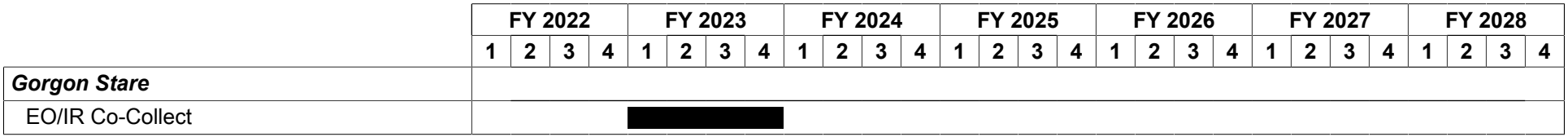

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675291 / *Gorgon Stare*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Gorgon Stare				
EO/IR Co-Collect	1	2023	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 676025 / *Data Compression*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
676025: *Data Compression*	-	11.523	0.100	5.503	0.000	5.503	5.674	8.492	8.666	8.980	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

RDUCE provides efficient and integrated compression of Intelligence, Surveillance, and Reconnaissance (ISR) sensor data. RDUCE develops, tests, and integrates new sensor data compression software and hardware for current and emerging airborne and space-based ISR sensors. The program develops compression capabilities for manned and unmanned platforms, associated ground stations, and the Distributed Common Ground Systems (DCGS). RDUCE data products meet standard certification for use within the Department of Defense and Intelligence Community (IC) Geospatial Intelligence (GEOINT), Signals Intelligence (SIGINT), and Measurement and Signatures Intelligence (MASINT) collection disciplines. RDUCE compression also allows for maximizing the use of limited bandwidth and delivering more data, faster to the tactical user in the field.

RDUCE activities include continuous studies, analysis, and updates to support program planning and execution. RDUCE also seeks to acquire certification of its data compression algorithms which includes acceptance into the DoD Information Technology Standards Registry (DISR). By ensuring compliance with appropriate standards governing bodies, RDUCE is always ready to satisfy new operational requirements.

This program element may include necessary emergent or unanticipated civilian pay expenses required to manage, execute, and deliver RDUCE 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 element 0605827F.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Data Compression	11.523	0.100	5.503
Description: The Data Compression effort provides the warfighter capabilities to efficiently compress ISR data and to enable dissemination in near-real time to tactical, operational, and strategic users through bandwidth-limited dissemination systems, overcoming limited data storage space, and accelerating data transmission. The program focuses on current and emerging ISR sensors, including incorporation into open architectures like Common Open Architecture Radar Programs (COARPs), Future Airborne Capability Environment (FACE), and Sensor Open System Architecture (SOSA). The algorithms can be leveraged for any platform. For example, the HSI algorithm was selected by NASA to be included in an experimental system on the ISS. Outputs will meet standards certification for use within the DoD Geospatial, Signals and Measurement and Signatures Intelligence collection disciplines.			
FY 2023 Plans: - Provide continued updates and integration support for the mature TRL modalities (SAR, HSI, SAR Phase History, SIGINT) - FPGA hardware development to support SAR and HSI sensors			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 676025 / *Data Compression*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Identify platform/sensor partners for initial test/integration across all sensor modes - Update compression algorithms to address any issues or previously uncaptured use cases to ensure they are operationally relevant ***FY 2024 Plans:*** - Will provide continued updates and integration support for the mature TRL modalities (SAR, HSI, SAR Phase History, SIGINT) - Will continue to identify platform/sensor partners for initial test/integration across all sensor modes - Will continue to update compression algorithms to address any issues or previously uncaptured use cases to ensure they are operationally relevant - Will explore EO/IR modality compression technologies - Will explore AI/ML compression techniques - Will explore Compression as a Service (CaaS) to accelerate integration efforts ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY24 increased to return to programmed funding after FY23 decrease due to higher Air Force priorities.			
Accomplishments/Planned Programs Subtotals	11.523	0.100	5.503

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Data Compression program is conducted by Air Force Life Cycle Management Center/ Intelligence, Surveillance, and Reconnaissance and Special Operations Forces (AFLCMC/WIN). Acquisition strategy is to develop data compression hardware/software, and data compression standards for various ISR applications to include airborne, ground stations, data storage facilities, and exploitation tools. RDUCE will utilize existing contracts with full and open competition where appropriate. Integration will be accomplished by the requisite program offices.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 676025 / *Data Compression*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
LIDAR	Various	Various : Various	-	1.715	Mar 2022	-		0.500	Dec 2023	-		0.500	Continuing	Continuing	-
EO/IR	Various	Various : Various	-	1.200	Apr 2022	-		0.450	Dec 2023	-		0.450	Continuing	Continuing	-
SIGzip	Various	Various : Various	-	1.000	Mar 2022	-		-		-		-	Continuing	Continuing	-
		Subtotal	-	3.915		-		0.950		-		0.950	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Standardization Development	C/CPAF	Various : Various	-	-		0.100	Mar 2023	0.250	Dec 2023	-		0.250	0.000	0.350	-
Standardization Development (FLEX)	C/CPAF	Various : Various	-	0.500	Feb 2022	-		0.300	Dec 2023	-		0.300	Continuing	Continuing	-
Standardization Development (SARzip)	C/CPAF	Various : Various	-	0.500	Feb 2022	-		0.250	Dec 2023	-		0.250	Continuing	Continuing	-
Standardization Development (zPHD)	C/CPAF	Various : Various	-	0.500	Feb 2022	-		0.250	Dec 2023	-		0.250	Continuing	Continuing	-
Standardization Development (SIGzip)	C/CPAF	Various : Various	-	-		-		0.250	Dec 2023	-		0.250	Continuing	Continuing	-
		Subtotal	-	1.500		0.100		1.300		-		1.300	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ADDA Lab	C/CPAF	Various : Various	-	0.796	Feb 2022	-		1.000	Dec 2023	-		1.000	Continuing	Continuing	-
Integration Activities	C/CPAF	Various : Various	-	4.047	Jan 2022	-		1.253	Dec 2023	-		1.253	Continuing	Continuing	-
COMPASE Lab	C/CPAF	Various : Various	-	0.250	Jan 2022	-		-		-		-	Continuing	Continuing	-
Not Specified	C/TBD	Not specified. : TBD	-	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	-	5.093		-		2.253		-		2.253	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 676025 / *Data Compression*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA: Other Govt Cost	Various	Not specified. : TBD	-	1.015	Oct 2021	0.000	Oct 2022	1.000	Oct 2023	-		1.000	Continuing	Continuing	-
		Subtotal	-	1.015		0.000		1.000		-		1.000	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	11.523		0.100		5.503		-		5.503	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 676025 / *Data Compression*

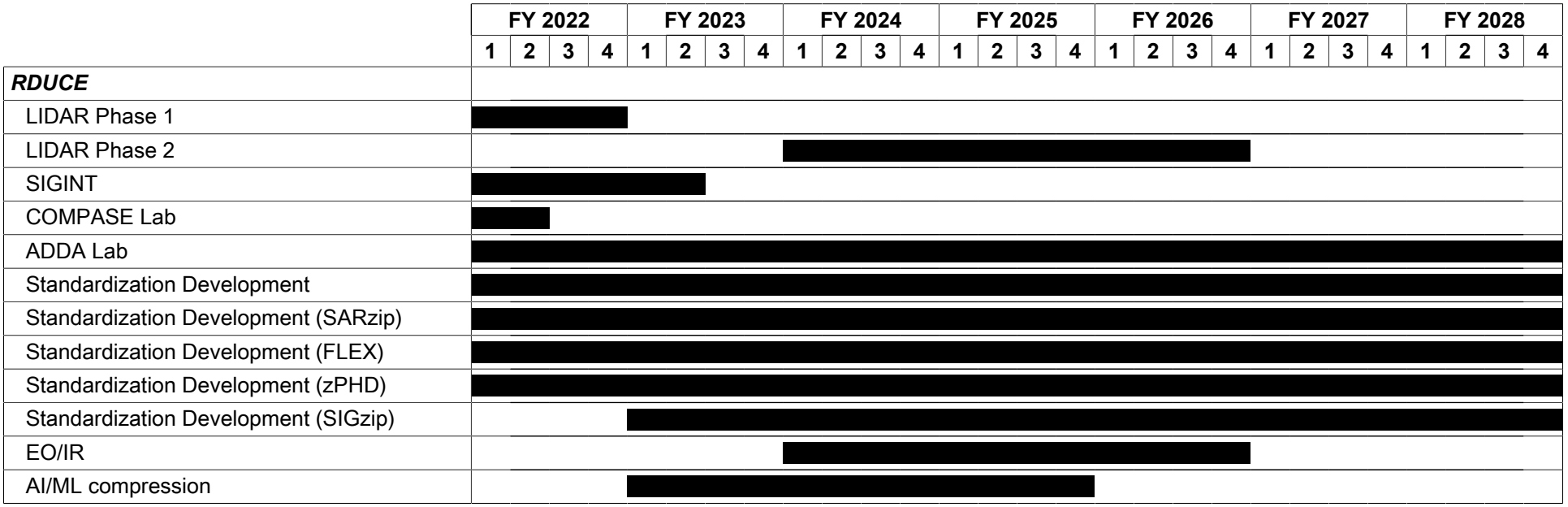

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 676025 / *Data Compression*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
RDUCE				
LIDAR Phase 1	1	2022	4	2022
LIDAR Phase 2	1	2024	4	2026
SIGINT	1	2022	2	2023
COMPASE Lab	1	2022	2	2022
ADDA Lab	1	2022	4	2028
Standardization Development	1	2022	4	2028
Standardization Development (SARzip)	1	2022	4	2028
Standardization Development (FLEX)	1	2022	4	2028
Standardization Development (zPHD)	1	2022	4	2028
Standardization Development (SIGzip)	1	2023	4	2028
EO/IR	1	2024	4	2026
AI/ML compression	1	2023	4	2025

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305207F / *Manned Reconnaissance Systems*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	14.799	14.590	14.330	0.000	14.330	16.294	16.700	17.042	17.659	0.000	111.414
674754: *RC-135 Systems*	-	14.799	14.590	14.330	0.000	14.330	16.294	16.700	17.042	17.659	0.000	111.414
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

RC-135 operational systems development and enhancement activities support design studies, engineering analysis, non-recurring engineering and other efforts associated with the integration and modification of the RC-135 programs and their specialized mission systems, both air and ground. Associated ground systems include RIVET JOINT Ground Data Processing Systems (GDPS), Distributed Mission Shelters (DMS), Mission Crew Training Systems (MCTS), Airborne Capabilities Extension System (ACES), and the Operational Flight Trainers (OFT, a.k.a. flight deck simulators). RC-135 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. Extensive utilization of Commercial-Off-The-Shelf (COTS) based solutions allows rapid fielding of needed capabilities through upgrades and supports Diminishing Manufacturing Sources (DMS)/Vanishing Vendor Items (VVI) logistics mitigation efforts. The results of these efforts provide for preliminary assessments of technical feasibility, operability, or military utility as well as specific engineering implementations for integration into the various systems baseline configurations.

These activities are managed by the 645th Aeronautical Systems Group (645 AESG). The 645 AESG (a.k.a. BIG SAFARI) manages engineering, ground and support systems modifications, integration, flight testing, product assurance, acceptance testing, logistics, and training activities.

Aircraft, sensor systems, and associated ground support system engineering planned for FY 2024 budget includes developmental planning, execution and support for the RC-135V/W RIVET JOINT Baselines 13 and 14 (BL-13 and BL-14), the RC-135U COMBAT SENT Baselines 6 and 7 (BL-6 and BL-7), and the RC-135S COBRA BALL BL-6 and BL-7 configurations. The world-wide challenge of keeping pace against technologically agile targets used by both nation and non-nation-state adversaries and the rapid evolution of COTS technologies demands a responsive and adaptive acquisition strategy for fielding incremental spiral upgrades and baseline capabilities that are logistically supportable at all locations. The 645 AESG uses an incremental baseline strategy to mitigate risk, find affordable solutions and field needed capabilities on the aircraft and associated ground support and training systems. Obsolescence and DMS/VVI logistical concerns are addressed with each baseline upgrade and assessed annually as part of the fleet sustainment responsibilities.

RIVET JOINT BL-14 upgrades consist of, but are not limited to, providing a continuous recording capability, High Probability of Intercept (HPOI) Receiver, Corvus Digital Receiver (CDR), Communications, Navigation, and Surveillance - Air Traffic Management (CNS-ATM) avionics upgrades such as new autopilot, automated data system-broadcast (ADS-B) and Mode 5 identify friendly or foe (IFF) systems. RIVET JOINT BL-15 upgrades consist of, but are not limited to, scalable processor improvements, Wideband Agile Receiver and Pulse Detector (WARPD), Expanded Steered Beam capability, and augmented Remote Maintenance.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305207F / *Manned Reconnaissance Systems*

COMBAT SENT BL-6 and initial BL-7 developmental enhancements consist of, but are not limited to, steerable beams for the COMINT sub-system, improved High Probability of Intercept (HPOI) capability and specific emitter identification (SEI) electronic intelligence (ELINT) sub- system, Primary Sensor Measurement System (PRISMS) merge with manual precision collections, millimeter wave and low band capabilities with PRISMS, digitizing antennas, direction finding of High Frequency signals and expanded streaming audio services and 360 degree aircraft tracking system.

COBRA BALL BL-14 developmental enhancements consist of, but are not limited to, software updates to the MASINT collection system (MCS), high-gain steerable-beam K-band antenna array, high-band direction finding (DF) antenna, High Probability of Intercept (HPOI), enhanced Signals of Interest identification and classification, digitized collection antenna (Cerberus), enhanced time accuracy, coherent CFCS collections, integration of specific Quick Reaction Capabilities (QRC), migration of the common RIVET JOINT hardware and software,

Ground Systems Baseline upgrades add the capabilities found in the corresponding RIVET JOINT Baseline upgrades (i.e., RIVET JOINT BL-12 corresponds to Ground System BL-12, RIVET JOINT BL-13 corresponds to Ground System BL-13, RIVET JOINT BL-14 corresponds to Ground System BL-14) to the Ground Systems to ensure crews receive training on the appropriate mission system configurations.

Activities also include studies and analysis to support both current program planning and execution and future program planning.

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 0.00M was expended for civilian pay expenses in this program element, and in CY 0.00M is forecasted for civilian pay expenses in this program element.

The FY 2024 funding request was reduced by $0.959 million to account for the availability of prior year execution balances.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305207F / *Manned Reconnaissance Systems*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	14.799	14.590	15.902	0.000	15.902
Current President's Budget	14.799	14.590	14.330	0.000	14.330
Total Adjustments	0.000	0.000	-1.572	0.000	-1.572
• 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	-1.572	0.000	-1.572

Change Summary Explanation

The FY 2022 President's Budget submittal did not reflect FY 2023 through FY 2026 funding. Therefore, an explanation of the change between the two budget positions for FY 2024 cannot be made in a relevant manner.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Manned Reconnaissance Systems	14.799	14.590	14.330
Description: Non-recurring engineering (NRE) for Baseline system developments and enhancements to improve mission capabilities of the RIVET JOINT BL-14 and BL-15, COMBAT SENT BL-6, COBRA BALL BL-7, and Ground Systems BL-13 and BL-14. ***FY 2023 Plans:*** • Continue Engineering Analysis • Continue NRE and other efforts associated with the integration and modification of the RC-135 primary mission equipment • Continue Specialized Mission Systems development for the collection of both air and ground signals. ***FY 2024 Plans:*** Will initiate contracts to: • Continue Engineering Analysis • Continue NRE and other efforts associated with the integration and modification of the RC-135 primary mission equipment • Continue Specialized Mission Systems development for the collection of both air and ground signals. ***FY 2023 to FY 2024 Increase/Decrease Statement:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305207F / *Manned Reconnaissance Systems*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Increase due to adjustment in inflation.			
Accomplishments/Planned Programs Subtotals	14.799	14.590	14.330

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• APAF 05 Line Item DARP01: *RC-135*	207.596	213.428	220.138	-	220.138	222.554	225.912	231.006	235.814	0.000	1,556.448
• APAF 06 Line Item DARP01: *Initial Spares/Repair Parts*	51.305	44.461	55.614	-	55.614	56.304	57.214	58.514	59.731	0.000	383.143
• APAF 07 Line Item DARP01: *Aircraft Support Equipment & Facilities*	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	0.000
• OPAF 04 Line Item 846070: *DARP RC-135*	27.359	28.153	28.882	-	28.882	29.505	30.191	31.320	31.986	0.000	207.396
• RDTE 07 PE 0304260F: *Airborne SIGINT Enterprise*	45.274	42.439	43.443	-	43.443	41.843	45.673	46.714	48.404	0.000	313.790

Remarks

E. Acquisition Strategy

The RC-135 RIVET JOINT, COBRA BALL, and COMBAT SENT configured aircraft are maintained and kept technologically relevant through an incremental baseline upgrade acquisition strategy. Technology upgrades and Quick Reaction Capability (QRC) developments are acquired through the 645 AESG in accordance with the BIG SAFARI Program Management Directive (PMD) and Class Justification and Approval (J&A) document for acquisition of supplies and services using an "other than full and open competition" criteria. The supplies and services procured by 645 AESG satisfy National Security requirements (FAR 6.302-6) through the use of their standing J&A or address Unusual and Compelling Urgency requirements (FAR 6.302-2) through an individually prepared J&A supported by the BIG SAFARI Life Cycle Management Plan (LCMP) across the full spectrum of system life cycle management from developmental engineering to system retirement ("cradle to grave") support. Due to the ever changing threat and rapidly evolving electromagnetic combat environment encountered during our prolonged commitment to contingency operations, the acquisition program manager has the authority to redirect funding as necessary to meet current stated and emerging Combatant Command (CCMD) and/or Intelligence Community (IC) requirements to better meet the war fighting objectives.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305207F / *Manned Reconnaissance Systems*	**Project (Number/Name)** 674754 / *RC-135 Systems*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	SS/CPAF	Not specified. : TBD	-	-		-		-		-		-	Continuing	Continuing	-
Operational Systems Development	SS/ Various	L3Harris Technologies : Greenville, TX	-	14.799	Dec 2021	14.590	Dec 2022	14.330	Dec 2023	-		14.330	Continuing	Continuing	-
		Subtotal	-	14.799		14.590		14.330		-		14.330	Continuing	Continuing	N/A

Remarks

All activity is based around the Programmed Depot Maintenance (PDM) airframe and missions systems schedule which includes multiple contracts and organizations with overlapping and continuous periods of performance. Due to the rapidly changing threat environment, the acquisition program manager has the authority to redirect funding as necessary to meet current stated and emerging Combatant Command (CCMD) and/or Intelligence Community (IC) requirements.

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	14.799		14.590		14.330		-		14.330	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305207F / *Manned Reconnaissance Systems*	**Project (Number/Name)** 674754 / *RC-135 Systems*

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305207F / *Manned Reconnaissance Systems*	**Project (Number/Name)** 674754 / *RC-135 Systems*

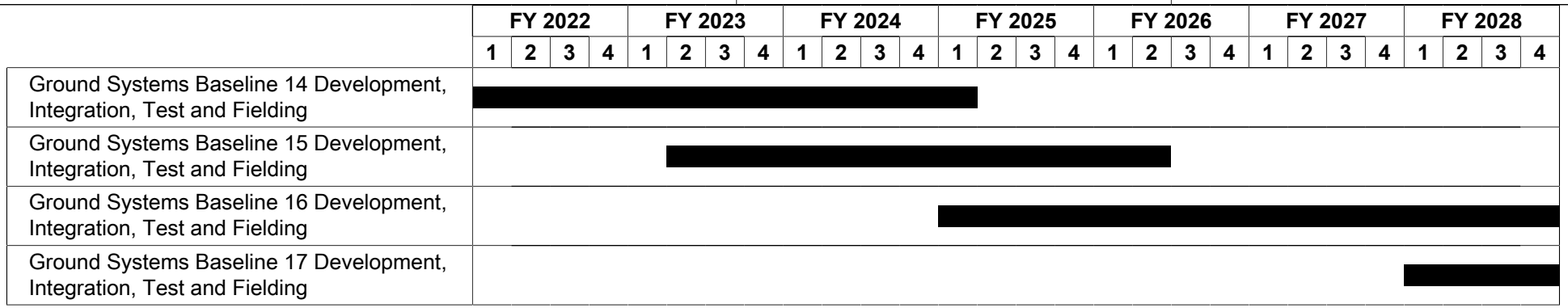

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305207F / *Manned Reconnaissance Systems*	**Project (Number/Name)** 674754 / *RC-135 Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Baseline Spiral Development				
RIVET JOINT Baseline 13 Integration, Test and Fielding	1	2022	4	2023
RIVET JOINT Baseline 14 Development	1	2022	3	2022
RIVET JOINT Baseline 14 Integration, Test and Fielding	2	2022	3	2026
RIVET JOINT Baseline 15 Development	2	2023	2	2025
RIVET JOINT Baseline 15 Integration, Test and Fielding	2	2025	4	2028
RIVET JOINT Baseline 16 Development	1	2025	1	2028
RIVET JOINT Baseline 16 Integration, Test and Fielding	1	2027	4	2028
RIVET JOINT Baseline 17 Development	1	2028	4	2028
COMBAT SENT Baseline 6 Integration, Test and Fielding	1	2022	1	2024
COMBAT SENT Baseline 7 Development	2	2025	4	2026
COMBAT SENT Baseline 7 Integration, Test and Fielding	4	2026	4	2028
COBRA BALL Baseline 7 Integration, Test and Fielding	1	2022	3	2024
COBRA BALL Baseline 14 Development	1	2022	2	2024
COBRA BALL Baseline 14 Integration, Test and Fielding	2	2024	2	2026
COBRA BALL Baseline 15 Development	1	2024	3	2026
COBRA BALL Baseline 15 Integration, Test and Fielding	3	2026	4	2028
Ground Systems Baseline 14 Development, Integration, Test and Fielding	1	2022	1	2025
Ground Systems Baseline 15 Development, Integration, Test and Fielding	2	2023	2	2026
Ground Systems Baseline 16 Development, Integration, Test and Fielding	1	2025	4	2028
Ground Systems Baseline 17 Development, Integration, Test and Fielding	1	2028	4	2028

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305207F / *Manned Reconnaissance Systems*	**Project (Number/Name)** 674754 / *RC-135 Systems*

Note

Ground systems include the RIVET JOINT Mission Crew Training Systems (MCTS), Ground Data Processing System (GDPS), Modular Processing System (MPS), Airborne Capabilities Extension Systems (ACES) and Operational Flight Trainers (OFT). Baseline upgrades are determined by the aircraft programmed depot maintenance schedule. Hardware, firmware or software enhancements to the ground systems are set up to match the aircraft baseline upgrades. Typically, baseline configuration changes and enhancements are incorporated first into the MCTSs and OFTs, and then integrated into GDPS, MPS, and ACES. Delivery of the enhancements to the MCTSs and OFTs are planned to arrive concurrently, if not slightly prior, to the delivery of the first aircraft with an upgraded cockpit or mission system in a given baseline configuration to allow for aircrew and ground personnel training and qualification.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	24.558	26.901	88.854	0.000	88.854	43.312	61.782	93.767	94.867	Continuing	Continuing
674826: *Common Imagery Ground / Surface Systems*	-	24.558	26.901	88.854	0.000	88.854	43.312	61.782	93.767	94.867	Continuing	Continuing

A. Mission Description and Budget Item Justification

Air Force Distributed Common Ground System (AF DCGS) (AN/GSQ-272) is the Combat Air Force (CAF) weapon system for planning, direction, collection, processing, exploitation, production, dissemination, and problem centric, sensor-agnostic analysis of data. The AF DCGS weapon system provides capabilities required to connect, direct and exploit sensors and transform multi-source/multi-domain data into actionable intelligence to find, fix, and target adversary forces and enable simultaneous kill chains at the speed and scale of peer conflict. AF DCGS is also a major component of the DoD DCGS, the system is designed to complement and interoperate with the other Services' DCGS systems (Army, Navy and Marine Corps), and a key provider/consumer of the sensing grid and Joint All Domain Command and Control (C2) (JADC2) & Advanced Battle Management System (ABMS) efforts. The AF DCGS mission is to provide Joint Task Force (JTF) Commanders, Joint and Combined Air Component Commanders (JFACC/CFACC), Unified Commands, and other directed organizations with global, time-sensitive Intelligence, Surveillance and Reconnaissance (ISR) data and fused multi-Intelligence (Multi-INT) products across the spectrum of military operations.

AF DCGS is a Multi-INT, federated weapon system capable of exploiting intelligence data from manned platforms, Remotely Piloted Aircraft (RPA), non-traditional ISR platforms, national and commercial satellites and other collection systems. AF DCGS serves as the main Sense-Making organization within the Air Force ISR Sensing Grid and has access to a multitude of sensors and data across the Intelligence Community, to include Publicly Available Information (PAI). AF DCGS Analysts leverage Artificial Intelligence (AI)/Machine Learning (ML), Automation and Augmentation (AAA) technologies to focus their review/analysis of multi-source/multi-domain intelligence across the tactical/national sensor grid and within federated databases to enable target and problem centric, sensor-agnostic analysis and exploitation to address Joint operational requirements by providing a common means to provide intelligence to field commanders and in support of the Air Operations Center (AOC) mission requirements, and supports sensor to shooter and the kill chain across the full range of military operations. The DCGS analysts use all available data sources and emerging capabilities, including AAA, to enhance their understanding of intelligence/targeting problem sets and provide the required intelligence.

Currently, AF DCGS is composed of eight core sites (two active duty worldwide, three active duty regional and three Air National Guard regional), six SIGINT Distributed Mission Sites (four collocated with National Mission Partner sites), three Air National Guard full-motion video sites, three support sites, and four integration and test sites connected by robust, resilient communications infrastructure, to support Near-Peer competition/contested environments. AF DCGS currently supports ongoing operations from forward deployed and in-garrison CONUS and OCONUS-based locations. AF DCGS provides integrated ISR by providing quality, fused Geospatial Intelligence (GEOINT), Signals Intelligence (SIGINT), and Measurement and Signature Intelligence (MASINT) tailored to the warfighter for all levels of conflict.

In alignment with DoD and AF direction, AF DCGS migrated to an open architecture to rapidly incorporate new technologies and tools, new and/or improved sensor capabilities, and mission applications to meet emerging and urgent operational needs. AF DCGS is a critical enabler for the sensing grid/ABMS/JADC2. AF DCGS is also aligned with USD(I&S)'s efforts to improve data sharing through its Common Data Fabric. AF DCGS integrates services and applications from both commercial-off-the-shelf and government-off-the-shelf sources to the maximum extent possible to fulfill operational requirements and data sharing requirements across the DoD DCGS

community. AF DCGS' robust network transport/open, mission assured hybrid-cloud (mix of private on premises and public commercial cloud) architecture enables integration of new/updated enterprise services, near-real time and problem-centric/sensor agnostic analysis and exploitation capabilities on a recurring cadence.

Starting in FY 2024, in order to comply with updated financial guidance for agile software development, funding was realigned from Other Procurement, Air Force (OPAF) funds to Research, Development, Test and Evaluation (RDT&E) funds to better account for the program's software intensive focus. Due to this accounting change, efforts previously utilizing OPAF funds will now be funded by RDT&E, to include High Altitude (HA) and Full Motion Video (FMV) Agile Release Trains (ARTs) efforts to rapidly develop, integrate and test new GEOINT-specific operational and management capabilities; SIGINT Modernization ART to rapidly develop and integrate new SIGINT-specific operational and management capabilities; rapidly develop and integration new and updated Multi-INT and visualization and situational awareness capabilities, and AAA capabilities and develop and integrated updates to the DCGS network transport, commercial cloud infrastructure, and enterprise and core shared 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 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, and 0606398F. In FY22, $0.220M was expended for civilian pay expenses in this program element, and in FY23, $0.501M 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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	24.568	26.901	27.452	0.000	27.452
Current President's Budget	24.558	26.901	88.854	0.000	88.854
Total Adjustments	-0.010	0.000	61.402	0.000	61.402
• 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	-0.010	0.000	61.402	0.000	61.402

Change Summary Explanation

Starting in FY 2024, in order to comply with updated financial guidance for agile software development, funding was realigned from Other Procurement, Air Force (OPAF) funds to Research, Development, Test and Evaluation (RDT&E) funds to better account for the program's software intensive focus. In FY 2024, the increase is the $61.402 million reflected in the Total Adjustment line.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305208F / *Distributed Common Ground/Surface Systems*	Project (Number/Name) 674826 / *Common Imagery Ground / Surface Systems*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
674826: *Common Imagery Ground / Surface Systems*	-	24.558	26.901	88.854	0.000	88.854	43.312	61.782	93.767	94.867	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Program management consists of four ACAT III efforts: GEOINT Transformation, SIGINT Transformation, Multi-Intelligence, and Network Infrastructure Transformation.
1, GEOINT Transformation-1: Rapidly integrates new and updated GEOINT capabilities, enables quick/seamless integration of new sensors, data types, sensor planning, and command and control (C2) capabilities into the open architecture framework. Leverages mission partner methods and tools to the maximum extent possible.

2. SIGINT Transformation-1: Rapidly integrates new and updated SIGINT capabilities, enables quick/seamless integration of new sensors, data types, sensor planning, command and control (C2) capabilities into the open architecture framework. Leverages mission partner methods and tools to the maximum extent possible.

3. Multi-Intelligence-1: Rapidly integrates new and updated enterprise applications to include voice and chat communications, collaboration and situational awareness, Multi-INT fusion, and data analytics capabilities (to include Artificial Intelligence/Machine Learning AI/ML, Automation and Augmentation (AAA)). Also includes the Intelligent Modeling and Predictive Analysis of Cyberspace Targeting (IMPACT) program, which develops concepts, Tactics/Techniques/Procedures (TTPs) and technologies for synchronizing ISR and non-kinetic capabilities. Rapidly integrates new and updated data exchange and interoperability capabilities in support of USD(I&S)'s Common Data Fabric (CDF) Initiative. Addresses program office test and evaluation activities.

4. Network Infrastructure Transformation-1: Continues to update the AF DCGS network transport and open architecture infrastructure to a cyber-resilient, open, scalable, commercial-based, architecture, improving data ingest, transfer, and storage capabilities, collaboration, and content driven discovery. AF DCGS Platform as a Service (PaaS) consists of a mix of private on-premises and public commercial cloud architecture. AF DCGS leverages Unclassified, Secret and Top Secret Air Force commercial cloud environments. Network infrastructure transformation also handles integration of ground line of sight capabilities supporting ISR airborne platform assets.

Starting in FY 2024, in order to comply with updated financial guidance for agile software development, funding was realigned from Other Procurement, Air Force (OPAF) funds to Research, Development, Test and Evaluation (RDT&E) funds to better account for the program's software intensive focus. This is to comply with DoD FMR 700014 and DAFMAN 65-601V1 guidance for agile software development.

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 FY22, $0.220M was expended for civilian pay expenses in this program element, and in FY23, $0.501M is forecasted for civilian pay expenses in this program element.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: GEOINT Transformation-1 ***Description:*** GEOINT Transformation-1: Rapidly integrates new and updated GEOINT capabilities, enables quick/seamless integration of new sensors, data types, sensor planning, and command and control (C2) capabilities into the open architecture framework. Leverages mission partner methods and tools to the maximum extent possible. ***FY 2023 Plans:*** - Continue High Altitude (HA) and Full Motion Video (FMV) Agile Release Trains to rapidly develop, integrate and test new GEOINT-specific capabilities on DCGS hybrid cloud environment. ***FY 2024 Plans:*** - Will continue to develop, integrate, test and field new and updated GEOINT sensor/sensor mode command and control (C2), mission planning (Enterprise Collection Planner), sensor management and operational capabilities - Will continue to develop, integrate, test and field new and updated GEOINT-specific High Altitude (HA) and Full Motion Video (FMV) operational (workflow, exploitation, etc.) and management capabilities on DCGS private on-premises and/or public commercial cloud architecture (pilot efforts for commercial cloud) ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to realignment of OPAF to RDT&E funds in order to comply with updated financial guidance for agile software development.	2.432	6.688	31.200
Title: SIGINT Transformation-1 ***Description:*** Rapidly integrates new and updated SIGINT capabilities, enables quick/seamless integration of new sensors, data types, sensor planning, command and control (C2) capabilities into the open architecture framework. Leverages mission partner methods and tools to the maximum extent possible. ***FY 2023 Plans:*** - Continue SIGINT Modernization Agile Release Train to rapidly develop and integrate new SIGINT-specific capabilities into DCGS hybrid cloud environment. ***FY 2024 Plans:*** - Will continue to develop, integrate, test and field new and updated SIGINT sensor command and control (C2), mission planning, and sensor management operational capabilities	7.263	7.000	39.209

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Will continue to develop, integrate, test, and field new and updated SIGINT-specific operational (workflow and exploitation) and management capabilities on DCGS private on-premises and intelligence community cloud architecture, as well as integrate new data types into SIGINT Sensor Data Ingest (SSDI) ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to realignment of OPAF to RDT&E funds in order to comply with updated financial guidance for agile software development.			
Title: Multi-Intelligence-1 ***Description:*** Rapidly integrates new and updated enterprise applications, to include voice and chat communications, collaboration and situational awareness, multi-INT fusion, and data analytics capabilities (to include Artificial Intelligence/ Machine Learning AI/ML, Automation and Augmentation (AAA)). Also includes the Intelligent Modeling and Predictive Analysis of Cyberspace Targeting (IMPACT) program, which develops concepts, Tactics/Techniques/Procedures (TTPs) and technologies for synchronizing ISR and non-kinetic capabilities. Rapidly integrates new and updated data exchange and interoperability capabilities in support of USD(I&S)'s Common Data Fabric (CDF) Initiative. Addresses program office test and evaluation activities. ***FY 2023 Plans:*** - Continue to rapidly develop and integrate new Multi-INT and data analytics capabilities into DCGS hybrid cloud environment - Continue agile development and field IMPACT program capabilities - Continue to rapidly develop and field ECC (Voice Portion) ***FY 2024 Plans:*** - Will continue to rapidly develop, integrate, test and field new and updated Multi-INT, Artificial Intelligence/Machine Learning, Automation and Augmentation (AAA) and visualization/situational awareness capabilities on DCGS private on-premises and/or public commercial cloud architecture - Will continue to rapidly develop, integrate, test and field IMPACT program capabilities - Will continue to fund test support to complete developmental test events for operational capabilities required by AF Directives ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Decrease due to Test support and PMA decreases	13.108	12.213	11.616
Title: Network Infrastructure Transformation-1 ***Description:*** Increase due to realignment of OPAF to RDT&E funds in order to comply with updated financial ***FY 2023 Plans:***	1.755	1.000	6.829

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
• Continue to develop and integrate open architecture, mission-assured hybrid-cloud infrastructure and enterprise services. ***FY 2024 Plans:*** - Will continue to develop, integrate and test updates to the DCGS network transport, OA Platform as a Service (PaaS) on-premises and commercial cloud infrastructure, enterprise and core shared services, and line of site capability - Will continue to integrate recurring cyber security patches and develop solutions to meet AF-mandated cyber security mandates ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to realignment of OPAF to RDT&E funds in order to comply with updated financial guidance for agile software development.			
Accomplishments/Planned Programs Subtotals	24.558	26.901	88.854

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 04 Line Item, 846080: *DCGS-AF*	136.296	136.989	56.329	-	56.329	19.146	41.653	80.499	83.503	Continuing	Continuing

Remarks

D. Acquisition Strategy

AF DCGS acquisition strategy is to use approved lean and agile industry practices and leverage to the maximum extent possible commercial off the shelf, government off the shelf, and mission partner capabilities to continuously develop and field new and improved operational capabilities hosted on its open, hybrid cloud environment to meet mission requirements. Contracting strategy involves a combination of Basic Ordering Agreements (BOAs), Indefinite Delivery/Indefinite Quantity (IDIQ) contracts awarded to execute program funds and delivery/task orders are negotiated/awarded individually.

The program is managed as four ACAT III efforts: GEOINT Transformation, SIGINT Transformation, Multi-Intelligence, and Network Infrastructure Transformation.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
GEOINT Transformation-1	Various	Various : Various	-	2.432	Jan 2022	6.135	Dec 2022	26.700	Jan 2024	-		26.700	Continuing	Continuing	-
SIGINT Transformation-1	Various	Various : Various	-	4.801	Apr 2022	6.000	Mar 2023	33.552	Jan 2024	-		33.552	Continuing	Continuing	-
Multi-Intelligence-1	Various	Various : Various	-	6.923	Feb 2022	7.338	Jan 2023	7.530	Jan 2024	-		7.530	Continuing	Continuing	-
Network Infrastructure Transformation-1	Various	Various : Various	-	1.191	Dec 2021	1.000	Jun 2023	5.800	Jan 2024	-		5.800	Continuing	Continuing	-
		Subtotal	-	15.347		20.473		73.582		-		73.582	Continuing	Continuing	N/A

Remarks

Note on "various" entries - Contract Method, Contract Type, Performing Activity, Target Value of Contract are entered as "various" because there are multiple projects within each upgrade and depending on the type of effort to be completed determines the contract vehicle to use. There is no way on this document to delineate the contracts that support each upgrade as they are numerous.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Multi-Intelligence-1	Various	Various : Various	-	2.759	Jan 2022	2.854	Jan 2023	2.415	Jan 2024	-		2.415	Continuing	Continuing	-
DCA Positions	Various	Various : Various	-	0.220	May 2022	0.501	Mar 2023	0.000	Mar 2024	-		0.000	Continuing	Continuing	-
		Subtotal	-	2.979		3.355		2.415		-		2.415	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA	Various	Various : Various	-	6.232	Nov 2021	3.073	Nov 2022	12.857	Nov 2023	-		12.857	Continuing	Continuing	-
		Subtotal	-	6.232		3.073		12.857		-		12.857	Continuing	Continuing	N/A

Remarks

Note on "various" entries - Contract Method, Contract Type, Performing Activity, Target Value of Contract are entered as "various" because there are multiple projects within in each upgrade and depending on the type of effort to be completed determines the contract vehicle to use. There is no way on this document to delineate the contracts that support each upgrade as they are numerous.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305208F / *Distributed Common Ground/Surface Systems*	Project (Number/Name) 674826 / *Common Imagery Ground / Surface Systems*	

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	24.558		26.901		88.854		-		88.854	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

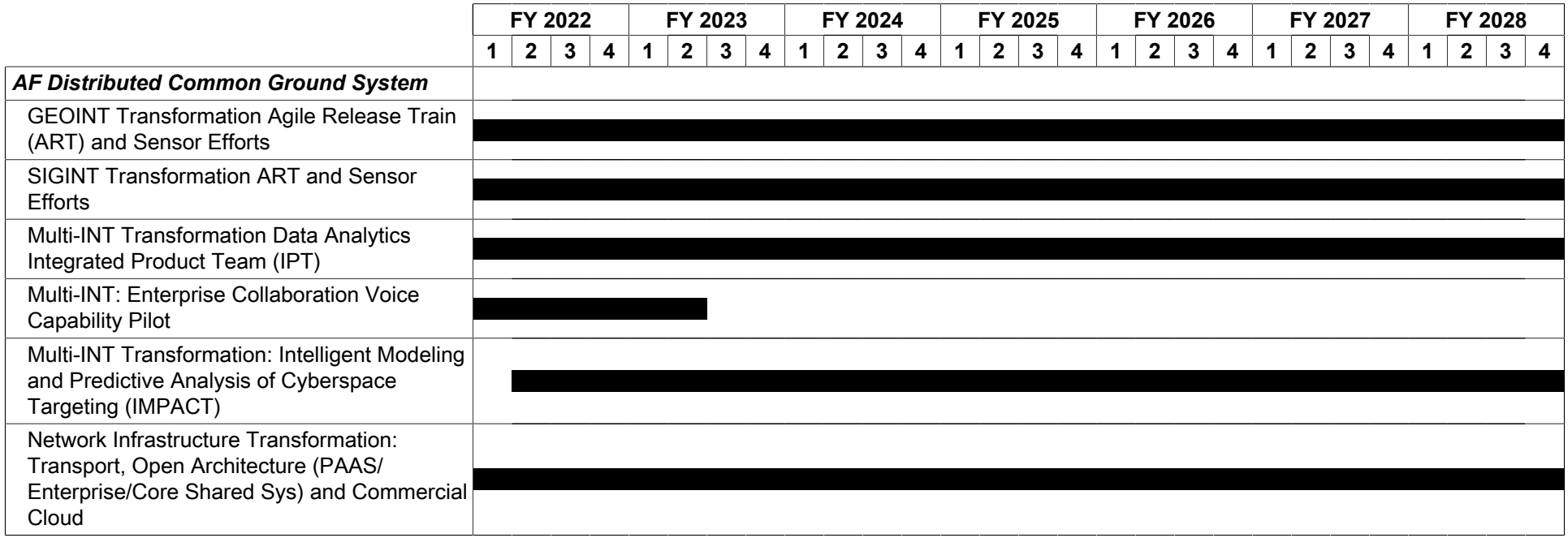

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
AF Distributed Common Ground System				
GEOINT Transformation Agile Release Train (ART) and Sensor Efforts	1	2022	4	2028
SIGINT Transformation ART and Sensor Efforts	1	2022	4	2028
Multi-INT Transformation Data Analytics Integrated Product Team (IPT)	1	2022	4	2028
Multi-INT: Enterprise Collaboration Voice Capability Pilot	1	2022	2	2023
Multi-INT Transformation: Intelligent Modeling and Predictive Analysis of Cyberspace Targeting (IMPACT)	2	2022	4	2028
Network Infrastructure Transformation: Transport, Open Architecture (PAAS/ Enterprise/Core Shared Sys) and Commercial Cloud	1	2022	4	2028

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force												Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305220F / *RQ-4 UAV*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	82.355	68.801	1.242	0.000	1.242	12.570	0.000	0.000	0.000	0.000	164.968
675149: *RQ-4 Capability Enhancements*	0.000	82.355	68.801	1.242	0.000	1.242	12.570	0.000	0.000	0.000	0.000	164.968
Program MDAP/MAIS Code: 252												

A. Mission Description and Budget Item Justification

The RQ-4B Global Hawk is a high-altitude, long-endurance, all-weather, day/night ISR platform delivering SAR-based GMTI capabilities to the warfighter.

To win high-end conflict, the future force design must deliver ISR capabilities and concepts of operation that can survive against peer/near-peer threats in highly contested environments. To accomplish this, in FY24 the USAF will focus its investment efforts on maximizing the Block 40's value to the DoD until its planned divestiture in FY27. By FY27, space-based capabilities and CONOPS will be in place to meet Combatant Commanders' needs in accordance with the National Defense Strategy.

When judged feasible and affordable, this program will participate in the development, testing, and implementation of international standards to enhance joint, allied, and coalition interoperability. Studies and activities may be initiated to further explore the utility of incorporating the emerging architectural standards such as the USAF Unmanned Aerial Systems (UAS) Command and Control Initiative (UCI) or the DoD's Unmanned Control Segment standards (UCS) and Open Mission Systems (OMS).

RQ-4 UAV 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 FY22 5.991M was expended for civilian pay expenses in this program element, and in FY23 5.8M is forecasted for civilian pay expenses in this program element. FY24 5.8M is forecasted for civilian pay expenses in this program element.

The FY24 funding request was reduced by 12.678M to account for the availability of prior year execution balances.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	83.124	68.801	68.208	0.000	68.208
Current President's Budget	82.355	68.801	1.242	0.000	1.242
Total Adjustments	-0.769	0.000	-66.966	0.000	-66.966
• 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	-0.769	0.000	-66.966	0.000	-66.966

Change Summary Explanation

FY22 0.769M change due to upward adjustment.

FY24 funding request reduced by 12.678M to account for the availability of prior year execution balances. These funds were available due to the termination of Ground Segment Modernization Program.

FY24 54.288M decrease due to maturing divestment profile and to support higher AF priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / *RQ-4 UAV*	Project (Number/Name) 675149 / *RQ-4 Capability Enhancements*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675149: *RQ-4 Capability Enhancements*	0.000	82.355	68.801	1.242	0.000	1.242	12.570	0.000	0.000	0.000	0.000	164.968
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Funding in this project supports design, development, integration, and testing of capabilities needed to maintain Block 40 capabilities and maximize system performance until divestment, including reliability and maintainability improvements. Funding also supports continuing aircraft airframe updates, aircraft operations surety, cybersecurity, information assurance, and mission critical repair of Government Furnished Equipment (GFE).

This project will include systems engineering/program management, configuration and data management, test and evaluation, management services, Deficiency Report (DR)/Military Intelligence Program (MIP) Investigations, studies and analysis and fielding support for RQ-4 aircraft and Ground Segment/Communication Systems while remaining compliant with DoD cybersecurity network requirements to operate in the DoD Information Network (DoDIN). This reflects contracting/acquisition strategy for these common elements within the Global Hawk program to provide efficiencies.

Activities include required airspace, interoperability and communication updates, periodic Operational Flight Program releases, airframe and software upgrades, sensor enhancements including data distribution and storage, enhancements to support multi-domain contested environment operations, Authority to Operate surety enhancements, and studies and analysis supporting system maintenance and divestment.

The RQ-4 program will maintain interoperability for RQ-4 aircraft with system of systems partners and continue to incorporate applicable synergies with other platforms, other RPA weapon systems, and Processing, Exploitation & Dissemination (PED) elements. The networking capability for intelligence dissemination is required to provide the data transport interface between the Weapons System, Operations Centers, and external Intelligence Community customers.

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 5.991M was expended for civilian pay expenses in this program element, and in FY23 5.8M is forecasted for civilian pay expenses in this program element. FY24 5.8M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: RQ-4 Ground Segment Modernization Program (GSMP)	42.500	0.000	0.000
Description: GSMP resolves fleet grounding DMS and obsolescence issues associated with ground segment equipment and provides critical warfighter capabilities such as building-based multi-aircraft control. It will also enhance interoperability data dissemination as well as provide training capability.			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 675149 / *RQ-4 Capability Enhancements*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
FY 2023 Plans: Program was terminated in FY22 ***FY 2024 Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Decrease due to termination in FY22			
Title: RQ-4 Infrastructure ***Description:*** RQ-4 Infrastructure includes system engineering, program management, and logistics support for all RQ-4 projects as well as safety of flight-related Operational Flight Program (OFP) updates and releases and Other Government Costs (OGC). ***FY 2023 Plans:*** -Supporting termination activities of GSMP. -Supporting Enterprise Services/Flight Test Services and Comm System Upgrades to aircraft and ground stations. ***FY 2024 Plans:*** -Will support engineering efforts required to maintain RQ-4 operations. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding decreased to reflect maturing divestment profile and to support higher Air Force priorities.	39.855	68.801	1.242
Accomplishments/Planned Programs Subtotals	82.355	68.801	1.242

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• APAF 05 Line Item HAWK00: *RQ-4 Mods*	3.205	1.286	0.000	-	0.000	0.000	0.000	0.000	-	0.000	4.491
• APAF 07 Line Item RQ4DIS: *RQ-4 Post Production Support*	24.592	40.845	0.000	-	0.000	0.000	-	-	-	0.000	65.437

Remarks

D. Acquisition Strategy

The RQ-4 program uses an evolutionary acquisition strategy to provide the warfighter with a near-term combat capability with increased time-phased capability improvements as technology and risk achieve satisfactory levels. Northrop Grumman Corporation is the prime contractor developing and delivering the system to the

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 675149 / *RQ-4 Capability Enhancements*

warfighter. A suite of contract vehicles is used: primarily, Indefinite Delivery, Indefinite Quantity (IDIQ) contracts that cover development, system upgrade, production, retrofit, fielding, and sustainment efforts. The acquisition strategy will focus on supporting the Block 40 fleet until divestiture in FY27, including contract closeout actions.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / *RQ-4 UAV*	Project (Number/Name) 675149 / *RQ-4 Capability Enhancements*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
RQ-4 Ground Segment Modernization Program (GSMP)	SS/CPIF	Northrop Grumman Integrated Systems : San Diego, CA	0.000	36.500	Oct 2021	-		-		-		-	Continuing	Continuing	414.785
RQ-4 Infrastructure	Various	Various : Various	0.000	24.265	Oct 2021	45.011	Oct 2022	-		-		-	Continuing	Continuing	203.878
		Subtotal	0.000	60.765		45.011		-		-		-	Continuing	Continuing	N/A

Remarks

Target Value of the RQ-4 EMD, IDIQ, Infrastructure and EPIC Contracts are not segregated by Budget Project Number.
Target Value of GSMP contract includes $43.414M of funding in Budget Project Number 675147, RQ-4 Grnd Segment/Comm System

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Non Prime Technical Support	Various	Various : Dayton, OH	0.000	1.290	Jan 2022	1.290	Jan 2023	-		-		-	Continuing	Continuing	-
Direct Cite Authority Civilian Pay	TBD	Not specified. : TBD	0.000	6.000	Jan 2022	6.000	Jan 2023	-		-		-	0.000	12.000	-
		Subtotal	0.000	7.290		7.290		-		-		-	Continuing	Continuing	N/A

Remarks

Target Value of the RQ-4 effort is not segregated by Budget Project Number.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Flight Test & Evaluation	MIPR	412 TW : Edwards AFB, CA	0.000	10.000	Oct 2021	10.000	Oct 2022	-		-		-	Continuing	Continuing	-
		Subtotal	0.000	10.000		10.000		-		-		-	Continuing	Continuing	N/A

Remarks

Target Value of the RQ-4 effort is not segregated by Budget Project Number.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / *RQ-4 UAV*	Project (Number/Name) 675149 / *RQ-4 Capability Enhancements*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PSC: A&AS	Various	Various : Dayton, OH	0.000	2.300	Oct 2021	3.500	Oct 2022	-		-		-	Continuing	Continuing	-
PSC: Other Government Costs	Various	Various : Dayton, OH	0.000	2.000	Oct 2021	3.000	Oct 2022	1.242	Oct 2023	-		1.242	Continuing	Continuing	-
		Subtotal	0.000	4.300		6.500		1.242		-		1.242	Continuing	Continuing	N/A

Remarks

Target Value of the RQ-4 effort is not segregated by Budget Project Number.

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	82.355		68.801		1.242		-		1.242	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 675149 / *RQ-4 Capability Enhancements*

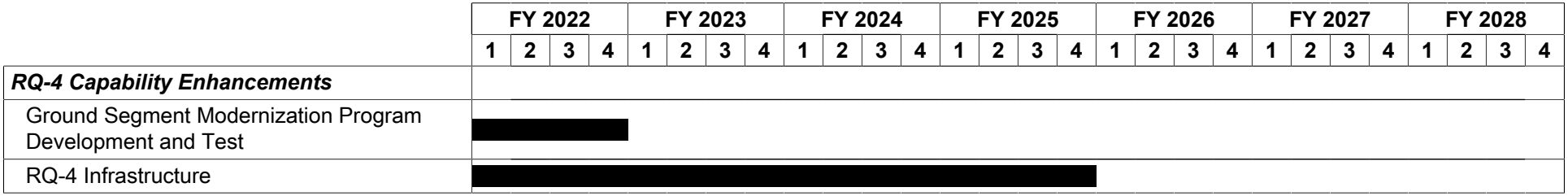

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 675149 / *RQ-4 Capability Enhancements*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
RQ-4 Capability Enhancements				
Ground Segment Modernization Program Development and Test	1	2022	4	2022
RQ-4 Infrastructure	1	2022	4	2025

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305221F / *Network-Centric Collaborative Targeting*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	17.224	17.564	12.496	0.000	12.496	8.936	9.079	9.266	9.601	Continuing	Continuing
675197: *NCCT Core Technology*	-	17.224	17.564	12.496	0.000	12.496	8.936	9.079	9.266	9.601	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Network Centric Collaborative Targeting (NCCT) is the Air Force program of record for platform agnostic, cooperative geo-location and is responsible for developing the fusion engine supporting the horizontal and/or vertical integration of Joint Intelligence, Surveillance and Reconnaissance (ISR) sensor systems. The result of this integration is a cloud-based, multi-intelligence (multi-INT) sensor network.

Operationally, NCCT provides a tactical, collaborative, real-time multi-INT geolocation capability which produces fused composite tracks on high value, time-sensitive targets for immediate prosecution if required. NCCT software supports Machine-to-Machine (M2M) cross-cueing and Internet Protocol (IP) connectivity to coordinate collection activities across the NCCT network. NCCT's time-sensitive targeting, utilization of intelligent sensor mesh networks, multi-INT fusion, multi-level security, automated tip and cueing are key contributions to the Sensing Grid's sensing, sense making, integration, and global orchestration thrusts.

In general, NCCT research and development funding supports development of the NCCT message set, network management systems, and technology modernization specific to network and fusion architecture design. Development funds also support software modifications required for development and integration with new and emerging platforms, and incorporation of new data fusion algorithms all while satisfying DoD standards and Information Assurance requirements.

Specifically, FY 2024 funding will be dedicated to at least one major capability release and two minor releases, which are planned to include the following capabilities: 1) integration with new and emerging platforms such as THRESHER and USAF/RAAF E-7 Wedgetail, 2) implementation of automation gained through synaptic intelligence-based AI/ML, and 3) refinement of "NCCT fusion on the edge" with the RC-135 fleet.

FY 2024 funding will also focus on continued cloud utilization, the testing and deployment of a new user interface with a modernized and automated front end and initiate a study to integrate publicly available information (PAI). Finally, FY 2024 funding will continue National to Tactical tip and cue integration, and complete airborne moving target indication (AMTI) to SIGINT data fusion algorithms, while preserving rapid software delivery based on continuous user feedback.

FY 2023 funding is dedicated to at least one major capability release, and two minor releases. These releases continue development of new and emerging multi-INT use cases, integration with additional platforms such as Over the Horizon Radar (OTHR), Joint Interface Capabilities Document - ELINT (JEL) and USAF/RAAF E-7 Wedgetail. FY 2023 is also initializing implementation of automation gained through synaptic intelligence-based AI/ML, "fusion on the edge" development with the RC-135 fleet, and continues preservation of rapid software delivery based on continuous user feedback. Funding also continues cloud utilization efforts, and initializes a User Interface modernization effort. Additionally, FY23 funding is continuing development on airborne moving target indication (AMTI) to SIGINT data fusion algorithms, and is supporting rapid iteration across the enterprise with Joint All-Domain Command and Control (JADC2) platforms/systems, enabling the Air Force Sensing Grid.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305221F / *Network-Centric Collaborative Targeting*

FY 2022 focused on initiation of AMTI to SIGINT fusion algorithms, continued improvement of data accessibility to tactical users, continued adding disparate intelligence sources for cross cueing targets, continued cloud architecture set up, user experience enhancements exploration, and continued AI/ML integration.

Due to the rapidly changing threat environment, NCCT's DevSecOps processes, and operational demand from platforms leveraging NCCT capabilities, the acquisition program manager has the authority to redirect funding as necessary to meet currently stated and/or emerging/evolving/urgent operational requirements. Activities encompassed within PME upgrade may include, but not limited to, assembly, test and checkout; mission system upgrades, external communications upgrades, software development, systems engineering, and program support costs (PSC).

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 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.

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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	17.224	17.564	12.587	0.000	12.587
Current President's Budget	17.224	17.564	12.496	0.000	12.496
Total Adjustments	0.000	0.000	-0.091	0.000	-0.091
• 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	-0.091	0.000	-0.091

Change Summary Explanation

Development funding decreased due to completing fielding of NCCT's cloud-based architecture and fewer requirements to maintain legacy hardware and software.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Core Technology	17.224	17.564	12.496

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305221F / *Network-Centric Collaborative Targeting*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Accomplishments and planned efforts include development and upgrade of NCCT; technical support to users, fielding new user capabilities, and management activities ***FY 2023 Plans:*** FY 2023 funding is dedicated to at least one major capability release, and two minor releases. These releases continue development of new and emerging multi-INT use cases, integration with additional platforms such as Over the Horizon Radar (OTHR), Joint Interface Capabilities Document - ELINT (JEL) and USAF/RAAF E-7 Wedgetail. FY 2023 is also initializing implementation of automation gained through synaptic intelligence-based AI/ML, "fusion on the edge" development with the RC-135 fleet, and continues preservation of rapid software delivery based on continuous user feedback. Funding also continues cloud utilization efforts, and initializes a User Interface modernization effort. Additionally, FY23 funding is continuing development on airborne moving target indication (AMTI) to SIGINT data fusion algorithms, and is supporting rapid iteration across the enterprise with Joint All-Domain Command and Control (JADC2) platforms/systems, enabling the Air Force Sensing Grid. ***FY 2024 Plans:*** FY 2024 funding will be dedicated to at least one major capability release and two minor releases, which are planned to include the following capabilities: 1) integration with new and emerging platforms such as THRESHER and USAF/RAAF E-7 Wedgetail, 2) implementation of automation gained through synaptic intelligence-based AI/ML, and 3) refinement of "NCCT fusion on the edge" with the RC-135 fleet. FY 2024 funding will also focus on continued cloud utilization, the testing and deployment of a new user interface with a modernized and automated front end, and initiate a study to integrate publicly available information (PAI). Finally, FY 2024 funding will continue National to Tactical tip and cue integration, and complete airborne moving target indication (AMTI) to SIGINT data fusion algorithms, while preserving rapid software delivery based on continuous user feedback. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Development funding decreased due to completing fielding of NCCT's cloud-based architecture and fewer requirements to maintain legacy hardware and software.			
Accomplishments/Planned Programs Subtotals	17.224	17.564	12.496

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 Line Item 832070: *Intelligence Comm Equipment*	3.225	3.799	3.395	-	3.395	3.310	3.481	3.558	3.629	Continuing	Continuing

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305221F / *Network-Centric Collaborative Targeting*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost

Remarks

E. Acquisition Strategy

The Network-Centric Collaborative Targeting (NCCT) capabilities are developed, maintained and sustained through evolutionary upgrades and any Quick Reaction Capability derived requirements. The 645th Aeronautical System Group (645 AESG) has cradle to grave lifecycle management responsibility of NCCT and rapid acquisition authorities are executed in accordance with the 645 AESG's Program Management Directive (PMD), Class Justification and Approval (J&A), and Life Cycle Management Plan (LCMP). Due to the rapidly changing threat environment and operational demand from platforms leveraging NCCT capabilities, the acquisition program manager has the authority to redirect funding as necessary to meet current stated and emerging/evolving Combatant Commander requirements.

645 AESG, Wright Patterson AFB OH, manages the Cost Plus Fixed Fee (CPFF) contracts used to develop NCCT Core Technology. 645 AESG will develop NCCT software on common hardware for systems and platforms designated to field this ISR capability. Individual platform program management offices may contract directly with their prime contractors or through the 645 AESG for integration of NCCT capabilities on their respective systems and platforms.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305221F / *Network-Centric Collaborative Targeting*	Project (Number/Name) 675197 / *NCCT Core Technology*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Core Technology Development (Agile)	SS/CPFF	L-3 ComCept : Rockwall, TX	-	13.373	Mar 2022	11.270	Mar 2023	4.266	Mar 2024	-		4.266	Continuing	Continuing	-
UI/UX development	SS/FFP	Anduril : Los Angeles, CA	-	-		4.000	Apr 2023	5.000		-		5.000	Continuing	Continuing	-
AI/ML Development	SS/ Various	NaraLogics : Boston, MA	-	1.500	Aug 2022	0.750	Aug 2023	1.591	Aug 2024	-		1.591	Continuing	Continuing	-
		Subtotal	-	14.873		16.020		10.857		-		10.857	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Cloud Migration	SS/ Various	CACI : Sarasota, FL	-	1.451	May 2022	1.444	May 2023	1.539	May 2024	-		1.539	Continuing	Continuing	-
		Subtotal	-	1.451		1.444		1.539		-		1.539	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PSC	Allot	645 AESG : Dayton, OH	-	0.900	Mar 2022	0.100	Mar 2023	0.100	Mar 2024	-		0.100	Continuing	Continuing	-
		Subtotal	-	0.900		0.100		0.100		-		0.100	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	17.224		17.564		12.496		-		12.496	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305221F / *Network-Centric Collaborative Targeting*	**Project (Number/Name)** 675197 / *NCCT Core Technology*

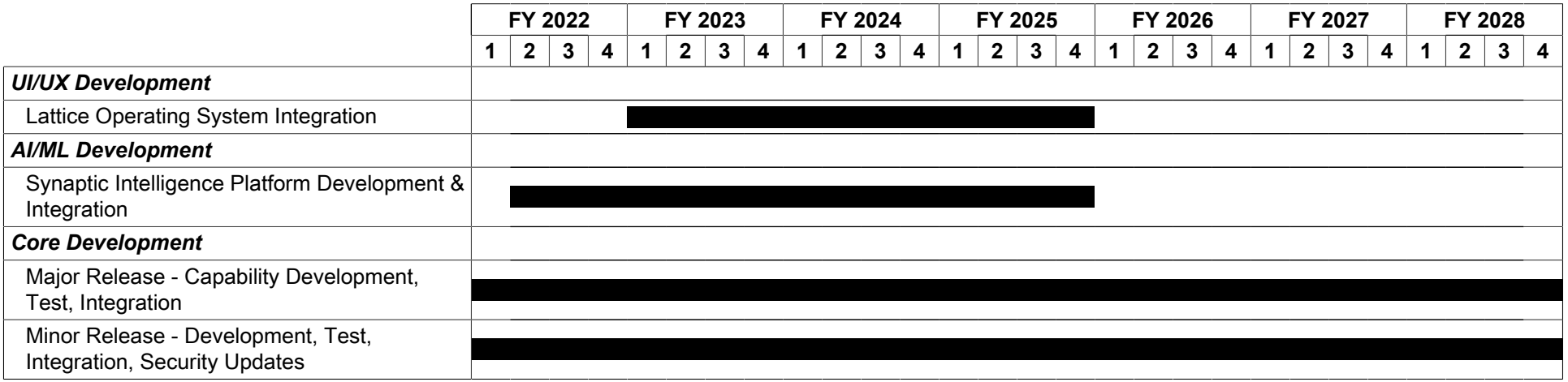

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305221F / *Network-Centric Collaborative Targeting*	**Project (Number/Name)** 675197 / *NCCT Core Technology*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
UI/UX Development				
Lattice Operating System Integration	1	2023	4	2025
AI/ML Development				
Synaptic Intelligence Platform Development & Integration	2	2022	4	2025
Core Development				
Major Release - Capability Development, Test, Integration	1	2022	4	2028
Minor Release - Development, Test, Integration, Security Updates	1	2022	4	2028

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305238F / *NATO AGS*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	19.473	0.826	0.002	0.000	0.002	0.863	0.884	0.902	0.934	Continuing	Continuing
676001: *NATO AGS*	-	19.473	0.826	0.002	0.000	0.002	0.863	0.884	0.902	0.934	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

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A. Mission Description and Budget Item Justification

This program funds the U.S. contribution to the Alliance Ground Surveillance (AGS) system, a North Atlantic Treaty Organization (NATO), Direct Commercial Sale acquisition. AGS is an airborne ground surveillance capability that provides continuous, wide area surveillance in all weather conditions. It provides NATO decision makers with near real time information and situational awareness concerning friendly, neutral and opposing ground and maritime forces to support mission planning and execution, including force protection and targeting. All NATO nations have access to AGS collection data, creating opportunities for burden sharing with the processing and exploitation of Intelligence, Surveillance, and Reconnaissance (ISR) data.

The AGS program includes: air and ground segment acquisitions, operations of the NATO AGS Management Agency (NAGSMA), development of operations and support definition and establishment of an initial support capability. The air segment consists of five (5) air vehicles based on unique exportable configurations of the United States Air Force Global Hawk air frame, Navy Triton command and control architecture and the U.S. Multi-Platform Radar Technology Insertion Program (MP-RTIP) radar. The U.S. integrated a new Maritime Moving Target and Inverse Synthetic Aperture Radar capability into the MP-RTIP radar for NATO AGS. The ground segment consists of fixed site and transportable/mobile ground stations for air vehicle Command and Control (C2), data exploitation and distribution. Operations and continuing In-Service Support is funded through the NATO Military Commanders' Capability Package within the NATO Security Investment Program (NSIP).

U.S. participation in NATO AGS was ratified by Secretary of Defense (SECDEF) signature/approval of the NATO AGS Program Memorandum of Understanding (PMOU) in June 2009 and includes 15 nations. In FY 2012, OSD transferred the NATO AGS program to the U.S. Air Force (USAF) for management and execution of the Research and Development effort.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver NATO AGS 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 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305238F / *NATO AGS*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	19.473	0.826	0.843	0.000	0.843
Current President's Budget	19.473	0.826	0.002	0.000	0.002
Total Adjustments	0.000	0.000	-0.841	0.000	-0.841
• 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	-0.841	0.000	-0.841

Change Summary Explanation

- N/A

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Design / Development of NATO Alliance Ground Surveillance (AGS)	4.384	0.200	0.001
Description: U.S. contribution to NATO for AGS development acquisition and initial fielding. Supports configuration changes at a system level and air vehicle exportability modifications. ***FY 2023 Plans:*** - Continues to support U.S. Government's contribution to NATO AGS Management Agency (NAGSMA) closeout costs. ***FY 2024 Plans:*** - Will continue to support U.S. Government's contribution to NATO AGS Management Agency (NAGSMA) closeout costs. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** - Funding reduced to align anticipated needs with ongoing work to complete NAGSMA program office liquidation.			
Title: Design/Development of Maritime Modes	13.261	0.000	0.000
Description: Supports development and flight testing of maritime modes capability for RTIP and additional configuration changes that cannot be performed under the direct commercial sale contract between Northrop Grumman and NAGSMA. ***FY 2023 Plans:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305238F / *NATO AGS*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- N/A ***FY 2024 Plans:*** - N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** - N/A			
Title: Technical Support for NATO Alliance Ground Surveillance (AGS) ***Description:*** Provide engineering and logistics support for NATO AGS development, fielding, deferred capabilities, and obsolescence studies. ***FY 2023 Plans:*** - Will transition engineering, logistics, and program office support from initial fielding to sustainment activities, including AGS participation in NATO's UNIFIED VISION series. ***FY 2024 Plans:*** - Continue studies analysis related to mission security and exportability. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** - Funding decreased due to fielding of maritime modes.	1.778	0.626	0.001
Title: Test and Evaluation Support for NATO Alliance Ground Surveillance (AGS) ***Description:*** Provide testing and evaluation via the Air Force Test Center. ***FY 2023 Plans:*** - N/A ***FY 2024 Plans:*** - N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** - N/A	0.050	0.000	0.000
Accomplishments/Planned Programs Subtotals	19.473	0.826	0.002

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305238F / *NATO AGS*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• RDTE 07 PE 0305220F: *RQ-4 UAV*	83.124	96.477	13.888	-	13.888	12.497	0.000	0.000	0.000	Continuing	Continuing

Remarks

E. Acquisition Strategy

Acquisition of the AGS system is being accomplished via a single delivery strategy. The system has been delivered via a fixed price direct commercial sale contract between Northrop Grumman Integrated System Sector International, Incorporated (NGISSII) & NATO, which was signed on 20 May 2012. The program is managed by the NATO AGS Management Agency (NAGSMA) and will closeout and liquidate in 2024.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305238F / *NATO AGS*	Project (Number/Name) 676001 / *NATO AGS*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NATO AGS Design / Development	SS/FFP	NATO AGS Management Agency : Brussels, Belgium	-	4.384	Dec 2021	0.200	Dec 2022	0.001	Dec 2023	-		0.001	0.000	4.585	0.001
Maritime Modes Design / Development	SS/CPIF	AFLCMC/HB : WPAFB, OH	-	13.261	Dec 2021	-		-		-		-	0.000	13.261	-
		Subtotal	-	17.645		0.200		0.001		-		0.001	0.000	17.846	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NATO AGS Technical Support	SS/FFP	Multiple : Hanscom, WPAFB, OH	-	1.778	Dec 2021	0.626	Dec 2022	0.001	Dec 2023	-		0.001	Continuing	Continuing	0.001
		Subtotal	-	1.778		0.626		0.001		-		0.001	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NATO AGS Test and Evaluation Support	SS/FFP	Multiple: AFLCMC/WI, AFLCMC/HB, 412 TW, 88 CG : Hanscom, WPAFB, Edwards	-	0.050	Dec 2021	-		-		-		-	Continuing	Continuing	-
		Subtotal	-	0.050		-		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	19.473		0.826		0.002		-		0.002	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305238F / *NATO AGS*	Project (Number/Name) 676001 / *NATO AGS*	

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

The Industrial Structure consists of Northrop Grumman (Northrop Grumman Integrated Systems Sector International, Incorporated - NGISSII) prime contractor, three subcontractors, and 15 participating nation industries that received direct work. There are no indirect offsets. The technical support of the NATO AGS program includes Advisory & Assistance Services to NATO.

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305238F / *NATO AGS*	**Project (Number/Name)** 676001 / *NATO AGS*

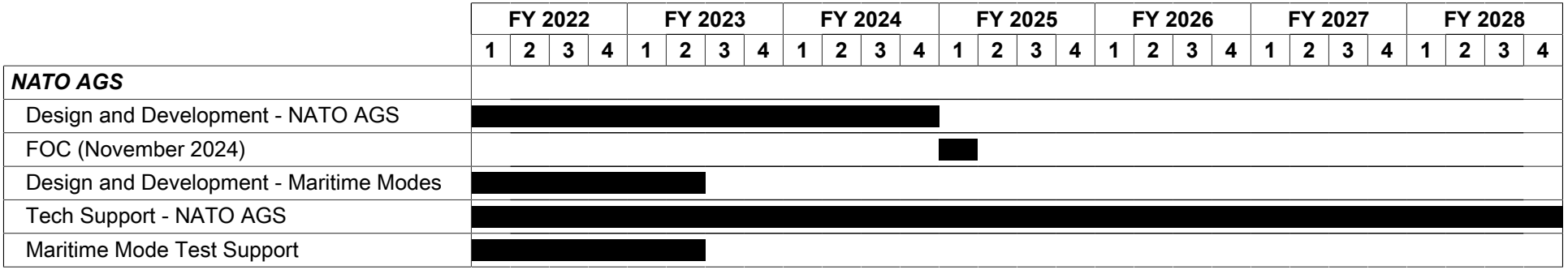

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305238F / *NATO AGS*	**Project (Number/Name)** 676001 / *NATO AGS*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
NATO AGS				
Design and Development - NATO AGS	1	2022	4	2024
FOC (November 2024)	1	2025	1	2025
Design and Development - Maritime Modes	1	2022	2	2023
Tech Support - NATO AGS	1	2022	4	2028
Maritime Mode Test Support	1	2022	2	2023

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305240F / *Support to DCGS Enterprise*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	40.421	28.774	31.589	0.000	31.589	30.878	31.341	31.950	33.068	Continuing	Continuing
674826: *Common Imagery Ground / Surface Systems*	-	2.330	2.389	2.400	0.000	2.400	2.405	2.462	2.510	2.598	Continuing	Continuing
675265: *Common Imagery Processor (CIP)*	-	38.091	26.385	29.189	0.000	29.189	28.473	28.879	29.440	30.470	Continuing	Continuing

A. Mission Description and Budget Item Justification

This Program Element funds the Imagery Processing effort which consists of the Virtual Imagery Processing Capability (VIP-C) program and associated Imagery Processing Research and Development.

1) The Imagery Processing effort develops the Virtual Imagery Processing Capability (VIP-C) and the High Performance Compute (HPC) Environment within the DCGS architecture. The VIP-C and HPC environment provides end-to-end image processing to include raw data ingest, data format standardization to facilitate exploitation, secondary image processing, metadata conditioning, and image quality enhancements. It also covers a comprehensive plan to employ advanced technologies, automation, and augmentation at speed and scale to close the gap between image collection and actionable intelligence. Current efforts are focused on 1) ensuring new sensors being fielded and associated data types can be processed and normalized 2) improving the Machine Assisted Geospatial Intelligence (GEOINT) Exploitation (MAGE) capability.

2)The DCGS Enterprise Interoperability and Cyber Defense efforts provide support to the Office of the Under Secretary of Defense for Intelligence and Security (OUSD(I&S)), AF DCGS and NATO interoperability efforts. This includes the development, testing, and implementation of international standards (to include NATO standardization agreements) to ensure joint, allied, and coalition interoperability.

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 $0.075M was expended for civilian pay expenses in this program element, and in FY23 $0.561M is forecasted for civilian pay expenses in this program element.

The BY funding request was reduced by 1.961 million to account for the availability of prior year execution balances.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force					Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*			**R-1 Program Element (Number/Name)** PE 0305240F / *Support to DCGS Enterprise*		
B. Program Change Summary ($ in Millions)	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**
Previous President's Budget	40.421	28.774	33.550	0.000	33.550
Current President's Budget	40.421	28.774	31.589	0.000	31.589
Total Adjustments	0.000	0.000	-1.961	0.000	-1.961
• 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	-1.961	0.000	-1.961

Change Summary Explanation

In FY2024, $1.961M was redistributed for higher AF priorities due to prior year execution balances.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305240F / *Support to DCGS Enterprise*	Project (Number/Name) 674826 / *Common Imagery Ground / Surface Systems*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
674826: *Common Imagery Ground / Surface Systems*	-	2.330	2.389	2.400	0.000	2.400	2.405	2.462	2.510	2.598	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project element funds the Common Imagery Ground / Surface Systems enterprise support capabilities. This includes support to OUSD(I&S) and AF DCGS priority efforts.

The funding provides support to OUSD(I&S), AF DCGS and NATO interoperability efforts. This includes the development, testing, and implementation of international standards (to include NATO standardization agreements) to ensure joint, allied, and coalition interoperability.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: DCGS Enterprise Interoperability	2.330	2.389	2.400
Description: Provide support to OUSD(I&S), AF DCGS and NATO Interoperability Enterprise efforts. ***FY 2023 Plans:*** Continue to support OUSD(I&S), AF DCGS and NATO Interoperability Enterprise efforts. ***FY 2024 Plans:*** Will continue to support OUSD(I&S), AF DCGS and NATO Interoperability Enterprise efforts. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase is an adjustment for inflation.			
Accomplishments/Planned Programs Subtotals	2.330	2.389	2.400

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The Air Force uses an evolutionary, incremental acquisition approach with development cycles and sprints to develop, field, and upgrade the system and structure contracts for the improved capabilities through full and open competition to the maximum extent possible. Additionally, strategic partnerships and agreements with National Laboratories and other agencies will be utilized.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305240F / *Support to DCGS Enterprise*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DCGS Enterprise Interoperability	C/Various	Various : Various	-	2.330	Apr 2022	2.389	Apr 2023	2.400	Apr 2024	-		2.400	Continuing	Continuing	-
		Subtotal	-	2.330		2.389		2.400		-		2.400	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	2.330		2.389		2.400		-		2.400	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305240F / *Support to DCGS Enterprise*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

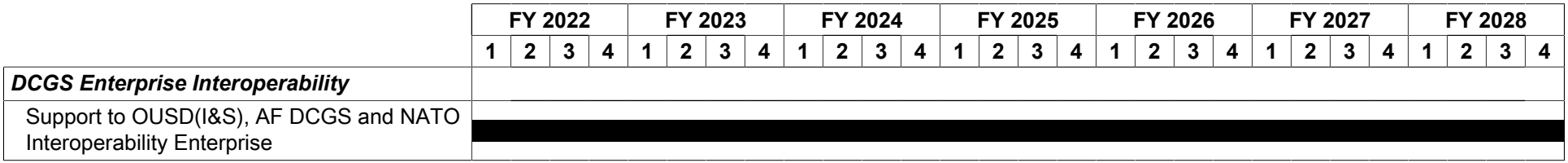

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305240F / *Support to DCGS Enterprise*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
DCGS Enterprise Interoperability				
Support to OUSD(I&S), AF DCGS and NATO Interoperability Enterprise	1	2022	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305240F / *Support to DCGS Enterprise*	Project (Number/Name) 675265 / *Common Imagery Processor (CIP)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675265: *Common Imagery Processor (CIP)*	-	38.091	26.385	29.189	0.000	29.189	28.473	28.879	29.440	30.470	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Imagery Processing effort develops the Virtual Imagery Processing Capability (VIP-C) within the DCGS architecture. VIP-C accepts airborne imagery data, processes it into an exploitable format, and provides it to other elements within the weapon system and/or the DCGS Enterprise. Current efforts include further developing the virtual software capability to improve processing across the enterprise and testing, development, and demonstrations integrating updated and new/ emerging sensors into DCGS. In addition, the project involves improving the Machine Assisted Geospatial Intelligence (GEOINT) Exploitation (MAGE) capability to employ advanced technologies, automation, and augmentation at speed and scale to close the gap between image collection and actionable intelligence.

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 $0.075M was expended for civilian pay expenses in this program element, and in FY23 $0.561M is forecasted for civilian pay expenses in this program element.

The BY funding request was reduced by 1.961 million to account for the availability of prior year execution balances.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Imagery Processor	38.091	26.385	29.189
Description: Continue developing VIP-C to keep pace with growing sensor baseline and enhance imagery data quality. ***FY 2023 Plans:*** Continue to upgrade and improve VIP-C to enable better geo-coordinate accuracy, facilitate automated intelligence discovery and integrate new algorithms. This includes developing and integrating into a Cloud infrastructure and cyber defense. Will refine and scale foundational components and begin developing more advanced technologies (e.g. automated site monitoring, explainable AI/ML, adversarial attack detection/mitigation, etc.). Integration of these advanced technologies will prove critical in a high-end fight. ***FY 2024 Plans:*** Will continue to upgrade and improve VIP-C to enable better geo-coordinate accuracy, facilitate automated intelligence discovery and integrate new algorithms. This includes developing and integrating into a Cloud infrastructure and cyber defense.			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305240F / *Support to DCGS Enterprise*	**Project (Number/Name)** 675265 / *Common Imagery Processor (CIP)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Will continue to refine and scale foundational components and begin developing more advanced technologies (e.g. automated site monitoring, explainable AI/ML, adversarial attack detection/mitigation, etc.). Integration of these advanced technologies will prove critical in a high-end fight. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased for development of additional advanced technologies.			
Accomplishments/Planned Programs Subtotals	38.091	26.385	29.189

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 04 Line Item 846080: *DCGS-AF*	124.774	79.742	73.326	-	73.326	33.318	29.844	30.959	31.617	Continuing	Continuing

Remarks

D. Acquisition Strategy

For imagery processing the Air Force uses an evolutionary acquisition approach with increments and spirals to develop, field, and upgrade the system and structure contracts for the improved capabilities through full and open competition to the maximum extent possible. In terms of management, Air Force leads the Cross Service Working Group that aligns imagery processing capabilities across the Joint Services in support of USD(I) direction.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305240F / *Support to DCGS Enterprise*	Project (Number/Name) 675265 / *Common Imagery Processor (CIP)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Imagery Processing Software Development	Various	Various : Various	-	38.016	Dec 2021	25.824	Dec 2022	28.389	Oct 2023	-		28.389	Continuing	Continuing	-
		Subtotal	-	38.016		25.824		28.389		-		28.389	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Direct Cite Authority Civilian Pay	C/CPAF	Not specified. : TBD	-	0.075	May 2022	0.561	Dec 2022	0.800	Dec 2023	-		0.800	Continuing	Continuing	-
		Subtotal	-	0.075		0.561		0.800		-		0.800	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	38.091		26.385		29.189		-		29.189	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305240F / *Support to DCGS Enterprise*	**Project (Number/Name)** 675265 / *Common Imagery Processor (CIP)*

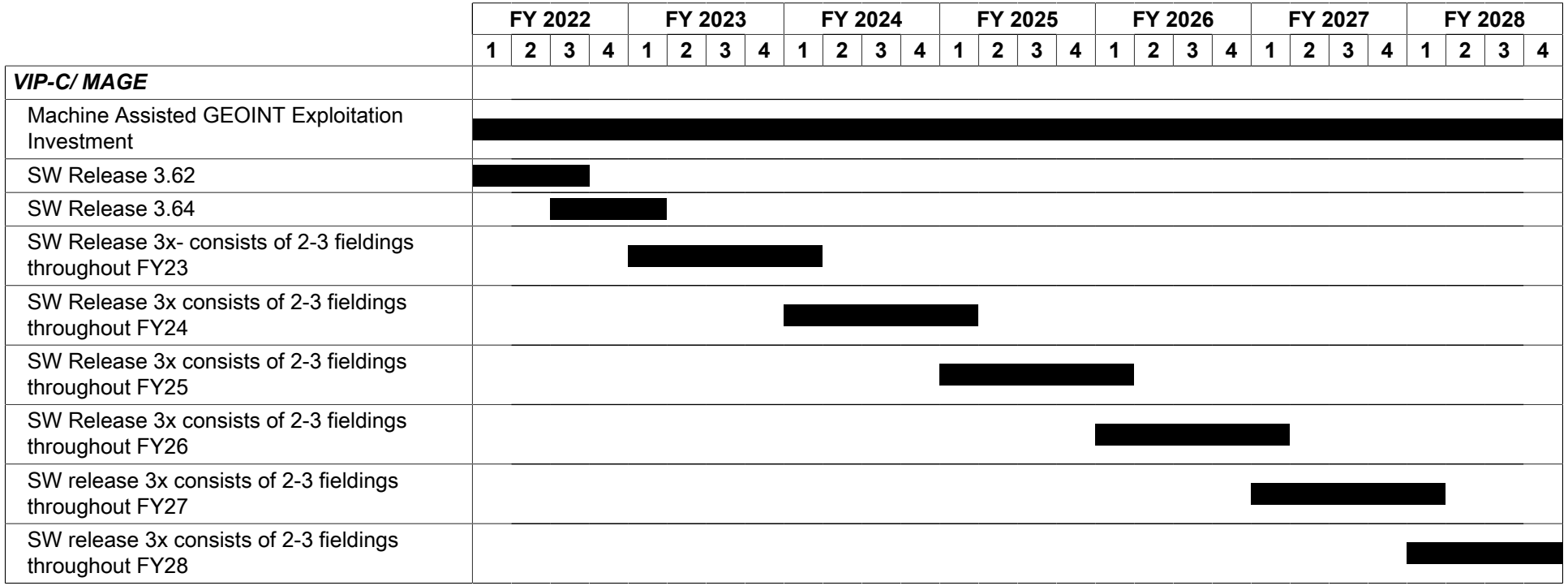

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305240F / *Support to DCGS Enterprise*	**Project (Number/Name)** 675265 / *Common Imagery Processor (CIP)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
VIP-C/ MAGE				
Machine Assisted GEOINT Exploitation Investment	1	2022	4	2028
SW Release 3.62	1	2022	3	2022
SW Release 3.64	3	2022	1	2023
SW Release 3x- consists of 2-3 fieldings throughout FY23	1	2023	1	2024
SW Release 3x consists of 2-3 fieldings throughout FY24	1	2024	1	2025
SW Release 3x consists of 2-3 fieldings throughout FY25	1	2025	1	2026
SW Release 3x consists of 2-3 fieldings throughout FY26	1	2026	1	2027
SW release 3x consists of 2-3 fieldings throughout FY27	1	2027	1	2028
SW release 3x consists of 2-3 fieldings throughout FY28	1	2028	4	2028

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305600F / *International Intelligence Technology and Architectures*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	14.473	25.036	15.322	0.000	15.322	17.047	17.386	17.742	18.384	Continuing	Continuing
675898: *International Intelligence Technology and Arc*	-	14.473	25.036	15.322	0.000	15.322	17.047	17.386	17.742	18.384	Continuing	Continuing

A. Mission Description and Budget Item Justification

International Intelligence Technology and Architectures oversees, manages, and provides the United States (US) component of the multi-national Battlefield Information Collection and Exploitation System (US BICES) with a collaborative environment and intelligence sharing enterprise required for processing and disseminating critical intelligence information between and among US, North Atlantic Treaty Organization (NATO), allied and coalition forces. The US BICES program procures and maintains a standing intelligence information sharing capability across Department of Defense (DoD), Combat Support Agencies, and multiple Combatant Commands (CCMD) for the Under Secretary of Defense, Intelligence (USD (I)). At the request of USD (I), US BICES is extended beyond U.S. European Command (USEUCOM) into all CCMDs and is known as US BICES Extended (US BICES-X). US BICES provides an "enduring" US and Coalition interoperable intelligence sharing multi-level secure technical architecture utilizing releasable elements of the Defense Intelligence Information Enterprise (DI2E) framework and functions to support the full spectrum of intelligence operations and dissemination throughout the DoD community. Also, it enables instantiation of US BICES/BICES-X as the intelligence contribution to the Mission Partner Environment (MPE).

Research and Development funding will:
- Provide increased intelligence information sharing capabilities in support of US and coalition forces utilizing the US BICES and NATO virtual networks within all theaters of operations and provide increased database information via Distributed Common Ground System - Army.
- Provide an increase in intelligence disciplines (Imagery Intelligence, Signal Intelligence, and potential Human Intelligence) in support of US and Allied/Coalition forces that currently is very limited to the warfighter. Increased intelligence advanced analytics tools will be migrated from Joint Intelligence Operation Center-IT and DI2E developments and will significantly increase the timeliness of intelligence and bring US BICES/NATO Special Operations Forces Headquarters/NATO Intelligence Fusion Center capabilities into the current technology baselines.
- Develop and provide a federated Trusted Network Environment (TNE) that incorporates the Asian Pacific intelligence Information Network being developed to support the National Defense Strategy as we transition out of Afghanistan and into the Pacific.
- Provide multi-level security intelligence bi-laterals and multi-laterals to meet Combatant Commander Integrated Priority Lists.
- Develop the Coalition Partner Network for CENTCOM, the Coalition Information Exchange Network for SOUTHCOM, and the Coalition Partner Network for EUCOM and AFRICOM.
- Develop the US BICES connections with these bi-lateral and multi-lateral federated TNEs that make up the US BICES-X Enterprise Network in support of Commander SOCOM requirements for conventional and coalition operations as the US migrates into other Combatant Command regions.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force					Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*			R-1 Program Element (Number/Name) PE 0305600F / *International Intelligence Technology and Architectures*		
B. Program Change Summary ($ in Millions)	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**
Previous President's Budget	14.473	15.036	16.256	0.000	16.256
Current President's Budget	14.473	25.036	15.322	0.000	15.322
Total Adjustments	0.000	10.000	-0.934	0.000	-0.934
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	10.000			
• 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	-0.934	0.000	-0.934

Change Summary Explanation

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305600F / *International Intelligence Technology and Architectures*	Project (Number/Name) 675898 / *International Intelligence Technology and Arc*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675898: *International Intelligence Technology and Arc*	-	14.473	25.036	15.322	0.000	15.322	17.047	17.386	17.742	18.384	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

International Intelligence Technology and Architectures (IITA) oversees, manages, and provides the United States (US) component of the multi-national US Battlefield Information Collection and Exploitation Systems - Extended (US BICES-X). The continued development effort of IITA will provide a collaborative environment and intelligence sharing enterprise required for processing and disseminating critical intelligence information across Department of Defense (DoD), Combat Support Agencies (CSA), North Atlantic Treaty Organization (NATO), allied and coalition forces and multiple Combatant Commands (CCMD) for the Office of the Under Secretary of Defense, Intelligence and Security (OUSD(I&S)).

The US BICES RDT&E activities include the following:
1) Assessing new and existing intelligence sharing technologies being developed within DoD and the intelligence community.
2) Defining which technologies can significantly advance intelligence sharing capabilities of US and Allied/Coalition forces.
3) Integrating technologies into the current US BICES-X enterprise and emerging US international intelligence architectures and systems consistent with the Defense Intelligence Information Enterprise (DI2E) framework and Mission Partner Environment (MPE) supporting global operations.
4) US BICES-X responds to CCMDs and military services to develop solutions for enhanced intelligence information sharing capabilities and provisions US BICES-X equipment to US and allied/partner location. IITA is assessing potential impacts of new intelligence architectures to support the CCMDs and services. The IITA program also includes the DoD intelligence document exploitation system (Harmony), Multi-Domain Dissemination System of Joint Worldwide Intelligence Communications System (JWICS), Secure Internet Protocol Router Network (SIPRNET) access to US BICES, and Full Motion Video (FMV).

Research and Development funding will:
- Provide increased intelligence information sharing capabilities in support of US and coalition forces utilizing the US BICES and NATO virtual networks and provide increased database information via Distributed Common Ground System Family of Systems.
- Expand available intelligence disciplines (Geospatial Intelligence, Signal Intelligence, and potentially Human Intelligence) to support US and allied/coalition forces.
- Support increased intelligence advanced analytics tools, Joint Intelligence Operation Center-IT and DI2E developments to significantly improve the timeliness of intelligence and bring US BICES/NATO Special Operations Forces Headquarters/NATO Intelligence Fusion Center capabilities into the current technology baselines.
- Develop and enhance a federated Trusted Network Environment (TNE) that incorporates Foreign Partner information sharing networks globally to support the National Defense Strategy.
- Develop multi-level security intelligence bi-laterals and multi-laterals to meet Combatant Commander Integrated Priority Lists.
- Expand capabilities for bi-lateral and multi-lateral federated TNEs in support of CCMD requirements.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305600F / *International Intelligence T echnology and Architectures*	**Project (Number/Name)** 675898 / *International Intelligence Technology and Arc*

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 $0.00M was expended for civilian pay expenses in this program element, and in CY $0.00M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: International Intelligence Technology and Architectures	14.473	15.036	15.322	0.000	15.322
Description: Research and development in emerging and maturing technologies and capabilities for modernizing and transforming US BICES/US BICES-X for improved agility, scalability, access, cybersecurity, and data and information sharing tools and infrastructure. ***FY 2023 Plans:*** Continuing to develop US BICES-X capabilities including further integration of TNE into the MPE, and development and testing of coalition ISR coalition capabilities. These efforts will enable the modernization and transformation of the US BICES/BICES-X worldwide enterprise to enable instantiation or interconnection of any partner network to support any operation. ***FY 2024 Base Plans:*** Continuing to develop US BICES-X capabilities including further integration of TNE into the MPE, and development and testing of coalition ISR coalition capabilities. These efforts will enable the modernization and transformation of the US BICES/BICES-X worldwide enterprise to enable instantiation or interconnection of any partner network to support any operation. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to Combatant Command (US DoD) changing requirements.					
Title: FY 2023 Congressional Add	-	10.000	-	-	-
Description: Congressional add in FY2023 to fund Low-power High Frequency (HF) multi-function communications / PNT (Positioning, Navigation and Timing) ***FY 2023 Plans:*** Commence development of HF communications/PNT and project management efforts. ***FY 2023 to FY 2024 Increase/Decrease Statement:***					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305600F / *International Intelligence T echnology and Architectures*	**Project (Number/Name)** 675898 / *International Intelligence Technology and Arc*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Congressional add in FY 2023 to fund Low-power High Frequency (HF) multi-function communications / PNT (Positioning, Navigation and Timing)					
Accomplishments/Planned Programs Subtotals	14.473	25.036	15.322	0.000	15.322

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• O&M BA 01 PE 0305600F: *International Intelligence Technology and Architecture*	160.159	138.462	139.134	-	139.134	136.734	140.182	142.800	145.656	Continuing	Continuing
• OPAF 03 Line item 832050: *International Intelligence Technology and Architecture*	5.809	7.043	5.393	-	5.393	4.672	4.903	5.086	5.195	Continuing	Continuing

Remarks

D. Acquisition Strategy

Utilize existing General Dynamics Mission Systems (GDMS) contract number FA8240-18-D-0360. The contract is structured as an Indefinite Delivery Indefinite Quantity (IDIQ) contract with a period of performance beginning 1 April 2018 through 31 March 2024. US BICES also utilizes the Air Force Research Laboratory as required for all third-party lab-based security assessments of TNE upgrade releases.

This work will continue beyond the end of the current contract. An acquisition effort is started and a follow-on contract will be in place prior to the 31 March 2024 end date for the current contract period of performance.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305600F / *International Intelligence T echnology and Architectures*	Project (Number/Name) 675898 / *International Intelligence Technology and Arc*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TNE Development	Various	AFRL, GDMS AZ, TX : Rome, NY	-	14.473	Feb 2022	15.036	Feb 2023	15.322	Feb 2024	-		15.322	Continuing	Continuing	-
Low Power HF/ PNT	C/TBD	TBD : TBD	-	-		10.000	Jul 2023	-		-		-	Continuing	Continuing	-
		Subtotal	-	14.473		25.036		15.322		-		15.322	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	14.473		25.036		15.322		-		15.322	Continuing	Continuing	N/A

Remarks

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305600F / *International Intelligence Technology and Architectures*	**Project (Number/Name)** 675898 / *International Intelligence Technology and Arc*

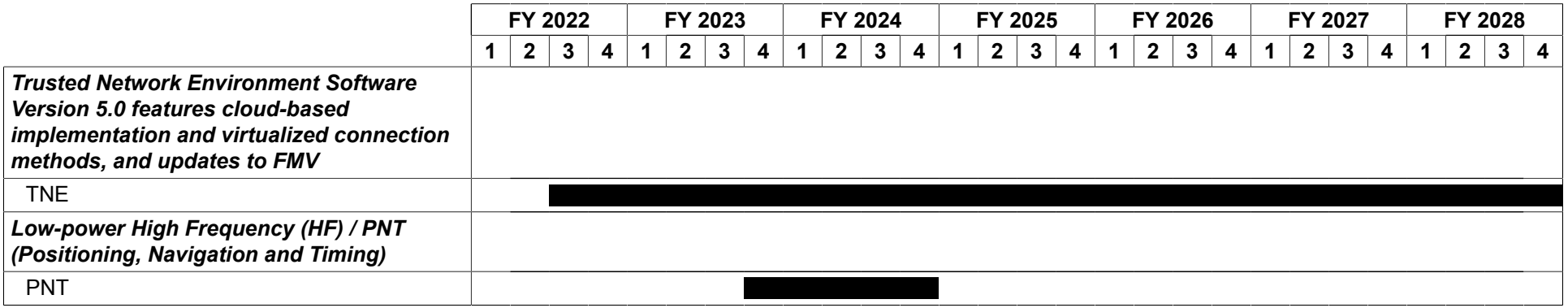

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305600F / *International Intelligence T echnology and Architectures*	**Project (Number/Name)** 675898 / *International Intelligence Technology and Arc*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Trusted Network Environment Software Version 5.0 features cloud-based implementation and virtualized connection methods, and updates to FMV				
TNE	3	2022	4	2028
Low-power High Frequency (HF) / PNT (Positioning, Navigation and Timing)				
PNT	4	2023	4	2024

Note

GAL - Global Address List
OS - Operating System
VDI - Virtual Desktop Infrastructure
VoIP - Voice of IP
UX - User Experience
FMV - Full Motion Video
HD/VTC - High Definition / Video Teleconferencing

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force												Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305881F / *Rapid Cyber Acquisition*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	4.193	3.739	8.830	0.000	8.830	9.705	9.948	10.152	10.519	Continuing	Continuing
670374: *Electronic Combat Spt, C3 Protection/Multi-Mission, Technology and Spt*	-	4.193	3.739	8.830	0.000	8.830	9.705	9.948	10.152	10.519	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Rapid Cyber Acquisition (RCA) initiative is a materiel (hardware, software, and tool development) and non-materiel (technical support) effort to enable delivery of new cyber capabilities at the pace of warfighting relevance. Combatant and Joint Force Commanders require up-to-date, tailored cyber capabilities to win in the highly-dynamic cyberspace domain.

The RCA initiative expedites cyber development and modifications of USAF cyber capabilities through integration with and technical support to other Service and Government Agency activities to leverage select Air Force-developed technologies and/or operational capabilities. RCA provides for rapid development of materiel and non-materiel cyber solutions necessary to conduct rapid prototyping, integration, and transition activities of cyber capabilities. Activities include but are not limited to development of software/hardware systems, integration and transition of lab-developed cyber capabilities, developmental testing, operational evaluation, manpower, studies, analysis, pilots, demonstrations, and risk reduction efforts for emerging technologies.

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 F22 0.000M was expended for civilian pay expenses in this program element, and in FY23 0.000M is forecasted for civilian pay expenses in this program element.

The FY24 funding request increased 5.733 million due to mission infrastructure and emerging technology efforts and the associated acquisition costs.

The FY24 funding request was reduced by 0.664 million to account for the availability of prior year execution balances.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305881F / *Rapid Cyber Acquisition*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	4.326	3.739	9.472	0.000	9.472
Current President's Budget	4.193	3.739	8.830	0.000	8.830
Total Adjustments	-0.133	0.000	-0.642	0.000	-0.642
• 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	-0.133	0.000			
• Other Adjustments	0.000	0.000	-0.642	0.000	-0.642

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Rapid Cyber Acquisition (RCA)	4.193	3.739	8.830
Description: Effort utilizes hardware, software, and technical support services to deliver the tools and environments required to perform rapid prototyping, integration, and transition activities for cyber capabilities, enabling quick reaction fielding of up-to-date capabilities required by Combatant and Joint Force Commanders. ***FY 2023 Plans:*** - Continue to maintain, and execute multidisciplinary targeting, target systems analysis, developmental planning capabilities in support of the USAF cyber mission - Utilize developed solutions to plan standardized environments, add Hardware-in-the-Loop capabilities, deploy to edge devices, and build an authoritative pipeline solution to meet cyber operator requirements - Advance software development pipelines, and utilize skilled rapid reaction teams to prototype and deliver cyber capability, and perform quick look operational and technical assessments - Increase secure lab capability capacity to research, develop, prototype, and test cyber warfare capabilities ***FY 2024 Plans:*** - Will continue to maintain, and execute multidisciplinary targeting, target systems analysis, developmental planning capabilities in support of the USAF cyber mission - Will utilize developed solutions to plan standardized environments, add Hardware-in-the-Loop capabilities, deploy to edge devices, and build an authoritative pipeline solution to meet cyber operator requirements			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305881F / *Rapid Cyber Acquisition*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Will host, and facilitate skilled cyberweapon development teams to prototype and deliver capabilities, and perform quick look operational and technical assessments - Will research, develop, test, and deliver new features to improve new and existing cyber warfare capabilities ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to additional mission infrastructure and emerging capability efforts which will expand Air Force Offensive Cyber Operations development.			
Accomplishments/Planned Programs Subtotals	4.193	3.739	8.830

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

The Rapid Cyber Acquisition (RCA) initiative utilizes a tailorable acquisition strategy that facilitates rapid delivery of material and nonmaterial solutions to solve operational cyber equirements. This approach allows flexibility for solutions to enter the acquisitions process at any phase of the acquisition life cycle. RCA provides the rapid development environment and secure DevOps capacity to meet urgent operational needs/requirements.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305881F / *Rapid Cyber Acquisition*	**Project (Number/Name)** 670374 / *Electronic Combat Spt, C3 Protection/Multi-Mission, Technology and Spt*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Rapid Cyber Acquisition Development	Various	Various : Various	-	4.193	Nov 2021	3.739	Nov 2022	8.830	Nov 2023	-		8.830	Continuing	Continuing	8.830
		Subtotal	-	4.193		3.739		8.830		-		8.830	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	4.193		3.739		8.830		-		8.830	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305881F / *Rapid Cyber Acquisition*	**Project (Number/Name)** 670374 / *Electronic Combat Spt, C3 Protection/Multi-Mission, Technology and Spt*

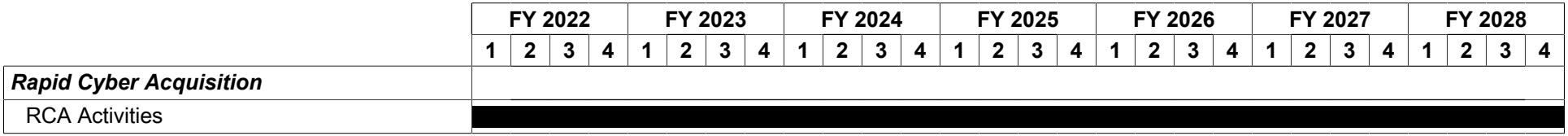

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305881F / *Rapid Cyber Acquisition*	**Project (Number/Name)** 670374 / *Electronic Combat Spt, C3 Protection/Multi-Mission, Technology and Spt*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Rapid Cyber Acquisition				
RCA Activities	1	2022	4	2028

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305984F / *Personnel Recovery Command & Ctrl (PRC2)*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	2.473	2.702	2.764	0.000	2.764	2.826	2.896	2.955	3.063	0.000	19.679
675221: *Personnel Recovery Command and Control (PRC2)*	-	2.473	2.702	2.764	0.000	2.764	2.826	2.896	2.955	3.063	0.000	19.679
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This budget line funds the Personnel Recovery Command and Control (PRC2) program, which develops and delivers tools and services for planning, collaborating and managing search and rescue efforts, as well as disseminating related information to all personnel recovery mission coordinators across the PR network. PRC2 provides an adaptive and networked system, delivering timely situational awareness information supporting personnel accountability and recovery mission management worldwide. PRC2 delivers a globally accessible, collaborative, inter-operable and integrated set of capabilities to prevent, prepare for and respond to joint/coalition military personnel recovery activities, and civilian rescue missions. The Joint Personnel Recovery (JPR) Initial Capability Document (ICD) (2012) articulates capabilities needed for PRC2. Personnel Recover Mission Manager (PRMM) 3.1 continues to develop using Agile Development, Security and Operations (DevSecOps). Annex A to the PRMM 3.1 is the requirement document for improvements until Full Operational Capability (FOC) criteria is achieved.

The system collects, stores and delivers personnel/identity biometric data, emergency locator beacon registrations, Isolated Personnel (IP) reports, evasion plans of action, incident reports and other information management capabilities. The information is used for predictive, preventive and personnel vulnerability analysis and assessment in support of PR across the Department of Defense and other national and international entities. Activities also include studies and analysis to support both current program planning and execution, as well as future program planning.

In FY24, PRMM 3.1 modifications will continue to use an Agile DevSecOps strategy to develop and test in two-week increments (sprints) with capability to field by individual story after fielding Configuration Control Board (CCB) approval from Major Command (MAJCOM). The modifications will improve/validate IP events/alerts and enable case files for Defense Prisoner of War/Missing Personnel Office (DPMO) and Joint Personnel Recovery Agency (JPRA). PRMM 3.1 modifications will reflect the requirements and priorities identified by Air Combat Command (ACC) as the personnel recovery environment evolves to meet the needs of the warfighter and personnel recovery 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, and 0606398F. In FY22, $0.000M was expended for civilian pay expenses in this program element, and in FY23 $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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305984F / *Personnel Recovery Command & Ctrl (PRC2)*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	2.567	2.702	2.758	0.000	2.758
Current President's Budget	2.473	2.702	2.764	0.000	2.764
Total Adjustments	-0.094	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	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	-0.094	0.000	0.006	0.000	0.006

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: PRC2 - PRMM Development	0.175	2.502	2.539	0.000	2.539
Description: PRC2 will use an Agile DevSecOps strategy to test and field tools and services for planning and managing search and rescue efforts, and disseminate the related information for personnel recovery. ***FY 2023 Plans:*** Will develop, test and have field-ready PRMM versions 3.X.X.A through 3.X.X.B in two-week increments with capability to field by individual story. The development effort will encompass changes to a more map centric and user intuitive design. An interface with Common Distress Reporting System (CDRS) provides various user interface upgrades and application improvements for Personnel Recovery Coordination. ***FY 2024 Base Plans:*** Continue to develop, test and have field-ready PRMM versions 3.X.X.B through 3.X.X.D in two-week increments with capability to field by individual story. The development effort will encompass changes to a more map centric and user intuitive design. An interface with Common Distress Reporting System (CDRS) provides various user interface upgrades and application improvements for Personnel Recovery Coordination. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:***					

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305984F / *Personnel Recovery Command & Ctrl (PRC2)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Funding increases due to inflation adjustments.					
Title: PRC2 - PRMM Test and Evaluation	2.298	0.200	0.225	0.000	0.225
Description: Test and Evaluation ***FY 2023 Plans:*** PRMM Versions 3.X.X.A through 3.X.X.B - Testing & Evaluation ***FY 2024 Base Plans:*** Continue PRMM Versions 3.X.X.B through 3.X.X.D - Testing & Evaluation ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increases due to inflation adjustments.					
Accomplishments/Planned Programs Subtotals	2.473	2.702	2.764	0.000	2.764

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 834520: *Theater Battle Mgt C2 System*	0.369	0.275	0.000	-	0.000	0.433	0.442	0.457	0.467	Continuing	Continuing

Remarks

E. Acquisition Strategy

PRC2 product support is provided to the program office by the 517th Software Engineering Squadron (517 SWES), Hill AFB Utah, in accordance with a memorandum of agreement and on a fee-for-service basis. This strategy to utilize the 517 SWES for agile product development and sustainment was reviewed and approved by the Air Force Program Executive Officer (PEO) for Digital, and implemented in mid-FY 2014. The work done by the 517 SWES includes, but is not limited to, modernization development, sustainment support services, and software maintenance of the PRC2 system.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305984F / *Personnel Recovery Command & Ctrl (PRC2)*

Program management for the PRC2 program is under direction of PEO Digital, located at Hanscom AFB, MA. The Air Force Life Cycle Management Center (AFLCMC) located at Hill AFB, UT is the contracting authority for the PRC2 program. AFLCMC provides contracting, legal, comptroller, programmatic, engineering, test, and logistics support.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305984F / *Personnel Recovery Command & Ctrl (PRC2)*	**Project (Number/Name)** 675221 / *Personnel Recovery Command and Control (PRC2)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PRC2 - PRMM Agile Software Development	PO	Ogden ALC : Hill AFB, UT	-	2.288	Dec 2021	2.502	Dec 2022	2.533	Dec 2023	-		2.533	Continuing	Continuing	-
		Subtotal	-	2.288		2.502		2.533		-		2.533	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PRC2 - PRMM Test and Evaluation	PO	45th Test Squadron : Eglin AFB, FL	-	0.175	Dec 2021	0.190	Dec 2022	0.215	Dec 2023	-		0.215	Continuing	Continuing	-
		Subtotal	-	0.175		0.190		0.215		-		0.215	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PRC2 - PRMM Program Support	TBD	Various : Hill AFB, UT	-	0.010	Mar 2022	0.010	Mar 2023	0.016	Mar 2024	-		0.016	Continuing	Continuing	-
		Subtotal	-	0.010		0.010		0.016		-		0.016	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	2.473		2.702		2.764		-		2.764	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305984F / *Personnel Recovery Command & Ctrl (PRC2)*	**Project (Number/Name)** 675221 / *Personnel Recovery Command and Control (PRC2)*

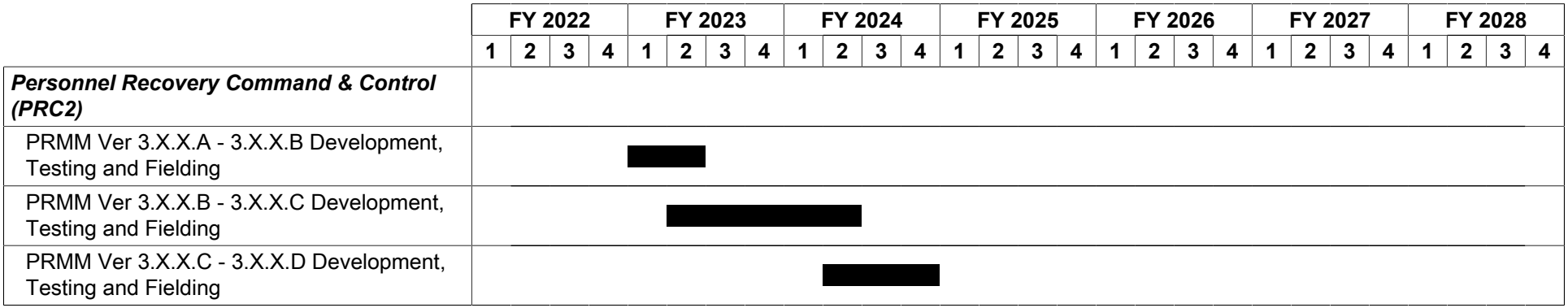

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305984F / *Personnel Recovery Command & Ctrl (PRC2)*	**Project (Number/Name)** 675221 / *Personnel Recovery Command and Control (PRC2)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Personnel Recovery Command & Control (PRC2)				
PRMM Ver 3.X.X.A - 3.X.X.B Development, Testing and Fielding	1	2023	2	2023
PRMM Ver 3.X.X.B - 3.X.X.C Development, Testing and Fielding	2	2023	2	2024
PRMM Ver 3.X.X.C - 3.X.X.D Development, Testing and Fielding	2	2024	4	2024

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0307577F / *Intelligence Mission Data (IMD)*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	6.169	6.332	7.090	0.000	7.090	3.651	3.736	3.809	3.942	Continuing	Continuing
675306: *Analysis Enterprise*	-	6.169	6.332	7.090	0.000	7.090	3.651	3.736	3.809	3.942	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Product Development

IMD Production Tools Development Contract Type : *Contract Type are primarily Time and Material with some Firm Fixed Price.

A. Mission Description and Budget Item Justification

Intelligence Mission Data efforts in BPAC 675306 fund RDT&E to enable Advanced Non-cooperative Target Recognition [NCTR] collection, Operational Reconnaissance and traditional ELINT capabilities, advanced all-source analysis and production of IMD across EWIR, C&P, M&S, and Signatures to inform acquisition efforts, enable combat ID and ensure survivability for air superiority and global strike 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 FY2022 $0 was expended for civilian pay expenses in this program element, and in FY2023 $0 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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	6.169	6.332	7.090	0.000	7.090
Current President's Budget	6.169	6.332	7.090	0.000	7.090
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

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0307577F / *Intelligence Mission Data (IMD)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: IMD Production Tools	6.169	6.332	7.090
Description: Creation of automated tools to process data and develop improved analysis, production, and dissemination tools to support centralized data warehousing & data discover-ability enabling streamlined rapid reprogramming for operational & acquisition end users. ***FY 2023 Plans:*** Continue development of automated tools. ***FY 2024 Plans:*** Continue development of automated tools. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increased funding to cover increased labor cost.			
Accomplishments/Planned Programs Subtotals	6.169	6.332	7.090

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 030577F: *Intelligence Mission Data*	0.000	0.000	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

E. Acquisition Strategy

Contract type and strategy will be assessed each year; however, it is anticipated that there will be a mix of contract types.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0307577F / *Intelligence Mission Data (IMD)*	Project (Number/Name) 675306 / *Analysis Enterprise*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	TBD	AFMC : WPAFB, OH	-	-		-		-		-		-	Continuing	Continuing	-
IMD Production Tools Development	Various	NASIC : WPAFB, OH	-	6.169	Feb 2022	6.332	Feb 2023	7.090	Feb 2024	-		7.090	Continuing	Continuing	-
		Subtotal	-	6.169		6.332		7.090		-		7.090	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	6.169		6.332		7.090		-		7.090	Continuing	Continuing	N/A

Remarks

Contract award is expected 90 days after budget authority for FY22.

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0307577F / *Intelligence Mission Data (IMD)*	**Project (Number/Name)** 675306 / *Analysis Enterprise*

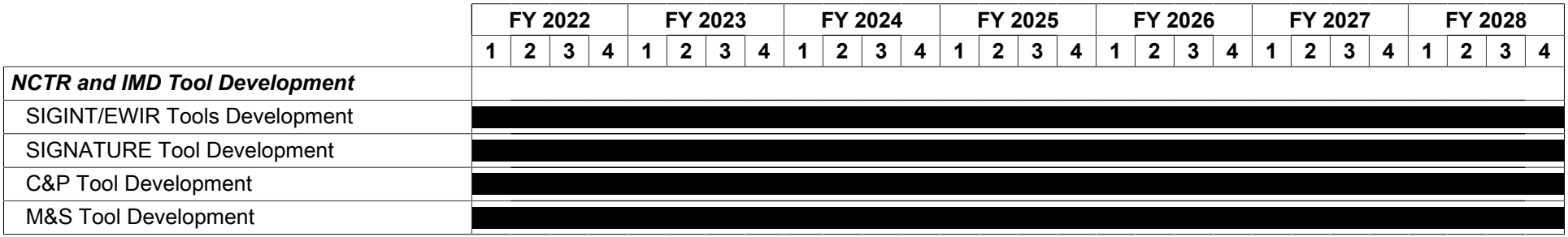

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0307577F / *Intelligence Mission Data (IMD)*	**Project (Number/Name)** 675306 / *Analysis Enterprise*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
NCTR and IMD Tool Development				
SIGINT/EWIR Tools Development	1	2022	4	2028
SIGNATURE Tool Development	1	2022	4	2028
C&P Tool Development	1	2022	4	2028
M&S Tool Development	1	2022	4	2028

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401115F / *C-130 Airlift Squadron*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	12.383	0.407	5.427	0.000	5.427	0.000	0.000	0.000	0.000	0.000	18.217
675250: *C-130H Avionics Modernization Program (AMP) Increment 2*	-	12.383	0.407	5.427	0.000	5.427	0.000	0.000	0.000	0.000	0.000	18.217

A. Mission Description and Budget Item Justification

The C-130H is a medium sized tactical transport aircraft providing multi-purpose theater support throughout the globe. The C-130H fleet supports several diverse Air Force roles, including but not limited to tactical and inter-theater airlift and airdrop support, Arctic resupply, special operations support, aeromedical evacuation, aerial spraying, firefighting duties, and natural disaster and humanitarian relief missions.

Funding provides weapon system modifications and upgrades to meet USAF mission requirements for the LC/C-130H fleets.

C-130H AMP Increment 2 includes digital avionics upgrades (e.g. Flight Management System, improved navigation), cockpit modernization (e.g. glass/engine flight displays) and resolves select obsolescence and Diminishing Manufacturing Source (DMS) issues. RDT&E efforts will cover software development, design, integration, developmental and operational test, studies and risk reduction efforts, trial kit buy and installation, technical order development validation and verification, spares and peculiar support equipment in support of trial kit installs, Systems Integration Laboratory (SIL) development, type 1 training and C-130H aircrew and maintenance training systems and courseware development efforts, program office support and other efforts necessary to fulfill program requirements. Project 672030, MUOS/ SATURN, is now included in project 675250, AMP Increment 2. The MUOS/SATURN radio addresses future DMS/integration issues and incorporates MUOS/SATURN capabilities.

The AMP Increment 2 program experienced significant software development and flight test planning issues in FY22. These issues led to the program being rebaselined; Milestone C is now planned for Sep 2024.

This funding includes Rapid Global Mobility (RGM) platform related activities including but not limited to prototyping, capability development, process activities, planning analysis and systems engineering 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 FY2022 $1.063 million was expended for civilian pay expenses in this program element, and in FY2023 $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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401115F / *C-130 Airlift Squadron*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	12.552	0.407	0.415	0.000	0.415
Current President's Budget	12.383	0.407	5.427	0.000	5.427
Total Adjustments	-0.169	0.000	5.012	0.000	5.012
• 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	-0.169	0.000			
• Other Adjustments	0.000	0.000	5.012	0.000	5.012

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 675250: *C-130H Avionics Modernization Program (AMP) Increment 2*		
Congressional Add: *Infrared Suppression*	2.800	-
Congressional Add Subtotals for Project: 675250	2.800	-
Congressional Add Totals for all Projects	2.800	-

Change Summary Explanation

FY 2024 funding increased by $5.012 million due to program flight testing completion and updates to support systems program being rebaselined.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401115F / *C-130 Airlift Squadron*	Project (Number/Name) 675250 / *C-130H Avionics Modernization Program (AMP) Increment 2*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675250: *C-130H Avionics Modernization Program (AMP) Increment 2*	-	12.383	0.407	5.427	0.000	5.427	0.000	0.000	0.000	0.000	0.000	18.217
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The C-130H AMP Increment 2 upgrades the C-130H fleet with comprehensive avionics and cockpit modernization which replaces aging unreliable equipment and adds combat capability enhancements. It also updates radios due to future Diminishing Manufacturing Sources (DMS)/integration issues and incorporates MUOS/SATURN radio capabilities. It also addresses select obsolescence and DMS issues with solutions that may include life of type buys or bridge buys. DMS efforts to 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. Implement requirements and standards defined under the Simulator Common Architecture Requirements and Standards (SCARS) initiative.

Funding provides weapon system modifications and upgrades to meet USAF mission requirements for the LC/C-130H fleets.

RDT&E efforts include but are not limited to software development, design, integration, development and operational test, studies and risk reduction efforts, trial kit buy and installation, technical order development validation and verification, peculiar support equipment and spares in support of trial kit installs, SIL development, type 1 training, and C-130H aircrew and maintenance training systems and courseware development efforts, program office support and other efforts required to fulfill requirements. Project 672030, MUOS/SATURN, is now included in project 675250, AMP Increment 2. The MUOS/SATURN radio addresses future DMS/integration issues and incorporates MUOS/SATURN capabilities.

The C-130H AMP Increment 2 program modifies up to 80 C-130H USAF owned aircraft consisting of H3s, H2.5s, H2s, and LC-130H aircraft. The modification effort will have up to three prototype aircraft representative of variations in the mission designs and required for accomplishment of the Engineering and Manufacturing Development (EMD) phase with the remaining aircraft modified in the production phase.

The program experienced significant software development and flight test planning issues in FY2022. These issues led to the program being rebaselined; Milestone C is now planned for Sep 2024.

In order to meet the American Mid-Band Initiative, the Station Keeping Equipment (SKE) replacement program will develop and field a new/upgraded formation flight system to C-130H AMP Inc 2 configured aircraft.

This funding includes Rapid Global Mobility (RGM) platform related activities including but not limited to prototyping, capability development, process activities, planning analysis and systems engineering activities.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401115F / *C-130 Airlift Squadron*	**Project (Number/Name)** 675250 / *C-130H Avionics Modernization Program (AMP) Increment 2*

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 FY2022, $1.063 million was expended for civilian pay expenses in this program element, and in FY2023 $0.000 is forecast for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: C-130H Avionics Modernization Program (AMP) Increment 2	9.583	0.407	5.427
Description: The program is currently executing the Engineering and Manufacturing Development (EMD) phase activities. ***FY 2023 Plans:*** Continuation of EMD activities, primarily related to development and operational test and weapon system trainer and courseware development. Other remaining actions may include but are not limited to software development, design, integration, program office support, studies and risk reduction efforts, technical order development validation and verification, SIL development, type 1 training, and other efforts required to fulfill program requirements. ***FY 2024 Plans:*** Complete EMD activities, primarily related to development and operational test completion and weapon system trainer and courseware completion. Other remaining actions may include but are not limited to Joint Mission Planning System and other supporting system updates, studies and risk reduction efforts, technical order development validation and verification, SIL activities, type 1 training, and other efforts. Required to fulfill program requirements. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to delays in program flight testing and AMP Increment 2 updates to support systems stemming from the program being rebaselined.			
Accomplishments/Planned Programs Subtotals	9.583	0.407	5.427

	FY 2022	FY 2023
Congressional Add: Infrared Suppression ***FY 2022 Accomplishments:*** FY2023 Plans: Conduct effectiveness and viability tests on two infrared suppression systems	2.800	-
Congressional Adds Subtotals	2.800	-

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401115F / *C-130 Airlift Squadron*	**Project (Number/Name)** 675250 / *C-130H Avionics Modernization Program (AMP) Increment 2*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• APAF 05 Line Item C13000: *C-130*	272.251	224.702	71.177	-	71.177	144.290	167.908	254.852	183.383	48.742	1,367.305
• APAF 06 Line Item 000999: *Initial Spares/Repair Parts*	0.419	1.153	0.695	-	0.695	2.672	3.214	3.317	3.386	Continuing	Continuing

Remarks

None

D. Acquisition Strategy

C-130H AMP Increment 2 contract was awarded 3rd quarter of 2019. Current efforts are primarily focused on the Engineering and Manufacturing Development (EMD) activities under a Fixed-Price Incentive (Firm) contract structure.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401115F / *C-130 Airlift Squadron*	**Project (Number/Name)** 675250 / *C-130H Avionics Modernization Program (AMP) Increment 2*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C-130H AMP Increment 2 EMD Contract	C/FPIF	L3Harris : Waco, TX	-	0.331	Nov 2021	0.407	Jun 2023	2.427	Nov 2023	-		2.427	0.000	3.165	91.739
Joint Mission Planning System	C/FPIF	TBD : TBD	-	-		-		2.000	Apr 2024	-		2.000	0.000	2.000	4.700
Infrared Suppression	C/TBD	TBD : TBD	-	2.800	Jun 2023	-		-		-		-	0.000	2.800	2.800
		Subtotal	-	3.131		0.407		4.427		-		4.427	0.000	7.965	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Government Costs	TBD	Not specified. : TBD	-	-		-		0.100	May 2024	-		0.100	0.000	0.100	3.777
Direct Cite Civilian Pay	C/CPAF	Not specified. : TBD	-	1.063	Oct 2021	-		-		-		-	0.000	1.063	0.960
		Subtotal	-	1.063		-		0.100		-		0.100	0.000	1.163	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C-130H AMP Increment 2 Development Testing	PO	L3Harris : Waco, TX	-	4.500	Nov 2021	-		-		-		-	0.000	4.500	8.800
		Subtotal	-	4.500		-		-		-		-	0.000	4.500	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C-130H AMP Increment 2 PSC Contractor Services	Various	Not Specified : TBD	-	2.992	Feb 2022	-		-		-		-	0.000	2.992	14.238

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401115F / *C-130 Airlift Squadron*	**Project (Number/Name)** 675250 / *C-130H Avionics Modernization Program (AMP) Increment 2*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C-130H AMP Increment 2 PSC - Government Cost	Various	Not Specified : TBD	-	0.697	Oct 2021	-		0.900	Jan 2024	-		0.900	0.000	1.597	0.773
		Subtotal	-	3.689		-		0.900		-		0.900	0.000	4.589	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	12.383		0.407		5.427		-		5.427	0.000	18.217	N/A

Remarks

FINANCIAL PERFORMANCE: AMP Increment 2 is evaluated against traditional Research and Development (R&D) program expenditure benchmarks. Unlike many traditional R&D programs, however, the AMP Increment 2 EMD phase contract is an FPIF contract with progress payments. Twenty percent (20%) 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.

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401115F / *C-130 Airlift Squadron*	**Project (Number/Name)** 675250 / *C-130H Avionics Modernization Program (AMP) Increment 2*

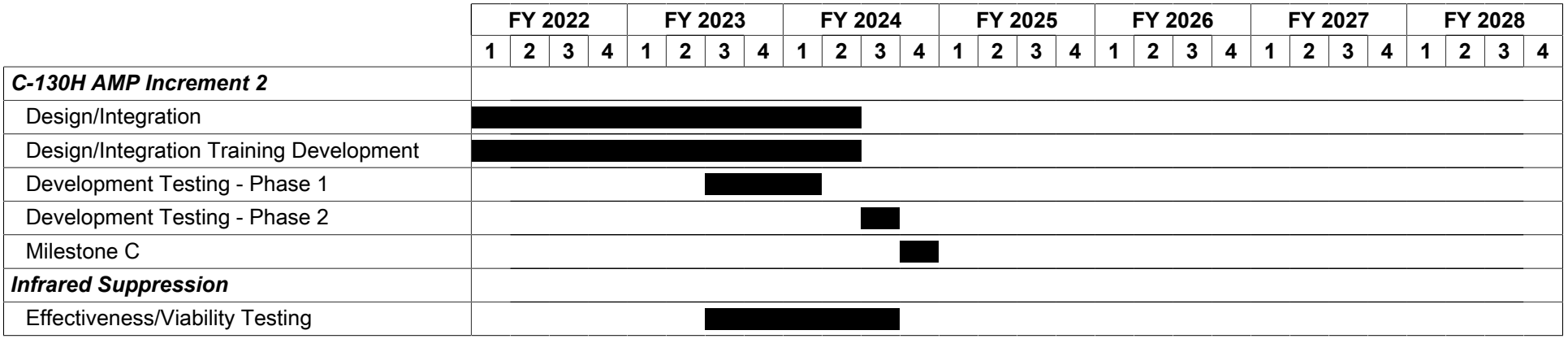

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401115F / *C-130 Airlift Squadron*	**Project (Number/Name)** 675250 / *C-130H Avionics Modernization Program (AMP) Increment 2*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
C-130H AMP Increment 2				
Design/Integration	1	2022	2	2024
Design/Integration Training Development	1	2022	2	2024
Development Testing - Phase 1	3	2023	1	2024
Development Testing - Phase 2	3	2024	3	2024
Milestone C	4	2024	4	2024
Infrared Suppression				
Effectiveness/Viability Testing	3	2023	3	2024

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0401119F / *C-5 Airlift Squadrons (IF)*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	16.998	3.100	29.502	0.000	29.502	33.612	51.848	52.909	54.823	Continuing	Continuing
671307: *C-5 REPLACE MULTIFUNCT CONTROL AND DISPLAY (RMCD)*	-	16.998	3.100	26.502	0.000	26.502	32.742	32.867	0.000	0.000	0.000	112.209
671308: *C-5 Modernization Efforts*	-	0.000	0.000	3.000	0.000	3.000	0.870	18.981	52.909	54.823	Continuing	Continuing

Note

This program, BA 7, PE 0401119F, project , Next Generation Airlift (NGAL), is a new start.

A. Mission Description and Budget Item Justification

The C-5M carries outsized and heavy cargo (tanks, helicopters, etc.) between main operating bases. Additionally, the aircraft is capable of carrying 73 troops and 36 standard 463-L pallets. There are 52 C-5 aircraft in the Air Force fleet. The fleet was delivered to the Air Force between 1969 and 1989. Initial service life for the aircraft was 30,000 flight hours. Service life is extended out to 2040 as a result of the reliability enhancement and re-engining program (RERP) modification.

C-5M RDT&E efforts are split into two main lines of effort: Project 671307 is the C-5M Replace Multi-functional Controls and Display (RMCD) program, a modification to mitigate the obsolescence of the current control and display units. Project 671308 has two major thrusts: one line for Next Generation Airlift (NGAL) Capability Studies; the other develops future solutions for needed upgrades to combat obsolescence, safety of flight, and reliability/availability/maintainability issues.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver C-5 Modernization 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 2022, $0.000 million was expended for civilian pay expenses in this program element, and in FY 2023 $0.000 million is forecast for civilian pay expenses in this program element.

Funding will provide for program management & administration, studies and analysis, risk reduction efforts, Advisory and Assistance Services, change orders, and other government costs such as travel, directorate support, Government Furnished Equipment (GFE), and over and above costs. Funding may also be used to fund studies and analysis for address Diminishing Manufacturing Sources (DMS) or new family of system aircraft concepts.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401119F / *C-5 Airlift Squadrons (IF)*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	17.507	6.100	0.000	0.000	0.000
Current President's Budget	16.998	3.100	29.502	0.000	29.502
Total Adjustments	-0.509	-3.000	29.502	0.000	29.502
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	-3.000			
• 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	-0.509	0.000			
• Other Adjustments	0.000	0.000	29.502	0.000	29.502

Change Summary Explanation

FY 2023 funding was reduced by $3.000 million for a Congressional Directed Reduction due to "integration contract delays".

FY 2024 funding was increased by $29.502 million to support RMCD modification efforts and NGAL developmental activities.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401119F / *C-5 Airlift Squadrons (IF)*	Project (Number/Name) 671307 / *C-5 REPLACE MULTIFUNCT CONTROL AND DISPLAY (RMCD)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
671307: *C-5 REPLACE MULTIFUNCT CONTROL AND DISPLAY (RMCD)*	-	16.998	3.100	26.502	0.000	26.502	32.742	32.867	0.000	0.000	0.000	112.209
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The C-5M Replace Multi-functional Controls and Display (RMCD) program is a modification to mitigate the obsolescence of the current control and display units. The RMCD program is also a comprehensive effort to ensure appropriate RMCD Line Replaceable Units (LRU) are developed and installed on the C-5M allowing aircraft operation in accordance with civil airspace access mandates for both US National Airspace System (NAS) and international civil airspace.

This effort centers on modifying the current display units to support legacy inputs and integration of new system capabilities with margin for growth by upgrading displays power solution. Use of mixed displays (current and new) is not permissible due to obsolescence and human factors considerations.

This modification may include software development, data, cyber security, testing, installation, spares, Systems Integration Lab (SIL), prototypes, and other program support activities. Funding may be used to address Diminishing Manufacturing Sources (DMS). The modification helps to maintain aircraft availability as the new multi-functional controls and displays replaces the current controls and displays. Funding supports studies and analysis, risk reduction efforts, Advisory and Assistance Services (A&AS), program support costs, change orders, and other government costs such as travel, directorate support, government furnished equipment (GFE), and over and above costs.

Current RMCD funding required for development activities through FY26. RMCD experienced delays during integration of monitors with existing aircraft software that required purchase and incorporation of Lockheed Martin proprietary software. Initial procurement funds not required until FY 2026.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver C-5 Modernization 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 2022 $0.000 million was expended for civilian pay expenses in this program element, and in FY 2023 $0.000 million is forecast for civilian pay expenses in this program element

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: C-5 Replace Multi-Functional Controls and Display	16.998	3.100	26.502	0.000	26.502
Description: Replace Multi-Functional Controls and Display will enable the C-5M to achieve wartime mission requirements by maintaining fleet availability (mission capable rate).					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401119F / *C-5 Airlift Squadrons (IF)*	**Project (Number/Name)** 671307 / *C-5 REPLACE MULTIFUNCT CONTROL AND DISPLAY (RMCD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
FY 2023 Plans: Continue EMD activity options and continue hardware development to deliver Engineering Units for Displays and Graphics Processor Units. ***FY 2024 Base Plans:*** Ramp up of EMD activities to include but not limited to software development, data, cyber security, testing, installation, spares, Systems Integration Lab (SIL), prototypes, and other program support activities. and continuing hardware and engineering development activities to deliver Engineering Units for Displays and Graphics Processor Units. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to ramp up of EMD activities to include but not limited to software integration, testing, and contractor development support.					
Accomplishments/Planned Programs Subtotals	16.998	3.100	26.502	0.000	26.502

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• APAF 05 Line Item C00500: *C-5 Mods*	16.827	17.533	27.637	-	27.637	53.821	33.481	34.243	33.843	38.980	256.365
• APAF 06 Line Item C00500: *Initial Spares*	0.000	1.269	2.053	-	2.053	3.167	0.000	0.000	0.000	0.000	6.489
• APAF 05 Line Item C00500 (2)...: *Training PE 0401897F*	7.848	3.633	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	11.481
• APAF 07 Line Item C00500: *Post Production Support*	0.000	18.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	18.000

Remarks

D. Acquisition Strategy

Program Acquisition Strategy Panel (ASP) approved program's acquisition strategy on 4 Apr 20. This strategy approved executing an Other Transaction Authority (OTA) contract to procure proof of concept hardware for test/analysis, award a Sole Source EMD contract to Lockheed Martin Aerospace for system software and hardware

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401119F / *C-5 Airlift Squadrons (IF)*	**Project (Number/Name)** 671307 / *C-5 REPLACE MULTIFUNCT CONTROL AND DISPLAY (RMCD)*

tech insertion, system integration, data management, systems engineering, logistics, test and training to modify 2 aircraft. At completion of EMD, the program would move into Milestone C for LRIP and production to follow.

Delta ASP #1 to add risk reduction for hardware development and contractor software development oversight/metrics to use Agile development processes approved 08 Oct 20.

Delta ASP #2 to exercise OT Hardware Amendment 1 approved 17 Dec 21.

Delta ASP #3 approved 12 May 22 to align EMD contractor requirements based on limited funding in FY23/24 and to update software development strategy.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401119F / *C-5 Airlift Squadrons (IF)*	**Project (Number/Name)** 671307 / *C-5 REPLACE MULTIFUNCT CONTROL AND DISPLAY (RMCD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integration Contract	SS/CPIF	Lockheed Martin : Marietta, GA	-	1.441	Sep 2022	-		15.559	Jan 2024	-		15.559	Continuing	Continuing	-
Phase 0 / Integration Contract	SS/CPIF	Lockheed Martin : Marietta, GA	-	10.136	Jun 2022	3.100	Mar 2023	0.000	Jun 2024	-		0.000	Continuing	Continuing	-
Other Transaction Authority (OTA)	SS/FP	SOSSEC, Inc : Salem, NH	-	3.918	Sep 2022	-		4.985	Jan 2024	-		4.985	Continuing	Continuing	-
		Subtotal	-	15.495		3.100		20.544		-		20.544	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PSC-OGCs	Various	WPAFB/RobinsAFB : TBD	-	0.470	Aug 2022	-		2.542	Apr 2024	-		2.542	Continuing	Continuing	-
		Subtotal	-	0.470		-		2.542		-		2.542	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Test	PO	AFLCMC/WLS : Robins AFB, GA	-	1.008	May 2022	-		2.200	Jan 2024	-		2.200	Continuing	Continuing	-
SIL	MIPR	AFMC 578 SWES/ MXDPAA : Robins AFB, GA	-	0.025	Jul 2022	-		1.216	Jan 2024	-		1.216	Continuing	Continuing	-
		Subtotal	-	1.033		-		3.416		-		3.416	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	16.998		3.100		26.502		-		26.502	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401119F / *C-5 Airlift Squadrons (IF)*	Project (Number/Name) 671307 / *C-5 REPLACE MULTIFUNCT CONTROL AND DISPLAY (RMCD)*	

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401119F / *C-5 Airlift Squadrons (IF)*	**Project (Number/Name)** 671307 / *C-5 REPLACE MULTIFUNCT CONTROL AND DISPLAY (RMCD)*

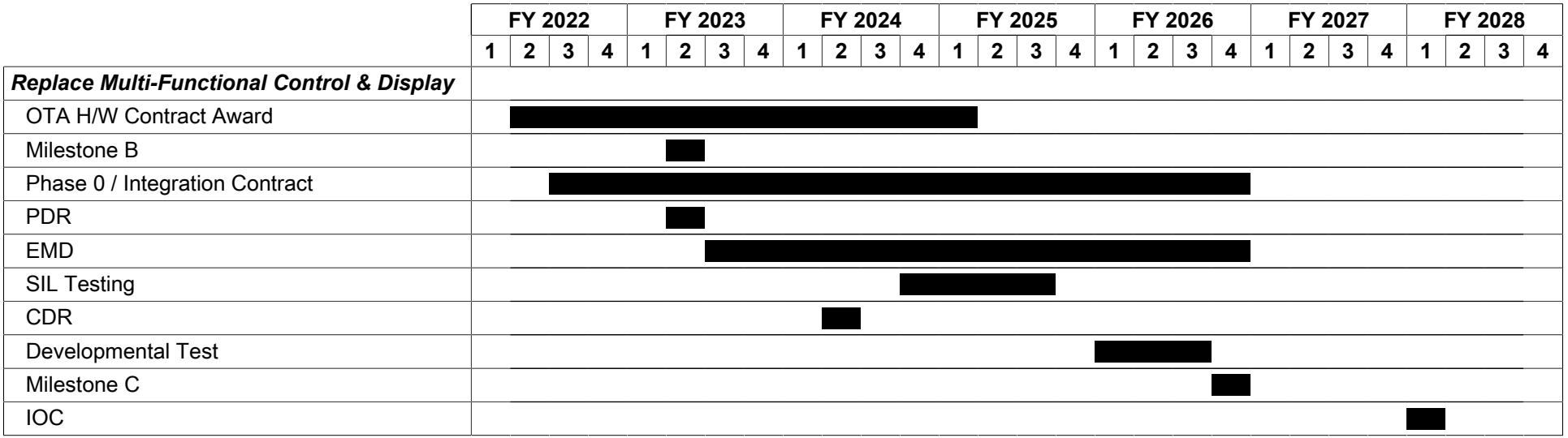

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401119F / *C-5 Airlift Squadrons (IF)*	**Project (Number/Name)** 671307 / *C-5 REPLACE MULTIFUNCT CONTROL AND DISPLAY (RMCD)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Replace Multi-Functional Control & Display				
OTA H/W Contract Award	2	2022	1	2025
Milestone B	2	2023	2	2023
Phase 0 / Integration Contract	3	2022	4	2026
PDR	2	2023	2	2023
EMD	3	2023	4	2026
SIL Testing	4	2024	3	2025
CDR	2	2024	2	2024
Developmental Test	1	2026	3	2026
Milestone C	4	2026	4	2026
IOC	1	2028	1	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401119F / *C-5 Airlift Squadrons (IF)*	Project (Number/Name) 671308 / *C-5 Modernization Efforts*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
671308: *C-5 Modernization Efforts*	-	0.000	0.000	3.000	0.000	3.000	0.870	18.981	52.909	54.823	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This program, BA 7, PE 0401119F, project , Next Generation Airlift (NGAL), is a new start.

A. Mission Description and Budget Item Justification

This funding line is designed to support aircraft Research, Development, Test & Evaluation (RDT&E) efforts including, but not limited to: studies and analyses, risk reduction efforts, Advisory and Assistance Services (A&AS), program support costs, change orders, and other government costs such as travel, directorate support, government furnished equipment (GFE), and over and above costs. Types of activities supported will include software development, data, cyber security, testing, installation, spares, Systems Integration Lab (SIL), prototypes, and other program support activities.

Funding in FY24 supports initial capability studies for a concept preliminarily termed the Next Generation Airlift (NGAL) that will determine requirements and technologies available to support a next generation airlift family of systems. A Capabilities Based Assessment (CBA) is the first step required prior to Analysis of Alternative (AoA) and Initial Capabilities Document (ICD) which are required for ACAT I programs. The CBA will consider which family of systems to integrate to accomplish rapid cargo delivery, survivability, and connectivity to assure Joint partner delivery in contested environments.

All funds allocated to this BPAC in FY25-28 are dedicated to C-5 modernization efforts which will be prioritized in accordance with AMC processes. These efforts may include Mobile User Objective System (MUOS) Antenna upgrades, Second Generation Anti-Jam Tactical UHF Radio for NATO (SATURN), and viability improvement initiatives.

This program element may include necessary emergent or unanticipated civilian pay expenses required to manage, execute, and deliver emergent or unanticipated weapon system capability. In FY 2022 $0.000M and in FY 2023 $0.000M was expended for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Next Generation Airlift (NGAL)	-	0.000	3.000	0.000	3.000
Description: Initial Study of Capabilities					
FY 2023 Plans: N/A					
FY 2024 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401119F / *C-5 Airlift Squadrons (IF)*	**Project (Number/Name)** 671308 / *C-5 Modernization Efforts*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Funding supports initial capability studies for the Next Generation Airlift (NGAL). ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to ramp up of studies and analyses to determine the operational requirements for the NGAL.					
Accomplishments/Planned Programs Subtotals	-	0.000	3.000	0.000	3.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Funding in FY 2024 supports initial study of capabilities required and technologies available to support a next generation airlift family of systems. A Capabilities Based Assessment (CBA) is the first step required prior to Analysis of Alternative (AoA) and Initial Capabilities Document (ICD) which are required for ACAT I programs. The CBA will consider which family of systems to integrate for rapid deliver cargo, survivability, and connectivity to assure Joint partner delivery in contested environment.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401119F / *C-5 Airlift Squadrons (IF)*	Project (Number/Name) 671308 / *C-5 Modernization Efforts*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies	TBD	TBD : TBD	-	-		-		3.000	Nov 2023	-		3.000	Continuing	Continuing	-
		Subtotal	-	-		-		3.000		-		3.000	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		-		3.000		-		3.000	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401119F / *C-5 Airlift Squadrons (IF)*	**Project (Number/Name)** 671308 / *C-5 Modernization Efforts*

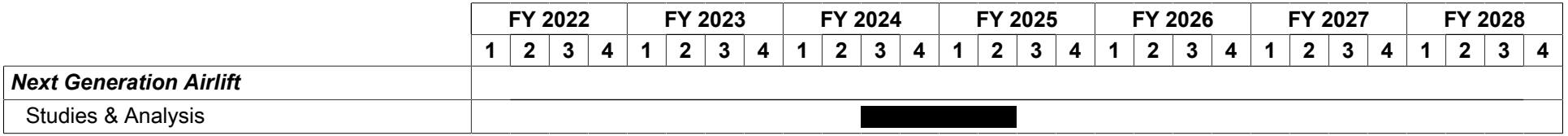

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401119F / *C-5 Airlift Squadrons (IF)*	**Project (Number/Name)** 671308 / *C-5 Modernization Efforts*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Next Generation Airlift				
Studies & Analysis	3	2024	2	2025

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force												Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0401130F / *C-17 Aircraft (IF)*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	15.779	25.387	2.753	0.000	2.753	12.373	27.949	82.029	127.232	0.000	293.502
672569: *C-17A Aircraft*	-	15.779	25.387	2.753	0.000	2.753	12.373	27.949	82.029	127.232	0.000	293.502
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This program, BA 7, PE 0401130F, project 672569, Flight Deck Replacement (FDR), is a new start.

A. Mission Description and Budget Item Justification

The four-engine C-17 is the only aircraft capable of routine delivery of outsize cargo (tanks, helicopters, etc.) to short, austere airfields. The aircraft can carry up to 102 troops, 36 litter patients or 18 standard 463-L pallets. The C-17 can perform the entire spectrum of airlift missions and is specifically designed to operate effectively and efficiently in both strategic and theater environments. Not only can the C-17 deliver outsize cargo to austere tactical environments, but it also reduces ground time during air and land operations.

Strategic Airlift provides essential flexibility when responding to contingencies on short notice anywhere in the world. It is a major element of America's national security strategy and constitutes the most responsive means of meeting mobility requirements. Specific tasks associated with the airlift mission include deployment, employment, sustaining support, retrograde, aeromedical evacuation, and combat redeployment. The C-17 will perform this airlift mission well into this century.

C-17 Research, Development, Test & Evaluation (RDT&E) funding efforts support, but are not limited to: Aircraft performance improvements, aircraft mission execution and airspace access mandates (i.e., Communications/Navigation Improvements); flight test activities and facilities; development of solutions for obsolescence and safety of flight issues; systems engineering/program support; support for avionics laboratories; software development, test and integration; block development/change management; developments of solutions for needed upgrades to combat obsolescence and safety of flight issues; and proposal preparation for new projects. Funding supports efforts to include but not limited to Flight Deck Replacement (FDR), Beyond Line of Sight (BLOS), and studies to assess survivability effects of different defensive systems not equipped on C-17 aircraft.

This funding includes Rapid Global Mobility (RGM) platform-related rapid capability development process activities including early planning, analysis and systems engineering activities which provide linkages between operational needs, system performance requirements, technology needs and opportunities, potential lifecycle costs and enabling the technical foundation for material development.

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 C-17 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,

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401130F / *C-17 Aircraft (IF)*

0605898F, 0606398F. In FY 2022 $0.664 million was forecasted for civilian pay expenses in this program element, and in FY 2023 $0.820 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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	16.360	25.387	0.000	0.000	0.000
Current President's Budget	15.779	25.387	2.753	0.000	2.753
Total Adjustments	-0.581	0.000	2.753	0.000	2.753
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	-5.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	5.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.581	0.000			
• Other Adjustments	0.000	0.000	2.753	0.000	2.753

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 672569: *C-17A Aircraft*		
Congressional Add: *Aircraft Protective Systems Development*	0.000	5.000
Congressional Add Subtotals for Project: 672569	0.000	5.000
Congressional Add Totals for all Projects	0.000	5.000

Change Summary Explanation

FY 2023 funding decreased by $5.000 million due to Congressional Directed Reduction for "BLOS under-execution and program growth."

FY 2024 funding increased by $2.753 million to support Flight Deck Replacement and BLOS efforts.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Beyond Line of Sight (BLOS)	14.884	18.721	0.200	-	0.200

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401130F / *C-17 Aircraft (IF)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Description: Beyond Line-Of-Sight (BLOS) modernization modification is a development, integration, and retrofit program for C-17 communications. BLOS modifies and improves hardware and software for voice and data communications on the C-17. The program will modify both integrated aircraft avionics as well as back-end mission communications and could utilize both military and commercial satellite systems to extend communication ranges. The current efforts include but are not limited to Aero-I/Aero-H modernizations and Comm Mod. It includes support for on-going flight test, software labs, and system engineering. ***FY 2023 Plans:*** BLOS program efforts continue with Test & Evaluation activities and certification efforts, as well as TO verification and training, aircraft cyber assessments and quick reaction support/test activities. ***FY 2024 Base Plans:*** BLOS program efforts continue Test & Evaluation activities and certification efforts. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding decreased due anticipated completion of the BLOS developmental efforts.					
Title: Roll-On Conference Capsule (ROCC)	0.895	1.666	0.000	-	0.000
Description: ROCC is a program to replace current Silver Bullet Capsules and includes development/design. Effort will allow US Government senior leaders and staff to work, communicate, and rest in airworthy capsules during long range missions into threat areas, with the protection of the C-17A Globemaster III's defensive systems capability. Specifically, the development phase of the ROCC, (formerly referred to as the Silver Bullet Replacement (SBR) program) will require non-recurring engineering, manufacture of the first article and testing. Support for flight test, software labs, system engineering, program management and engineering/acquisition studies not related to requirements generation are included in the overall cost. ***FY 2023 Plans:*** Continuation of ROCC development efforts to include mitigation actions for head injury risk and seat structure risk, integration test, software labs, system engineering, and certification activities. ***FY 2024 Base Plans:*** Continued ROCC developmental and testing activities. ***FY 2023 to FY 2024 Increase/Decrease Statement:***					

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401130F / *C-17 Aircraft (IF)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Funding decreased due to anticipated completion of ROCC developmental and testing activities.					
Title: Flight Deck Replacement (FDR) ***Description:*** Flight Deck Replacement (FDR) is a development, integration, and retrofit program seeking to modernize the C-17 fight deck. The program replaces the obsolete mission flight computer (core integrated processors (CIP)), multi-function displays (MFD), standby engine displays (SED), video integrated processor (VIP), and provides updates for the affected simulators/trainers/labs. The program's capabilities provide an open systems architecture enabling future modular "plug and play", advancing C-17 flight deck components to current industry standards. Effort previously referred to as "Flight Deck Modernization/Upgrade (FDM/FDU)". FDR is the terminology going forward. ***FY 2023 Plans:*** N/A ***FY 2024 Base Plans:*** Funding will support pre-acquisition award activities. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to ramp up of contract award activities.	-	0.000	2.553	0.000	2.553
Accomplishments/Planned Programs Subtotals	15.779	20.387	2.753	0.000	2.753

	FY 2022	FY 2023
Congressional Add: Aircraft Protective Systems Development	0.000	5.000
FY 2022 Accomplishments: Will perform study to assess survivability benefits and secondary effects of different defensive systems not equipped on C-17 aircraft.		

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401130F / *C-17 Aircraft (IF)*

	FY 2022	FY 2023
Study options include, but are not limited to: Self-contained Pod Mounted RF protection, Integrated Pod Mounted RF protection, fully-integrated federated system or Engine Infrared Suppression ***FY 2023 Plans:*** Study support in FY23.		
Congressional Adds Subtotals	0.000	5.000

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• APAF 05 Line Item C01700: *C-17A*	54.649	142.653	140.560	-	140.560	100.013	134.375	134.373	123.025	0.000	829.648
• APAF 06 Line Item 000999: *Initial Spares/Repair Parts*	11.090	10.707	11.637	-	11.637	26.398	1.808	4.659	7.978	0.000	74.277

Remarks

E. Acquisition Strategy

The C-17 Acquisition Strategy is based on several separate contracts to support the entire scope of the C-17 weapon system. Globemaster Operational Enhancement (GLOBE) is an indefinite delivery, indefinite quantity (IDIQ) contract used to purchase services and research articles (through delivery orders) to support all RDT&E with our prime contractor. In addition, purchase orders are used to support flight test activities within the projects at Edwards AFB. Additional contract vehicles could be utilized as required.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401130F / *C-17 Aircraft (IF)*	Project (Number/Name) 672569 / *C-17A Aircraft*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C-17 BLOS- Beyond Line of Sight	Various	Boeing : Long Beach, CA	-	14.884	Nov 2021	22.830	Nov 2022	0.200	Nov 2023	-		0.200	Continuing	Continuing	72.136
C-17 ROCC- Roll -On Conference Capsule	Various	Select Tech : Centerville, OH	-	0.231	Dec 2021	1.737	Dec 2022	-		-		-	Continuing	Continuing	10.788
C-17 FDR- Flight Deck Replacement	TBD	Not specified. : TBD	-	-		-		1.717	Nov 2023	-		1.717	Continuing	Continuing	-
		Subtotal	-	15.115		24.567		1.917		-		1.917	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Direct Cite Authority Civilian Pay	Various	Not specified. : TBD	-	0.664	Jan 2022	0.820	Dec 2022	0.836	Dec 2023	-		0.836	Continuing	Continuing	-
		Subtotal	-	0.664		0.820		0.836		-		0.836	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	15.779		25.387		2.753		-		2.753	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401130F / *C-17 Aircraft (IF)*	**Project (Number/Name)** 672569 / *C-17A Aircraft*

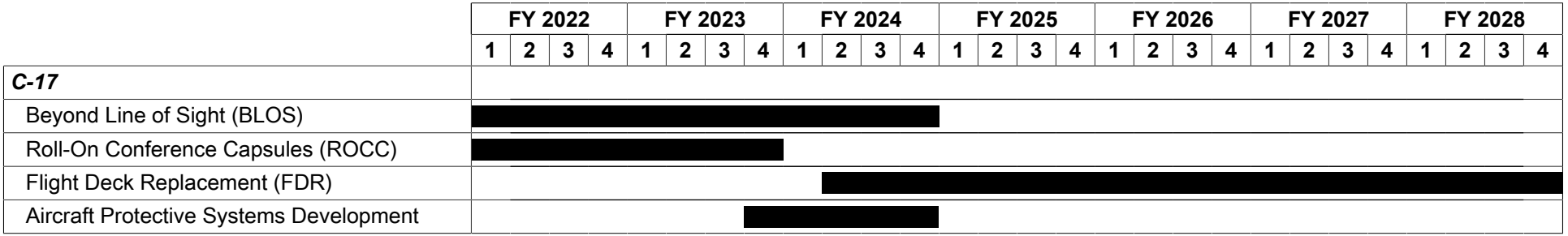

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401130F / *C-17 Aircraft (IF)*	**Project (Number/Name)** 672569 / *C-17A Aircraft*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
C-17				
Beyond Line of Sight (BLOS)	1	2022	4	2024
Roll-On Conference Capsules (ROCC)	1	2022	4	2023
Flight Deck Replacement (FDR)	2	2024	4	2028
Aircraft Protective Systems Development	4	2023	4	2024

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0401132F / *C-130J Program*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	18.392	10.060	19.100	0.000	19.100	19.350	14.885	15.131	15.662	Continuing	Continuing
675061: *C-130J*	0.000	7.437	9.632	15.181	0.000	15.181	18.712	1.401	9.615	8.756	Continuing	Continuing
675305: *C-130J Prog*	0.000	10.955	0.428	3.919	0.000	3.919	0.638	13.484	5.516	6.906	0.000	41.846
Program MDAP/MAIS Code: 220												

A. Mission Description and Budget Item Justification

The C-130J is a medium-sized transport aircraft capable of performing a variety of combat delivery (tactical airlift) operations across a broad range of mission environments. The C-130J aircraft, with its extended (by 15 feet) fuselage, provides additional cargo carrying capacity for the USAF combat delivery mission compared with legacy C-130E/H and the C-130J (short). Special mission variants of the C-130J conduct airborne psychological operations (EC-130J), weather reconnaissance (WC-130J), search and rescue (HC-130J), and special operations (MC-130J and AC-130J). All aircraft variants must be capable of worldwide operations.

This project provides RDT&E funding for required capabilities that are grouped as "Block" upgrades or "Capability" or Enhancement and Deficiencies (EnD) updates. Content/requirements for block modifications is documented in International Program Directives (IPDs) and as determined in the Cooperative Systems and Software Upgrade Requirements Management (COSSURM) prioritized requirements process. This project will integrate the common-core capabilities developed under this program into the C-130J.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver C130J 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 2022 $0.000 million was expended for civilian pay expenses in this program element, and in FY 2023 $0.000 million is forecast 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”.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401132F / *C-130J Program*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	24.112	11.060	14.104	0.000	14.104
Current President's Budget	18.392	10.060	19.100	0.000	19.100
Total Adjustments	-5.720	-1.000	4.996	0.000	4.996
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	-1.000			
• 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	-0.720	0.000			
• Other Adjustments	0.000	0.000	4.996	0.000	4.996

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 675305: *C-130J Prog*		
Congressional Add: *Digital Heads Up Display (HUD) and Enhanced Vision System (EVS)*	10.000	-
Congressional Add Subtotals for Project: 675305	10.000	-
Congressional Add Totals for all Projects	10.000	-

Change Summary Explanation

FY 2022 funding was reduced by $5.720 million for $0.720 million for Small Business Innovation and Research (SBIR) and $5.000 million reprogramming to support other higher Air Force priorities.

FY 2023 funding was reduced by $1.000 million due to Congressional Directed Reduction for "MILSATCOM delays."

FY 2024 funding was increased by $4.996 million to support Communication Modernization program efforts.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401132F / *C-130J Program*	Project (Number/Name) 675061 / *C-130J*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675061: *C-130J*	0.000	7.437	9.632	15.181	0.000	15.181	18.712	1.401	9.615	8.756	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The C-130J is a medium-sized transport aircraft capable of performing a variety of combat delivery (tactical airlift) operations across a broad range of mission environments. The C-130J aircraft, with its extended (by 15 feet) fuselage, provides additional cargo carrying capacity for the USAF combat delivery mission compared with legacy C-130E/H and the C-130J (short). Special mission variants of the C-130J conduct airborne psychological operations (EC-130J), weather reconnaissance (WC-130J), search and rescue (HC-130J), and special operations (MC-130J and AC-130J). All aircraft variants must be capable of worldwide operations.

This project also provides RDT&E funding for required capabilities that are grouped as "Block" upgrades or "Capability" or Enhancement and Deficiencies (EnD) updates. Content/requirements for these efforts is documented in International Program Directives (IPDs) as determined through the Cooperative Systems and Software Upgrade Requirements Management (COSSURM) process or other approved C-130J Joint User Group (JUG) processes. Activities required to complete development and integration of the common-core capabilities for all United States' variants are included in this project. In addition, this project includes early acquisition and engineering studies and initiatives related to the C-130J such as, but not limited to, capability gap resolution, emerging technology assessments, exploration and adaptation, systems integration assessments and technology transition; to include digital transformation.

This project also provides RDT&E funding for requirements that are outside of the "Block" upgrades, "Capability" updates, "Enhancement and Deficiencies" (EnD) updates, or COSSURM process. These efforts may include, but are not limited to, communication, data link, Global Positioning Systems (GPS), electronic warfare, formation flight system, digital pathfinder initiatives and mission support system updates. The requirements are identified and concurred between the C-130J Program Office and Air Mobility Command (AMC). Requirements are documented through the C-130J Program Office approval process.

This project provides RDT&E funding for studies and risk reduction activities and Program Support Costs (PSC).

This project includes RDT&E funding for the following C-130J aircraft variants: C-130J stretch aircraft, C-130J short aircraft, EC-130J aircraft, WC-130J aircraft, HC-130J aircraft, MC-130J aircraft, and AC-130J aircraft.

This project includes RDT&E funding for Rapid Global Mobility (RGM) platform related activities including, but not limited to, prototyping, capability development, process activities, planning analysis, digital acquisition and systems engineering activities.

This project includes RDT&E funding for Communication Modernization efforts to include but not limited to development, integration, and test of the new radio and communication systems including, but not limited to Mobile User Objective System (MUOS), Second-generation Anti-jam Tactical UHF Radio for NATO (SATURN), Joint Range Extension Application Protocols (JREAP) to modernize Military Satellite Communication System (MILSATCOM), Ultra High Frequency (UHF), High Frequency (HF), special mission processing, and data link messaging. These systems will provide secure, global Line of Sight (LOS) and Beyond Line of Sight (BLOS) satellite

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401132F / *C-130J Program*	**Project (Number/Name)** 675061 / *C-130J*

voice and data connectivity utilizing modern satellite constellations. Furthermore, these systems will also be integrated into other C-130J capabilities, such as Radio Frequency (RF) components including ALR-69A and DRFM (Digital Radio Frequency Memory Countermeasure).

This program element may include necessary civilian pay expenses required to manage, execute, and deliver C130J 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 2022 $0.000 million was expended for civilian pay expenses in this program element, and in FY 2023 $0.000 million is forecast 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".

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Block 8.1	2.218	0.977	2.889
Description: BLOCK 8.1 Adds Identification Friend or Foe (IFF) Mode 5, Civil Data Link, Automatic Dependent Surveillance - Broadcast (ADS-B), Air Traffic Services (ATS)/Airline Operational Control (AOC) Data Link for Line of Sight (LOS) and Beyond Line of Sight (BLOS) communication, enhanced covert lighting, improved Public Address(PA) System, and Approach Procedure with Vertical guidance (APV)/ Localizer Performance with Vertical guidance (LPV) approach capability. Major avionics platforms impacted include, but are not limited to, Flight Management System (FMS) Software, Mission Computer (MC) Software, Bus Interface Unit (BIU) software, special mission processing, and Maintenance Management System (MMS). ***FY 2023 Plans:*** Plan to continue Block 8.1 program close-out activities. ***FY 2024 Plans:*** Continuation of Block 8.1 close-out activities and communication modernization efforts. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to re-phasing effort for Communication Modernization program activity requirements.			
Title: Test & Evaluation	0.928	1.094	2.000
Description: Test and evaluation planning, conduct and support for developmental and operational testing of C-130J programs; to include, but not limited to the Block 8.1 and CMU2 (8.1.2) programs. ***FY 2023 Plans:*** Testing for CMU2 (8.1.2) ***FY 2024 Plans:*** Continuation of CMU 2 (8.1.2) testing execution phase requirements. ***FY 2023 to FY 2024 Increase/Decrease Statement:***			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401132F / *C-130J Program*	**Project (Number/Name)** 675061 / *C-130J*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Increase due to ramp-up of CMU 2 (8.1.2) testing requirements			
Title: Capability Management Update (CMU) ***Description:*** CMU 1 (8.1.1) and CMU 2 (8.1.2) refine and build on Block upgrade modifications that improve operational effectiveness, satisfy emerging operational needs, and enhance Human Machine Interface (HMI) to allow a workload that meets human factors standards and maintains the present crew complement. Subsystems and software impacted includes, but is not limited to, the Mission Computer (MC), Bus Interface Unit (BIU), Communications Navigation Identification - System Processor (CNI-SP), Special Mission Display Processor (SMDP), and Data Transfer and Diagnostic System (DTADS). ***FY 2023 Plans:*** Continuation of CMU2 program Block 8.1.1 and 8.1.2 activities. ***FY 2024 Plans:*** Continuation of CMU2 program Block 8.1.2 activities. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to ramp-up of CMU 2 developmental activities and required testing.	1.243	1.462	2.636
Title: Enhancement & Deficiencies (EnD) ***Description:*** EnD 1 (8.1.3) and EnD 2 (8.1.4) refine and build on Block upgrade modifications that improve operational effectiveness, satisfy emerging operational needs, and enhance Human Machine Interface (HMI) to allow a workload that meets human factors standards and maintains the present crew complement. Subsystems and software impacted includes, but is not limited to, the Mission Computer (MC), Bus Interface Unit (BIU), Communications Navigation Identification - System Processor (CNI-SP), Special Mission Display Processor (SMDP), and Data Transfer and Diagnostic System (DTADS). ***FY 2023 Plans:*** Initial requirements development of EnD 1 (Block 8.1.3) activities. ***FY 2024 Plans:*** Continuation of EnD 1 (Block 8.1.3) activities. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increase due to ramp-up of EnD 1 (Block 8.1.3) program and contract award activities.	0.000	0.500	3.500
Title: Cooperative Systems and Software Upgrade Requirements Management (COSSURM) ***Description:*** Continuing effort to collect potential requirements for inclusion into a Capability Management Update, or Enhancement and Deficiencies (EnD) Common Non-Recurring Engineering (CNRE) effort.	0.141	0.480	0.500

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401132F / *C-130J Program*	**Project (Number/Name)** 675061 / *C-130J*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
FY 2023 Plans: Continuation of COSSURM planning and development of EnD requirements and JUG website. ***FY 2024 Plans:*** Continuation of COSSURM planning and development of EnD requirements and JUG website. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increased due to additional planning activities and economic adjustments.			
Title: Other Inititatives ***Description:*** C-130J Initiatives/Studies and digital transformation efforts. ***FY 2023 Plans:*** Continuation of Pod Study and Future Initiatives ***FY 2024 Plans:*** Continuation of Pod Study, digital transformation efforts, SMDP Pathfinder, and future initiatives. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Decrease due to ramp-down of Pod Study activities.	2.907	5.119	3.656
Accomplishments/Planned Programs Subtotals	7.437	9.632	15.181

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• APAF 05 Line Item C1300J: *C-130J Mods*	110.784	112.299	121.258	-	121.258	182.089	187.717	172.058	186.737	409.124	1,482.066

Remarks

D. Acquisition Strategy

The C-130J aircraft will be modified using a "block upgrade" strategy. The Communication, Navigation, and Surveillance and Air Traffic Management (CNS/ATM), navigation safety requirement initially met in three block upgrades (Block 6.0, Block 7.0 and Block 8.1). In order to better manage the fleet, the USAF combined the Block 7 and Block 8.1 mods. This allows aircraft and trainers to be modified one time.

Subsequently, C-130J modifications will be grouped into smaller updates known as Capability Management Updates (CMU) or Enhancement and Deficiencies (EnD). Other AMC initiatives are upgrades to hardware and software that have arisen after the formation of the block upgrades and CMUs.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401132F / *C-130J Program*	**Project (Number/Name)** 675061 / *C-130J*

The proportion of CNS/ATM and navigation safety requirements allocated to Blocks 6.0 through 8.1 was determined via a design trade study conducted by Lockheed Martin (the C-130J prime contractor) and verified by the C-130J system program office and AMC. The development costs are being shared via a global Project Arrangement (PA) by the United States (USAF, USMC, USCG), the United Kingdom, Italy, Australia, Denmark, Canada, and Norway. An international program office (IPO), with USAF lead (Wright Patterson AFB, OH), manages the block upgrades development and CMU efforts. Retrofit of a Block on the aircraft is the responsibility of each nation.

In order to meet four DoD technology refresh mandates before end of year 2024, the communications modernization program will develop and field a federated and integrated communications system to Blocks 6.0 and 8.1 C-130J variants.

In order to comply with FAA mandated frequency remapping and National Security Agency mandated crypto-modernization, the aircraft Link 16 receiver transmitter will need to be upgraded to a next generation receiver. One example of the next generation receiver is the Multifunctional Information Distribution System Joint Tactical Radio System (LINK 16) (MIDS-JTRS) terminal.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401132F / *C-130J Program*	**Project (Number/Name)** 675061 / *C-130J*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C-130J Block 8.1, Air Force Life Cycle Mgmt Ctr (AFMC), WPAFB, OH	SS/CPFF	Lockheed Martin Information Sytems : Marietta, GA	0.000	1.380	Jun 2022	0.302	Feb 2023	1.994	Feb 2024	-		1.994	0.000	3.676	180.030
C-130J Capability Management Upgrades (CMU), Air Force Life Cycle Mgmt Ctr (AFMC), WPAFB, OH	SS/CPFF	Lockheed Martin Aero : Marietta, GA	0.000	-		0.415	Jun 2023	1.736	Apr 2024	-		1.736	0.000	2.151	20.480
C-130J AMC-Initiatives, Air Force Life Cycle Mgmt Ctr (AFMC), WPAFB, OH	SS/TBD	Lockheed Martin Aero : Marietta, GA	0.000	2.907	Aug 2022	5.119	May 2023	3.656	Apr 2024	-		3.656	0.000	11.682	14.730
C-130J Enhancement & Deficiencies (EnD), Air Force Life Cycle Mgmt Ctr (AFMC), WPAFB, OH	SS/TBD	Lockheed Martin Aero : Marietta, GA	0.000	-		0.500	Jun 2023	3.005	Jun 2024	-		3.005	0.000	3.505	-
C130J Cooperative Systems and Software Upgrade Requirements Management (COSSURM), Air Force Life Cycle Mgmt Ctr (AFMC), WPAFB, OH	SS/ Various	Lockheed Martin Aero : Marietta, GA	0.000	-		0.300	May 2023	0.320	Nov 2023	-		0.320	0.000	0.620	-
		Subtotal	0.000	4.287		6.636		10.711		-		10.711	0.000	21.634	N/A

Remarks

C-130J Block 8.1 Total Cost is below Target Value of Contract to account for the expected cost reduction initiatives on this Cost Plus Award Fee Contract.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	PO	Not specified. : EGLIN, FL	0.000	0.928	Apr 2022	1.094	Nov 2022	2.000	Nov 2023	-		2.000	0.000	4.022	-
		Subtotal	0.000	0.928		1.094		2.000		-		2.000	0.000	4.022	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401132F / *C-130J Program*	Project (Number/Name) 675061 / *C-130J*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C-130J IPO Support	TBD	N/A : NV	0.000	1.243	Feb 2022	1.047	Feb 2023	1.395	Feb 2024	-		1.395	0.000	3.685	15.014
C-130J COSSURM	TBD	N/A : NV	0.000	0.141	Jun 2022	0.180	Feb 2023	0.180	Feb 2024	-		0.180	0.000	0.501	16.548
C-130J Support	TBD	N/A : OH	0.000	0.838	Feb 2022	0.675	Feb 2023	0.895	Feb 2024	-		0.895	0.000	2.408	15.014
		Subtotal	0.000	2.222		1.902		2.470		-		2.470	0.000	6.594	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	7.437		9.632		15.181		-		15.181	0.000	32.250	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401132F / *C-130J Program*	**Project (Number/Name)** 675061 / *C-130J*

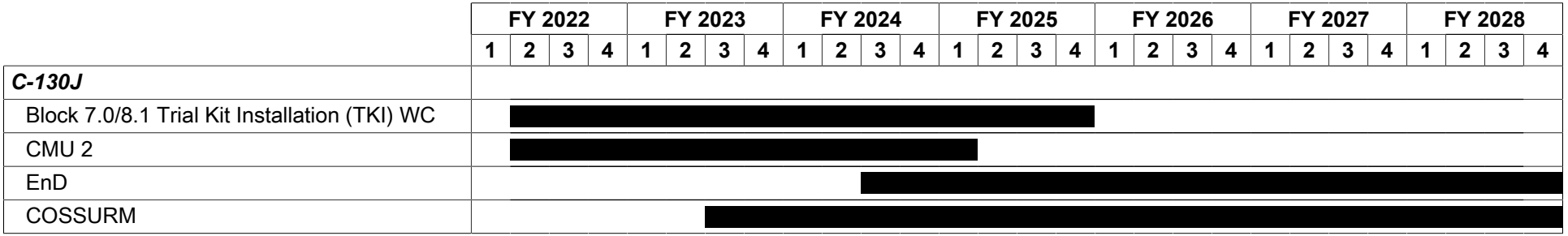

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401132F / *C-130J Program*	**Project (Number/Name)** 675061 / *C-130J*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
C-130J				
Block 7.0/8.1 Trial Kit Installation (TKI) WC	2	2022	4	2025
CMU 2	2	2022	1	2025
EnD	3	2024	4	2028
COSSURM	3	2023	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401132F / *C-130J Program*	Project (Number/Name) 675305 / *C-130J Prog*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675305: *C-130J Prog*	0.000	10.955	0.428	3.919	0.000	3.919	0.638	13.484	5.516	6.906	0.000	41.846
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program includes funding for Communication Modernization for the development and integration of the new radio and communication systems including, but not limited to, Mobile User Objective System (MUOS), Second-generation Anti-jam Tactical UHF Radio for NATO (SATURN), Joint Range Extension Application Protocols (JREAP) to modernize Military Satellite Communication System (MILSATCOM), Ultra High Frequency (UHF), High Frequency (HF), special mission processing, and data link messaging. These systems will provide secure, global Line of Sight (LOS) and Beyond Line of Sight (BLOS) satellite voice and data connectivity utilizing modern satellite constellations and waveforms. These systems will also be integrated into other C-130J capabilities, such as Radio Frequency (RF) components including ALR-69A and DRFM (Digital Radio Frequency Memory Countermeasure).

"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 C130J 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 2021, $0.000 million was expended for civilian pay expenses in this program element, and in FY 2022 $0.000 million is forecast for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Communication Modernization	0.955	0.428	3.919
Description: Communication Modernization development, integration, and testing of the new radio and communication systems to provide secure, global Line of Sight (LOS) and Beyond Line of Sight (BLOS) satellite voice and data connectivity utilizing modern satellite constellations and waveforms. These systems will also be integrated into other C-130J capabilities. The program will include all 12 product support elements, including but not limited to, updating Support Equipment and Technical Data as required.			
FY 2023 Plans: Continue Communication Modernization Non-Recurring Engineering (NRE) for MILSATCOM Mod.			
FY 2024 Plans: Continuation of Communication Modernization MILSATCOM Mod NRE.			
FY 2023 to FY 2024 Increase/Decrease Statement:			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401132F / *C-130J Program*	**Project (Number/Name)** 675305 / *C-130J Prog*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Increase due to ramp-up of developmental testing and NRE activities.			
Accomplishments/Planned Programs Subtotals	0.955	0.428	3.919

	FY 2022	FY 2023
Congressional Add: Digital Heads Up Display (HUD) and Enhanced Vision System (EVS)	10.000	-
FY 2022 Accomplishments: To upgrade the digital HUD and EVS and to improve pilot situational awareness during firefighting		
Congressional Adds Subtotals	10.000	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• APAF 05 C1300J: *C-130J Mods*	110.784	112.299	121.258	-	121.258	182.089	187.717	172.058	186.737	409.124	1,482.066

Remarks

D. Acquisition Strategy

In order to meet four DoD technology refresh mandates before end of year 2024, the communication modernization program will develop and field a federated and integrated communications system to Block 6.0 and 8.1 C-130J variants.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401132F / *C-130J Program*	Project (Number/Name) 675305 / *C-130J Prog*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C-130J Digital HUD and Enhanced Vision System, Air Force Life Cycle Mgmt Ctr (AMFC), WPAFB, OH	SS/ Various	Collins Aero/ Lockheed : Marietta, GA	0.000	10.000	Jan 2023	0.000		-		-		-	0.000	10.000	-
C-130J Communication Modernization, Air Force Life Cycle Mgmt Ctr (AMFC), WPAFB, OH	SS/CPFF	Lockheed Martin Aero : Marietta, GA	0.000	0.955	Jul 2023	0.428	Jul 2023	3.919	Dec 2023	-		3.919	0.000	5.302	-
		Subtotal	0.000	10.955		0.428		3.919		-		3.919	0.000	15.302	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	10.955		0.428		3.919		-		3.919	0.000	15.302	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401132F / *C-130J Program*	**Project (Number/Name)** 675305 / *C-130J Prog*

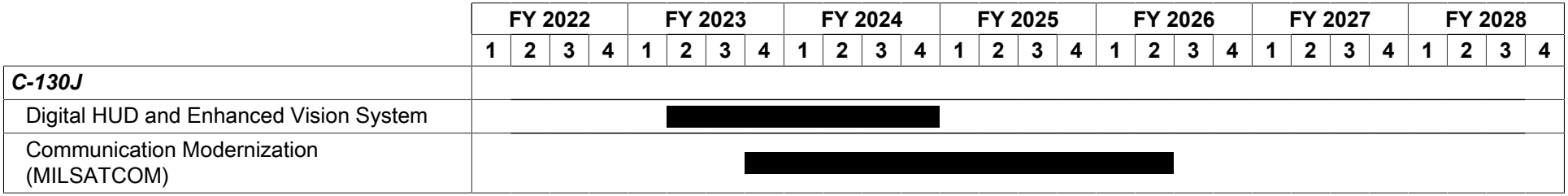

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401132F / *C-130J Program*	**Project (Number/Name)** 675305 / *C-130J Prog*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
C-130J				
Digital HUD and Enhanced Vision System	2	2023	4	2024
Communication Modernization (MILSATCOM)	4	2023	2	2026

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401134F / *Large Aircraft IR Countermeasures (LAIRCM)*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	6.429	2.909	5.982	0.000	5.982	0.000	0.000	0.000	0.000	Continuing	Continuing
674942: *Large Aircraft Infrared Counter Measures (LAIRCM)*	-	6.429	2.909	5.982	0.000	5.982	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Large Aircraft Infrared Countermeasures (LAIRCM) system is an evolutionary acquisition program that provides significantly improved defensive systems capability for DoD aircraft to counter the man-portable air-defense systems (MANPADS) missile threat. The current LAIRCM system configuration consists of missile warning sensors (MWS), a laser transmitter assembly, control interface unit and processors to detect, track, jam and counter incoming missiles. The number of sensors and transmitter assemblies per aircraft is determined by the size and signature of the aircraft. The system is fully automatic following system power-up. LAIRCM requirements are documented in the multi-command Operational Requirements Document (ORD) LAIRCM ORD 314-92, validated on 03 Aug 98. The system is currently installed on 54+ aircraft types and over 1200 aircraft.

The baseline program development is complete. Follow-on efforts are addressing integration onto new aircraft types and existing LAIRCM platforms, design changes to address Reliability Maintainability & Availability and system improvements to counter new and emerging threats.

LAIRCM upgrades include, but are not limited to, hardware and software upgrades and testing of the LAIRCM system to maintain defensive capability against new and emerging threats.

Current and future efforts include Threat Analysis; Modeling, Simulation and Emulation Testing; Virtual System Integration Lab (SIL) Development; and Studies and Analysis.

Threat Analysis: Threat analysis encompasses the activities to support threat exploitation analysis of a variety of threats (both known and emerging) against the current LAIRCM jam code with the intent of determining if jam code updates are required. Typical threat analysis activities include: threat seeker characterization; model development for advanced threat IR seekers; development and testing of new infrared countermeasures concepts, techniques, and hardware; new technology assessment for potential incorporation into the LAIRCM system, and the evaluation/exploitation of new threats and threat characteristics relative to infrared countermeasures (IRCM).

Modeling, Simulation, and Emulation Testing: Modeling, Simulation, and Emulation activities verify and validate the information obtained from the threat analysis activities. These activities include: evaluation of (IRCM) techniques used in defeating real threat hardware; developing and evaluating jam code; validating and verifying integration of LAIRCM system components to newly developed jam codes, software or hardware; evaluating system effectiveness; performing platform integration support tests; and conducting predictive risk reduction tests prior to Live Missile Fire Test (LMFT) or on aircraft flight testing.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401134F / *Large Aircraft IR Countermeasures (LAIRCM)*

Virtual SIL Development: Incrementally design, develop, integrate, and test software code and purchase associated infrastructure (i.e., computers, servers, commercial off-the-shelf (COTS) software, etc.) necessary to develop and implement a virtual SIL providing a critical capability for testing the LAIRCM system to ensure continued effectiveness against current and emerging threats.

Studies and Analysis: Includes logistics, programmatic, and engineering studies and analysis activities to ensure continued system viability and sustainability and compliance with acquisition directives. These activities may include the evaluation of low cost/high payback opportunities to reduce software development/ implementation cost, enhance production efficiency, and improve life cycle costs through increased reliability and reduced repair and return cost.

Program support cost efforts consist of, but are not limited to contract services and government costs.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver LAIRCM 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 2022 $00.000 million was expended for civilian pay expenses in this program element, and in FY 2023 $00.000 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.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	5.540	2.909	5.969	0.000	5.969
Current President's Budget	6.429	2.909	5.982	0.000	5.982
Total Adjustments	0.889	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	0.889	0.000	0.013	0.000	0.013

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: LAIRCM Threat Analysis	6.079	2.470	5.292

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401134F / *Large Aircraft IR Countermeasures (LAIRCM)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: Encompasses the activities to support threat exploitation analysis of a variety of threats against the current LAIRCM jam code with the intent of determining if jam code updates are required. ***FY 2023 Plans:*** Continue to work on Threat Analysis in the Guided Weapons Evaluation Facility (GWEF), ITWL with Northrop Grumman (NG), Jam Code Live Fire Missile Testing (LFMT), Test Support and other efforts with Air Force Research Laboratory (AFRL). ***FY 2024 Plans:*** Focus primarily on threat analysis and system effectiveness efforts with Air Force Research Laboratory (AFRL). ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to critical analysis of threats activities.			
Title: LAIRCM Modeling, Simulation and Emulation Testing ***Description:*** Activities that verify and validate the information obtained from threat analysis activities. ***FY 2023 Plans:*** Continuation of Modeling, Simulation and Emulation Tests. This is a continued effort from LAIRCM Development from previous years. ***FY 2024 Plans:*** Continuation of Modeling, Simulation and Emulation Tests. This is a continued effort from LAIRCM Development from previous years. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to economic adjustments.	0.350	0.439	0.690
Accomplishments/Planned Programs Subtotals	6.429	2.909	5.982

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• APAF 05 Line Item LAIRCM: *Large Aircraft Infrared Countermeasures*	57.001	25.286	5.750	-	5.750	31.376	20.528	20.973	21.392	Continuing	Continuing

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401134F / *Large Aircraft IR Countermeasures (LAIRCM)*

E. Acquisition Strategy

Efforts awarded on an annual basis, exercising existing contract options, support threat analysis and system effectiveness. The LAIRCM program office partners with the Air Force Research Laboratory (AFRL), the 46th Test Squadron, and the Guided Weapon Evaluation Facility (GWEF) to conduct threat analysis research and Modeling, Simulation, and Emulation Testing. AFRL provides hardware-in-the-loop developmental test simulation capability on a level-of-effort (LOE) basis. The current LAIRCM contract may be used to award the various study efforts.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401134F / *Large Aircraft IR Countermeasures (LAIRCM)*	Project (Number/Name) 674942 / *Large Aircraft Infrared Counter Measures (LAIRCM)*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
LAIRCM ETA Threat Analysis/Guided Weapon Evaluation Facility	PO	GWEF : Eglin AFB, FL	-	1.924	Jan 2022	-		-		-		-	Continuing	Continuing	-
LAIRCM ETA Modeling, Simulation and Emulation Test	MIPR	AFRL/RYF-Test Support : WPAFB, OH	-	0.350	Jan 2022	0.439	Oct 2022	0.690	Dec 2023	-		0.690	Continuing	Continuing	-
LAIRCM ETA Threat Analysis/Air Force Research Laboratory (AFRL)	MIPR	AFRL/RYF-DIME : WPAFB, OH	-	0.873	Jan 2022	1.232	Jan 2023	5.292	Jan 2024	-		5.292	Continuing	Continuing	-
LAIRCM ETA System Cabling/Live Fire/ITWL	SS/TBD	NGC : Rolling Meadows, IL	-	2.979	Feb 2022	-		-		-		-	Continuing	Continuing	-
LAIRCM ETA Threat Analysis/Dugway Live Fire	MIPR	Dugway : Dugway, UT	-	0.303	Aug 2022	1.238	Nov 2022	-		-		-	Continuing	Continuing	-
		Subtotal	-	6.429		2.909		5.982		-		5.982	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	6.429		2.909		5.982		-		5.982	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401134F / *Large Aircraft IR Countermeasures (LAIRCM)*	**Project (Number/Name)** 674942 / *Large Aircraft Infrared Counter Measures (LAIRCM)*

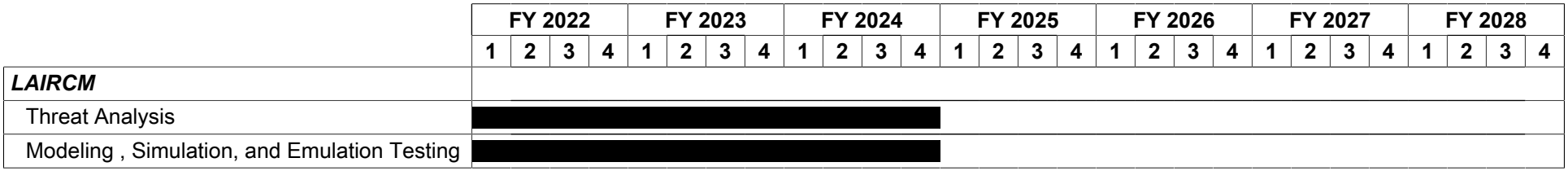

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401134F / *Large Aircraft IR Countermeasures (LAIRCM)*	**Project (Number/Name)** 674942 / *Large Aircraft Infrared Counter Measures (LAIRCM)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
LAIRCM				
Threat Analysis	1	2022	4	2024
Modeling , Simulation, and Emulation Testing	1	2022	4	2024

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401218F / *KC-135s*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	3.461	12.955	51.105	0.000	51.105	33.084	20.589	0.000	0.000	0.000	121.194
675261: *KC-135 Upgrades*	-	3.461	12.955	51.105	0.000	51.105	33.084	20.589	0.000	0.000	0.000	121.194
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This program, BA 7, PE 0401218F, project 675261, KC-135 Winglets, is a new start.

A. Mission Description and Budget Item Justification

The KC-135 is the US Air Force's aerial refueling workhorse. In FY 2022, USAF KC-135s offloaded 73,083,521 gallons of fuel and refueled 44,408 aircraft in support of global operations. The KC-135 provides air refueling through either the refueling boom or drogue. As a cargo aircraft, the C/KC-135 can carry six (6) standard 463-L pallets. KC-135 modernization funding is vital to ensure the KC-135 fleet can support global aerial refueling operations to 2050 and beyond. RDT&E efforts include but are not limited to Mobile User Objective System, COMM2 Crypto & Data, High Frequency Modernization, Center Console Refresh, and Winglets.

1. Mobile User Objective System (MUOS): 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. The KC-135 fleet must comply with the National Security Agency (NSA) mandate or will lose secure communications, which significantly degrades its ability to support worldwide operations. The ARC-210 Gen 3 radios have Diminishing Manufacturing Sources and Material Shortages (DMSMS) and will become obsolete on the CEASEKEY date. Requirement: AMC's 10-050 Crypto, 15-046 MUOS, 16-053 SATURN, and 17-039 IW.

2. Center Console Refresh (CCR) will reduce maintenance man-hours, increase reliability and extend the KC-135 service life to 2040+ by providing a platform for Digital Flight Instrumentation and future growth. Obsolescence of the Integrated Fuel Management Panel (IFMP), Fuel Management Advisory Computer (FMAC), Multi-Function Displays (MFD), Control Display Unit (CDU), and Tank Interface Unit (TIU) is the primary focus. FMAC components are not procurable, MFDs were not supportable after 2021, the TIU will become non-supportable in 2024, and the CDU manufacture announced End of Life to the supply chain in 2022. Requirement: AMC's 22-009 CCR

3. High Frequency (HF) Modernization: Integration and test to replace legacy HF radio with a modernized HF radio on KC-135 aircraft. A modernized HF communications capability is necessary to enable future sustainability and growth to operate in satellite communications (SATCOM)-denied environment while maintaining global, secure voice and data between Mobility Air Forces' aircraft and command and control (C2) agencies to exchange classified information. Requirement: AMC's 18-100 Modernized HF.

4. COMM2 Crypto and Data: Integration and test for ARC-210 Gen 3 radio replacement in the COMM 2 position with secure voice and SATURN capability with HAVE QUICK II backward compatibility, and a replacement solution for the Very High Frequency (VHF) Data Link (VDL)-2000. The KC-135 fleet must comply with the NSA mandate or will lose secure communications which significantly degrades its ability to support worldwide operations. The ARC-210 Gen 3 radios have DMSMS and

become obsolete on the CEASEKEY date. VDL replacement is required for civil airspace compliance. Requirement: AMC's 10-050 Crypto, 16-053 SATURN, 22-033 VDL Solution, and 20-048 Controller Pilot Data Link Communications (CPDLC) Upgrade.

5. Winglets: Research and development of winglets for KC-135 aircraft to increase operational energy. This effort continues Air Force Research Laboratory's initial prototyping.

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 2022, $0.000M was expended for civilian pay expenses in this program element, and in FY 2023, $0.680M 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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	3.564	12.955	7.266	0.000	7.266
Current President's Budget	3.461	12.955	51.105	0.000	51.105
Total Adjustments	-0.103	0.000	43.839	0.000	43.839
• 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	-0.103	0.000			
• Other Adjustments	0.000	0.000	43.839	0.000	43.839

Change Summary Explanation

FY 2024 funds increased by $43.839M for CCR, HF modernization, COMM2 C&D, and Winglets requirements.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: KC-135 MUOS radio	3.461	5.590	5.030	0.000	5.030
Description: The KC-135 COMM 3 position requires an upgraded radio with MUOS (Mobile User Objective System), IW (Integrated Waveform), SATURN (second-generation anti-jam tactical UHF for NATO capabilities					

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401218F / *KC-135s*	

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
and BLOS and LOS secure voice and data connectivity. This upgrade derives from an NSA cryptographic modernization mandates and DoD MUOS/SATURN transition directive. If requirements are not met, the KC-135 will not have secure military Satellite Communications (SATCOM) radio capability needed to communicate with the Joint Force, other MAF aircraft, and C2 agencies. The KC-135 MUOS radio program replaces the existing ARC-210 Gen 3 radio with a cryptographic modernized, MUOS-capable, ARC-210 Gen 6 radio. Integration of this new radio requires remote control unit, high power amplifier, low noise amplifier, software and associated wiring and hardware. ***FY 2023 Plans:*** Continue software integration efforts. ***FY 2024 Base Plans:*** Complete integration efforts with software release. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funds decreased due to Engineering and Manufacturing Development (EMD) efforts ramping down 4QFY24.					
Title: KC-135 Winglets ***Description:*** This program adds winglets to the left and right outboard wing section of KC-135 aircraft. The winglets use Active Load Alleviation Control System (ALACS) that will decrease stress loads throughout the entire wing body. Winglets reduce aircraft drag and increase fuel efficiency. Scope: TBD fleet size. Air Force Research Laboratory (AFRL) projects fuel savings of approximately $35-56M annually, based on simulations and anticipated improved operational benefits. In FY 2024, PE 0604858F, Tech Transition Program, Project 645351, Prototyping effort was transferred to PE 0401218F, KC-135s, in order to Integrate and Test on the KC-135. ***FY 2024 Base Plans:*** Integration, preliminary design and test efforts ongoing at the AFRL. ***FY 2024 OCO Plans:***	-	-	15.000	0.000	15.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401218F / *KC-135s*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to contract awards, flight tests, and support activities.					
Title: Center Console Refresh ***Description:*** CCR addresses obsolescence of the Integrated Fuel Management Panel (IFMP), Fuel Management Advisory Computer (FMAC), Multi-Function Displays (MFD), Control Display Unit (CDU), and Tank Interface Unit (TIU). The IFMP repair facility declined to renew the repair contract, FMAC components are not procurable, MFDs were not supportable after 2021, the TIU will become non-supportable in 2024, and the CDU manufacture announced End of Life to the supply chain in 2022. Due to the integration of new components, additional items may be replaced or modified based on the selected integrator's bid: the Angle of Attack Indicator, Annunciator Lights, Clock, Electronic Engine Instrument Display (EEID), Free Air Temperature Gauge, Fuel Temperature Gauge, Hydraulic Quantity Gauge, Standby Airspeed Indicator, Altimeter, and Standby Altitude Indicator. This will reduce maintenance man-hours, increase reliability and extend the KC-135 service life to 2040+ by providing a platform for Digital Flight Instrumentation and future growth. ***FY 2023 Plans:*** CCR contracting activities to include source selection, digital transformation efforts, and agile testing. ***FY 2024 Base Plans:*** CCR contracting activities to include source selection and development for five line replaceable units (LRUs) within the Fuel System and Flight Display Systems. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to ramp up of CCR contracting activities for source selection to develop LRUs.	0.000	2.307	13.564	0.000	13.564
Title: High Frequency Modernization ***Description:*** This modification replaces the legacy HF radio with a modernized HF radio on KC-135 aircraft to operate in a SATCOM-denied environment while maintaining global, secure voice/data between Mobility Air Forces' aircraft and command and control (C2) agencies to exchange classified information. This complies with DoD directive to modernize HF capability.	0.000	0.300	8.300	0.000	8.300

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401218F / *KC-135s*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
If requirements are not met, then KC-135 aircraft loses BLOS communication capability with MAF aircraft and C2 agencies if satellite connectivity is lost. Additionally, KC-135 aircraft loses the capability to use HF for Air Traffic Control communication during transoceanic flights. This form fit radio replaces the current ARC-190 radio with the new ARC-260 radio. ***FY 2023 Plans:*** Begin Engineering and Manufacturing Development efforts for new start program. ***FY 2024 Base Plans:*** Initial testing and integration of modernized HF radio and communications capabilities. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funds increase due to ramp up of EMD efforts and acquire software integration lab assets and continue EMD effort.					
Title: COMM2 Crypto and Data Program. ***Description:*** This effort replaces the ARC-210 Gen 3 radio in the COMM 2 position with secure voice and SATURN capability with HAVE QUICK II backward compatibility, and a replacement solution for the VDL-2000. ARC-210 Gen 3 radios on KC-135 aircraft have DMSMS and are approaching end of life, becoming obsolete on the NSA-mandated CEASEKEY date. VDL replacement is required for civil airspace compliance. This effort complies with the Cryptographic Mandate 1. If requirements are not met, KC-135 aircraft risk ineffective communications via unsecure voice, lose data communications, anti-jam capabilities, and realize limited maintenance capabilities to support legacy radios. This will significantly degrade the ability to support worldwide operations. This modification will include Integration and Test of updated Operating Flight Plan software and Prototype; ARC-210 Gen 6 to replace the current Gen 3; removal of VDL, integrate and replace with VHF-4000E; A-kit production, acquire B-kit, and Over and Above (to include non-warranty repairs). ***FY 2023 Plans:***	0.000	4.758	9.211	0.000	9.211

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401218F / *KC-135s*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Contract activities for initial integration of ARC-210 Gen 6 radio and VDL replacements. ***FY 2024 Base Plans:*** Contract activities for integration of ARC-210 Gen 6 radio and VDL replacements. ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funds increase due to ramping up Integration and Test efforts of COMM 2 to complete integration at the same time as MUOS/COMM3.					
Accomplishments/Planned Programs Subtotals	3.461	12.955	51.105	0.000	51.105

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• APAF 05 C13500: *C-135*	58.776	144.557	153.595	-	153.595	184.956	186.983	183.527	167.369	0.000	1,079.763
• APAF 05 C13500 (1)...: *Initial Spares*	0.000	0.497	1.137	-	1.137	1.613	3.118	6.280	4.286	0.000	16.931

Remarks

E. Acquisition Strategy

KC-135 MUOS acquisition strategy addresses cryptographic modernization mandates and DoD directives by executing a 28 month, Sole Source, Cost Plus Fixed Fee EMD contract followed by a five-year production and installation effort.

KC-135 MUOS Radio Major Events/Milestones: Critical Design Review 3QFY23; Development Testing/Operational Testing 3QFY24; Milestone-C 4QFY24

Center Console Refresh (CCR)
Planned ASP approval 2QFY23
Planned Award 2QFY24

KC-135 HF radio acquisition strategy addresses HF modernization mandates and DoD directives by executing a 12 month, Sole Source, Cost Plus Fixed Fee EMD contract followed by a three-year procurement (AFLCMC/WNY will maintain the production contract with BAE) and installation effort.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401218F / *KC-135s*

High Frequency Modernization Major events: Program start-up, Early Strategy and Issues Session 3QFY23

COMM2 Crypto & Data acquisition strategy addresses crypto modernization mandates and DoD directives by executing a 15 month, Sole Source, Cost Plus Fixed Fee EMD contract followed by a five-year production and installation effort.

KC-135 Winglets
Planned ASP approval 3QFY24
Planned Award 4QFY24

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401218F / *KC-135s*	Project (Number/Name) 675261 / *KC-135 Upgrades*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MUOS Radios Product Development (Integration)	SS/CPFF	Collins Aerospace : Cedar Rapids, IA	-	3.424	Sep 2022	5.065	Mar 2023	4.400	Oct 2023	-		4.400	Continuing	Continuing	-
COMM 2 Crypto and Data Radio Product Development	SS/CPFF	Collins Aerospace : Cedar Rapids, IA	-	-		3.541	May 2023	7.493	Mar 2024	-		7.493	Continuing	Continuing	-
COMM 2 Crypto and Data Long Lead B-Kit Procurement for RDT&E	MIPR	Not specified. : TBD	-	-		0.580	Mar 2023	0.290	Oct 2023	-		0.290	Continuing	Continuing	-
HF Radio integration	SS/CPFF	Not specified. : TBD	-	-		-		4.632	Apr 2024	-		4.632	Continuing	Continuing	-
Center Console Refresh Product Development	C/FPIF	Not specified. : TBD	-	-		-		12.194	Mar 2024	-		12.194	Continuing	Continuing	-
Winglets Development	C/CPAF	Not specified. : TBD	-	-		-		11.000	Mar 2024	-		11.000	Continuing	Continuing	-
		Subtotal	-	3.424		9.186		40.009		-		40.009	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MUOS Support	Various	Not specified. : TBD	-	0.037	May 2023	0.018	Nov 2023	0.017	Mar 2024	-		0.017	Continuing	Continuing	-
HF Radio (Travel)	Various	Not specified. : TBD	-	-		0.050	Apr 2023	0.030	Mar 2024	-		0.030	Continuing	Continuing	-
COMM2 (Travel)	Various	Not specified. : TBD	-	-		-		0.029	Mar 2024	-		0.029	Continuing	Continuing	-
Winglets (Travel)	Various	Not specified. : TBD	-	-		-		0.583	Mar 2024	-		0.583	Continuing	Continuing	-
		Subtotal	-	0.037		0.068		0.659		-		0.659	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
HF Test and Evaluation (Integration)	TBD	Not specified. : TBD	-	-		-		1.415	Mar 2024	-		1.415	Continuing	Continuing	-
Winglets Flight Test and Certification	TBD	Not specified. : TBD	-	-		-		2.500	Mar 2024	-		2.500	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401218F / *KC-135s*	Project (Number/Name) 675261 / *KC-135 Upgrades*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		3.915		-		3.915	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CCR Dir Cite Auth Civ Pay	TBD	System Program Office : Tinker AFB, OK	-	-		0.680	Mar 2023	1.370		-		1.370	Continuing	Continuing	-
CCR RFP and Source Selection	TBD	System Program Office : Tinker AFB, OK	-	-		1.627	Apr 2023	-		-		-	Continuing	Continuing	-
MUOS (PSC)	Various	Not specified. : TBD	-	-		0.154	Jul 2023	0.481	Jul 2024	-		0.481	Continuing	Continuing	-
MUOS OGC	Various	Not specified. : TBD	-	-		0.353	Apr 2023	0.132	Mar 2024	-		0.132	Continuing	Continuing	-
HF (OGC)	Various	System Program Office : Tinker AFB, OK	-	-		0.240	Apr 2023	1.430	Mar 2024	-		1.430	Continuing	Continuing	-
HF (PSC)	Various	Not specified. : TBD	-	-		0.010	Apr 2023	0.793	Mar 2024	-		0.793	Continuing	Continuing	-
COMM 2 CRYPTO PSC	Various	Not specified. : TBD	-	-		0.154	Apr 2023	0.520	Mar 2024	-		0.520	Continuing	Continuing	-
COMM2 CRYPTO OGC	Various	Not specified. : TBD	-	-		0.483	Apr 2023	0.879	Jul 2024	-		0.879	Continuing	Continuing	-
Winglets (PSC)	C/TBD	Not specified. : TBD	-	-		-		0.917	Mar 2024	-		0.917	Continuing	Continuing	-
Subtotal			-	-		3.701		6.522		-		6.522	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	3.461		12.955		51.105		-		51.105	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401218F / *KC-135s*	**Project (Number/Name)** 675261 / *KC-135 Upgrades*

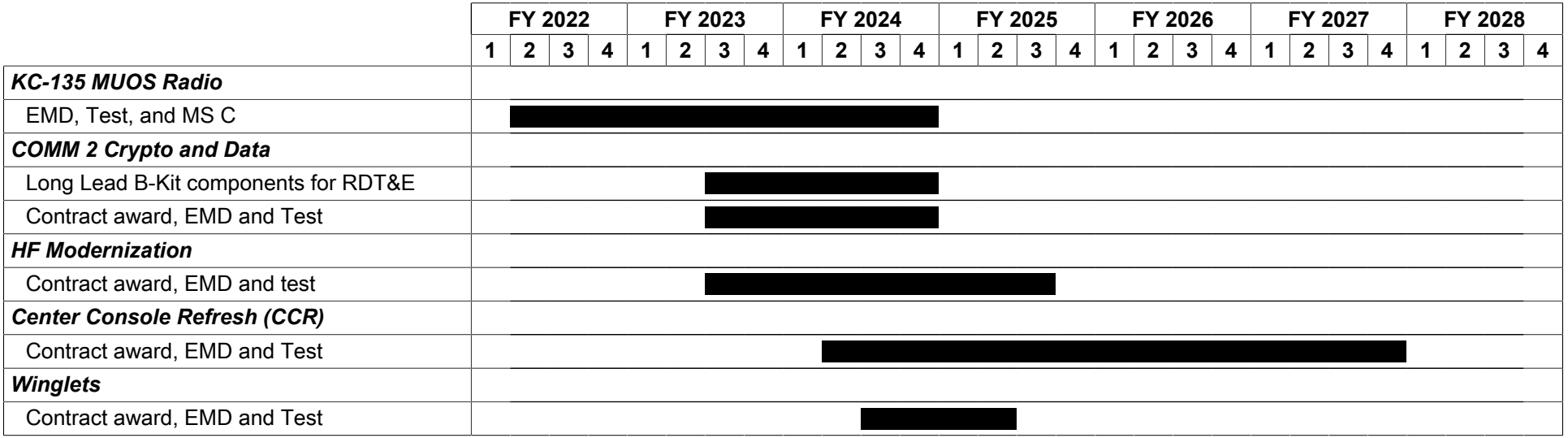

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401218F / *KC-135s*	**Project (Number/Name)** 675261 / *KC-135 Upgrades*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
KC-135 MUOS Radio				
EMD, Test, and MS C	2	2022	4	2024
COMM 2 Crypto and Data				
Long Lead B-Kit components for RDT&E	3	2023	4	2024
Contract award, EMD and Test	3	2023	4	2024
HF Modernization				
Contract award, EMD and test	3	2023	3	2025
Center Console Refresh (CCR)				
Contract award, EMD and Test	2	2024	4	2027
Winglets				
Contract award, EMD and Test	3	2024	2	2025

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force												Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0401318F / *CV-22*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	161.126	16.663	10.121	18.127	0.000	18.127	16.444	16.878	17.197	17.819	Continuing	Continuing
676033: *CV-22 RDT&E POST PRODUCTION*	161.126	16.663	10.121	18.127	0.000	18.127	16.444	16.878	17.197	17.819	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Program MDAP/MAIS Code: 212
Project MDAP/MAIS Code(s): N42

A. Mission Description and Budget Item Justification

The CV-22 is the Air Force Special Operations Forces (SOF) variant of the joint multi-mission V-22 tilt rotor aircraft. The CV-22 provides long-range, high-speed infiltration, exfiltration, and resupply to Special Forces teams in hostile, denied, and politically sensitive areas. The Navy is the lead service for the Joint V-22 program. The Joint Program Manager is responsible for managing all variants of the V-22. Department of the Navy (DoN) funds the development of the MV-22 and CMV-22. The Air Force funds the service common portion of the CV-22 while United States Special Operations Command (USSOCOM) funds the development and procurement of SOF peculiar systems. CV-22 RDT&E funding provides for the development, integration, and testing of service-common, mission critical aircraft modifications to improve operational effectiveness, platform survivability, and aircraft availability.

Airframe Enhancements: RDT&E funds the design, development, and testing of improvements to airframe structures, aircraft electro-mechanical and hydraulic hardware, and dynamic components to counteract the effects of structural fatigue and improve the durability and readiness of V-22 aircraft. Refinement of aircraft system's components to improve longevity and/or maintainability while protecting their performance are meant to allow continued CV-22 operation as the aircraft age.

Enhanced Self-Deployment: RDT&E funding provides for the design, development, and testing of aircraft modifications to improve aircraft self-deployment capabilities (e.g. operating range, global response time) to mitigate emerging threats to the aircraft and mission accomplishment, and to identify and assess emerging air vehicle, propulsion system, avionics architecture, electronic warfare, situational awareness, and other weapon system solutions to meet CV-22 Block 20 operational requirements.

CV-22 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 CV-22 weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY 2022 $0.000 million was expended for civilian pay expenses in this program element, and in FY 2023 $0.000 million is forecasted for civilian pay expenses in this program element.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*

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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	17.189	10.121	18.086	0.000	18.086
Current President's Budget	16.663	10.121	18.127	0.000	18.127
Total Adjustments	-0.526	0.000	0.041	0.000	0.041
• 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	-0.526	0.000			
• Other Adjustments	0.000	0.000	0.041	0.000	0.041

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Airframe Enhancement	10.235	7.021	4.551

Description: Airframe Enhancements funds the improvement of airframe structures, aircraft electro-mechanical hardware, and dynamic components to counteract the effects of structural fatigue and improve the durability and readiness of V-22 aircraft to include design, development, and testing of V-22 Nacelle components. This RDT&E funding provides for the design, development, and testing of redesign support or loadbearing airframe elements to provide structural reinforcement and improved longevity. Enhanced armor protective performance with reduced weight and space impacts are a possible area for development. Airframe Enhancement funds also provide for refinements of hydraulic, landing gear, or fuel system component to improve and protect their performance. Items such as pumps, lines, tanks/reservoirs/bladders and/or struts may receive enhancements to extend their life and improve their maintainability. Finally, Airframe Enhancements funds target exploring improvements to all V-22 dynamic components, from rotor blades and heads to gearboxes and flight control surfaces with the goals of protecting them from vibrational and frictional wear and enhancing their reliability and readiness.

FY 2023 Plans:
Continued design, development, and testing of Airframe Enhancements.

FY 2024 Plans:

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Planned Projects to include but not limited to Aluminum T/E Fairing w/Gusset, Flaperon Actuator, Blade Improvements, Fuel Cell Obsolescence/Redesign, and Hard Clutch Engagement Input Quill/Clutch Redesign. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding decreased due to reduced airframe testing and design activities and re-prioritizing resources.			
Title: Enhanced Self-Deployment Capabilities ***Description:*** Develops capabilities to enhance self-deployment, such as improved ice protection, engine performance, performance buyback, navigation, communications, and battle space awareness/networking capabilities/airborne mission networking (ABMN); situational awareness; electronic warfare; weapons systems; defensive avionics systems and architecture; weight reduction initiatives; modular avionics/cyber security implementation and other changes to the underlying aircraft systems necessary to enable these capabilities. ***FY 2023 Plans:*** Continue design and development activities to enhance situational awareness, cyber security, integration and develop FCC obsolescence effort and supports Airborne Mission Networking (ABMN). ***FY 2024 Plans:*** Planned Projects include, but not limited to the following: Support for ABMN Systems, JARVIS Mission Computer, Flight Computer Redesigns, PNT Modernizations, Platform Data Service (PDS) Development, and Control Display Unit (CDU). ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to ramp up of design and testing activities to include but not limited to PDS/Ethernet Expansion Device, CDU Keyboard Obsolescence, and JARVIS Mission Computer.	6.428	3.100	13.576
Accomplishments/Planned Programs Subtotals	16.663	10.121	18.127

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• RDTE 07 PE 1160403BB: *Special Operations, Aviation Systems*	6.655	11.695	21.619	-	21.619	21.289	28.069	23.445	19.834	Continuing	Continuing
• PAAF 02 Line Item 1000CV2200: *Defense-Wide 0300D SOCOM*	49.242	79.215	75.981	-	75.981	77.313	33.740	39.370	88.670	Continuing	Continuing
• APAF 05 Line Item V02200: *CV-22 Mods*	226.962	153.026	153.006	-	153.006	164.495	165.656	158.238	161.531	Continuing	Continuing

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• APAF 06 Line Item 000999: *CV-22 Initial Spares/Repair Parts*	10.525	2.254	3.989	-	3.989	0.000	0.000	0.000	-	0.000	16.768
• RDTE 05 PE 0604262N: *V-22A Navy*	105.729	125.233	136.158	-	136.158	106.511	122.453	105.024	-	Continuing	Continuing

Remarks

E. Acquisition Strategy

The V-22 Joint Program Office - Naval Air Systems Command - NAVAIRSYSCOM, PMA-275 is developing new capabilities for the V-22 in block increments.

Airframe Enhancements: Fuel Cell Obsolescence Redesign, Proprotor Gear Box Input Quill/Clutch Redesign, Flaperon Actuator, and Proprotor Blades will utilize a combination of sole source and competitive contracts.

Enhanced Self-Deployment Capabilities: Flight Control System Redesign, Platform Data Service Development, Control Display Unit Redesign, and support for Airborne Mission Networking Systems will utilize a combination of sole source and competitive contracts.

Development activities for the V-22 program to date have been primarily performed by the prime contractor, Bell-Boeing, on a sole-source basis. Bell-Boeing is a strategic partnership between Bell Helicopter and Boeing Integrated Defense Systems. Efforts are underway to continue increasing competition where feasible, depending primarily on the level of platform integration required and Government rights to technical data.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401318F / *CV-22*	Project (Number/Name) 676033 / *CV-22 RDT&E POST PRODUCTION*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
V-22 Airframe Enhancements	Various	Various : TBD	85.893	5.716	Mar 2022	2.821	Mar 2023	1.400	Mar 2024	-		1.400	10.300	106.130	-
CV-22 Osprey Enhanced Self-Deployment Capability	Various	Various : TBD	51.708	6.600	Jun 2022	3.100	Jun 2023	11.901	Jun 2024	-		11.901	47.060	120.369	-
		Subtotal	137.601	12.316		5.921		13.301		-		13.301	57.360	226.499	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CV-22 Osprey Engineering Technical Support and Studies	Various	Various : TBD	9.369	2.198	Mar 2022	1.900	Mar 2023	2.345	Mar 2024	-		2.345	5.948	21.760	-
		Subtotal	9.369	2.198		1.900		2.345		-		2.345	5.948	21.760	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CV-22 Osprey Test & Evaluation Technical Support	Various	Various : TBD	12.723	2.000	Dec 2021	2.100	Dec 2022	2.240	Dec 2023	-		2.240	3.634	22.697	-
		Subtotal	12.723	2.000		2.100		2.240		-		2.240	3.634	22.697	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CV-22 Osprey Program Support Costs	Various	Various : TBD	1.433	0.149	Nov 2021	0.200	Dec 2022	0.241	Dec 2023	-		0.241	1.496	3.519	-
		Subtotal	1.433	0.149		0.200		0.241		-		0.241	1.496	3.519	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401318F / *CV-22*	Project (Number/Name) 676033 / *CV-22 RDT&E POST PRODUCTION*	

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	161.126	16.663		10.121		18.127		-		18.127	68.438	274.475	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*	**Project (Number/Name)** 676033 / *CV-22 RDT&E POST PRODUCTION*

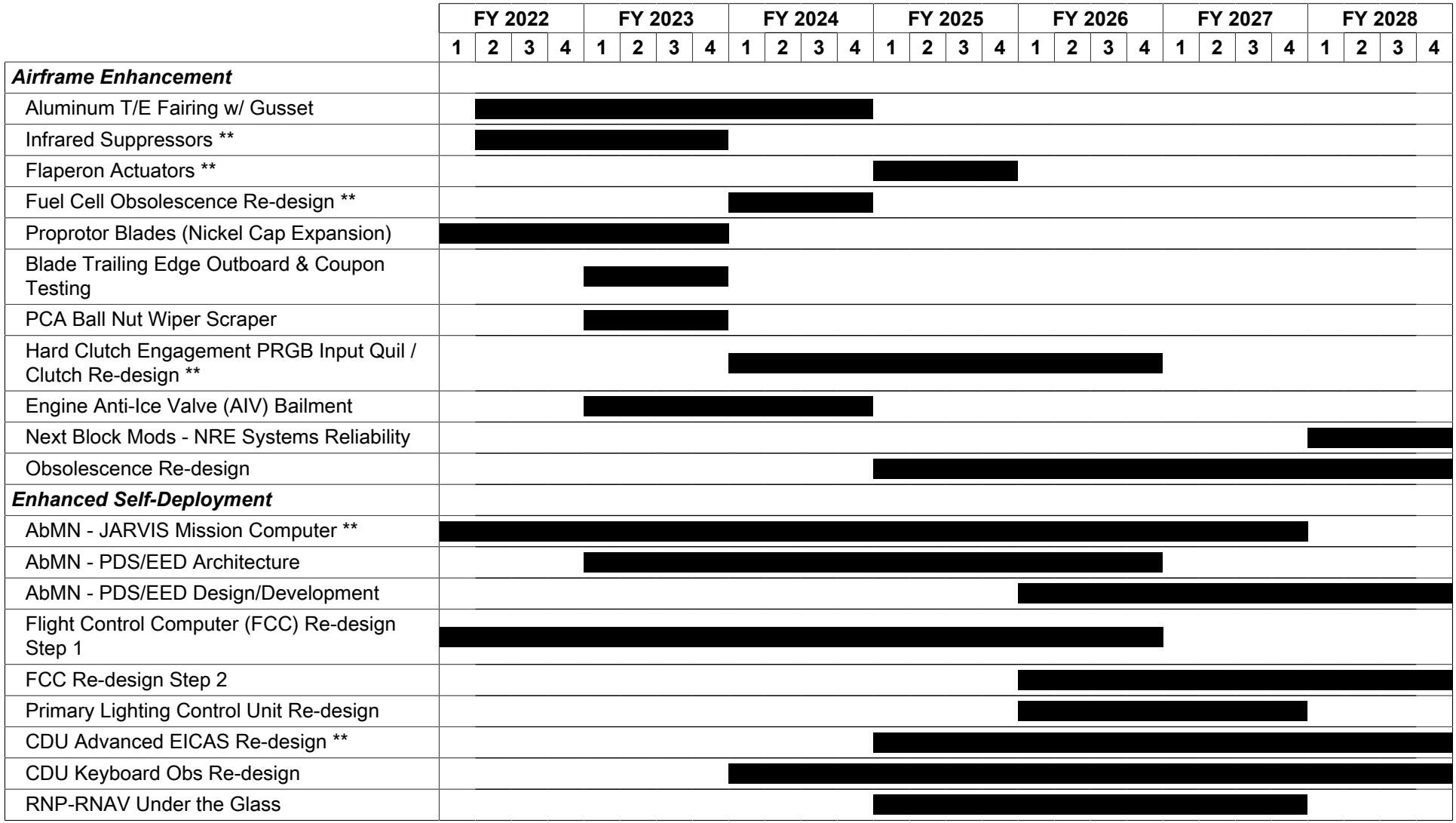

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*	**Project (Number/Name)** 676033 / *CV-22 RDT&E POST PRODUCTION*

	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Cockpit Engine Health Indicator (Phase II)					[redacted]																							

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*	**Project (Number/Name)** 676033 / *CV-22 RDT&E POST PRODUCTION*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Airframe Enhancement				
Aluminum T/E Fairing w/ Gusset	2	2022	4	2024
Infrared Suppressors **	2	2022	4	2023
Flaperon Actuators **	1	2025	4	2025
Fuel Cell Obsolescence Re-design **	1	2024	4	2024
Proprotor Blades (Nickel Cap Expansion)	1	2022	4	2023
Blade Trailing Edge Outboard & Coupon Testing	1	2023	4	2023
PCA Ball Nut Wiper Scraper	1	2023	4	2023
Hard Clutch Engagement PRGB Input Quil / Clutch Re-design **	1	2024	4	2026
Engine Anti-Ice Valve (AIV) Bailment	1	2023	4	2024
Next Block Mods - NRE Systems Reliability	1	2028	4	2028
Obsolescence Re-design	1	2025	4	2028
Enhanced Self-Deployment				
AbMN - JARVIS Mission Computer **	1	2022	4	2027
AbMN - PDS/EED Architecture	1	2023	4	2026
AbMN - PDS/EED Design/Development	1	2026	4	2028
Flight Control Computer (FCC) Re-design Step 1	1	2022	4	2026
FCC Re-design Step 2	1	2026	4	2028
Primary Lighting Control Unit Re-design	1	2026	4	2027
CDU Advanced EICAS Re-design **	1	2025	4	2028
CDU Keyboard Obs Re-design	1	2024	4	2028
RNP-RNAV Under the Glass	1	2025	4	2027

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*	**Project (Number/Name)** 676033 / *CV-22 RDT&E POST PRODUCTION*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Cockpit Engine Health Indicator (Phase II)	1	2023	4	2023

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0408011F / *Special Tactics / Combat Control*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	6.467	6.297	9.198	0.000	9.198	9.404	9.638	9.836	10.193	Continuing	Continuing
675138: *ST System Development*	-	6.467	6.297	9.198	0.000	9.198	9.404	9.638	9.836	10.193	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Special Tactics (ST) System Development project focuses on modernization development for the Special Warfare Acquisition Growth and Refresh (SWAGR). SWAGR will develop, test, train, and modernize the existing and future Family of Systems (FoS) that provide a state-of-the-art Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) capability. It also provides a suite of systems for all Air Force Specialty Codes supporting the ST community within the Air Force Special Operations Command's (AFSOC's) Special Warfare operators. ST System Development focuses on reducing the risk of fratricide and substantially reducing size and weight of the equipment carried through various core capabilities, which include but are not limited to: Human Machine Interface (HMI), Line of Sight (LOS) targeting, medical monitoring, Machine-to-Machine (M2M) C4ISR System, Electromagnetic Spectrum awareness/defensive/offensive capabilities and all other ST capability needs.

This program will develop and enhance technologies for Special Warfare ST operators to recognize, identify, range, nominate, and designate targets during both day and night operations. SWAGR will also significantly reduce the time required to find, track, fix targets, and engage the enemy by attacking adversary signals of interest, providing highly accurate target grid coordinates in three dimensions, generating target imagery both pre- and post-strike, and transmitting target data to Command and Control centers. SWAGR systems are light, compact, and portable for use by dismounted Special Warfare ST operators. FY24 SWAGR funding will provide significant improvements in operational capability, situational awareness, and precision lethality in the battle space while continuing to build and enhance the SWAGR family of systems. This may be conducted through industry technology demonstrations, prototypes, and associated engineering support to posture the SWAGR for technology insertion. These efforts will deliver enhanced capability for the dismounted soldier in terms of dramatic weight reduction and increase mission effectiveness across the conflict spectrum. SWAGR also supports AFSOC Tactical Command and Control (TAC C2) programs to develop and enhance communications systems and equipment essential for ST combat controllers, pararescue, special reconnaissance, and tactical air controller parties within AFSOC to perform their mission. The ST operators use this equipment to gather and transmit assault zone suitability and weather data and to perform tactical airfield/assault landing/drop zone operations. Due to the rapidly changing threat environment, the acquisition program manager has the authority to redirect funding as necessary to meet current slated and emerging requirements. The above efforts may change based on the need to support current Air Force mission requirements.

SWAGR 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,

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0408011F / *Special Tactics / Combat Control*

0606398F. In FY23 $1.694M was expended for civilian pay expenses in this program element, and in FY24 $1.730M 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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	6.640	6.297	9.177	0.000	9.177
Current President's Budget	6.467	6.297	9.198	0.000	9.198
Total Adjustments	-0.173	0.000	0.021	0.000	0.021
• 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	-0.173	0.000	0.021	0.000	0.021

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Human Machine Interface (HMI)	1.595	1.600	2.021
Description: HMI is a system of systems that provides integrated operator interface between all the machine components by using unified visual and auditory displays and controls, such as head-mounted displays, tactical earplug connectivity with man pack or handheld communications, integrated tactical computing solution, electromagnetic spectrum Awareness, defensive/ offensive capabilities and power generation and management systems. ***FY 2023 Plans:*** -Continue to support digitally aided combat close air support operations. Plan to develop and operate tests for full spectrum certification (Joint Interoperable Test Command (JITC), Air Force System Interoperability Test (AFSIT), and Authority to Operate (ATO)). -Continue to explore and define requirements for implementation of the Iridium waveform granting DoD dedicated airtime. -Continue communications development: will upgrade HMI efforts which reduce the Size, Weight, and Power (SWAP) required to be carried by the Special Tactics Community. Specifically includes wireless technology. -Require maturation of available technology for future dismounted communication contract in order to meet the requirements of the user.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0408011F / *Special Tactics / Combat Control*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
. ***FY 2024 Plans:*** - Will continue to support digitally aided combat close air support operations. Plan to develop and operate tests or full spectrum certification (Joint Interoperable Test Command (JITC), Air Force System Interoperability Test (AFSIT), and Authority to Operate (ATO)). - Will continue to explore and define requirements for implementation of the Iridium waveform granting DoD dedicated airtime. - Will continue communications development: will upgrade HMI efforts which reduce the Size, Weight, and Power (SWAP) required to be carried by the Special Tactics Community. Specifically includes wireless technology. - Will require maturation of available technology for future dismounted communication contract in order to meet the requirements of the user. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Current increase to FY24 funding allows for the development to continue with the HMI effort for the BAO FOS CDD.			
Title: Line of Sight ***Description:*** Line of Sight (LOS) targeting enables the Special Warfare ST operators to find, fix, track, target and engage the enemy at close range during day or night operations by providing highly accurate target coordinates in three dimensions. LOS generates vital imagery both pre and post-strike at a fraction of the weight and is more efficient than legacy equipment carried by the operator. Non Line of sight (XLOS) targeting device exploration and development will help capture future capabilities to the Special Tactics community. XLOS devices allow for a remote expendable reporting environmental sensor that enhances AFSOC Special Tactics Team's ability to provide timely, accurate, and critical deep battle space weather reconnaissance and intelligence. ***FY 2023 Plans:*** -Continue to explore and develop future Non Line of sight (XLOS) targeting device capabilities for Special Tactics community. ***FY 2024 Plans:*** - Will continue to explore and develop future Non Line of sight (XLOS) targeting device capabilities and capabilities for sensing (passive and active) enemy activity within the electromagnetic spectrum (RF communication) and jamming effectiveness (EMS awareness), develop and integrate LPI/LPD capabilities, and Small UAS comm relay systems for Special Tactics community. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Current FY24 funding increase in overall budget, supports our exploration and development to help capture future capabilities to the Special Tactics community.	0.278	0.222	0.003
Title: Machine-to-Machine (M2M) Software Development	4.594	4.475	7.174

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0408011F / *Special Tactics / Combat Control*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Description: This program is a Modern Software Development Program (MSDP). The software acquisition uses a modern software development methodology and is not primarily in sustainment. It has no objective system and will use iterative development across the project's lifecycles. A suite of map-centric software applications that enables M2M transfer of precision targeting, information management, C4ISR (Command, Control Communications, Computers, Intelligence, Surveillance, and Reconnaissance), and Situational Awareness (SA) information. Provides the Special Warfare ST operators the ability to find, fix, track, target, and engage the enemy which greatly reduces the kill chain and drastically decreases the possibility of fratricide by enhancing the operator's SA on the battlefield. ***FY 2023 Plans:*** -Continue to explore requirements to address future FoS capability gaps. -Continue research, develop and test efforts to support requirements in BAO FoS CDD, which includes but is not limited to Assault Zones, Fires, Weather, Personnel Recovery, and Enabling Capabilities. ***FY 2024 Plans:*** - Will continue to explore requirements to address future FoS capability gaps. - Will continue research, develop and test efforts to support requirements in BAO FoS CDD, which includes but is not limited to Assault Zones, precision approach, Fires, Weather, Personnel Recovery, electromagnetic spectrum awareness/defensive/ offensive and enabling capabilities. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY24 funding allows for the development to continue with the M2M effort for the Special Tactics CDD.			
Accomplishments/Planned Programs Subtotals	6.467	6.297	9.198

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 Line Item 837100: *Tactical C-E Equipment*	38.136	19.054	24.297	-	24.297	26.278	27.016	27.549	28.100	Continuing	Continuing
• OPAF 04 Line Item 842990: *Personal Safety and Rescue Equipment*	21.647	2.339	2.512	-	2.512	2.477	2.553	2.609	2.661	Continuing	Continuing

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0408011F / *Special Tactics / Combat Control*

E. Acquisition Strategy

Special Warfare Acquisition Growth and Refresh (SWAGR) awarded a contract in FY16 to complete M2M software development. In FY20 this contract was extended to FY23, the plan is to compete a new M2M contract to the follow on contract and is in source selection and scheduled to award in FY23. This effort will include system engineering, design, integration, and fielding support for M2M software. The above efforts may change based on the need to support current Air Force mission requirements. Wright Patterson AFB, OH manages the contract effort.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0408011F / *Special Tactics / Combat Control*	Project (Number/Name) 675138 / *ST System Development*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Human Machine Interface (HMI)	C/Various	Various : Various	-	1.442	Dec 2021	1.035	Dec 2022	1.500	Dec 2023	-		1.500	Continuing	Continuing	-
Line of Sight	SS/ Various	Phsyical Optics Corporation : Torrance, CA	-	0.002	Nov 2021	0.002	Nov 2022	0.003	Nov 2023	-		0.003	Continuing	Continuing	-
Machine-To-Machine (M2M) Software Development	C/CPFF	General Dynamics IT : Dayton, OH	-	2.253	Feb 2022	0.600	Oct 2022	0.000	Oct 2023	-		0.000	Continuing	Continuing	-
Machine-To-Machine (M2M) Software Development(New Contract)	C/TBD	TBD : TBD	-	1.000		1.736	Feb 2023	4.665	Oct 2023	-		4.665	Continuing	Continuing	-
		Subtotal	-	4.697		3.373		6.168		-		6.168	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Direct Cite Civilian Pay	WR	TBD : WP AFB, OH	-	0.434	Oct 2021	0.770	Oct 2022	0.787	Oct 2023	-		0.787	0.000	1.991	-
DCA Civilian Pay	WR	TBD : Hurlburt Field, FL	-	0.578	Oct 2021	0.924	Oct 2022	0.943	Oct 2023	-		0.943	0.000	2.445	-
		Subtotal	-	1.012		1.694		1.730		-		1.730	0.000	4.436	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Agency Support	Various	46 TS : Eglin AFB, FL	-	0.380	Dec 2021	0.800	Jan 2023	0.862	Jan 2024	-		0.862	Continuing	Continuing	-
		Subtotal	-	0.380		0.800		0.862		-		0.862	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0408011F / *Special Tactics / Combat Control*	Project (Number/Name) 675138 / *ST System Development*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration	Various	Various : Various, NV	-	0.378	Dec 2021	0.430	Dec 2022	0.438	Dec 2023	-		0.438	Continuing	Continuing	-
		Subtotal	-	0.378		0.430		0.438		-		0.438	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	6.467		6.297		9.198		-		9.198	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0408011F / *Special Tactics / Combat Control*	**Project (Number/Name)** 675138 / *ST System Development*

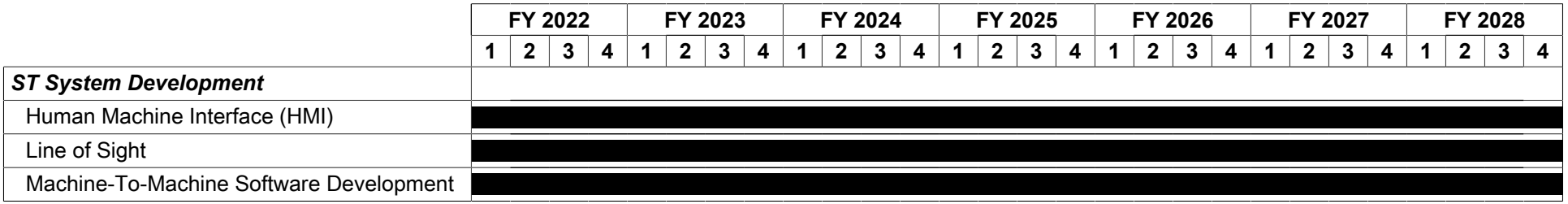

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0408011F / *Special Tactics / Combat Control*	**Project (Number/Name)** 675138 / *ST System Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
ST System Development				
Human Machine Interface (HMI)	1	2022	4	2028
Line of Sight	1	2022	4	2028
Machine-To-Machine Software Development	1	2022	4	2028

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0708055F / *Maintenance, Repair & Overhaul System*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	26.211	19.892	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	46.103
675329: *MAINTENANCE REPAIR AND OVERHAUL INTIATIVE*	-	26.211	19.892	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	46.103

Program MDAP/MAIS Code: 523

Note

In FY24, MROi development budget controls have been realigned from Research, Development, Test & Evaluation (RDT&E) Program Element (PE) 0708055F Project 675329 to Department of Air Force (DAF) Working Capital Fund (WCF) Capital Investment Program (CIP) funding for Minimal Viable Product (MVP) 5 and MVP 6 as identified in the Capital Investment Recovery Surcharge Line, Fund 9a.

As a result of the transition form DoDI 5000.02 to DoDI 5000.75, MROi was reclassified to a BCAT II program as reflected in the 11 Apr 2018 MROi Milestone B ADM.

A. Mission Description and Budget Item Justification

Starting in FY24, funding for this projected is realigned to DAF WCF CIP funding identified in Capital Investment Surcharge Line, Fund 9a. AFSC/FM memo for MROi Funding Determination moves development efforts of Minimal Viable Product (MVP) 5 and MVP 6 as these MVPs of MROi are WCF, Consolidated Sustainment Activity-Maintenance (CSAG-M) specific. Per DoD FMR, Vol 2B, Ch. 9, 090103, para b. Software amounts included in the DAF WCF capital budget submissions should include those software development or acquisition efforts for the benefit of DAF WCF activity. Types of cost to be included in a software development project include total labor and non-labor costs.

The MROi program is a Doctrine, Organization, Training, Materiel, Leadership, Personnel, Facilities and Policies (DOTMLPF-P) transformation and standardization of both the business processes and enabling materiel solution. MROi will provide Air Force Sustainment Center (AFSC) with an integrated capability for planning, scheduling, and executing organic depot maintenance to support agile planning, optimized workload assignment, resource allocation, integrated quality, and maintenance-driven Air Force Working Capital Fund (AFWCF) financials auditability. This integrated capability, by definition, represents a critical step forward toward resolution of the Air Force's Integrated Financial Systems Material Weakness.

MROi will implement a configured Oracle Enterprise Business Suite (EBS) commercial off-the-shelf (COTS) software product with required report, interface, conversion, extension, and workflow (RICE-W) objects.

MROi will implement throughout all AFSC commodities, electronics, missile, propulsion, aircraft, software, and maintenance support groups. MROi's implementation will include transitional interfaces with various legacy systems to support continuous operations within the depot maintenance and supporting financials environment.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0708055F / *Maintenance, Repair & Overhaul 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, 0606398F. In FY22 0.345M was expended for civilian pay expenses in this program element, and in FY23 0.355M 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.

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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	26.921	19.892	0.000	0.000	0.000
Current President's Budget	26.211	19.892	0.000	0.000	0.000
Total Adjustments	-0.710	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	-0.710	0.000			
• Other Adjustments	0.000	0.000	0.000	0.000	0.000

Change Summary Explanation

FY24 funding decreased due to funding being aligned to DAF WCP CIP, see Capital Investment Recover Surcharge Line, Fund 9a

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0708055F / *Maintenance, Repair & Over haul System*	Project (Number/Name) 675329 / *MAINTENANCE REPAIR AND OVERHAUL INTIATIVE*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675329: *MAINTENANCE REPAIR AND OVERHAUL INTIATIVE*	-	26.211	19.892	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	46.103
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY24, MROi development budget controls have been realigned from Research, Development, Test & Evaluation (RDT&E) Program Element (PE) 0708055F Project 675329 to Department of Air Force (DAF) Working Capital Fund (WCF) Capital Investment Program (CIP) funding for MVP 5 and MVP 6 as identified in the Capital Investment Recovery Surcharge Line, Fund 9a.

As a result of the transition form DoDI 5000.02 to DoDI 5000.75, MROi was reclassified to a BCAT II program as reflected in the 11 Apr 2018 MROi Milestone B ADM.

A. Mission Description and Budget Item Justification

Starting in FY24, funding for this projected is realigned to DAF WCF CIP funding identified in Capital Investment Surcharge Line, Fund 9a. AFSC/FM memo for MROi Funding Determination moves development efforts of MVP 5 and MVP 6 as these MVPs of MROi are WCF, Consolidated Sustainment Activity-Maintenance (CSAG-M) specific. Per DoD FMR, Vol 2B, Ch. 9, 090103, para b. Software amounts included in the DAF WCF capital budget submissions should include those software development or acquisition efforts for the benefit of DAF WCF activity. Types of cost to be included in a software development project include total labor and non-labor costs.

The MROi program is a Doctrine, Organization, Training, Materiel, Leadership, Personnel, Facilities and Policies (DOTMLPF-P) transformation and standardization of both the business processes and enabling materiel solution. MROi will provide Air Force Sustainment Center (AFSC) with an integrated capability for planning, scheduling, and executing organic depot maintenance to support agile planning, optimized workload assignment, resource allocation, integrated quality, and maintenance-driven Air Force Working Capital Fund (AFWCF) financials auditability. This integrated capability, by definition, represents a critical step forward toward resolution of the Air Force's Integrated Financial Systems Material Weakness.

MROi will implement a configured Oracle Enterprise Business Suite (EBS) commercial off-the-shelf (COTS) software product with required report, interface, conversion, extension, and workflow (RICE-W) objects.

MROi will implement throughout all AFSC commodities, electronics, missile, propulsion, aircraft, software, and maintenance support groups. MROi's implementation will include transitional interfaces with various legacy systems to support continuous operations within the depot maintenance and supporting financials environment.

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,

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708055F / *Maintenance, Repair & Over haul System*	**Project (Number/Name)** 675329 / *MAINTENANCE REPAIR AND OVERHAUL INTIATIVE*

0606398F. In FY22 0.345M was expended for civilian pay expenses in this program element, and in FY23 0.355M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Product Development	26.211	19.892	0.000	0.000	0.000
Description: The MROi transformation effort will create an enterprise capability for agile planning, scheduling, and depot maintenance. Additionally it will, integrate the capture of auditable financial transactions at the point of work and optimize workload assignments and resource allocations. ***FY 2023 Plans:*** - Continue development and integration of MROi, leading to a planned Full Deployment Decision/Full Deployment Authority to Proceed (ATP). - Continue to configure the Oracle suite; configure associated Commercial-Off-The-Shelf (COTS) support software; develop Reports, Interfaces, Conversions and Extensions - Workflows (RICE-W) software; and develop training materials. - Continue to perform collaborative and combined development and operational testing iteratively throughout the development, configuration, integration, and deployment. - Initiate responsibility of hosting/infrastructure architecture design that relates to MROi. ***FY 2024 Base Plans:*** None, see Capital Investment Recovery Surcharge Line, Fund 9a ***FY 2024 OCO Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding transition to DAF WCF CIP, see Capital Investment Recover Surcharge Line, Fund 9a					
Accomplishments/Planned Programs Subtotals	26.211	19.892	0.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 834480: *Maintenance Repair & Overhaul Initiative*	0.000	0.248	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.248

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708055F / *Maintenance, Repair & Over haul System*	**Project (Number/Name)** 675329 / *MAINTENANCE REPAIR AND OVERHAUL INTIATIVE*

D. Acquisition Strategy

MROi uses an agile, incremental build-release acquisition strategy to deliver capability. The program used a competitive, best value strategy to select a system implementer utilizing the existing NETCENTS-2 Small Business Application Services contract for the original contract, which was awarded 11 Jul 2018 and concluded 16 Sep 2020. For the follow-on effort, the program used a competitive, best value strategy to select a system implementer utilizing the existing NETCENTS-2 Full and Open Large Business Application Services contract, awarded in Sep 20. Hosting Infrastructure is planned to be provided through the Enterprise Resource Planning - Common Services (ERP-CS) but MROi will fund program unique hosting infrastructure costs starting in FY23, as required.

•Development Contract Strategy
-Directed use of NETCENTS II Application Services IDIQ
--Competitive, Best Value Full Trade-off procedures
--Own technical baseline
--Tech Stack Licenses
--Follow-on increments with financial integration to be performed by large business

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708055F / *Maintenance, Repair & Over haul System*	**Project (Number/Name)** 675329 / *MAINTENANCE REPAIR AND OVERHAUL INTIATIVE*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Maintenance, Repair and Overhaul Initiative: Configuration System Implementer	C/Various	NETCENTS-2 : WPAFB, OH	-	10.782	Nov 2021	8.222	Nov 2022	-		-		-	Continuing	Continuing	-
Maintenance, Repair and Overhaul Initiative: PMO Oracle Support	C/CPFF	Various : WPAFB, OH	-	1.149	Dec 2021	1.092	Dec 2022	-		-		-	Continuing	Continuing	-
Maintenance, Repair and Overhaul Initiative: Integration and Engineering	MIPR	BAH : WPAFB, OH	-	1.961	Jan 2022	1.602	Dec 2022	-		-		-	Continuing	Continuing	-
Maintenance, Repair and Overhaul Initiative: Oracle Trusted Agent	C/Various	DLT Solution, LLC : Gunter Annex, AL	-	0.631	Nov 2021	0.374	Nov 2022	-		-		-	Continuing	Continuing	-
Maintenance, Repair and Overhaul Initiative: DISA	MIPR	DISA : Fort Mead, MD	-	0.220	Nov 2021	-		-		-		-	0.000	0.220	-
Maintenance, Repair and Overhaul Initiative: EAS	C/FFP	Bowhead : Gunter Annex, AL	-	0.789	Nov 2021	0.373	Nov 2022	-		-		-	Continuing	Continuing	-
Maintenance, Repair and Overhaul Initiative: Data platforms, services, integration, transformation and curation	C/FFP	TACG : WPAFB, OH	-	1.722	Nov 2021	0.897	Nov 2022	-		-		-	Continuing	Continuing	-
		Subtotal	-	17.254		12.560		-		-		-	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Maintenance, Repair, and Overhaul Initiative: EPASS	C/CPFF	AFLCMC/AZS : Hanscom, MA	-	2.746	Jan 2022	2.450	Nov 2022	-		-		-	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708055F / *Maintenance, Repair & Over haul System*	**Project (Number/Name)** 675329 / *MAINTENANCE REPAIR AND OVERHAUL INTIATIVE*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Maintenance, Repair and Overhaul Initiative: Direct Cite Authority	Reqn	AFLCMC : Gunter Annex, AL	-	0.278	Oct 2021	0.285	Oct 2022	-		-		-	Continuing	Continuing	-
		Subtotal	-	3.024		2.735		-		-		-	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Maintenance, Repair and Overhaul Initiative: Test Support	PO	96th Test Wing : Eglin, FL	-	1.047	Jan 2022	0.334	Nov 2022	-		-		-	Continuing	Continuing	-
Maintenance, Repair and Overhaul Initiative: Test Licenses	C/FP	V3 Gate : Gunter Annex, AL	-	2.770	Feb 2022	-		-		-		-	Continuing	Continuing	-
Maintenance, Repair and Overhaul Initiative: Joint Interoperability Test Command (JITC) Support	MIPR	GSA : WPAFB, OH	-	0.005	Mar 2022	0.028	Dec 2022	-		-		-	Continuing	Continuing	-
		Subtotal	-	3.822		0.362		-		-		-	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Maintenance, Repair, and Overhaul Initiative: PMA	Various	Various : TBD	-	1.567	Nov 2021	1.997	Nov 2022	-		-		-	Continuing	Continuing	-
Maintenance, Repair and Overhaul Initiative: OCI Hosting Environment	TBD	TBD : TBD	-	0.000		1.343	Nov 2022	-		-		-	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708055F / *Maintenance, Repair & Overhaul System*	**Project (Number/Name)** 675329 / *MAINTENANCE REPAIR AND OVERHAUL INTIATIVE*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Maintenance, Repair, and Overhaul Initiative: License Renewal	C/FP	V3 Gate : Gunter Annex, AL	-	0.544	Nov 2021	0.895	Mar 2023	-		-		-	Continuing	Continuing	-
		Subtotal	-	2.111		4.235		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	26.211		19.892		-		-		-	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708055F / *Maintenance, Repair & Overhaul System*	**Project (Number/Name)** 675329 / *MAINTENANCE REPAIR AND OVERHAUL INTIATIVE*

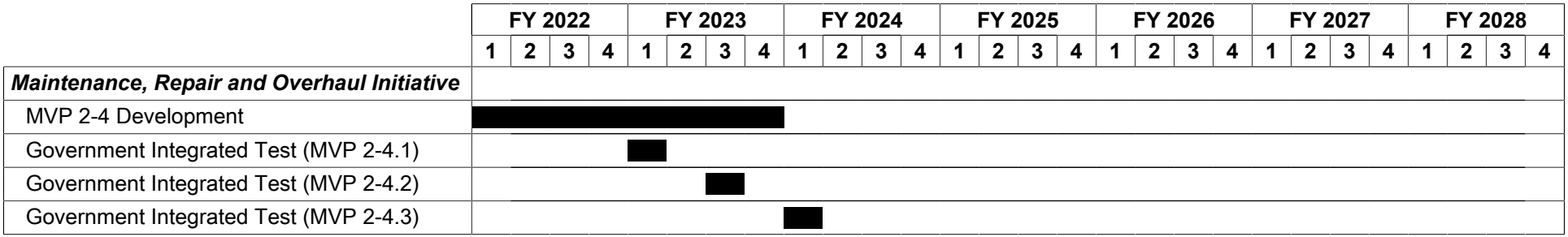

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708055F / *Maintenance, Repair & Overhaul System*	**Project (Number/Name)** 675329 / *MAINTENANCE REPAIR AND OVERHAUL INTIATIVE*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Maintenance, Repair and Overhaul Initiative				
MVP 2-4 Development	1	2022	4	2023
Government Integrated Test (MVP 2-4.1)	1	2023	1	2023
Government Integrated Test (MVP 2-4.2)	3	2023	3	2023
Government Integrated Test (MVP 2-4.3)	1	2024	1	2024

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	6.870	17.271	17.520	0.000	17.520	10.165	21.031	19.134	25.904	Continuing	Continuing
675207: *Logistics IT System Modernization*	-	6.870	17.271	17.520	0.000	17.520	10.165	21.031	19.134	25.904	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The AF requires an integrated logistics capability that provides timely, accurate and reliable information to decision makers at all levels of command and across the full range of military operations.

Log IT is a portfolio of programs that currently addresses Transformation, Remediation, and Modernization of Operational Systems. Transformation focuses on transforming the Logistics IT enterprise to a more efficient, cost-effective integrated IT infrastructure. Remediation entails modifying operational Logistics software systems to address congressionally-mandated Financial Improvement & Audit Readiness requirements and remediating critical IT risks through the Logistics Strike Teams (consolidation, re-hosting, analytics). Modernization concentrates on software upgrades for operational systems to increase functional capabilities, reduce sustainment costs, meet statutory IT compliance requirements and improve user performance.

Remediation and Modernization of core logistics systems is necessary for the AF to meet statutory Financial Improvement Audit Readiness (FIAR) requirements and align with the Joint Chiefs of Staff J-4 Concept for Logistics, and the AF Portfolio Board's approved Logistics Flight Plan. Concurrently, the AF sustain and modify identified logistics systems to achieve FIAR remediation by the statutory deadline; execute software upgrades to reduce high operating costs and meet evolving operational demands; implement statutory compliance requirements; improve system performance; and enable system consolidation efforts that lower the cyber threat space and reduce long-term portfolio costs.

- Identified systems include, but are not limited to, the Integrated Logistics System-Supply (ILS-S), Enhanced Technical Information Management System (ETIMS), Integrated Maintenance Data System (IMDS), and Reliability and Maintainability Information System (REMIS). Additional logistics systems may be included as financial audits are completed and system consolidation efforts mature.

Transformation:

- The AF must transform its logistics business processes and transition away from using numerous custom stovepipe systems and processes that perform similar tasks. Eliminating process redundancies across the logistics enterprise will enable the AF to execute more secure, resilient, efficient, cost-effective and integrated logistics. The objective of transformation is to conduct Business Process Re-engineering (BPR) to identify and eliminate overlaps in business processes across core logistics systems and, where appropriate, implement new IT systems that employ best commercial practices and modern cloud-based architectures.

- The AF will take full advantage of the flexibilities provided by DoDI 5000.75, Business Systems Requirements and Acquisition guidance, as well as Agile development methodologies to identify requirements across the spectrum of Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities and Policy (DOTMLPF-P); and to acquire and deploy approved material solutions in the most efficient and effective manner possible utilizing the 5-phased Business Capability Acquisition Cycle (BCAC). The BCAC phases are structured to optimize a joint responsibility of functional and acquisition activities, leading to the successful delivery of the business capability. There will be an emphasis placed on acquisition of business systems aligned to commercial best practices utilizing commercial off-the shelf (COTS), government off-the-shelf (GOTS) solutions, and modern platforms that support continuous integration and continuous deployment (CI/CD) following a development, security, and operations (DevSecOps) methodology.

- The AF logistics enterprise is comprised of multiple overarching functional areas, to include base and depot-level maintenance, end-to-end supply chain management, and predictive analysis and forecasting. The AF will standardize its business processes within each major logistics functional area through Transformational Capability Initiatives (TCIs). These TCIs include, but are not limited to: Maintenance, Repair and Overhaul Initiative (MROi PE 0708055F), Foundational Logistics Information Technology Enterprise System (FLITES), Supply Capability Initiative, Air Force Product Lifecycle Management Capability Initiative (AF-PLM), and Field Maintenance Capability Initiative. There may be one or more specific initiatives aligned to each of the major CI areas referenced above.

Transformation Capability Initiatives (TCI):

- TCI Foundational Logistics Information Technology Enterprise System (FLITES) provides the capability to manage comprehensive, accurate, reliable item master data (e.g., accurate identification and authorization of owners and users of items). FLITES is a key component of the Air Force (AF) Logistics Capability Transformation Plan. It will provide Item standardization and configuration management from a single authoritative source, ensuring foundational logistics processes are executed in concert to support the A4 logistics baseline. It will enable key integration and transformation capabilities, including Item Unique Identification (IUID) association to business transactions; streamlined management of part item attributes across supply, finance, engineering, technology, transportation, maintenance, and vendor communities; and provide translation capabilities between functional and technical business communities and systems.

- TCI Supply Capability Initiative is focused on enabling simplified, standardized processes to fundamentally enhance the business operations and provide total asset visibility across the supply chain. These improvements have been identified in the USAF Logistics Capabilities Transformation Plan.

• Procurement: Encompasses all business functions necessary to obtain goods (both inventory and expense) and services, sourced internally and externally through strategic partnerships with Trading Partners.
• Order Management: Encompasses all business functions necessary to accept and process customer orders (internal/external) for services and/or inventory held for sale or internal consumption.
• Inventory Management: Encompasses all business functions necessary to establish and manage inventory for all types of items (repairable, consumable, expense items and other low cost items) including Air Force owned inventory and other items that are sent to the Air Force for repair (Foreign Military Sales and other Services).
• Asset Management: Encompasses all business functions necessary to establish in-use accountability and life-cycle management of capital, centrally managed, and local purchased assets.
• Financial Management: Encompasses all accounting functions necessary to record and produce auditable financial statements (for GF and WCF)

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*

- TCI Field Maintenance Logistics Capability Initiative (LCI) will improve the AF field maintenance capabilities across the Mission Generation Network (MGN) and Repair Network (RN) functionalities supports USAF Strategic Master Plan, Vector 1: Provide Effective 21st-Century Deterrence and Vector 3: Ensure a Full-Spectrum Capable, High-End Focused Force. It also directly supports the future vision of Air Force maintenance being divided between Mission Generation, which takes place on the flight line, and repair networks that provides support to Mission Generation as outlined in the 2015-2025 Enterprise Logistics Flight Plan (ELFP).

MGN will address the cumulative effort required to launch, recover, configure, inspect and repair aircraft. It includes activities covering the planning, scheduling and execution of aircraft preparation and maintenance to support sortie production and is predominantly accomplished in an on-equipment environment. MGN and RN will standardize processes where appropriate, allowing for optimization of resources, enhanced visibility of assets, reduced rework, reduced variability, improved documentation and configuration management, all allowing for more rapid and informed decision-making at the base and enterprise level.

- Funds will be used to perform studies, analysis, and innovative integration efforts for common technology capabilities such as cloud migration, technology development and mobile applications that cross and support all of the aforementioned initiatives.

- 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 0.00M was expended for civilian pay expenses in this program element, and in FY23 0.00M 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.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	11.071	5.271	22.489	0.000	22.489
Current President's Budget	6.870	17.271	17.520	0.000	17.520
Total Adjustments	-4.201	12.000	-4.969	0.000	-4.969
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	12.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-3.886	0.000			
• SBIR/STTR Transfer	-0.315	0.000			
• Other Adjustments	0.000	0.000	-4.969	0.000	-4.969

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 675207: *Logistics IT System Modernization*		
Congressional Add: *Modernized, integrated, secured digital supply chain initiative*	0.000	10.000
Congressional Add: *Tagless IUID*	0.000	2.000
Congressional Add Subtotals for Project: 675207	0.000	12.000
Congressional Add Totals for all Projects	0.000	12.000

Change Summary Explanation

The FY 2022 reprogramming was to properly align congressional add, Automated Inventory Mgmt Demo, to Line 130 PE 0702806F for execution.

The FY 2024 funding request was reduced to better align funding profile to program requirements.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Enhanced Technical Information Management System Enhancements (ETIMS Enhancements)	0.252	1.876	5.900
Description: Modify ETIMS to enhance user capability/functionality. Modifications may include improvements of services and capabilities to support electronic Tech Order (TO) distribution and viewing, deployment of the ETIMS Mobile Application, improvements to support online viewing of IETMs, interface with TOAP, TO Change Requests processes and CPIN management, incorporate Classified TOs into ETIMS, subsume SATODS functionality, system changes to subsume functionality of			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
other systems in support of terminating duplicate capability, system enhancements to meet compliance requirements, and enhancements for information technology modernization. ***FY 2023 Plans:*** - Continue to develop and conduct limited deployments of mobile app v01.04 ***FY 2024 Plans:*** - Will continue limited deployments and achieve full deployment of mobile app v01.04 - Will award development contract for ETIMS v01.05 - Will begin development and testing of ETIMS v01.05 ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to amplified development required for ETIMS v01.05.			
Title: Logistics Enhancements ***Description:*** Modify programs to meet existing and future compliance requirements. Support Logistics Application Rationalization. Modifications may include system changes to subsume functionality of other systems in support of terminating duplicate capability and systems, as well as enhancements to meet compliance requirements, such as Item Unique Identification (IUID), Defense Logistics Marking Standards (DLMS), and enhancements for information technology modernization. Programs include but are not limited to Integrated Maintenance Data System (IMDS), Reliability and Maintainability Information System (REMIS), and Integrated Logistics Support - Supply (ILS-S). ***FY 2023 Plans:*** - Begin work on strike team directed requirements for consolidation of legacy programs ***FY 2024 Plans:*** - Will continue work on strike team directed requirements for consolidation of legacy programs	0.000	0.050	0.050
Title: Transformation Capability Initiative -Foundational Logistics Information Technology Enterprise System (FLITES) ***Description:*** FLITES will provide comprehensive Item Catalog and Provisioning functions for the Logistics business systems, and will replace the Item Management Control System (IMCS) suite of legacy systems, at a minimum. It will be the central repository for the Item core business objects, providing standardization of Item cataloging processes, structure, attributes, propagation, and standardized views for all applicable Item types. Additionally, FLITES will receive product structure input from an engineering Product Lifecycle Management (PLM) type system. FLITES will contain the Item data that is the core underlying information for each Transformation Capability Initiative (TCI), and as such, will integrate with many logistics enterprise systems. FLITES is a	5.649	2.747	11.220

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
pilot program within NDAA Section 873, "Agile or Iterative Development Methods to Tailor Major Software-Intensive Warfighting Systems and Defense Business Systems pilot program." In FY21, the program name was changed from Item Master Logistics Capability Initiative (IMLCI) to Foundational Logistics Information Technology Enterprise System (FLITES). ***FY 2023 Plans:*** - Continue tuning commercial platform on Cloud-One and Dev/Test environments to continue work towards Full Deployment of FLITES - Continue configuration of commercial platform to provide foundational logistics capability - Conduct recurring cyber-security and system performance testing concurrent with configuration - Develop and test interfaces and data exchanges to other Logistics Systems, as needed - Deliver MVP 1 capability to replace current item management system - Continue fielding capability to pre-production environment for user familiarization and for use in production ***FY 2024 Plans:*** - Will continue tuning commercial platform on Cloud-One and Dev/Test environments to continue work towards Full Deployment of FLITES - Will continue configuration of commercial platform to provide foundational logistics capability - Will conduct recurring cyber-security and system performance testing concurrent with configuration - Will develop and test interfaces and data exchanges to other Logistics Systems, as needed - Will continue fielding capability to pre-production environment for user familiarization and for use in production ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to extended interface development which resulted in full deployment moving to FY25			
Title: Emerging Financial Improvement and Audit Readiness (Emerging FIAR) ***Description:*** Modify operational Logistics software systems to incorporate emerging FIAR requirements. These requirements are the result of on-going analysis of the Treasury Financial Management (TFM) Chapter 9500, as directed by OMB A-123 appendix D, and the DoD FMR volume 1, chapter 3. The results are identified and documented systems deficiencies that can only be satisfied via a material solution. ***FY 2023 Plans:*** Continue FIAR remediation efforts for the Reliability and Maintainability Information System (REMIS):	0.469	0.598	0.150

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Begin remediation of 2021 FIAR Audit NFRs ***FY 2024 Plans:*** Will continue remediation efforts to address findings from ongoing FIAR audits for FIAR systems ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding decreased due to result of the completion of 2021 FIAR Audit NFRs			
Title: Logistics Strike Teams (Strike Teams) ***Description:*** Effort to collapse remaining legacy logistic systems to a consolidated enterprise set and enhance logistics analytics by applying more accurate methodologies that will 1) improve command and control, 2) enhance logistics data analytics and forecasting, and 3) eliminate redundancy and duplication 4) inject modern technologies (e.g. cloud). Enhance logistics data analytics environment with machine learning, predictive, and prognostic capabilities; incorporate automated tools for rapid consolidation of duplicative analytics capabilities. ***FY 2023 Plans:*** N/A ***FY 2024 Plans:*** Will collapse remaining legacy logistics sustainment systems with a goal of consolidating 15 systems of the original 359 and enhance logistics analytics by applying more accurate methodologies that will: - improve command and control - enhance logistics data analytics and forecasting - eliminate redundancy and duplication - inject modern technologies (e.g. cloud) Will enhance logistics data analytics environment by: - machine learning - predictive, and prognostic capabilities - incorporate automated tools for rapid consolidation of duplicative analytics capabilities ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to emphasis on collapsing legacy logistics sustainment systems enabling more effective and efficient enterprise capabilities	0.500	0.000	0.200
Accomplishments/Planned Programs Subtotals	6.870	5.271	17.520

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*

	FY 2022	FY 2023
Congressional Add: Modernized, integrated, secured digital supply chain initiative ***FY 2022 Accomplishments:*** N/A ***FY 2023 Plans:*** Develop modern IT architectures, integrate data and data systems, and enhance cybersecurity capabilities for Air Force logistics systems	0.000	10.000
Congressional Add: Tagless IUID ***FY 2022 Accomplishments:*** N/A ***FY 2023 Plans:*** Assessing program activities and prioritization	0.000	2.000
Congressional Adds Subtotals	0.000	12.000

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 Line Item 834430: *Global Combat Support System-Air Force (GCSS-AF)*	0.000	0.000	0.000	-	0.000	4.416	5.673	5.785	5.901	Continuing	Continuing

Remarks

E. Acquisition Strategy

Air Force Program Executive Office - Business and Enterprise Systems (AFPEO-BES) is evaluating systems under the DoDI 5000.75 to approve Authority To Proceed (ATP) for each core logistics system remediation/modification project.

Agile development practices transform IT acquisitions by incrementally delivering capabilities faster and responding more effectively to changes in operations, technology, and budgets. The four objectives of Agile software development are: 1. Focusing on small, frequent capability releases; 2. Valuing working software over comprehensive documentation; 3. Responding rapidly to changes in operations, technology, and budgets; 4. Actively involving users throughout development to ensure high operational value. In addition, exploitation of emerging cloud-native and containerized deployment on modern platforms will greatly enhance speed of delivery to users in a secure, scalable, and flexible manner.

The Logistics IT program utilizes the Agile software development methodology in the acquisition of these projects. Log IT supports multiple lines of effort and will employ multiple acquisition strategies to achieve the 3 Log IT objectives of FIAR and Software Upgrades, Transformation, and Transformation Capability Initiatives. Agile

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*

development, continuous integration and deployment are preferred methodologies that will be employed to the greatest extent possible to achieve maximum flexibility and cyber-resiliency, using an appropriate mix of contractor and government personnel.

Contract strategies will require multiple approaches with a focus on best value and rapid execution using contracts like the pre-competed Small Business Enterprise Application Solutions (SBEAS) multi-vendor indefinite delivery/indefinite quantity (ID/IQ) vehicle.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ETIMS Enhancements-Prime Intergration Incrementally Funded FY23 Reqts (ECP v.01.04)	C/CPAF	KIRA Info Solutions : WPAFB, OH	-	-		-		1.281	Dec 2023	-		1.281	Continuing	Continuing	-
ETIMS Enhancements - Prime Integration	C/CPAF	KIRA Info Solutions, : WPAFB, OH	-	-		1.478	Jun 2023	4.133	Nov 2023	-		4.133	Continuing	Continuing	-
ETIMS Enhancements - Mobile Development	C/FFP	BESPIN : MAFB-Gunter Annex, AL	-	-		0.071	Feb 2023	0.071	Nov 2023	-		0.071	Continuing	Continuing	-
Logistics Enhancements - Prime Integration	TBD	TBD : MAFB-Gunter Annex, AL	-	-		0.050	Aug 2023	0.050	Nov 2023	-		0.050	Continuing	Continuing	-
FLITES - Development/ Production Software Tools	Various	Various : WPAFB, OH	-	-		0.140	Dec 2022	0.139	Jan 2024	-		0.139	Continuing	Continuing	-
FLITES - Hosting	C/CPFF	SAIC : WPAFB, OH	-	0.160	Sep 2022	0.000	Dec 2022	1.305	Dec 2023	-		1.305	Continuing	Continuing	-
FLITES - Technical Services Contract	C/FFP	One Network : WPAFB, OH	-	2.297	Jul 2022	0.606	Apr 2023	6.955	Nov 2023	-		6.955	Continuing	Continuing	-
FLITES - Development Licenses	C/FFP	One Network : WPAFB, OH	-	1.765	Jul 2022	1.875	Oct 2022	-		-		-	Continuing	Continuing	-
FLITES - Java Developers	C/FFP	Bering Global Solutions : WPAFB, OH	-	0.675	May 2022	0.000	Jan 2023	1.000	Nov 2023	-		1.000	Continuing	Continuing	-
Logistics Strike Teams	Various	GSA : TBD	-	0.500	Aug 2022	0.000	Sep 2023	0.200	Jan 2024	-		0.200	Continuing	Continuing	-
Tagless IUID	TBD	TBD : WPAFB, OH	-	0.000	Aug 2023	2.000	Jul 2023	0.000		-		0.000	Continuing	Continuing	-
Modernized, integrated, secure digital supply chain initiative	TBD	TBD : TBD	-	0.000	Aug 2023	10.000	Jul 2023	-		-		-	Continuing	Continuing	-
		Subtotal	-	5.397		16.220		15.134		-		15.134	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0708610F / *Logistics Information Technology (LOGIT)*	Project (Number/Name) 675207 / *Logistics IT System Modernization*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ETIMS Enhancements - SME	C/FFP	DATUM : WPAFB, OH	-	0.252	Jul 2022	0.257	May 2023	0.265	Jul 2024	-		0.265	Continuing	Continuing	-
ETIMS Enhancements - ISP	C/FFP	Bowhead : WPAFB, OH	-	-		0.070	Jan 2023	0.150	Nov 2023	-		0.150	Continuing	Continuing	-
FLITES - SME/Help Desk	C/FFP	TACG, LLC : WPAFB, OH	-	0.315	May 2022	0.000	Apr 2023	0.000	Dec 2023	-		0.000	Continuing	Continuing	-
FLITES - ISP	C/FFP	Bowhead : WPAFB, OH	-	0.072	Jun 2022	0.000	Jan 2023	0.201	Dec 2023	-		0.201	Continuing	Continuing	-
Emerging FIAR - Program Support	Various	AFLCMC : MAFB-Gunter, AL	-	0.469	Oct 2021	0.598	Feb 2023	0.150	Oct 2023	-		0.150	Continuing	Continuing	-
		Subtotal	-	1.108		0.925		0.766		-		0.766	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FLITES - LDTO	PO	96th Test Wing : Eglin AFB, FL	-	-		0.000	Nov 2022	0.120	Nov 2023	-		0.120	Continuing	Continuing	-
		Subtotal	-	-		0.000		0.120		-		0.120	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FLITES - PMO Travel	Various	PEO : WPAFB, OH	-	0.025	Feb 2022	0.020	Jan 2023	0.051	Jan 2024	-		0.051	Continuing	Continuing	-
FLITES - EPASS	C/CPFF	Oasis : WPAFB, OH	-	0.340	Apr 2022	0.106	Mar 2023	1.449	Apr 2024	-		1.449	Continuing	Continuing	-
		Subtotal	-	0.365		0.126		1.500		-		1.500	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0708610F / *Logistics Information Technology (LOGIT)*	Project (Number/Name) 675207 / *Logistics IT System Modernization*	

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	6.870		17.271		17.520		-		17.520	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*

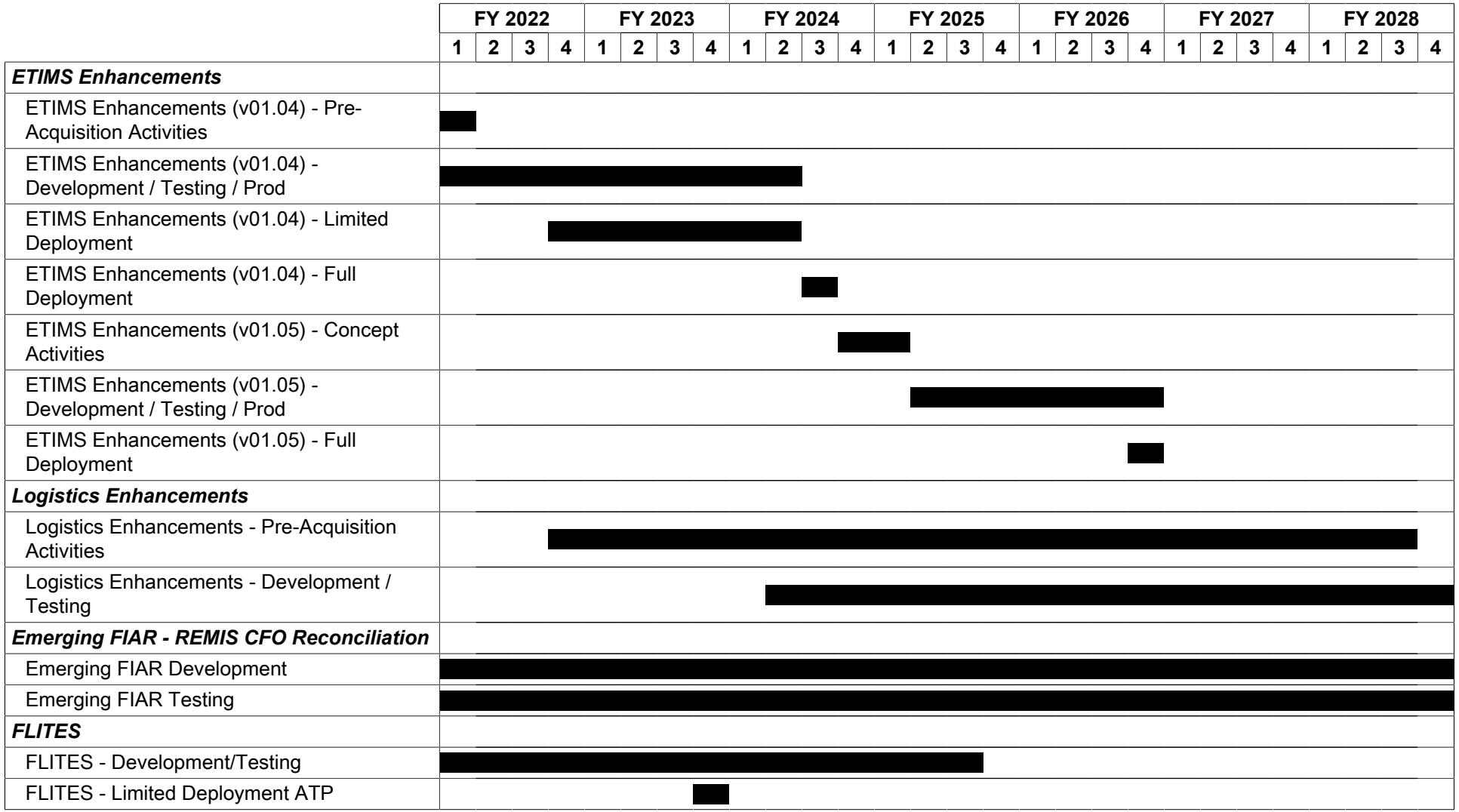

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*

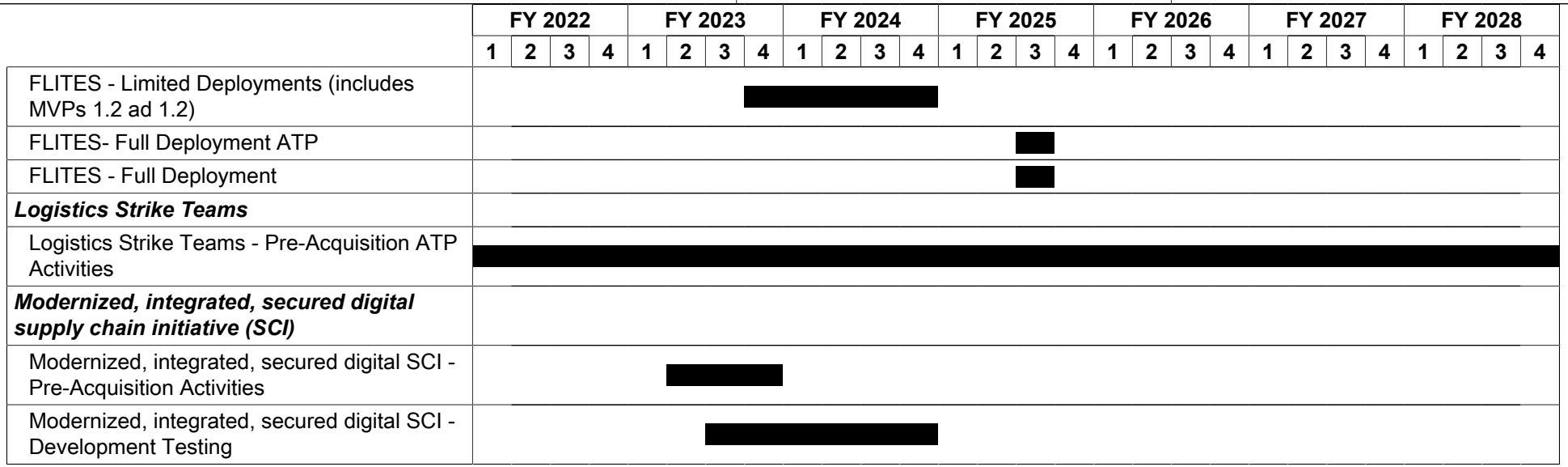

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
ETIMS Enhancements				
ETIMS Enhancements (v01.04) - Pre-Acquisition Activities	1	2022	1	2022
ETIMS Enhancements (v01.04) - Development / Testing / Prod	1	2022	2	2024
ETIMS Enhancements (v01.04) - Limited Deployment	4	2022	2	2024
ETIMS Enhancements (v01.04) - Full Deployment	3	2024	3	2024
ETIMS Enhancements (v01.05) - Concept Activities	4	2024	1	2025
ETIMS Enhancements (v01.05) - Development / Testing / Prod	2	2025	4	2026
ETIMS Enhancements (v01.05) - Full Deployment	4	2026	4	2026
Logistics Enhancements				
Logistics Enhancements - Pre-Acquisition Activities	4	2022	3	2028
Logistics Enhancements - Development / Testing	2	2024	4	2028
Emerging FIAR - REMIS CFO Reconciliation				
Emerging FIAR Development	1	2022	4	2028
Emerging FIAR Testing	1	2022	4	2028
FLITES				
FLITES - Development/Testing	1	2022	3	2025
FLITES - Limited Deployment ATP	4	2023	4	2023
FLITES - Limited Deployments (includes MVPs 1.2 ad 1.2)	4	2023	4	2024
FLITES- Full Deployment ATP	3	2025	3	2025
FLITES - Full Deployment	3	2025	3	2025
Logistics Strike Teams				
Logistics Strike Teams - Pre-Acquisition ATP Activities	1	2022	4	2028

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Modernized, integrated, secured digital supply chain initiative (SCI)				
Modernized, integrated, secured digital SCI - Pre-Acquisition Activities	2	2023	4	2023
Modernized, integrated, secured digital SCI - Development Testing	3	2023	4	2024

Note

- Logistics Strike Teams Requirements will continue to conduct pre-acquisition ATP activities. These activities include items such as risk reduction efforts, problem statements, and Clinger-Cohen Act documentation.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0801380F / *AF LVC Operational Training (LVC-OT)*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.000	0.000	25.144	0.000	25.144	26.921	24.462	24.767	25.664	Continuing	Continuing
674567: *Modeling and Simulation Foundations - MSF*	-	0.000	0.000	7.637	0.000	7.637	9.334	9.535	9.696	9.994	Continuing	Continuing
675135: *Warfighter Readiness*	-	0.000	0.000	17.507	0.000	17.507	17.587	14.927	15.071	15.670	Continuing	Continuing

Note

In FY2024, PE 0207601F, USAF Modeling and Simulation, Project 674567, M&S Foundations, and Project 675135, Warfighter Readiness, efforts were transferred to PE 0801380F, AF LVC Operational Training (LVC-OT), Project 674567, M&S Foundations, and Project 675135, Warfighter Readiness, to meet higher priority AF Operational Readiness and Training efficiencies. THIS IS NOT A NEW START.

A. Mission Description and Budget Item Justification

Modeling and Simulation support to our Warfighter's Readiness is a United States Air Force (USAF) corporate imperative to ensure air, space, cyberspace training, and mission rehearsal activities are supported with realistic, interoperable, and readily available tools, data, services and environments. Warfighter readiness supports Department of Defense (DoD) Training Transformation (T2) and Joint National Training Capability (JNTC) along with the USAF priorities and core functions. Activities also include studies and analysis to support both current program planning, execution, and future program planning.

It includes several complimentary programs, initiatives and areas for investment: Warfighter and Joint Training Integration supports the Chief of Staff of the Air Force (CSAF) directed Live, Virtual, and Constructive (LVC) integration efforts and is a critical piece to the USAF's implementation of the Strategic Plan for Transforming DoD Training. The goal of LVC training and mission rehearsal is to prepare our warfighters for the full range of military operations and maintain the combat readiness levels required by the Combatant Commanders. This can only be accomplished by training and rehearsing in realistic operational environments. These environments include live training ranges and virtual simulators enhanced with constructive entities. Specific training and mission rehearsal events can include some or all of these simultaneously; making the ability to integrate LVC capabilities a necessity.

The Air, Space, and Cyberspace Constructive Environment (ASCCE) is the USAF's authoritative federation of constructive training models and tools realistically representing the tactical and operational capabilities the USAF brings to the joint fight. Project 675135, Warfighter Readiness, provides for the Command & Control Simulation Environment for Training (C2SET) development effort, which is modernizing the authoritative representation of AF and joint theater-level air and space power for training Air and Space Operations Center (AOC) personnel and Combatant Commanders' battle staffs. The primary models in development for C2SET are based on the AF common Advanced Framework for Simulation, Integration, and Modeling (AFSIM). C2SET will replace the current Air Force Modeling and Simulation Training Toolkit (AFMSTT).

The program element also contains Project 674567, M&S Foundations, the Air, Space and Cyberspace Collaborative Environment - Information Operations Suite (ACE-IOS). ACE-IOS is a federation of constructive models for the authoritative representation of Air Force Intelligence, Surveillance, and Reconnaissance (ISR), Electronic Warfare (EW), Information Operations (IO), and Cyber Effects on AF combat operations. The program supports multifaceted training and mission rehearsal for the Air

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0801380F / *AF LVC Operational Training (LVC-OT)*

Force at multiple training tiers, Joint Task Force commanders, and Combatant Commanders' battle staffs covering training from the AF schoolhouse through the Air Combatant Commander staff via Joint and Service exercises, tests, and experiments. This program also supports the DoD Training Transformation Initiative.

This program is part of the overarching Kessel Run portfolio and is leveraging 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.

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 1.090M was expended for civilian pay expenses in program element 0207601F prior to transition to program element 0801380F in FY24. In FY23, 1.269M is forecasted for civilian pay expenses.

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 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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	25.144	0.000	25.144
Total Adjustments	0.000	0.000	25.144	0.000	25.144
• 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	25.144	0.000	25.144

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0801380F / *AF LVC Operational Training (LVC-OT)*	Project (Number/Name) 674567 / *Modeling and Simulation Foundations - MSF*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
674567: *Modeling and Simulation Foundations - MSF*	-	0.000	0.000	7.637	0.000	7.637	9.334	9.535	9.696	9.994	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY2024, PE 0207601F, USAF Modeling and Simulation, Project 674567, M&S Foundations, and Project 675135, Warfighter Readiness, efforts were transferred to PE 0801380F, AF LVC Operational Training (LVC-OT), Project 674567, M&S Foundations, and Project 675135, Warfighter Readiness, to meet higher priority AF Operational Readiness and Training efficiencies. THIS IS NOT A NEW START.

A. Mission Description and Budget Item Justification

Modeling and Simulation Foundations (MSF) focuses on integrating foundational capabilities needed to improve the usefulness of Modeling and Simulation (M&S) capabilities derived from the Warfighter Readiness (WR) thrust. The efforts supporting the MSF thrust include both concept exploration and development. MSF provides the capability to rapidly and efficiently create realistic and accurate synthetic operational battlespaces to support the full spectrum of activities associated with concept development to acquisition and testing through composite training and mission rehearsals.

ACE-IOS project is a federation of constructive models for the authoritative representation of Air Force ISR and Information Operations. ACE-IOS provides simulation modeling and stimulation systems, software, and contract support in support of ISR/Cyber training from the AF ISR Schoolhouse to Joint mission rehearsal for the Air Force, Joint Task Force commanders, and Combatant Commands battle staffs during Joint and Service exercises, tests and experiments.

ACE-IOS provides ISR and Cyber live-virtual-constructive (LVC) environments to support the Joint training of offensive and defensive ISR/Cyber capabilities for the AF, DoD, select Coalition, and national agencies. AF Joint ISR operational training is conducted by the AF Simulation centers worldwide using the ACE-IOS M&S models and stimulations with specific extensions in support of the Air Force Cyber Simulation Center (CSC) and the AF ISR schoolhouse. Overall development and integration efforts of the ACE-IOS program are imperative to ensure that air, space, and cyberspace training and mission rehearsal activities are supported with realistic, interoperable, and readily available tools, data, and services. Specific ACE-IOS capability enhancements are built in direct support of the Distributed Mission Operations Center for Cyberspace (DMOC-C) and the AF ISR schoolhouse. The specific cyber effects software extensions for DMOC-C are in support of the training and exercising of tactical cyber mission forces (CMF), cyber service providers (CSP), and operational-level command and control, intelligence, and cyber planners and operators supporting global operations.

LVC environments today are used as one of the most cost effective and practical means to meet mission needs. These efforts enable more efficient delivery of effective capabilities to the warfighter while reducing the time and resources required for design, development, test, and evaluation, maintainability and sustainment.

Authorization and Accreditation and Networthiness is maintained via the Information Technology (IT) systems Risk Management Framework (RMF) for seven classified ACE-IOS configuration and two supported cross domain solutions, which includes codes and ruleset development, testing, and fielding, and meets AF Joint Worldwide

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0801380F / *AF LVC Operational Training (LVC-OT)*	**Project (Number/Name)** 674567 / *Modeling and Simulation Foundations - MSF*

Intelligence Communications Systems (JWICS), AF Secret Protocol Router Network (SIPRNET) and AF and Joint Staff training network net worthiness standards and evaluation.

This program also supports the DoD Transformation Initiative.

This program is part of the overarching Kessel Run portfolio and is assessing the extent to which All Domain Common Platform (ADCP) will be leveraged. 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.

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 1.090M was expended for civilian pay expenses in this program element, and in FY23 1.349M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Air, Space and Cyberspace Constructive Environment - Information Operations Suite (ACE-IOS)	-	0.000	7.637
Description: Provides the authoritative representation of the AF ACE-IOS program. ACE- IOS is comprised of models that support training and mission rehearsal for the Air Force, Joint Task Force commanders, and Combatant Commander battle staffs during Joint and Service exercises and experimentations. Also supports shared ACE-IOS development in support of the AF ISR schoolhouse and DMOC-C extensions. ***FY 2023 Plans:*** See PE 0207601F, USAF Modeling and Simulation for detailed plans. ***FY 2024 Plans:*** Will commence and deliver ACE-IOS version & deployment Will continue ACE-IOS agile development Will continue integration with C2SET program and M&S support to Kessel Run common development ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to the transfer of funding to PE 0801380F to meet higher priority AF Operational Readiness and Training Efficiencies.			
Accomplishments/Planned Programs Subtotals	-	0.000	7.637

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0801380F / *AF LVC Operational Training (LVC-OT)*	**Project (Number/Name)** 674567 / *Modeling and Simulation Foundations - MSF*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 833140: *Strategic Command And Control*	0.668	30.738	9.962	-	9.962	5.413	1.866	1.883	28.316	0.000	78.846
• RDTE 07 0303248F: *AF Command and Control (C2) Common Platform*	70.894	45.502	88.916	-	88.916	98.464	99.216	98.907	88.153	0.000	590.052

Remarks

D. Acquisition Strategy

The Acquisition goals of the Air, Space and Cyberspace Constructive Environment - Information Operations Suite (ACE-IOS) are achieved through incremental development of the project's M&S activities; all contracts are awarded using full and open competition. In order to meet evolving M&S technology and requirements and its modernization effort, the ACE-IOS program will leverage commercial best practices for agile software development.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0801380F / *AF LVC Operational Training (LVC-OT)*	**Project (Number/Name)** 674567 / *Modeling and Simulation Foundations - MSF*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Air, Space and Cyberspace Constructive Environment - Information Operations Suite (ACE-IOS)(1)	TBD	TBD : TBD	-	-		-		6.847	Dec 2023	-		6.847	Continuing	Continuing	-
		Subtotal	-	-		-		6.847		-		6.847	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ACE-IOS Civilian Direct Cite Authorizations for Product Development	Allot	TBD : TBD	-	-		-		0.290	Oct 2023	-		0.290	Continuing	Continuing	-
		Subtotal	-	-		-		0.290		-		0.290	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration	C/Various	AFLCMC : Hanscom AFB, MA	-	-		-		0.500	Oct 2023	-		0.500	Continuing	Continuing	-
		Subtotal	-	-		-		0.500		-		0.500	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		-		7.637		-		7.637	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0801380F / *AF LVC Operational Training (LVC-OT)*	**Project (Number/Name)** 674567 / *Modeling and Simulation Foundations - MSF*

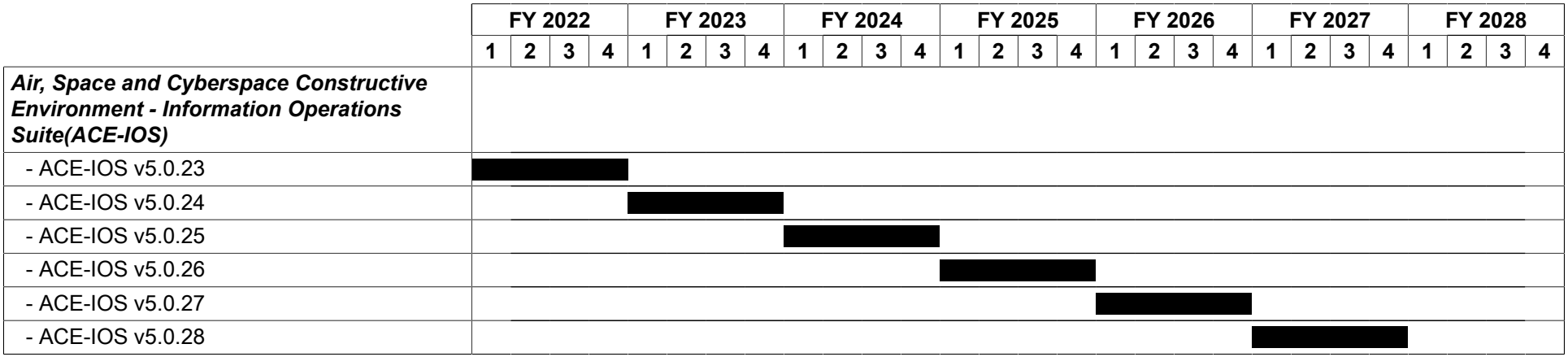

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0801380F / *AF LVC Operational Training (LVC-OT)*	**Project (Number/Name)** 674567 / *Modeling and Simulation Foundations - MSF*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Air, Space and Cyberspace Constructive Environment - Information Operations Suite(ACE-IOS)				
- ACE-IOS v5.0.23	1	2022	4	2022
- ACE-IOS v5.0.24	1	2023	4	2023
- ACE-IOS v5.0.25	1	2024	4	2024
- ACE-IOS v5.0.26	1	2025	4	2025
- ACE-IOS v5.0.27	1	2026	4	2026
- ACE-IOS v5.0.28	1	2027	4	2027

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0801380F / *AF LVC Operational Training (LVC-OT)*	Project (Number/Name) 675135 / *Warfighter Readiness*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675135: *Warfighter Readiness*	-	0.000	0.000	17.507	0.000	17.507	17.587	14.927	15.071	15.670	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY2024, PE 0207601F, USAF Modeling and Simulation, Project 674567, M&S Foundations, and Project 675135, Warfighter Readiness, efforts were transferred to PE 0801380F, AF LVC Operational Training (LVC-OT), Project 674567, M&S Foundations, and Project 675135, Warfighter Readiness, to meet higher priority AF Operational Readiness and Training efficiencies. THIS IS NOT A NEW START.

A. Mission Description and Budget Item Justification

Modeling and Simulation support to our Warfighter's Readiness is a United States Air Force (USAF) corporate imperative to ensure air, space, cyberspace training, and mission rehearsal activities are supported with realistic, interoperable, and readily available, tools, data, services and environments. Warfighter Readiness supports Department of Defense (DoD) Training Transformation (T2) and Joint National Training Capability (JNTC) along with the USAF priorities and core functions. Activities also include studies and analysis to support both current program planning, execution, and future program planning.

It includes several complimentary programs, initiatives and areas for investment: Warfighter and Joint Training Integration supports the Chief of Staff of the Air Force (CSAF) directed Live, Virtual, and Constructive (LVC) integration efforts and is a critical piece to the USAF's implementation of the Strategic Plan for Transforming DoD Training. The goal of LVC training and mission rehearsal is to prepare our warfighters for the full range of military operations and maintain the combat readiness levels required by the Combatant Commands. This can only be accomplished by training and rehearsing in realistic operational environments. These environments include live training ranges and virtual simulators enhanced with constructive entities. Specific training and mission rehearsal events can include some or all of these simultaneously; making the ability to integrate LVC capabilities a necessity.

The Air, Space, and Cyberspace Constructive Environment (ASCCE) is the USAF's authoritative federation of constructive training models and tools realistically representing the tactical and operational capabilities the USAF brings to the joint fight. This includes development effort for Command & Control Simulation Environment for Training (C2SET), which provides the authoritative representation of AF and Joint theater-level air and space power and is used to train Air and Space Operations Center (AOC) personnel and Combatant Commanders' battle staffs. C2SET is replacing the AFMSTT models with the proven core Advanced Framework for Simulation, Integration, and Modeling (AFSIM) scientific engine. The goal is toward a fully scalable and more scientific based modeling, simulation, and training stimulation to the Combined Forces Air Component Commander (CFACC). AFMSTT entered full sustainment in FY21 and continues to receive operational updates to maintain operational currency until C2SET fully replaces.

This program is part of the overarching Kessel Run portfolio and is leveraging 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.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0801380F / *AF LVC Operational Training (LVC-OT)*	**Project (Number/Name)** 675135 / *Warfighter Readiness*

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 1.090M was expended for civilian pay expenses in the previous program element 0207601F, and in FY23 1.269M is forecasted for civilian pay expenses.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Command & Control Simulation Environment for Training (C2SET) ***Description:*** Provides the authoritative representation of AF and joint theater-level air and space power and is used to train AOC personnel and Combat Commander's battle staffs ***FY 2023 Plans:*** See PE 0207601F, USAF Modeling and Simulation for detailed plans. ***FY 2024 Plans:*** -Will continue AF M&S software consortium development efforts to meet M&S Modernization objective (replacing AFMSTT capabilities), Federate Object Models and C2 interfaces requirements ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to the transfer of funding to PE 0801380F to meet higher priority AF Operational Readiness and Training Efficiencies.	0.000	0.000	17.507
Accomplishments/Planned Programs Subtotals	0.000	0.000	17.507

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 833140: *Strategic Command And Control*	0.668	30.738	9.962	-	9.962	5.413	1.866	1.883	28.316	0.000	78.846
• RDTE 07 0303248F: *AF Command and Control (C2) Common Platform*	70.894	45.502	88.916	-	88.916	98.464	99.216	98.907	88.153	0.000	590.052

Remarks

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0801380F / *AF LVC Operational Training (LVC-OT)*	**Project (Number/Name)** 675135 / *Warfighter Readiness*

D. Acquisition Strategy

The Acquisition goals of the Command & Control Simulation Environment for Training (C2SET) are achieved through incremental development of the project's M&S activities; all contracts are awarded using full and open competition. C2SET operates under authority of a Software Acquisition Pathway following DoDI 5000.87, Operation of a Software Acquisition Pathway Guidance. The desired end state is continuous delivery of all C2SET software.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0801380F / *AF LVC Operational Training (LVC-OT)*	Project (Number/Name) 675135 / *Warfighter Readiness*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C2SET (FSO)	C/T&M	Full Spectrum Operations : Fairfax, VA	-	-		-		5.312	Jul 2024	-		5.312	Continuing	Continuing	-
C2SET (Omni)	C/T&M	Omni Federal : Gainesville, VA	-	-		-		5.316	Jul 2024	-		5.316	Continuing	Continuing	-
		Subtotal	-	-		-		10.628		-		10.628	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C2SET Direct Mission Support	C/TBD	Various : TBD	-	-		-		3.775	Oct 2023	-		3.775	Continuing	Continuing	-
C2SET Civilian Direct Cite Authorizations for Product Development	Allot	AFLCMC/FZA : TBD	-	-		-		1.453	Oct 2023	-		1.453	Continuing	Continuing	-
		Subtotal	-	-		-		5.228		-		5.228	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration	C/Various	AFLCMC : HANSCOM AFB, MA	-	-		-		1.234	Oct 2023	-		1.234	Continuing	Continuing	-
Systems Engineering	SS/ Various	MITRE : Bedford, MA	-	-		-		0.417	Oct 2023	-		0.417	Continuing	Continuing	-
		Subtotal	-	-		-		1.651		-		1.651	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		-		17.507		-		17.507	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0801380F / *AF LVC Operational Training (LVC-OT)*	Project (Number/Name) 675135 / *Warfighter Readiness*	

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0801380F / *AF LVC Operational Training (LVC-OT)*	**Project (Number/Name)** 675135 / *Warfighter Readiness*

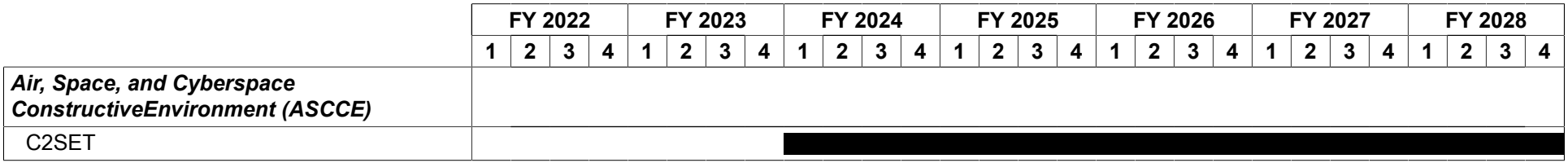

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0801380F / *AF LVC Operational Training (LVC-OT)*	**Project (Number/Name)** 675135 / *Warfighter Readiness*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Air, Space, and Cyberspace ConstructiveEnvironment (ASCCE)				
C2SET	1	2024	4	2028

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0804743F / *Other Flight Training*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	5.778	2.214	2.265	0.000	2.265	2.315	2.375	2.423	0.937	0.000	18.307
675304: *Aviation Resource Management System (ARMS)*	-	5.778	2.214	2.265	0.000	2.265	2.315	2.375	2.423	0.937	0.000	18.307
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Aviation Resource Management System (ARMS) is the authoritative data source for all aircrew and parachutist management (including flight and jump pay) covering 65,000 Aircrew/Parachutists and used by 2,800 1C0X2 Career Field members with 2.2M transactions per week. The ARMS is a web-based on-line management information system designed to support the base level Director of Operations (DO), aircrew supervisors, and managers. ARMS provides management policies and ensures the status of the Air Force flying programs are available to flying/jump supervisors to make resource allocation decisions. ARMS ensures accurate tracking of flying and ground training programs for each weapon system at each base. ARMS provides accurate and timely aircrew/parachutist information which assists in monitoring, tracking, and scheduling military training required to meet Air Force mission requirements. Additionally, the ARMS manages flying hours for aircrew parachutists world-wide to include USAF, Air Force Reserve Command (AFRC) and the Air National Guard (ANG).

The current ARMS functionality resides at a Defense Information System Agency (DISA) DECC and consists of "5" logical modules to include: Flight, Individual Training, Jumper Aircrew, Resource Tracking, Reports, and System. The sustainment of these capabilities and the introduction of new capabilities follows an agile development process, but the effectiveness of that process is severely limited by the existing production environment. A portion of the ARMS Jumper Aircrew module capabilities are being migrated to a mandated government-approved cloud environment. The cloud environment provides the Continuous Integration and Continuous Deployment (CI/CD) pipeline required to constantly deliver software in and agile framework, following the required DevSecOps methodology. The migration to the cloud environment and the DevSecOps methodology will transform ARMS into a scalable and flexible system capable of meeting all information requirements of the Aviation Resource Management community.

Once the initial cloud ARMS Jumper Aircrew capability is established, all remaining legacy program capabilities and new program requirements will be incorporated into the ARMS product backlog and prioritized for migration/stand-up in the cloud program instance. The ARMS DISA legacy program will sundown, once all capabilities are successfully migrated to the cloud environment.

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 Other Flight Training 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 2022 $00.000 million was expended for civilian pay expenses in this program element, and in FY 2023 $00.000 million is forecast for civilian pay expenses in this program element.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0804743F / *Other Flight Training*

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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	5.999	2.214	2.260	0.000	2.260
Current President's Budget	5.778	2.214	2.265	0.000	2.265
Total Adjustments	-0.221	0.000	0.005	0.000	0.005
• 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	-0.221	0.000	0.005	0.000	0.005

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2022	FY 2023
Project: 675304: *Aviation Resource Management System (ARMS)*		
Congressional Add: *Lifecyle Enhanced Asset Decision Software (LEADS)*	4.000	-
Congressional Add Subtotals for Project: 675304	4.000	-
Congressional Add Totals for all Projects	4.000	-

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Aviation Resource Management System (ARMS)	1.778	2.214	2.265
Description: Hardware/software development to update ARMS, adding functionality and system interfaces.			
FY 2023 Plans: Continue migrating legacy ARMS capabilities from DISA platform to Cloud One platform; deliver patches as needed to correct system deficiencies or apply required upgrades; and, continue updates to system design, configuration, test, and training.			
FY 2024 Plans:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0804743F / *Other Flight Training*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Continue migrating legacy ARMS capabilities from DISA platform to Cloud One platform; deliver patches as needed to correct system deficiencies or apply required upgrades; and, continue updates to system design, configuration, test, and training. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased due to economic adjustments.			
Accomplishments/Planned Programs Subtotals	1.778	2.214	2.265

	FY 2022	FY 2023
Congressional Add: Lifecyle Enhanced Asset Decision Software (LEADS)	4.000	-
FY 2022 Accomplishments: Contracting and Engineer efforts for LEADS support to facilitate T-38 to T-7 transition. Program will be managed by AETC/A9.		
Congressional Adds Subtotals	4.000	-

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

The ARMS utilizes Agile development methodologies to incrementally develop and field enhancements to the existing system. The ARMS PMO utilizes military programmers for code development/sustainment and government civilians providing program management, engineering, and information technology support. The ARMS PMO has partnered with the USAF Business Enterprise Systems (BES) Directorate's Business Enterprise Systems Programming INovation (BESPIN) office to acquire contractor resources that are experts at agile software development in a cloud environment. BESPIN has acquired current contractor support via Section 8a direct award using the United States Digital Services guide and templates on agile development which allowed for an agile acquisition.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0804743F / *Other Flight Training*	**Project (Number/Name)** 675304 / *Aviation Resource Management System (ARMS)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
LEADS Development	SS/ Various	Various : San Antonio, TX	-	3.779	Oct 2022	-		-		-		-	Continuing	Continuing	-
ARMS BESPIN FEARLESS	SS/FFP	Fearless Solution LLC : Baltimore, MD	-	-		0.050	Oct 2022	0.060	Oct 2023	-		0.060	Continuing	Continuing	10.000
		Subtotal	-	3.779		0.050		0.060		-		0.060	Continuing	Continuing	N/A

Remarks

ARMS INCREMENT I INCLUDES BUILDS I AND II. ARMS BUILD I AND II ARE NOW LISTED SEPARATELY.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ARMS Architecture Contract Support	C/FFP	Copper River Information Technology, LLC : Anchorage, AK	-	-		0.030	Apr 2023	0.030	Apr 2024	-		0.030	Continuing	Continuing	-
ARMS C&A SUPPORT III	C/FFP	OASIS : Lexington, MA	-	0.845	Apr 2022	0.170	Apr 2023	0.175	Apr 2024	-		0.175	Continuing	Continuing	-
ARMS CONFIGURATION MANAGER	C/FFP	OASIS : Lexington, MA	-	0.180	Apr 2022	0.150	Apr 2023	0.155	Apr 2024	-		0.155	Continuing	Continuing	-
ARMS SYSTEM ADMIN III	C/FFP	OASIS : Lexington, MA	-	0.215	Apr 2022	0.220	Apr 2023	0.225	Apr 2024	-		0.225	Continuing	Continuing	-
ARMS CIE SUPPORT	C/FFP	OASIS : Lexington, MA	-	0.230	Apr 2022	0.235	Apr 2023	0.240	Apr 2024	-		0.240	Continuing	Continuing	-
ARMS INTEGRATION SUPPORT	C/FFP	OASIS : Lexington, MA	-	0.185	Apr 2022	0.190	Apr 2023	0.195	Apr 2024	-		0.195	Continuing	Continuing	-
ARMS Program Assessment	SS/FFP	TM Capture : Maxwell AFB-Gunter Annex, AL	-	-		-		-		-		-	Continuing	Continuing	0.325
		Subtotal	-	1.655		0.995		1.020		-		1.020	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0804743F / *Other Flight Training*	Project (Number/Name) 675304 / *Aviation Resource Management System (ARMS)*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ARMS Test Support	C/FFP	GSA : Maxwell AFB-Gunter Annex, AL	-	0.074	Apr 2022	0.150	Apr 2023	0.155	Apr 2024	-		0.155	Continuing	Continuing	0.260
ARMS TEST MANAGER	C/CPAF	OASIS : Lexington, MA	-	0.170	Apr 2022	0.175	Apr 2023	0.180	Apr 2024	-		0.180	Continuing	Continuing	-
		Subtotal	-	0.244		0.325		0.335		-		0.335	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ARMS PSC Other Govt Costs	C/TBD	TBD : TBD	-	0.100	Jan 2022	0.844	Jan 2023	0.850	Jan 2024	-		0.850	Continuing	Continuing	-
		Subtotal	-	0.100		0.844		0.850		-		0.850	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	5.778		2.214		2.265		-		2.265	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0804743F / *Other Flight Training*	**Project (Number/Name)** 675304 / *Aviation Resource Management System (ARMS)*

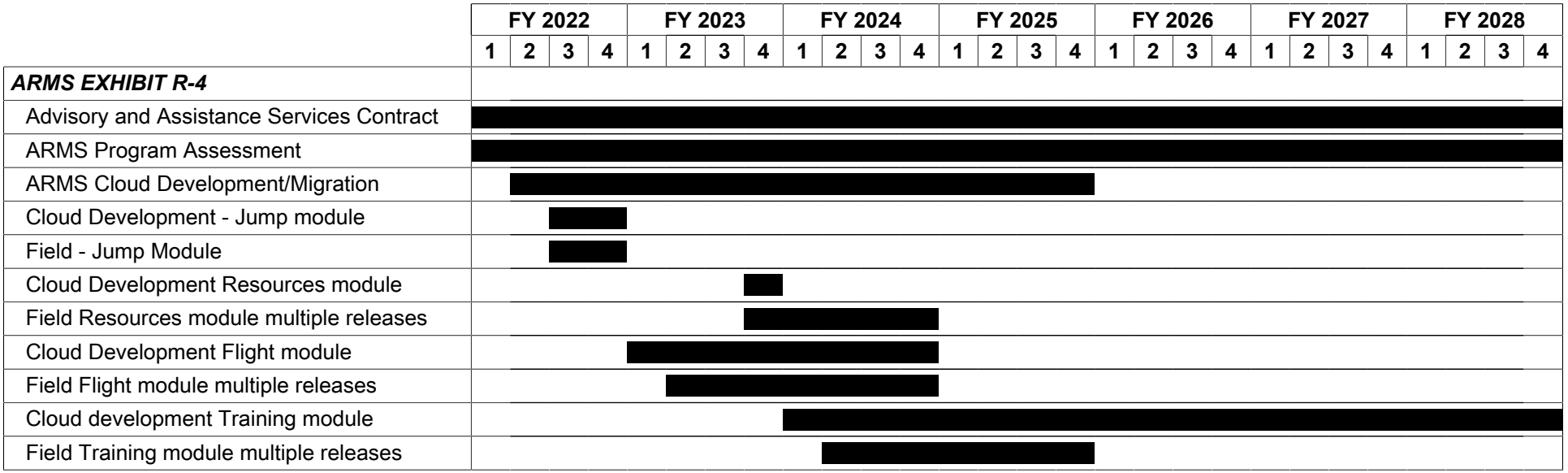

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0804743F / *Other Flight Training*	**Project (Number/Name)** 675304 / *Aviation Resource Management System (ARMS)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
ARMS EXHIBIT R-4				
Advisory and Assistance Services Contract	1	2022	4	2028
ARMS Program Assessment	1	2022	4	2028
ARMS Cloud Development/Migration	2	2022	4	2025
Cloud Development - Jump module	3	2022	4	2022
Field - Jump Module	3	2022	4	2022
Cloud Development Resources module	4	2023	4	2023
Field Resources module multiple releases	4	2023	4	2024
Cloud Development Flight module	1	2023	4	2024
Field Flight module multiple releases	2	2023	4	2024
Cloud development Training module	1	2024	4	2028
Field Training module multiple releases	2	2024	4	2025

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0808716F / *Other Personnel Activities*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	4.817	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
675141: *DEOMI Faculty Research*	-	4.817	0.000	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 Defense Equal Opportunity Management Institute [DEOMI] provides grants to the civilian academic community to conduct research on military and civilian equal opportunity issues using standard social science methodology and engineering analysis. The research methodology and analysis includes developing a literature review proposing hypotheses and methods of research. The grantee will then gather appropriate data, draw conclusions and present discussions, recommendations and reports based on their funding.

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 0.00M was expended for civilian pay expenses in this program element, and in FY23 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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	5.000	0.000	0.000	0.000	0.000
Current President's Budget	4.817	0.000	0.000	0.000	0.000
Total Adjustments	-0.183	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	-0.183	0.000			
• Other Adjustments	0.000	0.000	0.000	0.000	0.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0808716F / *Other Personnel Activities*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Equal Opportunity Issues	4.817	0.000	-
Description: Conduct research on military and civilian equal opportunity issues. ***FY 2023 Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A			
Accomplishments/Planned Programs Subtotals	4.817	0.000	-

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

Grants will be awarded competitively.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0808716F / *Other Personnel Activities*	Project (Number/Name) 675141 / *DEOMI Faculty Research*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	C/CPAF	Not specified. : TBD	-	-		-		-		-		-	Continuing	Continuing	-
DEOMI	Various	Various : Various	-	4.817	Feb 2022	-		-		-		-	Continuing	Continuing	-
		Subtotal	-	4.817		-		-		-		-	Continuing	Continuing	N/A

Remarks

Contract method will be a grant

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	4.817		-		-		-		-	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0808716F / *Other Personnel Activities*	**Project (Number/Name)** 675141 / *DEOMI Faculty Research*

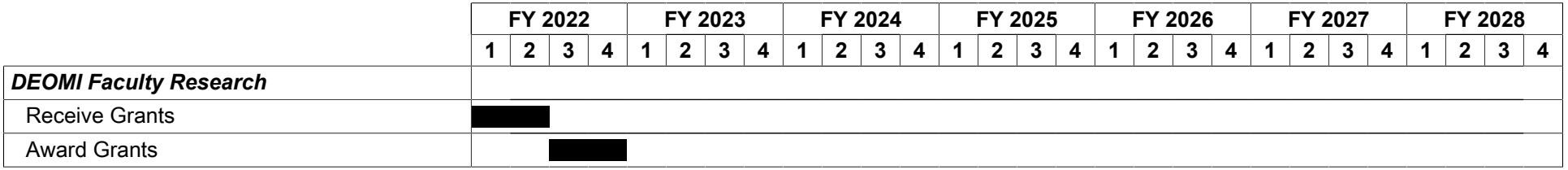

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0808716F / *Other Personnel Activities*	**Project (Number/Name)** 675141 / *DEOMI Faculty Research*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
DEOMI Faculty Research				
Receive Grants	1	2022	2	2022
Award Grants	3	2022	4	2022

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901202F / *Joint Personnel Recovery Agency*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	1.759	1.885	2.266	0.000	2.266	2.316	2.376	2.425	2.513	Continuing	Continuing
675196: *Joint Technology Exploitation*	-	1.759	1.885	2.266	0.000	2.266	2.316	2.376	2.425	2.513	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Funding supports development of innovative capabilities to address Personnel Recovery in Large Scale Combat Operations, Multi-Domain Operations and anti-access/ area denial environments for Combatant Commanders and the Services. Joint personnel Recovery Agency [JPRA] developmental efforts address Personnel Recovery capability gaps and shortfalls identified in the Personnel Recovery Initial Capabilities Document approved by the Joint Requirements Oversight Council memorandum 120-12 on 8 Aug 2012, and subsequent supporting documents approved in the Joint Capabilities Integration Development System. Activities include funding for research and development, support equipment, contract services and all associated costs specifically identified to support the JPRA headquarters Ft. Belvoir, VA and other agency operating locations.

Development and transition to sustainment of an enterprise level information data system [Personnel Recovery Information Data System [PRIDS] to enable DoD data management, analysis and collaboration. Funds also provide USAF Platform One/Cloud One housing for PRIDS. DODI 3002.1 directed JPRA capability.

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, 0605832F, 0605833F, 0605898F, 0606398F. In FY2022 $0.0M was expended for civilian pay expenses in this program element and in FY2023 $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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901202F / *Joint Personnel Recovery Agency*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	1.841	2.164	2.261	0.000	2.261
Current President's Budget	1.759	1.885	2.266	0.000	2.266
Total Adjustments	-0.082	-0.279	0.005	0.000	0.005
• Congressional General Reductions	-0.082	-0.279			
• 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	0.005	0.000	0.005

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Personnel Recovery Information Data System [PRIDS]	1.759	1.885	2.266
Description: Development of the Personnel Recovery Information Data System ***FY 2023 Plans:*** Continuing to work an enterprise level information data system Personnel Recovery Information Data System [PRIDS] to enable DoD data management, analysis and collaboration. ***FY 2024 Plans:*** Continue to work an enterprise level information data system Personnel Recovery Information Data System [PRIDS] to enable DoD data management, analysis and collaboration. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increased funding to support higher labor costs.			
Title: Optimal Search Study	-	0.000	-
Description: Assess and evaluate technologies for personnel recovery geospatial data visualization, predictive and real-time planning capabilities. ***FY 2023 Plans:*** No funding requested ***FY 2023 to FY 2024 Increase/Decrease Statement:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901202F / *Joint Personnel Recovery Agency*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
N/A			
Title: Analysis of Alternatives ***Description:*** Systems analysis to support a future program of record to satisfy the report and locate requirement gaps as identified by the combatant commands [CCMDs]. ***FY 2023 Plans:*** No funding requested ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A	-	0.000	-
Title: DOD Support to Personnel Recovery in a Chief of Mission Environment [DSPRCE] - Automated Development Tool. ***Description:*** Internet accessible database that addresses personnel recovery roles, responsibilities, and activities to develop a DOD Personnel Recovery Supplement to a U.S. diplomatic post's emergency action plan. ***FY 2023 Plans:*** No funding requested ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A	-	0.000	-
Title: Smartphone Initiative ***Description:*** Develop capabilities to enable Service members to use their smartphones as Personnel Recovery aids. ***FY 2023 Plans:*** No funding requested ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A	-	0.000	-
Accomplishments/Planned Programs Subtotals	1.759	1.885	2.266

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901202F / *Joint Personnel Recovery Agency*

E. Acquisition Strategy

Projects will leverage existing program contracts. In the rare instance where a contract does not already exist, contracts will be awarded through full and open competition.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901202F / *Joint Personnel Recovery A gency*	**Project (Number/Name)** 675196 / *Joint Technology Exploitation*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	C/CPAF	Not specified. : TBD	-	-		-		-		-		-	Continuing	Continuing	-
Common Distress Reporting System	SS/TBD	AFLCMC/HBZ : Huntington Beach, CA	-	0.880	Mar 2022	1.022	Mar 2023	1.067	Mar 2024	-		1.067	Continuing	Continuing	-
Optimal Search Study	Various	Various : NV	-	-		-		-		-		-	Continuing	Continuing	-
Collaborative Personnel Recovery Planning Systems & PR Capabilities Development	Various	Various : NV	-	0.879	Mar 2022	0.863	Mar 2023	1.199	Mar 2024	-		1.199	Continuing	Continuing	-
Personnel Recovery Modeling and simulation development	Various	Various : NV	-	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	-	1.759		1.885		2.266		-		2.266	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	1.759		1.885		2.266		-		2.266	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901202F / *Joint Personnel Recovery Agency*	**Project (Number/Name)** 675196 / *Joint Technology Exploitation*

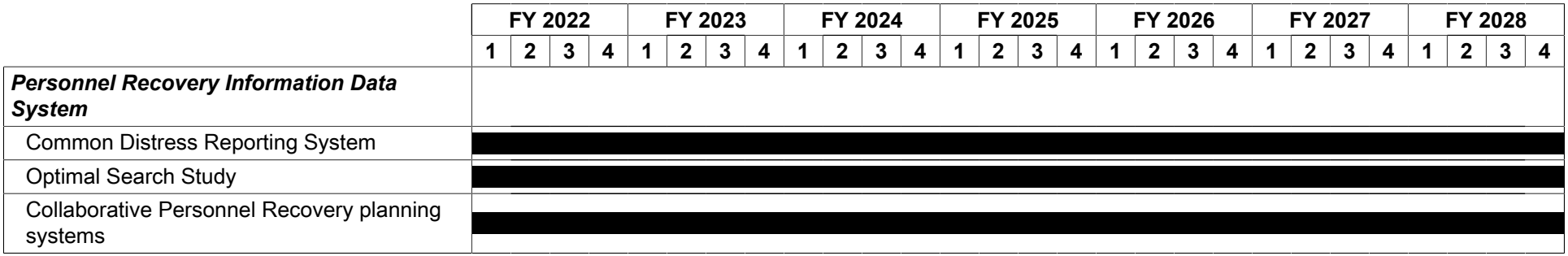

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901202F / *Joint Personnel Recovery Agency*	**Project (Number/Name)** 675196 / *Joint Technology Exploitation*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Personnel Recovery Information Data System				
Common Distress Reporting System	1	2022	4	2028
Optimal Search Study	1	2022	4	2028
Collaborative Personnel Recovery planning systems	1	2022	4	2028

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0901218F / *Civilian Compensation Program*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	3.560	4.098	4.006	0.000	4.006	4.259	4.361	4.445	4.601	Continuing	Continuing
674139: *Civilian Compensation Program*	-	3.560	4.098	4.006	0.000	4.006	4.259	4.361	4.445	4.601	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program element provides for payment of civilian compensation benefits for disability due to personal injury sustained while in the performance of duty or due to employment-related disease according to the Federal Employees Compensation Act [FECA] under Title 5 U.S.C., Chapter 81. The Department of Labor [DOL] administers this program and charges the Department of the Air Force for its employee costs; therefore, this is a MUST PAY bill for Air Force. The Program Element[PE] excludes manpower authorizations and costs. This PE is in Budget Activity 7 in support of payment of civilian compensation benefits for disability due to personal injury sustained while in the performance of duty or due to employment-related disease according to FECA under Title 5 U.S.C., Chapter 81.

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 FY2022 $0 was expended for civilian pay expenses in this program element, and in FY2023 $0 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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	3.560	0.000	4.181	0.000	4.181
Current President's Budget	3.560	4.098	4.006	0.000	4.006
Total Adjustments	0.000	4.098	-0.175	0.000	-0.175
• 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	4.098	-0.175	0.000	-0.175

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901218F / *Civilian Compensation Program*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Civilian Compensation	3.560	4.098	4.006
Description: Program compensates employees assigned to RDT&E facilities for work-related injuries or occupational diseases. ***FY 2023 Plans:*** Continue to provide compensation to employees assigned to RDT&E facilities for work-related injuries or occupational diseases, and implement services to expedite the return of employees back to work. ***FY 2024 Plans:*** Continue to provide compensation to employees assigned to RDT&E facilities for work-related injuries or occupational diseases, and implement services to expedite the return of employees back to work. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding decreased due to decreased requirements			
Accomplishments/Planned Programs Subtotals	3.560	4.098	4.006

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

Not Applicable.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0901218F / *Civilian Compensation Program*	Project (Number/Name) 674139 / *Civilian Compensation Program*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Continue development of compensation plan	RO	AF/A1 : Pentagon, DC	-	3.560	Apr 2022	4.098	Apr 2023	4.006	Apr 2024	-		4.006	Continuing	Continuing	-
		Subtotal	-	3.560		4.098		4.006		-		4.006	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	3.560		4.098		4.006		-		4.006	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901218F / *Civilian Compensation Program*	**Project (Number/Name)** 674139 / *Civilian Compensation Program*

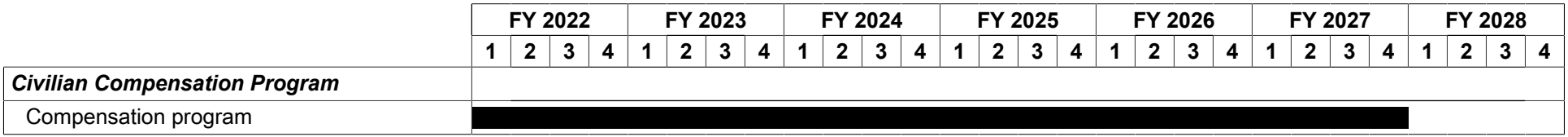

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901218F / *Civilian Compensation Program*	**Project (Number/Name)** 674139 / *Civilian Compensation Program*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Civilian Compensation Program				
Compensation program	1	2022	4	2027

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0901220F / *Personnel Administration*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	3.267	3.191	3.078	0.000	3.078	3.158	3.238	3.304	3.375	Continuing	Continuing
675194: *Force Development Transformation*	-	3.267	3.191	3.078	0.000	3.078	3.158	3.238	3.304	3.375	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Force Development Transformation program contains two independent DAF initiatives addressing vital personnel issues: Personnel Services Delivery and the Total Integration Mobilization Execution System.

Personnel Services Delivery:
Personnel Services Delivery (PSD), under the Personnel Administration program, funds operational developments necessary to acquire, field, and modify business processes to transform the delivery of Human Resources (HR) capabilities through the structured redesign of the Total Force Personnel Community's people (Active Duty, Reserve, Guard, and Civilians), processes, and technologies. PSD Transformation fundamentally shifts the way personnel services are provided, transitioning from primarily face-to-face interactions with a personnelist to a tiered model with services delivered through online self-service, contact centers, and reduced in-person interactions. PSD supports the migration of legacy applications and other information technologies from on premises data centers to a more sustainable cloud-based hosting solution and flexible services-based architecture as defined by the Defense Enterprise Service Management Framework (DESMF). In addition, funds will be used to perform studies and innovative integration efforts for common technology capabilities such as cloud migration, technology development, and mobile application.

Total Integration Mobilization Execution System:
The Total Integration Mobilization Execution System (TIMES) will be a cloud-based software suite utilized to modernize the Air Force's processes to mobilize (i.e., activate) the 178,000 Guard and Reserve Airmen under Title 10 orders in support of the Active Duty mission. Current mobilization processes include coordination through 32 disparate information systems and numerous databases (e.g., MS SharePoint, Excel) and often results in delays to issuing orders. TIMES will streamline the planning, allocation, and execution process by automating activation processes to enable rapid and accurate information flow from requirements generation, resource planning, identifying an Airman to fulfill a requirement, orders processing and delivery, and finally to initiating pay and benefits. TIMES will have the capability to rapidly adjust to a changing mission environment while minimizing operating costs by utilizing cloud hosting and an agile software development methodology (DevSecOps). It will increase Air Force Guard and Reserve members' confidence that when called to serve, their families will be taken care of.

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,

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901220F / *Personnel Administration*

0606398F. In FY 2022 $0.000M was expended for civilian pay expenses in this program element, and in FY 2023 $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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	3.368	3.191	4.012	0.000	4.012
Current President's Budget	3.267	3.191	3.078	0.000	3.078
Total Adjustments	-0.101	0.000	-0.934	0.000	-0.934
• 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	-0.014	0.000			
• SBIR/STTR Transfer	-0.087	0.000			
• Other Adjustments	0.000	0.000	-0.934	0.000	-0.934

Change Summary Explanation

The FY2024 funding was reduced by $0.934M to account for the availability of prior year execution balances.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: PSD - Human Resource Systems (HRS) Transition	1.596	1.242	1.845
Description: The HRS Transition supports the DAF Human Resources Digital Transformation initiative by identifying and documenting human resource legacy systems for modernization, transition and/or decommission; supporting the consolidation of human resource legacy applications and other information technologies utilizing Commercial-off-the-Shelf (COTS) solutions, Agile incremental delivery, and rapid prototyping; ensuring solutions utilize a flexible services-based architecture as defined by the DoD Enterprise Service Management Framework (DESMF); executing risk reduction activities, prototyping, and developing solutions to update or replace legacy human resource systems.			
FY 2023 Plans: - Continue to perform technology demonstrations, risk reduction activities, and studies for tiered HR service delivery, and to assess the ability to utilize Software as a service (SaaS) delivery capabilities			

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901220F / *Personnel Administration*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Continue to evaluate HCM SaaS modules for learning, recruiting/onboarding, and other AF processes ***FY 2024 Plans:*** - Will continue to perform technology demonstrations, risk reduction activities, and studies for tiered HR service delivery, and to assess the ability to utilize Software as a service (SaaS) delivery capabilities - Will continue to evaluate HCM SaaS modules for learning, recruiting/onboarding, and other AF processes - Will plan for and develop required boundary cloud access point (BCAP) integrations ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY 2024 funding increased due to required boundary cloud access point (BCAP) integrations.			
Title: PSD - Test and Evaluation/Systems Engineering ***Description:*** The Test and Evaluation/Systems Engineering initiative transitions the Test and Development Environment (T&DE) to an approved Cloud Service Provider; continues support for all aspects of engineering including software and systems engineering, requirements analysis, configuration management, database administration, and test and evaluation throughout the lifecycle of all Human Resources applications; and continues infrastructure development. ***FY 2023 Plans:*** - Maintain the Cloud instantiation of the TD&E - Continue to support all aspects of engineering, including software and systems engineering, requirements analysis, configuration management, and database administration - Continue to perform test and evaluation of HRS transition activities including any emergent customer needs and provide system engineering support for the HRS transition ***FY 2024 Plans:*** - Will maintain the Cloud instantiation of the TD&E - Will continue to support all aspects of engineering, including software and systems engineering, requirements analysis, configuration management, and database administration - Will continue to perform test and evaluation of HRS transition activities including any emergent customer needs and provide system engineering support for the HRS transition ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A	0.000	0.168	0.169
Title: TIMES Development ***Description:*** TIMES will establish a cloud-based operating environment to modify existing Army Mobilization Common Operating Picture (MOBCOP) software into the Air Force's TIMES software. Overall development will involve establishing automated data	1.671	1.781	1.064

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901220F / *Personnel Administration*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
pushes and pulls between Air Force systems of record and the TIMES database, establishing necessary virtual servers and cybersecurity compliance in the cloud-hosted environment, and automating the flow of data from the Headquarters Air Force and Major Command level down to the Guard and Reserve unit level. TIMES will move the process from legacy, manual inputs to automated and streamlined inputs in order to eliminate unnecessary bureaucracy and redundancy in the Air Reserve Component utilization process. ***FY 2023 Plans:*** Expansion of TIMES capabilities to the Guard and Reserve-level functions of the mobilization process, continued improvement of applications in production environment, and monitoring of the cloud environment for efficiency. - Maintain and improve on ARCORT and AFMMS-S/N applications based on feedback from Airmen - Maintain compliance with Authority to Operate certification - Expand automated inputs from Joint and Air Force systems of record - Modify MOBCOP Mobilization Deployment Integrated System (MDIS) to provide a data-driven decision tool for mobilization, deployment, and rotation decisions - Promote TIMES MDIS to production and go live for Air Force use - Eliminate manual process steps and non-system of record communication involved with mobilization actions ***FY 2024 Plans:*** Continue to add capability to TIMES by integrating with the Guard and Reserve orders writing systems and expanding the ability to source capable and qualified volunteers from across the force to match with mission requirements. Examples of lines of effort include: - Will improve on all live applications based on user feedback - Will establish automated interfaces with the orders writing systems (AROWS and AROWS-R) - Will gather user requirements for modification of the MOBCOP Tour of Duty application - Will develop TIMES Tour of Duty equivalent, solicit user feedback, and field capability ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding decrease aligns fiscal requirements to program schedule.			
Accomplishments/Planned Programs Subtotals	3.267	3.191	3.078

D. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901220F / *Personnel Administration*

D. Other Program Funding Summary ($ in Millions)

Remarks

E. Acquisition Strategy

PSD:
Personnel Services Delivery employs an evolutionary acquisition strategy to deliver incremental Information Technology and Human Resources capabilities with development contracts that are awarded in a competitive environment. Technology demonstrations will be used to reduce technology risks, assess Commercial-Off-The-Shelf (COTS) products, and produce technology insertion and migration strategies. In 2015, the government conducted a Full and Open competition for Human Resources System Technical Support and awarded a contract to provide PSD with development and test/technical support. Air Force Program Executive Officer (PEO) for Business and Enterprise Systems (AFPEO BES) is the PEO and Milestone Decision Authority (MDA) for PSD. Air Force Life Cycle Management Center (AFLCMC) is the contracting authority for the PSD Program and provides contracts, legal and comptroller support.

TIMES:
The Army MOBCOP system has proven capability in reducing system-wide redundancy and speeding up the delivery of orders for soldiers. The DAF's strategy has awarded a contract to modify the Army's software to work with Air Force data and processes. The DAF's strategy also includes establishing a Task Order with the Platform One, Cloud One, and ODIN contracts for cloud hosting and DevSecOps environment.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0901220F / *Personnel Administration*	Project (Number/Name) 675194 / *Force Development Transformation*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PSD: HRS Transition Phase 2	C/Various	Definitive Logic/AST, LLC : San Antonio, TX	-	1.197	Jun 2022	0.777	May 2023	1.112	May 2024	-		1.112	Continuing	Continuing	-
PSD: HCM SaaS Licenses	C/FFP	Emergent, LLC : Virginia Beach, VA	-	0.077	Aug 2022	0.085	Aug 2023	0.087	Aug 2024	-		0.087	Continuing	Continuing	-
TIMES: System Developer	SS/FFP	MKGCS, LLC : Herndon, VA	-	1.665	Jun 2022	1.712	Jun 2023	1.002	Jun 2024	-		1.002	Continuing	Continuing	-
TIMES: Cloud Hosting	MIPR	Various : Various	-	0.006	Jun 2022	0.069	Jun 2023	0.062	Jun 2024	-		0.062	Continuing	Continuing	-
		Subtotal	-	2.945		2.643		2.263		-		2.263	Continuing	Continuing	N/A

Remarks

TIMES: Cloud Hosting is comprised of three elements - Platform One (AF/AFLCMC), Cloud One (AF/AFLCMC), and ODIN (AF/A2/6)

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PSD: Engineering, Professional, and Administrative Support Services (EPASS)	C/CPFF	Oasis : Lincoln, MA	-	0.307	Mar 2022	0.350	Mar 2023	0.596	Mar 2024	-		0.596	Continuing	Continuing	-
		Subtotal	-	0.307		0.350		0.596		-		0.596	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PSD: Test/Evaluation Support	C/CPIF	Diversified Technical Services, Inc. : San Antonio, TX	-	0.000	Jul 2022	0.168	May 2023	0.169	May 2024	-		0.169	Continuing	Continuing	-
		Subtotal	-	0.000		0.168		0.169		-		0.169	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901220F / *Personnel Administration*	**Project (Number/Name)** 675194 / *Force Development Transformation*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PSD: Program Management Office Support (Travel, Tech Refresh, etc.)	Various	Various : Various	-	0.015	Mar 2022	0.030	Mar 2023	0.050	Mar 2024	-		0.050	Continuing	Continuing	-
		Subtotal	-	0.015		0.030		0.050		-		0.050	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	3.267		3.191		3.078		-		3.078	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901220F / *Personnel Administration*	**Project (Number/Name)** 675194 / *Force Development Transformation*

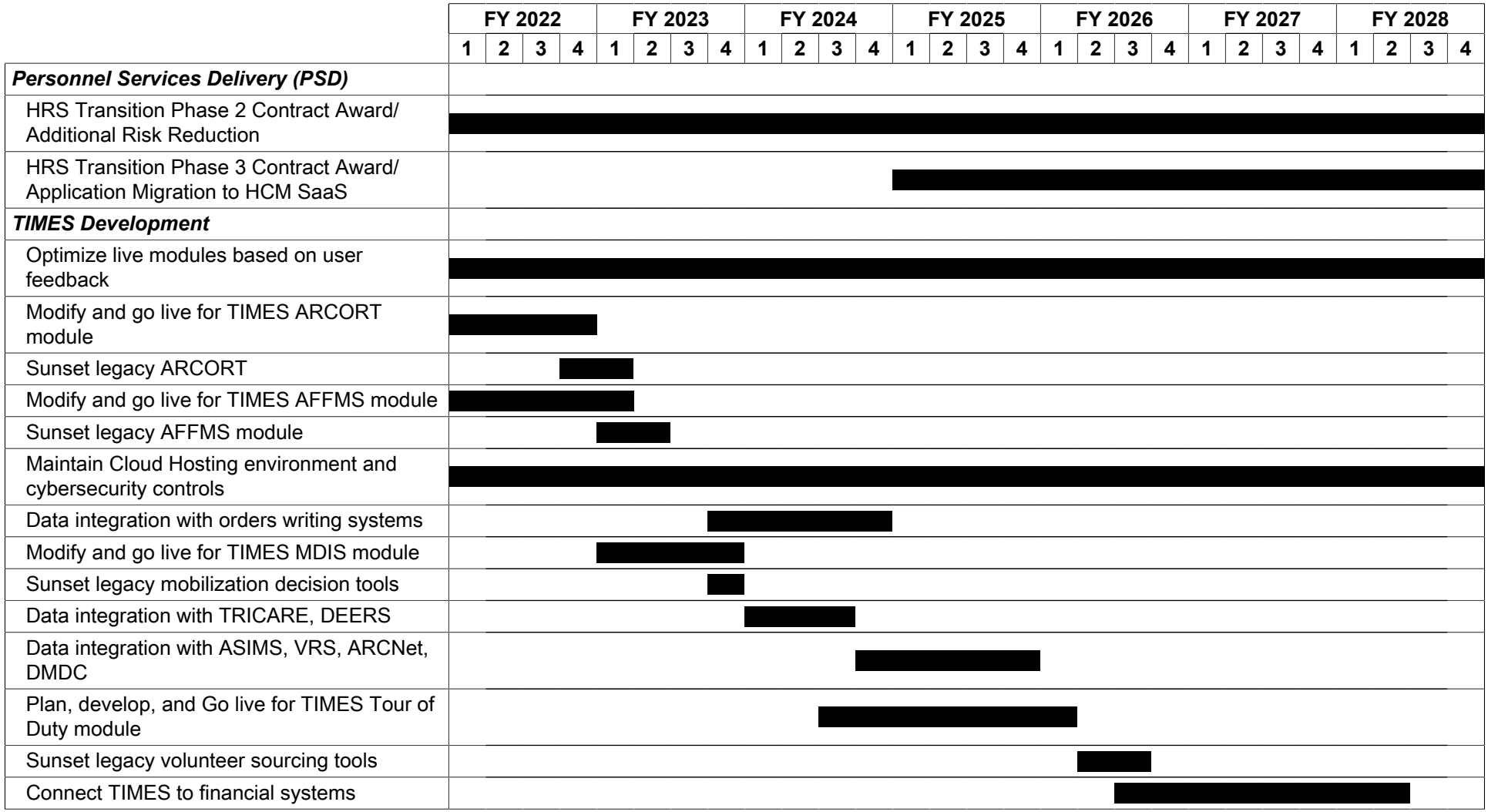

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901220F / *Personnel Administration*	**Project (Number/Name)** 675194 / *Force Development Transformation*

	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Modernize TIMES database code to reduce license costs																									[redacted]			

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901220F / *Personnel Administration*	**Project (Number/Name)** 675194 / *Force Development Transformation*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Personnel Services Delivery (PSD)				
HRS Transition Phase 2 Contract Award/Additional Risk Reduction	1	2022	4	2028
HRS Transition Phase 3 Contract Award/Application Migration to HCM SaaS	1	2025	4	2028
TIMES Development				
Optimize live modules based on user feedback	1	2022	4	2028
Modify and go live for TIMES ARCORT module	1	2022	4	2022
Sunset legacy ARCORT	4	2022	1	2023
Modify and go live for TIMES AFFMS module	1	2022	1	2023
Sunset legacy AFFMS module	1	2023	2	2023
Maintain Cloud Hosting environment and cybersecurity controls	1	2022	4	2028
Data integration with orders writing systems	4	2023	4	2024
Modify and go live for TIMES MDIS module	1	2023	4	2023
Sunset legacy mobilization decision tools	4	2023	4	2023
Data integration with TRICARE, DEERS	1	2024	3	2024
Data integration with ASIMS, VRS, ARCNet, DMDC	4	2024	4	2025
Plan, develop, and Go live for TIMES Tour of Duty module	3	2024	1	2026
Sunset legacy volunteer sourcing tools	2	2026	3	2026
Connect TIMES to financial systems	3	2026	2	2028
Modernize TIMES database code to reduce license costs	1	2028	4	2028

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force											Date: March 2023	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0901226F / *Air Force Studies and Analysis Agency*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	-	1.202	0.899	5.309	0.000	5.309	13.702	8.763	5.924	6.494	Continuing	Continuing
676009: *M & S DEVELOPMENT*	-	1.202	0.899	5.309	0.000	5.309	13.702	8.763	5.924	6.494	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Provides for development and enhancement of modeling and simulation (M&S) tools for strategic planning, operational requirements, modernization and recapitalization of systems and programs, as well as the Planning, Programming, Budgeting and Execution (PPBE) processes for the AF Analytic Community and Secretary of the Air Force Standard Analysis Toolkit in support of AF Senior Leadership. As new technologies are introduced to the battlefield (Digital Electronic Jammers, maneuvering Surface-to-Surface Missiles, Directed Energy Weapons, etc.) along with evolving warfighting techniques and support operations, the range of capabilities that needs to be covered by analytic tools needs to expand as well. M&S creation and enhancement can require extensive research in how to properly implement the emerging weapons capabilities as well as demand development of software techniques to implement the changes. Additionally, emerging and continuing focus areas such as Space, Irregular Warfare, Information Operations, Cyber warfare and ISR demand specific tools of their own for new exploration and development. These focus areas require examination in isolation as well as cross-domain making the problem more complex and increasing the R&D challenges to field new decision support tools.

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 FY2022 $0 was expended for civilian pay expenses in this program element, and in FY2023 $0 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901226F / *Air Force Studies and Analysis Agency*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	1.248	0.899	1.584	0.000	1.584
Current President's Budget	1.202	0.899	5.309	0.000	5.309
Total Adjustments	-0.046	0.000	3.725	0.000	3.725
• 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	-0.046	0.000			
• Other Adjustments	0.000	0.000	3.725	0.000	3.725

C. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Modeling and Simulation Development	1.202	0.899	5.309
Description: Develop and Update Modeling & Simulation (M&S) tools. ***FY 2023 Plans:*** Continue research and development of M&S tools ***FY 2024 Plans:*** Continue research and development of M&S tools ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding increased to match the requirement.			
Accomplishments/Planned Programs Subtotals	1.202	0.899	5.309

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A.

E. Acquisition Strategy

Previous and planned future efforts have been/will be awarded under existing Task Order contracts.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901226F / *Air Force Studies and Analysis Agency*	**Project (Number/Name)** 676009 / *M & S DEVELOPMENT*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	C/CPAF	Not specified. : TBD	-	-		-		-		-		-	Continuing	Continuing	-
Software Development	Various	Not specified. : NV	-	1.202	Mar 2022	0.899	Mar 2023	5.309	Mar 2024	-		5.309	Continuing	Continuing	-
		Subtotal	-	1.202		0.899		5.309		-		5.309	Continuing	Continuing	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	1.202		0.899		5.309		-		5.309	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901226F / *Air Force Studies and Analysis Agency*	**Project (Number/Name)** 676009 / *M & S DEVELOPMENT*

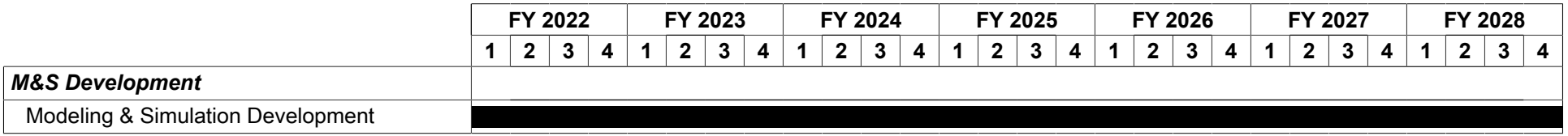

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901226F / *Air Force Studies and Analysis Agency*	**Project (Number/Name)** 676009 / *M & S DEVELOPMENT*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
M&S Development				
Modeling & Simulation Development	1	2022	4	2028

Note

A9 anticipates work continuing in the following areas: (1) research into how to better model new friendly and enemy weapons systems, (2) development of tools to better examine evolving weapons technologies and (3) development of new models to better populate the data requirements of existing tools.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force												Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0901538F / *Financial Management Information Systems Development*							
COST ($ in Millions)	**Prior Years**	**FY 2022**	**FY 2023**	**FY 2024 Base**	**FY 2024 OCO**	**FY 2024 Total**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	4.675	5.121	4.279	0.000	4.279	5.624	5.765	5.884	0.000	0.000	31.348
672222: *Program Budget Enterprise Service (PBES)*	0.000	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.041
675177: *Cost Estimating Modeling (CEM)*	0.000	4.634	5.121	4.279	0.000	4.279	5.624	5.765	5.884	0.000	0.000	31.307
Program MDAP/MAIS Code: N87												

A. Mission Description and Budget Item Justification

This program element develops upgrades to existing financial management systems. These upgrades are required to comply with auditability and transparency requirements as well as improve efficiencies in processing financial transactions. This program element also supports studies and analysis to improve future program planning and execution.

There are two programs within this program element: Program and Budget Enterprise Services (PBES) and Cost Estimating Modeling (CEM).

PBES is a software development effort that utilizes a Service Oriented Architecture (SOA) to deliver budgeting and programming capability for the Department of the Air Force. It replaces the following legacy systems, which support the budget formulation and force programming process: Automated Budget Interactive Data Environment System (ABIDES) (complete), Resource Allocation Programming Information Decision System (RAPIDS), Force Structure Data Management (FSDM), and Enhanced Tradespace Tool (ETT). Full Deployment (FD) occurred Mar 22 and PBES transitioned into Capability Support (CS) Phase in May 22.

CEM is a knowledge-based study effort to improve Department of the Air Force-wide cost estimating by analyzing cost data and recommending changes to estimating models, methods, and tools. Activities also include studies and analysis to support both current program planning and execution and future program planning.

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 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 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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	4.852	5.421	5.488	0.000	5.488
Current President's Budget	4.675	5.121	4.279	0.000	4.279
Total Adjustments	-0.177	-0.300	-1.209	0.000	-1.209
• 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	-0.177	0.000			
• Other Adjustments	0.000	-0.300	-1.209	0.000	-1.209

Change Summary Explanation

The FY2023 funding was reduced due to FFRDC reductions.

The FY2024 funding request was reduced by $1.209 million to account for the availability of prior year execution balances

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0901538F / *Financial Management Information Systems Development*	Project (Number/Name) 672222 / *Program Budget Enterprise Service (PBES)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
672222: *Program Budget Enterprise Service (PBES)*	0.000	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.041
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

PBES is the single solution software development effort to deliver planning, programming, budgeting and execution (PPBE) capability for the United States Air Force. PBES replaces the Automated Budget Interactive Data Environment System (ABIDES) (complete), Resource Allocation Programming Information Decision System (RAPIDS), Force Structure Data Management (FSDM), and the Enhanced Tradespace Tool (ETT), supporting the budget formulation and force programming process. The system is compliant with the Standard Financial Information Structure (SFIS) and Standard Line of Accounting (SLOA) conventions, which support the enabling of data standardization across the Department of Defense (DoD). Full Deployment (FD) occurred Mar 22 and PBES transitioned into Capability Support (CS) Phase in May 22.

Utilizing Business Process Re-engineering (BPR), the Air Force designated PBES as the solution to deliver traceability of financial data in support of the PPBE process. Through the use of BPR, PBES addressed excessive overhead, outdated business practices and other time-consuming support activities. PBES is making the budget formulation process more efficient by incorporating business best practices, organizing programming and budgeting personnel, as well as utilizing current technology. PBES also eliminated checks and balances required of older technology, taking advantage of automated reconciliation services. In addition, the solution allows the use of Authoritative Data Sources (ADS) for data exposure, enabling more timely and accurate budget submissions to Office of the Secretary of Defense (OSD), Congress, and other internal and external customers.

A Commercial-off-the-Shelf (COTS) product was selected as the tool of choice which required minor configuration changes to meet the stated user requirements. This strategy required no code changes to the actual COTS product and supports the drive to lower support costs along with making future requirements changes easier in the out-years. Requirements were satisfied through an iterative process of sprint development cycles, where usable capability was produced and made available to operational users after every sprint. The Integrated Product Office construct along with application of agile principles allowed the program to properly plan system requirements, deliver early capability to the end users, achieve early return on investment of taxpayer dollars, provide for division of risk, reduce waste, effectively respond to change, and continuously improve our processes.

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

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 672222 / *Program Budget Enterprise Service (PBES)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: PBES ***Description:*** Software development effort providing modern and enhanced planning, programming, budgeting and execution capabilities to the USAF. Funding supports engineering, cybersecurity, technical development, implementation and automated testing. ACCOMPLISHMENTS: - All designated PBES users trained for MAJCOM, Air Staff and Planners - Plan-to-Program requirements defined, scheduled and awarded - Successful program/independent testing of Sprints 20-24; SAFBUD & SAFPGM-5 patches; 3 critical patches - Successful Air Staff user acceptance testing - Successful Go-Live/operational deployment for Budget and Program users based on the initial Bounded User Requirements (BUR) ***FY 2023 Plans:*** N/A ***FY 2024 Base Plans:*** N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** N/A	0.041	0.000	0.000	-	0.000
Accomplishments/Planned Programs Subtotals	0.041	0.000	0.000	-	0.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

PBES is a Business Category (BCAT) III program following DOD 5000.75 BCAC policy. The PBES strategy, which was supported by all Stakeholders, employed an empowered joint Program Office, Functional Community, and Senior Stakeholder group to rapidly develop, test, and deploy the DAF's Planning, Programming, and Budgeting capability within three years. This strategy required mutual trust and risk acceptance by all parties to be successful. This strategy has been highly successful delivering PBES capabilities on schedule and substantially under budget.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 672222 / *Program Budget Enterprise Service (PBES)*

The first step in this strategy utilized early risk reduction efforts (sometimes referred to as "prototyping") to prove that the capability and contractors existed to meet users' needs. This step was conducted using two 6-month contract vehicles which were both completed months early, delivering several hundred user requirements. The success of these efforts led to the strategy of selecting a COTS product called Oracle Hyperion and the hiring of a small-business system integrator (SI). The significance with both of these selections is that the COTS product and the SI have already been utilized by commercial companies and multiple DoD agencies, thus reducing the implementation risk for the Government.

The success of this strategy can be attributed to mutual buy-in by all parties, risk acceptance that the solution will not be perfect from the start, and an understanding that not all requirements are exactly known up-front and that changes will be required continuously to be successful.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0901538F / *Financial Management Information Systems Development*	Project (Number/Name) 672222 / *Program Budget Enterprise Service (PBES)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PBES Systems Integrator	C/FFP	AFLCMC : Maxwell-Gunter AFB, AL	0.000	0.041	Dec 2021	-		-		-		-	0.000	0.041	-
		Subtotal	0.000	0.041		-		-		-		-	0.000	0.041	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.041		-		-		-		-	0.000	0.041	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 672222 / *Program Budget Enterprise Service (PBES)*

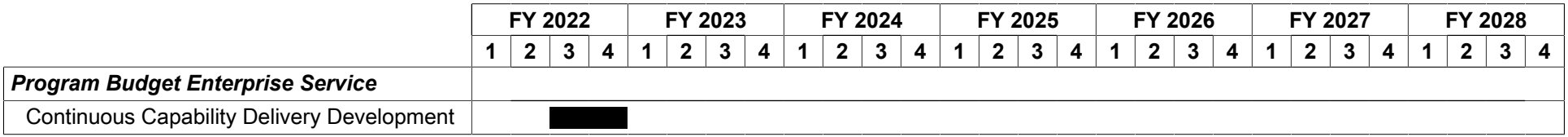

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 672222 / *Program Budget Enterprise Service (PBES)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Program Budget Enterprise Service				
Continuous Capability Delivery Development	3	2022	4	2022

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0901538F / *Financial Management Information Systems Development*	Project (Number/Name) 675177 / *Cost Estimating Modeling (CEM)*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675177: *Cost Estimating Modeling (CEM)*	0.000	4.634	5.121	4.279	0.000	4.279	5.624	5.765	5.884	0.000	0.000	31.307
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Cost Estimating Modeling (CEM) program strengthens Department of the Air Force cost estimators' ability to assess more accurately cost requirements. Its products improve the quality, timeliness, and effectiveness of acquisition program cost estimates and ultimately posture the DAF to make better acquisition decisions for more than 200 billion dollars in critical war-fighter capability.

The CEM program performs studies to continuously develop updated cost data and estimating methods and tools, data process re-engineering tools, data structure development tools, and gap filling initiatives. The program focuses on both broad cross-cutting initiatives as well as weapon system type-specific. Products are then uploaded to the OSD Cost Assessment Data Enterprise (CADE) system for the defense cost estimation community to access.

Changing technologies, acquisition laws, policy directives, and initiatives drive the need to continuously revise cost estimating processes, methods, and tools. Specifically, CEM initiatives are planned based on the following:
- Statute (e.g., Title 10, section 167; USC 3221, 3227, 4251, 4252, 4253, and 4328)
- Policy directives (e.g., DoDI 5000.02, DoDI 5000.73)
- FY16/17/18/21 NDAA reports (PL 114-92/114-328/115-91/116-283) including provisions relating to Major Defense Acquisition Programs (Section 804 of the FY16 NDAA authorized rapid prototyping and rapid fielding of defense systems)
- Annual life-cycle cost estimation requirements
- Weapon System Acquisition Reform Act (WSARA) (provisions related to improving cost estimating quality and affordability analysis)
- Secretary of the Air Force acquisition excellence plans (priorities to improve cost estimating capability and affordability analysis)
- Office of the Secretary of Defense policy (initiatives on enhanced trade-off analysis, affordability analysis, and cost reduction initiatives)

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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: CEM	4.634	5.121	4.279	0.000	4.279

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675177 / *Cost Estimating Modeling (CEM)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Description: Perform knowledge-based studies (KBS) — Develop/modernize cost data, data collection process improvements, collect and analyze data to develop new estimating methods (e.g. statistical tools, cost estimating relationships (CERs), schedule estimating relationships (SERs), technical estimating relationships (TERs)), and perform other gap filling studies for aircraft, UAVs, ballistic and tactical missiles, munitions, electronics and aircraft modifications, ground stations and automated information systems, space, launch vehicles, and crosscutting areas. ACCOMPLISHMENTS: - Developed a detailed plan of action with milestones and resource summaries to complete research across all Air Force weapon system commodities. Among the completed studies and projects were an aircraft systems engineering/ program management dataset with benchmarks, a missile/munitions database/tool with a handbook, benchmark methods, and other cost tools, a dataset on the cost to build and sustain a software factory program including its operational infrastructure, analysis of both cost and non-cost impacts of aircraft engine modularity, survey of selected programs to identify critical operating and support (O&S) cost growth and to determine the reasons for any critical O&S cost growth, and a refresh of the payload and bus satellite sizing relationships accounting for recent technological trends. - Worked with OSD CADE team to implement process improvements, and data design and structure requirements into the CADE system. Developed a functional specification to design and implement a tool to bulk upload documents for the DAF library in CADE. - Integrated finalized products into CADE system repository for sharing with the Air Force and DoD cost community. ***FY 2023 Plans:*** - Initiate as part of the Cost Analysis Data Operating Model efforts to develop and share in an enterprise fashion curated datasets and databases mapped into a standard structure for use by the cost analysis community. - Scrape contract modifications data and use this to develop a benchmark tool that estimates the cost of engineering change orders in the development phase of acquisition programs. Ingest this data into a cloud-based solution and develop data visualizations using business intelligence tools. - Determine the trends and indicators on the rates and manpower of major defense contractors supporting the DAF and compare the manpower/business base assumptions over the years.					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675177 / *Cost Estimating Modeling (CEM)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
- Continue the collection of cost, schedule, and technical data on resilient end-to-end ground systems and develop models to estimate the cost of these by cost elements such as software, hardware, and systems engineering/program management. - Update the dataset of contracts capturing cost growth as a function of time and identify potential drivers of cost growth phasing. Develop this into a model used to predict a phasing profile accounting uniquely for contract cost growth. - Assemble and analyze data on the timing, drivers, and cost of upgrades to mission computers found in Air Force aircraft to inform future modernization planning and decision-making efforts. - Characterize the utility of the data collected for commercial or commercial-like items that are becoming an increasing part of the DOD acquisition for large weapon system programs. Assess the gaps to determining reasonable commercial pricing and provide recommendations on approaches to collect data and gain improved pricing insights. - Collect historical program data to fill gaps against defined data collection requirements from previous year efforts and integrate historical data collected into CADE system for central access to all DoD. - Continue to work with OSD CADE team to implement data design and structure requirements and visual analysis tool requirements into CADE system. - Conduct weekly reviews with technical/cost teams and quarterly contractor progress reviews with government cost community.					
FY 2024 Base Plans: - Will continue efforts in support of the Cost Analysis Data Operating Model by prioritizing capability gaps for future development and evaluating current CEM tools that would benefit by migrating to an enterprise solution. - Will continue to collect historical program data to fill gaps against defined data collection requirements from previous year efforts and integrate historical data collected into CADE system for central access to all DoD. - Will direct research to develop integrated datasets with embedded CERs and benchmarks, but with structures that let cost analysts easily and quickly re-normalize data for specialized relationships and benchmarks. - Will initiate studies that are topical/timely or surface from prior research. - Will continue to work with OSD CADE team to implement data design and structure requirements as well as visual analysis tool requirements into CADE system. - Will conduct weekly reviews with technical/cost teams and quarterly contractor progress reviews with entire government cost community.					
FY 2024 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675177 / *Cost Estimating Modeling (CEM)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY2024 funding decreased to align fiscal requirements with program schedule.					
Accomplishments/Planned Programs Subtotals	4.634	5.121	4.279	0.000	4.279

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

The CEM program performs studies to continuously develop updated cost data and estimating methods and tools, data process re-engineering tools, data structure development tools, and gap filling initiatives. Studies are organized by those that span all acquisition initiatives as well as by the following weapon system types: manned aircraft, UAVs, ballistic missiles, tactical missiles, munitions, electronics and aircraft modifications, ground stations and automated information systems, space and launch vehicles.

The DAF partnered with OSD to host and maintain products on the CADE system. The CADE and CEM partnership is the lead example for data initiatives designed as a response to a congressional-expressed desire for better acquisition outcomes. The partnership provides data/analysis/methods/tools and institutional knowledge at the analysts' fingertips versus the status quo inefficient, ad hoc approach.

CEM contracts are firm-fixed price, cost plus, or hybrid as a combination of fixed price and cost plus, and are awarded through full and open competition following Federal Acquisition Regulation (FAR) guidelines. The DAF provides contract management oversight and direction. Contracted knowledge-based studies progress will be reviewed on a quarterly basis and adjusted as appropriate.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0901538F / *Financial Management Information Systems Development*	Project (Number/Name) 675177 / *Cost Estimating Modeling (CEM)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CEM - CADE System Development/Cost Studies	MIPR	OSD(CAPE) : Pentagon, VA	0.000	1.381	Feb 2022	1.923	Feb 2023	1.933	Feb 2024	-		1.933	0.000	5.237	-
CEM - Other Knowledge-Based Studies	MIPR	Various : Various	0.000	1.040	Jan 2022	0.919	Jan 2023	0.000	Jan 2024	-		0.000	0.000	1.959	-
Cost Estimating Modeling (CEM) Development	C/Various	Tecolote Research : Goleta, CA	0.000	2.213	Sep 2022	2.279	Sep 2023	2.346	Sep 2024	-		2.346	0.000	6.838	-
		Subtotal	0.000	4.634		5.121		4.279		-		4.279	0.000	14.034	N/A

	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	4.634		5.121		4.279		-		4.279	0.000	14.034	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675177 / *Cost Estimating Modeling (CEM)*

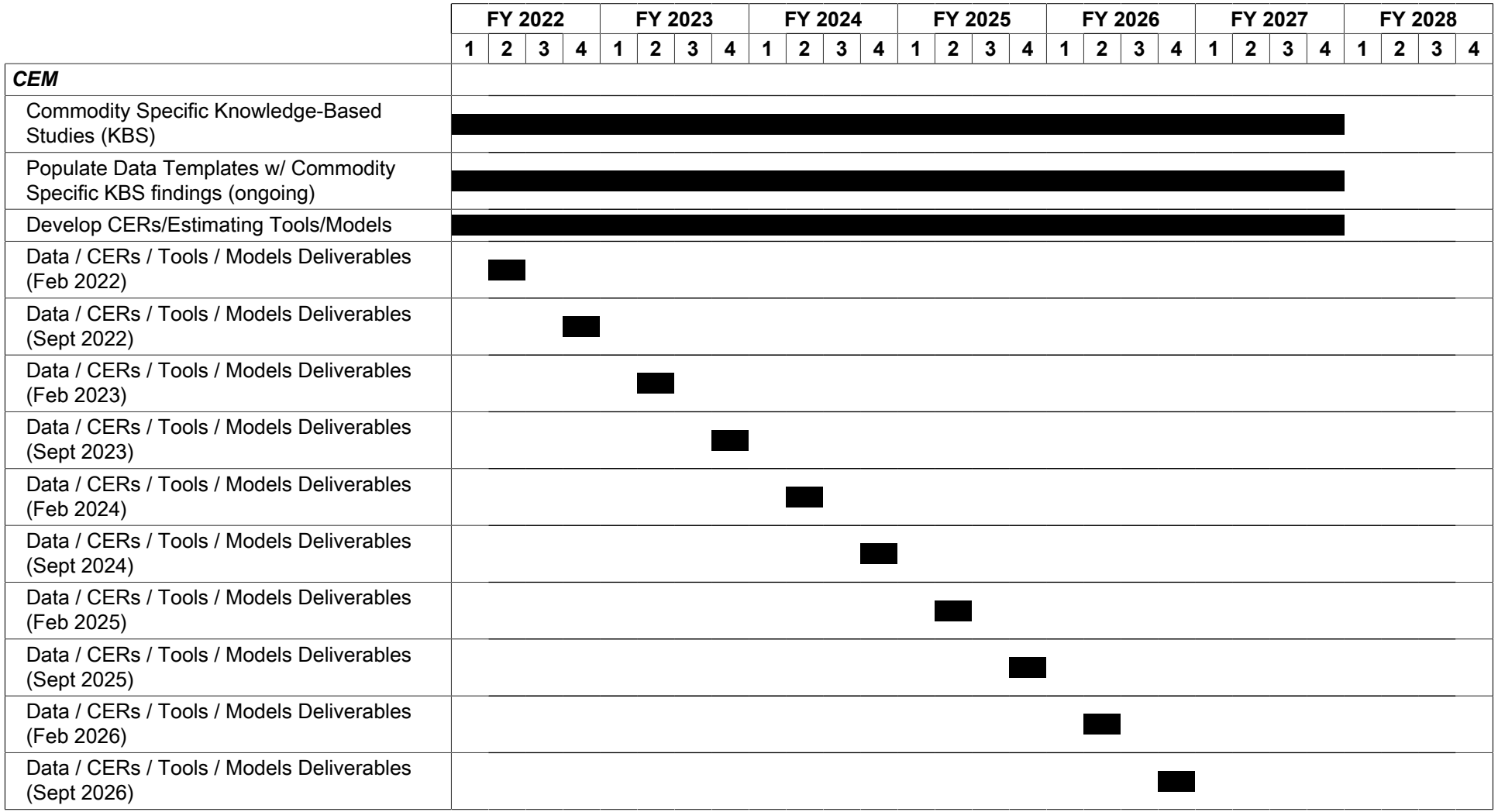

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675177 / *Cost Estimating Modeling (CEM)*

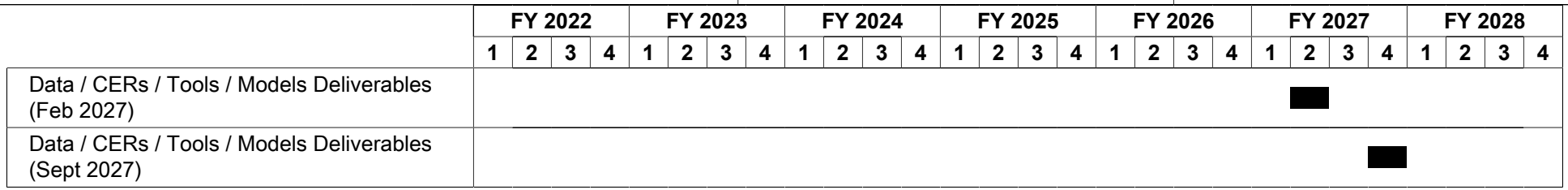

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675177 / *Cost Estimating Modeling (CEM)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
CEM				
Commodity Specific Knowledge-Based Studies (KBS)	1	2022	4	2027
Populate Data Templates w/ Commodity Specific KBS findings (ongoing)	1	2022	4	2027
Develop CERs/Estimating Tools/Models	1	2022	4	2027
Data / CERs / Tools / Models Deliverables (Feb 2022)	2	2022	2	2022
Data / CERs / Tools / Models Deliverables (Sept 2022)	4	2022	4	2022
Data / CERs / Tools / Models Deliverables (Feb 2023)	2	2023	2	2023
Data / CERs / Tools / Models Deliverables (Sept 2023)	4	2023	4	2023
Data / CERs / Tools / Models Deliverables (Feb 2024)	2	2024	2	2024
Data / CERs / Tools / Models Deliverables (Sept 2024)	4	2024	4	2024
Data / CERs / Tools / Models Deliverables (Feb 2025)	2	2025	2	2025
Data / CERs / Tools / Models Deliverables (Sept 2025)	4	2025	4	2025
Data / CERs / Tools / Models Deliverables (Feb 2026)	2	2026	2	2026
Data / CERs / Tools / Models Deliverables (Sept 2026)	4	2026	4	2026
Data / CERs / Tools / Models Deliverables (Feb 2027)	2	2027	2	2027
Data / CERs / Tools / Models Deliverables (Sept 2027)	4	2027	4	2027

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901554F / *Defense Enterprise Acntng and Mgt Sys (DEAMS)*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	52.707	48.199	45.925	0.000	45.925	57.587	47.470	55.438	51.272	Continuing	Continuing
675178: *Def Enter Acct Mgt Sys (Deams) Incr 2*	-	52.707	48.199	45.925	0.000	45.925	57.587	47.470	55.438	51.272	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Defense Enterprise Accounting and Management System (DEAMS) program previously requested funding as a Software and Digital Technology Pilot Programs, an OSD initiative that originated from the FY 2018 NDAA Sections 873/874 in which all lifecycle funding is consolidated in Budget activity 8. The DAF is no longer requesting consideration for the Software and Digital Technology Pilot Program.

This program element develops required capability and functionality to existing financial management systems in order to comply with audit and transparency requirements, in addition to, other upgrades that provide efficiencies in processing financial transactions. This program element also supports studies and analysis to improve future program planning and execution.

DEAMS is a commercial-off-the-shelf (COTS) solution based on the Oracle e-Business Suite (EBS) and provides an auditable, modern accounting and finance management capability.

The DAF is preparing to transition DEAMS to the fifth and final phase of the Business Capability Acquisition Cycle (BCAC) process known as Capability Support. New system requirements are managed through the program backlog by the Program Management Office (PMO) and Functional Management Office (FMO) and released on a regular cadence as usable capability via Agile methodology. The PMO construct, along with the application of Agile principles allows the program to properly plan system requirements, deliver early capability to the end users, achieve early return on investment of taxpayer dollars, mitigate risk, reduce waste, effectively respond to change, and continuously improve processes.

The DAF is planning to increase DEAMS usage within the acquisition community to include acquisition program executive offices, laboratories, test centers, and air logistics complexes. These deployments will add an additional 4,500 users for a total of 21,500 users.

DEAMS is compliant with the Clinger-Cohen Act and the DoD's Business Enterprise Architecture (BEA). DEAMS is key to DAF compliance with the Financial Improvement and Audit Readiness (FIAR) requirement. 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, 0606398F. In FY22 0.810M was expended for civilian pay expenses in this program element, and in FY23 0.890M is forecasted for civilian pay expenses in this program element.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901554F / *Defense Enterprise Acntng and Mgt Sys (DEAMS)*

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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	54.400	0.000	0.000	0.000	0.000
Current President's Budget	52.707	48.199	45.925	0.000	45.925
Total Adjustments	-1.693	48.199	45.925	0.000	45.925
• 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	48.199			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-1.693	0.000			
• Other Adjustments	0.000	0.000	45.925	0.000	45.925

Change Summary Explanation

This budget request can not be compared to prior year request as last years request was submitted as a Software and Digital Technology Pilot Program, Budget Activity 8 in PE 0608920F.

The FY 2024 funding request was reduced by 8.121 million to account for the availability of prior year execution balances.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0901554F / *Defense Enterprise Acntng and Mgt Sys (DEAMS)*	Project (Number/Name) 675178 / *Def Enter Acct Mgt Sys (Deams) Incr 2*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675178: *Def Enter Acct Mgt Sys (Deams) Incr 2*	-	52.707	48.199	45.925	0.000	45.925	57.587	47.470	55.438	51.272	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program element develops required capability and functionality to existing financial management systems in order to comply with audit and transparency requirements, in addition to, other upgrades that provide efficiencies in processing financial transactions. This program element also supports studies and analysis to improve future program planning and execution

This program element includes the Defense Enterprise Accounting and Management System (DEAMS) Continuous Capability Development (CCD), formerly known as DEAMS Increment 2, Project 675178. Project 675179: DEAMS Increment 1, formerly included in this program element, was completed in FY21.

DEAMS is a commercial-off-the-shelf (COTS) solution based on the Oracle e-Business Suite (EBS) and provides an auditable, modern accounting and finance management capability.

DEAMS is an Enterprise Resource Planning (ERP) Program that replaces numerous inefficient and/or obsolete legacy accounting and finance systems and provides core funds execution management functions consistent with financial management laws, regulations and policy, general ledger, funds management, payments, receivables, cost and revenues, and fiduciary reporting" under mission description and budget item justification.

The DAF is preparing to transition DEAMS to the fifth and final phase of the Business Capability Acquisition Cycle (BCAC) process known as Capability Support. New system requirements are managed through the program backlog by the Program Management Office (PMO) and Functional Management Office (FMO) and released on a regular cadence as usable capability via Agile methodology. The PMO construct, along with the application of Agile principles allows the program to properly plan system requirements, deliver early capability to the end users, achieve early return on investment of taxpayer dollars, mitigate risk, reduce waste, effectively respond to change, and continuously improve processes.

The DAF is planning to increase DEAMS usage within the acquisition community to include acquisition program executive offices, laboratories, test centers, and air logistics complexes. These deployments will add an additional 4,500 users for a total of 21,500 users.

DEAMS is compliant with the Clinger-Cohen Act and the DoD's Business Enterprise Architecture (BEA). DEAMS is key to DAF compliance with the Financial Improvement and Audit Readiness (FIAR) requirement. This requirement supports performance of a full financial audit as required by title 10 U.S.C. Chapter 9A, Sec 240-D.

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901554F / *Defense Enterprise Acntng and Mgt Sys (DEAMS)*	**Project (Number/Name)** 675178 / *Def Enter Acct Mgt Sys (Deams) Incr 2*

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 2022 0.810M was expended for civilian pay expenses in this program element, and in FY 2023 0.890M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: DEAMS Continuous Capability Development (CCD) Product Development	52.707	48.199	45.925	0.000	45.925
Description: DEAMS CCD system capabilities will be developed and enhanced through completion of iterative development cycles in accordance with an Agile software development strategy. The DAF is implementing a steady-state incremental development tempo that is more complimentary to the Agile software development process. Development activities include requirements analysis, design, build, test, data conversion, migration from legacy system as required, implementation into the DEAMS baseline, and the resolution of deficiency reports and defects. Activities also include various Advisory and Assistance Services (A&AS) and Program Management Administration (PMA) activities to support the aforementioned development efforts. ***FY 2023 Plans:*** -Continue to optimize performance by conducting tuning activities and removing unused code and interfaces -Continue to deploy fixes to address defects and user identified problems -Continue to ensure system security and support the Risk Management Framework (RMF) through continuous monitoring activities -Continue to improve system efficiency by supporting continuous processes to secure development and delivery of capabilities (Dev/Sec/Ops) and posturing the production system architecture for cloud migration -Continue production environment migration to Oracle Cloud Infrastructure (OCI) -Continue Solaris 11 Upgrade -Perform Disaster Recovery Test -Continue implementation of Security Information and Event Management Splunk Automation -Continue software delivery of the G-Invoicing solution to facilitate inter-governmental transactions -Prepare to implement the Identity, Credential, and Access Management (ICAM) solution -Continue to improve Treasury Direct Disbursing (TDD) domestic vendor US dollar payments and developing foreign currency vendor payments					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901554F / *Defense Enterprise Acntng and Mgt Sys (DEAMS)*	**Project (Number/Name)** 675178 / *Def Enter Acct Mgt Sys (Deams) Incr 2*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
- Continue Defense Information Systems Agency (DISA) Joint Interoperability Test Command (JTIC) Support; interoperability test and certification, Section 508 and Standard Financial Information System (SFIS) test and evaluation support - Continue Lead Development Test Organization (LDTO) Support; independent developmental test Operational Test Agency (OTA) Support; independent operational test for system effectiveness, suitability, and cyber survivability - Obtain Capability Support ATP and transition to BCAC Capability Support phase					
FY 2024 Base Plans: -Will continue to release new capability into production using Agile methodology and established cadence -Will continue to optimize performance by conducting tuning activities and removing unused code and interfaces -Will continue to deploy fixes to address defects and user-identified problems -Will continue to ensure system security and support the Risk Management Framework (RMF) through continuous monitoring activities -Will continue to improve system efficiency by supporting continuous processes for secure development and delivery of capabilities (Dev/Sec/Ops) and posturing the production system architecture for cloud migration -Will continue to onboard Scaled Agile Framework (SAFe) 5.0 methodology and continue to implement the scalable requirements -Will continue production environment migration to Oracle Cloud Infrastructure (OCI) -Will complete the Tech Stack Upgrade (TSU) effort -Will continue the burn-down of cyber vulnerabilities -Will continue development of the Treasury Direct Disbursing (TDD) solution -Will continue development of the G-Invoicing solution -Will complete the implementation the Identity, Credential, and Access Management (ICAM) solution - Will continue Defense Information Systems Agency (DISA) Joint Interoperability Test Command (JTIC) Support; interoperability test and certification, Section 508 and Standard Financial Information System (SFIS) test and evaluation support -Will continue Lead Development Test Organization (LDTO) Support; independent developmental test Operational Test Agency (OTA) Support; independent operational test for system effectiveness, suitability, and cyber survivability					
FY 2024 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901554F / *Defense Enterprise Acntng and Mgt Sys (DEAMS)*	**Project (Number/Name)** 675178 / *Def Enter Acct Mgt Sys (Deams) Incr 2*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** FY24 funding reduced to meet program requirements.					
Accomplishments/Planned Programs Subtotals	52.707	48.199	45.925	0.000	45.925

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• OPAF 03 834470: *Defense Enterprise Accounting & Mgt Sys*	3.103	3.156	0.000	0.000	0.000	3.176	3.077	3.247	3.004	0.000	18.763

Remarks

D. Acquisition Strategy

The DAF concluded Increment I deployment and has begun preparation for the Business Capability Acquisition Cycle's (BCAC) Capability Support Phase. Implementation is accomplished via the Continuous Capability Development program in which requirements are prioritized by the associated Program and Functional Management Offices and organized in the requirements backlog. DEAMS capabilities are developed and sustained in accordance with the selected Agile software implementation strategy. Development activities include requirements analysis, design, build, test, data conversion, migration from legacy system as required, implementation into the DEAMS baseline, and the resolution of deficiency reports and defects. Sustainment activities include day-to-day operations and support, production environment management, and numerous system performance improvement initiatives. This strategy has been refined to enable continual enhancements and process improvements for the life of the system.

The DEAMS program will develop functionality on cadence and release on demand. User experience and mission impact will be considered when determining release dates during the execution cycle.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901554F / *Defense Enterprise Acntng and Mgt Sys (DEAMS)*	**Project (Number/Name)** 675178 / *Def Enter Acct Mgt Sys (Deams) Incr 2*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DEAMS: Rapid Acquisition	C/Various	CACI, Inc/BCSS (ISSM) : Various	-	13.233	Feb 2022	11.743	Jun 2023	12.391	Jun 2024	-		12.391	Continuing	Continuing	-
DEAMS: SME Support, General Ledger Reports and Analysis, Business Process Analysis, Master Data Conversion and Training Development	C/T&M	Kearney & Co/ GreenTree : Various	-	15.551	Mar 2022	16.000	Aug 2023	8.063	Aug 2024	-		8.063	Continuing	Continuing	-
DEAMS: ERP Solution Architecture services	C/FP	Lintech Global Inc. : Farmington Hills, MI	-	3.617	Jan 2022	4.156	May 2023	4.141	May 2024	-		4.141	Continuing	Continuing	-
DEAMS: Direct mission Support (Development, Integration Environments)	Various	HumanIT/DIS (Bridge) : Various	-	9.203	May 2022	5.418	May 2023	10.574	May 2024	-		10.574	Continuing	Continuing	-
DEAMS: Oracle Software Solutions	Various	Various : Various	-	0.413	May 2022	0.316	May 2023	0.435	May 2024	-		0.435	Continuing	Continuing	-
DEAMS: ERP DBA Development and Support Services	C/FFP	DDCIT-DIS (DINE Sources) : Albuquerque, NM	-	3.390	May 2022	2.343	Apr 2023	4.650	Apr 2024	-		4.650	Continuing	Continuing	-
		Subtotal	-	45.407		39.976		40.254		-		40.254	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DEAMS: Test Services from AFOTEC, JITC, LDTO and other miscellaneous Test services	C/CPAF	Various : Various	-	0.930	May 2022	1.262	Jul 2023	0.762	Jul 2024	-		0.762	Continuing	Continuing	-
		Subtotal	-	0.930		1.262		0.762		-		0.762	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901554F / *Defense Enterprise Acntng and Mgt Sys (DEAMS)*	**Project (Number/Name)** 675178 / *Def Enter Acct Mgt Sys (Deams) Incr 2*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administrative (PMA) Costs	C/Various	Various : Various	-	6.370	Oct 2021	6.961	Aug 2023	4.909	Aug 2024	-		4.909	Continuing	Continuing	-
		Subtotal	-	6.370		6.961		4.909		-		4.909	Continuing	Continuing	N/A

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	52.707		48.199		45.925		-		45.925	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901554F / *Defense Enterprise Acntng and Mgt Sys (DEAMS)*	**Project (Number/Name)** 675178 / *Def Enter Acct Mgt Sys (Deams) Incr 2*

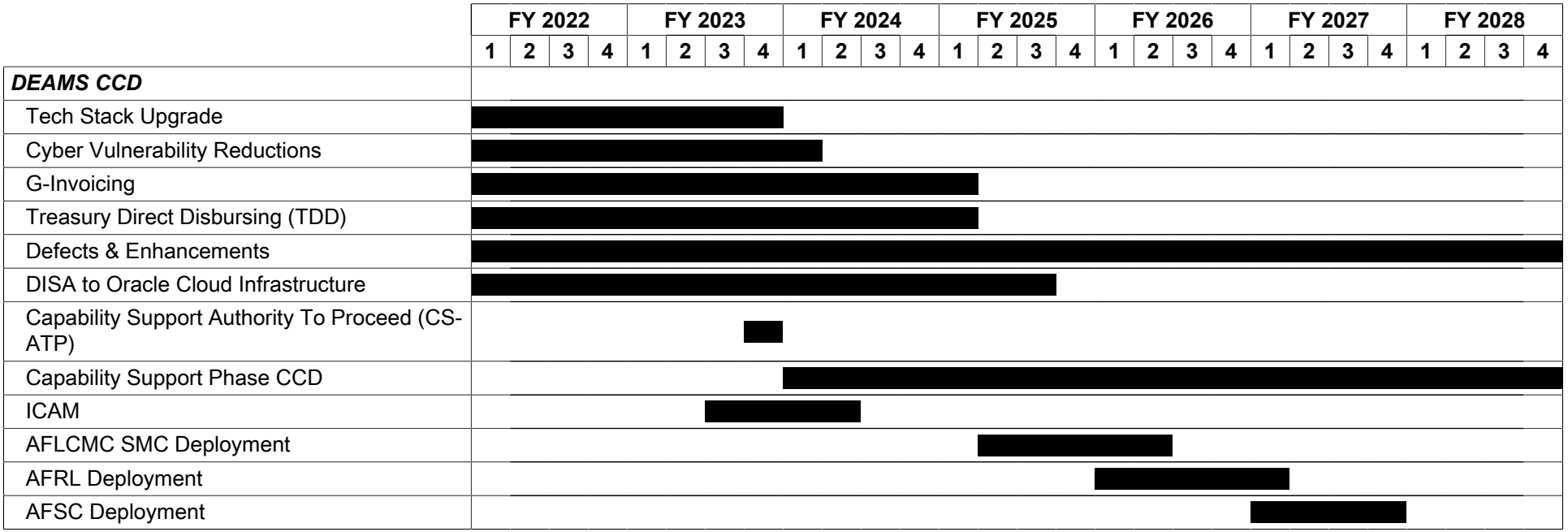

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901554F / *Defense Enterprise Acntng and Mgt Sys (DEAMS)*	**Project (Number/Name)** 675178 / *Def Enter Acct Mgt Sys (Deams) Incr 2*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
DEAMS CCD				
Tech Stack Upgrade	1	2022	4	2023
Cyber Vulnerability Reductions	1	2022	1	2024
G-Invoicing	1	2022	1	2025
Treasury Direct Disbursing (TDD)	1	2022	1	2025
Defects & Enhancements	1	2022	4	2028
DISA to Oracle Cloud Infrastructure	1	2022	3	2025
Capability Support Authority To Proceed (CS-ATP)	4	2023	4	2023
Capability Support Phase CCD	1	2024	4	2028
ICAM	3	2023	2	2024
AFLCMC SMC Deployment	2	2025	2	2026
AFRL Deployment	1	2026	1	2027
AFSC Deployment	1	2027	4	2027

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1202140F / *Service Support to SPACECOM Activities*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	6.549	13.418	9.778	0.000	9.778	15.644	16.029	16.356	16.948	Continuing	Continuing
672486: *JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES*	-	5.007	6.616	8.036	0.000	8.036	11.785	12.078	12.324	12.770	Continuing	Continuing
67A011: *Space Analysis and Application Development*	-	1.542	6.802	1.742	0.000	1.742	3.859	3.951	4.032	4.178	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Space Analysis and Application Development program integrates space based effects into Department's 'Model of Record' for joint campaign analysis. Current modeling and simulation [M&S] models are inadequate to represent the contribution that U.S space capabilities make to the air, sea, and land fight and do not accurately portray current and future space threats. This line of effort integrates effects of space capabilities into mission and campaign-level M&S tools. Enhanced space M&S will enable the DoD to make informed decisions regarding the direction of U.S. Space Doctrine, Tactics, Techniques, Procedures, and Resource Decisions. The DoD requires the ability to conduct campaign-level analysis to quantify the holistic operational impacts of adversary space actions on military campaigns and U.S. global operations.

Navigation Warfare [NAVWAR] is deliberate defensive and offensive action to assure and prevent positioning, navigation, and timing [PNT] information through coordinated employment of space, cyberspace, and electronic warfare [EW] operations. Funds are used to create and maintain NAVWAR knowledge and ensure NAVWAR superiority across the DoD. IAW the most recent Unified Command Plan, USSPACECOM is responsible for [a] [U] Advocating for requirements and capabilities supporting NAVWAR operations and joint resilient PNT for the DoD, and [b] [U] Providing contingency and operations support to CCMDs for NAVWAR and joint resilient PNT planning. USSPACECOM will research, develop, test, assess and evaluate NAVWAR options IOT advocate across Services and the other CCMDs to achieve PNT overmatch. Funds are used to create and maintain NAVWAR knowledge. NAVWAR expertise is developed in part by execution of PNT Operational Field Assessments [POFAs] that assess Red and Blue PNT-related capabilities, limitations, and vulnerabilities. GYPSY POFA's are linked to Commander USSPACECOM's Joint Exercise Program [JEP] and nested within the Chairman's Exercise Program [CEP]and Combatant Commander's [CCMD] Tier 1 exercises [PACIFIC SENTRY AND AUSTERE CHALLENGE are examples] and provide operationally realistic threat-representative, PNT-contested environments for analytical assessment of air, ground, maritime, space & cyberspace mission capability. FORTUNE POFAs are PNT capability and vulnerability assessments associate with a Service exercise or mission event. PRISM POFAs encompass all other Operations, Actions, and Activities [OAAs] and other assessments to include evaluation of rapid innovative NAVWAR capabilities and/or solutions. Assessments inform materiel and non-materiel solutions, service acquisition decisions, capability gaps, intelligence gaps and tactics, techniques and procedures [TTP] development and implementation to mitigate effects on warfighter operations in the anticipated theater NAVWAR threat environments. JNWC assesses department wide PNT posture through the PNT Biennial assessment IAW DoDI 4650.08.

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force	Date: March 2023
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1202140F / *Service Support to SPACECOM Activities*

This program element may include necessary civilian pay expenses required to manage, execute, and deliver Space Analysis and Application Development 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 FY2022 $0 was expended and in FY2023 $0 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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	6.737	13.766	9.756	0.000	9.756
Current President's Budget	6.549	13.418	9.778	0.000	9.778
Total Adjustments	-0.188	-0.348	0.022	0.000	0.022
• Congressional General Reductions	-0.188	-0.348			
• 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

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 1202140F / *Service Support to SPACE COM Activities*	Project (Number/Name) 672486 / *JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
672486: *JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES*	-	5.007	6.616	8.036	0.000	8.036	11.785	12.078	12.324	12.770	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Navigation Warfare [NAVWAR] is deliberate defensive and offensive action to assure and prevent positioning, navigation, and timing [PNT] information through coordinated employment of space, cyberspace, and electronic warfare [EW] operations. Funds are used to create and maintain NAVWAR knowledge and ensure NAVWAR superiority across the DoD. IAW the most recent Unified Command Plan, USSPACECOM is responsible for [a] [U] Advocating for requirements and capabilities supporting NAVWAR operations and joint resilient PNT for the DoD, and [b] [U] Providing contingency and operations support to CCMDs for NAVWAR and joint resilient PNT planning. USSPACECOM will research, develop, test, assess and evaluate NAVWAR options IOT advocate across Services and the other CCMDs to achieve PNT overmatch. Funds are used to create and maintain NAVWAR knowledge. NAVWAR expertise is developed in part by execution of PNT Operational Field Assessments [POFAs] that assess Red and Blue PNT-related capabilities, limitations, and vulnerabilities. GYPSY POFA's are linked to Commander USSPACECOM's Joint Exercise Program [JEP] and nested within the Chairman's Exercise Program [CEP]and Combatant Commander's [CCMD] Tier 1 exercises [PACIFIC SENTRY AND AUSTERE CHALLENGE are examples] and provide operationally realistic threat-representative, PNT-contested environments for analytical assessment of air, ground, maritime, space & cyberspace mission capability. FORTUNE POFAs are PNT capability and vulnerability assessments associate with a Service exercise or mission event. PRISM POFAs encompass all other Operations, Actions, and Activities [OAAs] and other assessments to include evaluation of rapid innovative NAVWAR Capabilities and/or solutions. Assessments inform materiel and non-materiel solutions, service acquisition decisions, capability gaps, intelligence gaps and tactics, techniques and procedures [TTP] development and implementation to mitigate effects on warfighter operations in the anticipated theater NAVWAR threat environments. JNWC assesses department wide PNT posture through the PNT Biennial assessment IAW DoDI 4650.08.

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 2022 $0 was expended for civilian pay expenses in the program element and in FY2023 $0 is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: PNT Operational Assessments	5.007	6.616	8.036
Description: The JNWC will investigate, operationally assess, and simulate current, emerging, and potential threats and mitigation strategies for denial of blue force PNT capabilities as well as preventing the hostile use of PNT information. Major Performers - Best value to the government selected contractors, universities, government facilities, federally funded research and development centers, laboratories, or other organizations.			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 1202140F / *Service Support to SPACE COM Activities*	**Project (Number/Name)** 672486 / *JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
FY 2023 Plans: Execution of operational assessments in live open-air, laboratory hardware in the loop, simulation, and anechoic chamber environments to assess advanced and potential PNT threats and assist in development of tactics, techniques and procedures [TTP] to mitigate these threats. Continued evaluation of innovative technologies to prevent the hostile use of PNT information and rapidly develop and present NAVWAR playbook options for the joint force; including modeling and simulation tools to enable NAVWAR operations. Planned exercises - GYPSY x2 for Combatant Command objectives, Fortune exercises x4 are for Service objectives, and PRISM events, for alternate-PNT and other supported organizations/agencies. ***FY 2024 Plans:*** Execution of operational assessments in live open-air, laboratory hardware in the loop, simulation, and anechoic chamber environments to assess advanced and potential PNT threats and assist in development of tactics, techniques and procedures [TTP] to mitigate these threats. Continued evaluation of innovative technologies to prevent the hostile use of PNT information and rapidly develop and present NAVWAR playbook options for the joint force; including modeling and simulation tools to enable NAVWAR operations. ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Increased funding to cover increased development and testing costs.			
Accomplishments/Planned Programs Subtotals	5.007	6.616	8.036

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

New contracts will be awarded using competitive procedures to the maximum extent possible.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 1202140F / *Service Support to SPACE COM Activities*	Project (Number/Name) 672486 / *JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	C/Various	Not specified. : TBD	-	-		-		-		-		-	Continuing	Continuing	-
Position Navigation and Timing Operational Field Assessments	Various	Multiple, Kirtland AFB NM : Kirtland, NM	-	5.007	Oct 2021	6.616	Oct 2022	8.036	Oct 2023	-		8.036	Continuing	Continuing	-
		Subtotal	-	5.007		6.616		8.036		-		8.036	Continuing	Continuing	N/A

Remarks

Prior to the FY20 PB cycle, The Joint Navigation and Warfare Center (JNWC) was reported under PE 1201921F, WSC 672486. Beginning in FY20, the program will be reported under the newly created PE 1202140F, Service Support to U.S. SPACECOM Activities

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	5.007		6.616		8.036		-		8.036	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 1202140F / *Service Support to SPACE COM Activities*	**Project (Number/Name)** 672486 / *JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES*

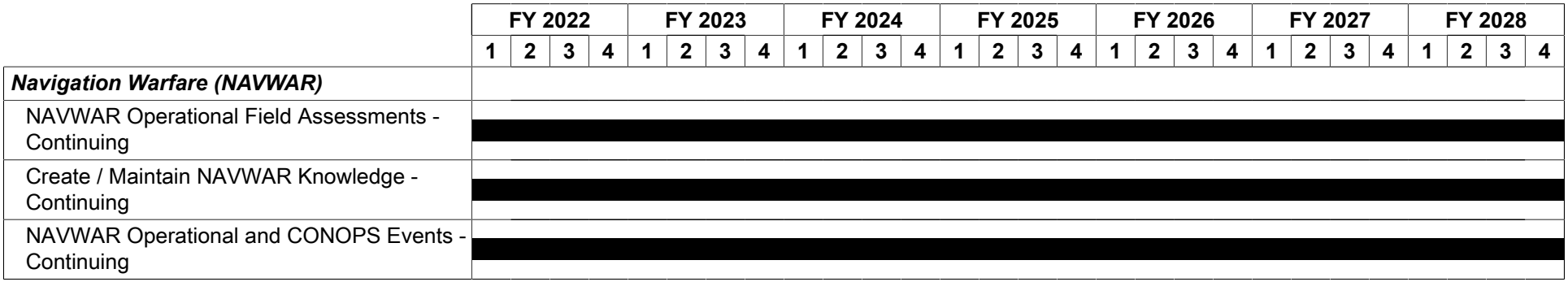

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 1202140F / *Service Support to SPACE COM Activities*	**Project (Number/Name)** 672486 / *JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Navigation Warfare (NAVWAR)				
NAVWAR Operational Field Assessments - Continuing	1	2022	4	2028
Create / Maintain NAVWAR Knowledge - Continuing	1	2022	4	2028
NAVWAR Operational and CONOPS Events - Continuing	1	2022	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force			Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 1202140F / *Service Support to SPACE COM Activities*	Project (Number/Name) 67A011 / *Space Analysis and Application Development*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
67A011: *Space Analysis and Application Development*	-	1.542	6.802	1.742	0.000	1.742	3.859	3.951	4.032	4.178	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Space Analysis and Application Development program integrates space based effects into Department's 'Model of Record' for joint campaign analysis. Current modeling and simulation [M&S] models are inadequate to represent the contribution that U.S space capabilities make to the air, sea, and land fight and do not accurately portray current and future space threats. This line of effort integrates effects of space capabilities into mission and campaign-level M&S tools. Enhanced space M&S will enable the DoD to make informed decisions regarding the direction of U.S. Space Doctrine, Tactics, Techniques, Procedures, and Resource Decisions. The DoD requires the ability to conduct campaign-level analysis to quantify the holistic operational impacts of adversary space actions on military campaigns and U.S. global operations.

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 FY2022 $0 was expended for civilian pay expenses in the program element and in FY2023 $0 is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
Title: Space Campaign Modeling and Simulation, Development/Modification/Verification/Validation	1.542	6.802	1.742
Description: Developed, modifies, verifies, and validates new models for Space mission areas and modifies existing models to portray new capabilities			
FY 2023 Plans: Continue priority integration of 22 Joint Mission Threads, space-based capabilities, and counter-space effects on the Warfighter in STORM			
- Continue to develop change request proposals and submit to STORM Configuration Control Board [CCB] to improve instantiation of potential future and denied/degraded space-based capabilities and their effects on the Warfighter in STORM			
- In coordination with HAF A/9 [HQ Air Force Studies, Analysis, and Assessments], develop schedule to identify requirements toward implementation of approved change requests and instantiation of space and contested space capabilities in STORM			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 1202140F / *Service Support to SPACE COM Activities*	**Project (Number/Name)** 67A011 / *Space Analysis and Application Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- Develop and modify user-friendly, front-end campaign-level M&S software and tools supporting sufficiently accurate and very timely exploratory analytics to optimize more costly campaign-level STORM M&S, operational planning, gaming, and concept development - Continue development of software and tools to model Red on Blue contested space [one versus one, many versus many, and space campaign-level] and analyze/assess results to determine impact/effects on U.S. military campaigns and global operations - Coordinate and update current and future Blue space order of battle data, Red counter-space order of battle data, Red counter-space CONOPS, future Blue and Red CONOPs to support integration of contested space into mission and campaign-level M&S - Continue updates to software, tools, models, and data at the mission- and campaign-level to inform senior leaders evolving inquiries and decisions on space investments, requirements, acquisition, operational COAs, operational risk, and future planning - Continue to assess and integrate enterprise-level model data for SATCOM capabilities into campaign-level modeling - In coordination with European Command, Indo-Pacific Command, other combatant commands, and respective USSPACECOM Integrated Planning Elements; explore improved integrated risk analysis with new campaign-level M&S capabilities - Continue to utilize updated tools and data to support analytical efforts in support of SPACECOM activities, new Space Analysis Consortium, and evolving space analytical capabilities; and collaborate with partners to inform senior leader forums and decisions on space investments, requirements, acquisition, and operational risk decisions - Continue to support cost benefit analyses of Space Control activities with quantifiable impacts to warfighter operations - Continue to provide analysis support to inform Air Force Space Command's Space Enterprise Vision [SEV] ***FY 2024 Plans:*** Continue priority integration of 22 Joint Mission Threads, space-based capabilities, and counter-space effects on the Warfighter in STORM - Continue to develop change request proposals and submit to STORM Configuration Control Board [CCB] to improve instantiation of potential future and denied/degraded space-based capabilities and their effects on the Warfighter in STORM			

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 1202140F / *Service Support to SPACE COM Activities*	**Project (Number/Name)** 67A011 / *Space Analysis and Application Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2022	FY 2023	FY 2024
- In coordination with HAF A/9 [HQ Air Force Studies, Analysis, and Assessments], develop schedule to identify requirements toward implementation of approved change requests and instantiation of space and contested space capabilities in STORM - Develop and modify user-friendly, front-end campaign-level M&S software and tools supporting sufficiently accurate and very timely exploratory analytics to optimize more costly campaign-level STORM M&S, operational planning, gaming, and concept development - Continue development of software and tools to model Red on Blue contested space [one versus one, many versus many, and space campaign-level] and analyze/assess results to determine impact/effects on U.S. military campaigns and global operations - Coordinate and update current and future Blue space order of battle data, Red counter-space order of battle data, Red counter-space CONOPS, future Blue and Red CONOPs to support integration of contested space into mission and campaign-level M&S - Continue updates to software, tools, models, and data at the mission- and campaign-level to inform senior leaders evolving inquiries and decisions on space investments, requirements, acquisition, operational COAs, operational risk, and future planning - Continue to assess and integrate enterprise-level model data for SATCOM capabilities into campaign-level modeling - In coordination with European Command, Indo-Pacific Command, other combatant commands, and respective USSPACECOM Integrated Planning Elements; explore improved integrated risk analysis with new campaign-level M&S capabilities ***FY 2023 to FY 2024 Increase/Decrease Statement:*** Funding based on activities required in FY2024.			
Accomplishments/Planned Programs Subtotals	1.542	6.802	1.742

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Any new projects funded in this program will be awarded using competitive procedures to the maximum extent possible.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 1202140F / *Service Support to SPACE COM Activities*	**Project (Number/Name)** 67A011 / *Space Analysis and Application Development*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	C/CPAF	Not specified. : TBD	-	-		-		-		-		-	Continuing	Continuing	-
Model Space effects for two mission tasks and integrate into STORM for joint campaign analysis	C/CPAF	TBD : TBD	-	1.542	Oct 2021	6.802	Oct 2022	1.742	Oct 2023	-		1.742	Continuing	Continuing	-
		Subtotal	-	1.542		6.802		1.742		-		1.742	Continuing	Continuing	N/A

Remarks

Prior to the FY20 PB cycle, The Space Analysis and Application Development Program was reported under PE 1201921F, WSC 67A011. Beginning in FY20, the program will be reported under the newly created PE 1202140F, USSPACECOM

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	1.542		6.802		1.742		-		1.742	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 1202140F / *Service Support to SPACE COM Activities*	**Project (Number/Name)** 67A011 / *Space Analysis and Application Development*

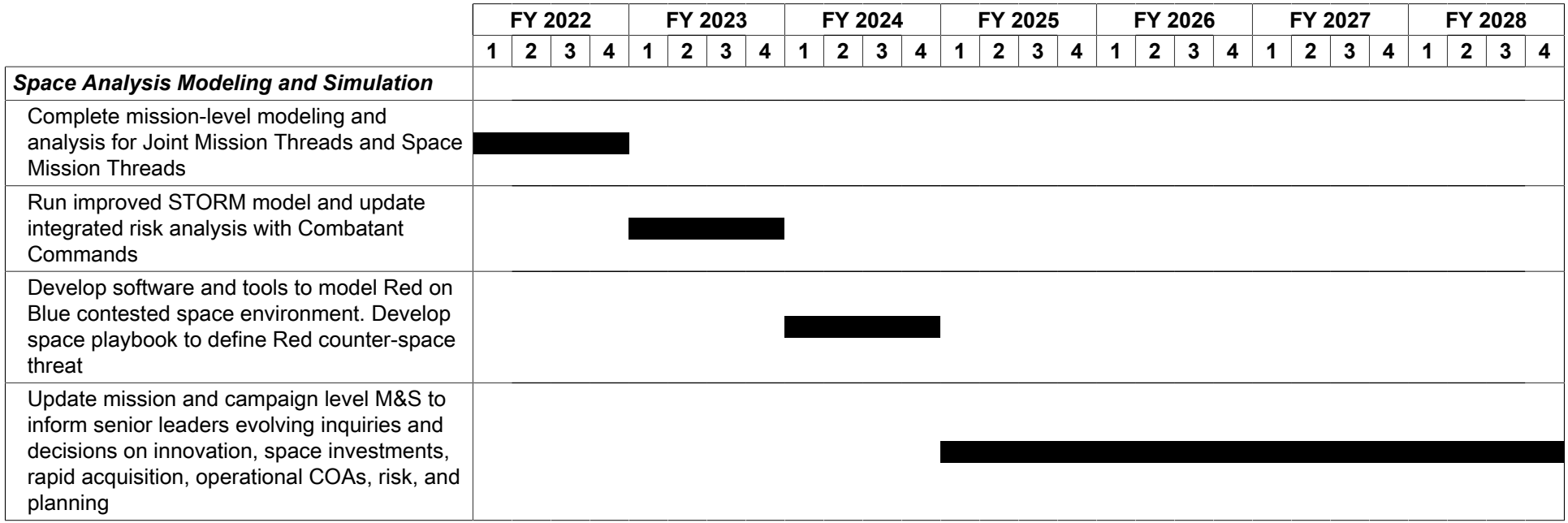

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 1202140F / *Service Support to SPACE COM Activities*	**Project (Number/Name)** 67A011 / *Space Analysis and Application Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Space Analysis Modeling and Simulation				
Complete mission-level modeling and analysis for Joint Mission Threads and Space Mission Threads	1	2022	4	2022
Run improved STORM model and update integrated risk analysis with Combatant Commands	1	2023	4	2023
Develop software and tools to model Red on Blue contested space environment. Develop space playbook to define Red counter-space threat	1	2024	4	2024
Update mission and campaign level M&S to inform senior leaders evolving inquiries and decisions on innovation, space investments, rapid acquisition, operational COAs, risk, and planning	1	2025	4	2028

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