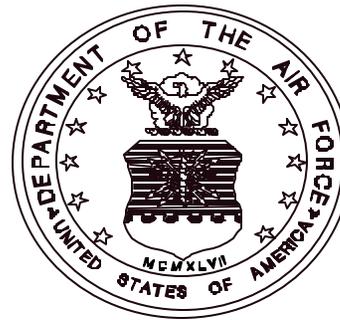


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DEPARTMENT OF THE AIR FORCE
FISCAL YEAR 2003 PRESIDENT'S BUDGET
RESEARCH, DEVELOPMENT, TEST AND EVALUATION
DESCRIPTIVE SUMMARIES



FEBRUARY 2002

VOLUME III

BUDGET ACTIVITY 7

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**Fiscal Year 2003 President's Budget
RDT&E Descriptive Summaries, Volume III
February 2002**

INTRODUCTION AND EXPLANATION OF CONTENTS

1. (U) 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 FY 2003 FY 2003 President's Budget. All formats in this document are in accordance with the revised guidelines of the DoD 7000.14R, Financial Management Regulation, Volume 2B, Chapter 5, with the exception of the R-3 exhibit. The USAF could not support the new format matrix because our programs do not track their programs in the manner required to complete the exhibit.

- g. Contents: Exhibits R-2, R-2a and R-3 provide narrative information for all RDT&E program elements and projects within the USAF FY2003 RDT&E program except the classified program elements. The formats and contents of this document are in accordance with the guidelines and requirement of the Congressional committees insofar as possible.
- h. 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.
- i. The Justification book has been assembled in accordance with DoD 7000.14R, Financial Management Regulation, Volume 2B, Chapter 5, Section 050402 with the exception of the R-1, Project Funding Listing which was distributed under a separate cover due to classification.

2. (U) CLASSIFICATION

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

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PROGRAM ELEMENT COMPARISON SUMMARY

INTRODUCTION AND EXPLANATION OF CONTENTS

PROGRAM ELEMENT (by BUDGET ACTIVITY)	REMARKS
BUDGET ACTIVITY #1: BASIC RESEARCH (Volume I)	
	N/A
BUDGET ACTIVITY 2: APPLIED RESEARCH (Volume I)	
0602102F Materials	<p>In FY 2003, Project 4347, Materials for Structures, Propulsion and Subsystems, were transferred to PE 0602500F, Project 5025, Space Materials Development, in conjunction with the Space Commission recommendation to consolidate all space unique activities.</p> <p>In FY 2003, Project 4348, Materials for Electronics, Optics and Surveillance, efforts were transferred to PE 0602500F, Project 5025, Space Materials Development, in conjunction with the Space Commission recommendation to consolidate all space unique activities.</p> <p>In FY 2003, Project 5015, Rocket Materials Technology, efforts were transferred to PE 0602500F, Project 5025, Space Materials Development, in conjunction with the Space Commission recommendation to consolidate all space unique activities.</p> <p>In FY 2003, Project 4349, Materials Technology for Sustainment, efforts were transferred to PE 0602500F, Multi-Disciplinary Space Technology, Project 5025, Space Materials Development, in conjunction with the Space Commission recommendation to consolidate all space unique activities.</p> <p>In FY 2003, Project 5015, Rocket Materials Technology, efforts were transferred from PE 0602203F, Aerospace Propulsion, Project 4847, Rocket Propulsion Technology.</p>
0602201F Aerospace Flight Dynamics	<p>In FY 2003, Project 2403, Flight Control and Vehicle-Pilot Interface, efforts were transferred to PE 0602500F, Multi-Disciplinary Space Technology, Project 5030, Applied Space Access Vehicle Technology, in conjunction with the Space Commission recommendation to consolidate all space unique activities..</p>
0602202F Human Effectiveness Applied Research	<p>In FY 2003, Project 7184, Crew System Interface and Biodynamics, efforts were transferred to Project 7757, Bioeffects and Protection, to align resources with the Air Force Research Laboratory organization.</p>

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PROGRAM ELEMENT (by BUDGET ACTIVITY)

REMARKS

In FY 2003, Project 7757, Bioeffects and Protection, efforts were transferred from Project 7184, Crew System Interface and Biodynamics, to align resources with the Air Force Research Laboratory organization.

In FY 2003, Project 7184, Crew System Interface and Biodynamics, efforts were transferred to PE 0602500F, Multi-Disciplinary Space Technology, Project 5024, Human Centered Applied Space Technology, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

0602203F Aerospace Propulsion

In FY 2003, Project 3012, Advanced Propulsion Technology, efforts were transferred to PE 0602500F, Multi-Disciplinary Space Technology, Project 5025, Space Materials Development, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

In FY 2003, Project 4847, Rocket Propulsion Technology, efforts were transferred to PE 0602102F, Materials, Project 5015, Rocket Materials Technology.

In FY 2003, Project 4847, Rocket Propulsion Technology, efforts were transferred to PE 0602500F, Multi-Disciplinary Space Technology, Project 5026, Rocket Propulsion Component Technology, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

0602204F Aerospace Sensors

In FY 2003, Project 2002, Electronic Component Technology, efforts were transferred to PE 0602500F, Multi-Disciplinary Space Technology, Projects 5028, Space Sensors, Photonics and RF Processes, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

In FY 2003, Project 2002, Electronic Component Technology, efforts were transferred to PE 0602500F, Multi-Disciplinary Space Technology, Projects 5029, Space Sensor and Countermeasure Technology, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

In FY 2003, Project 6095, Sensor Fusion Technology, efforts were transferred to PE 0602500F, Multi-Disciplinary Space Technology, Projects 5028, Space Sensors, Photonics and RF Processes, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

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PROGRAM ELEMENT (by BUDGET ACTIVITY)

REMARKS

In FY 2003, Project 6095, Sensor Fusion Technology, were transferred to PE 0602500F, Multi-Disciplinary Space Technology, Project 5029, Space Sensor and Countermeasure Technology, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

In FY 2003, Project 7622, RF Sensors and Countermeasures Technology, efforts were transferred to PE 0602500F, Multi-Disciplinary Space Technology, Project 5029, Space Sensors and Countermeasures Technology, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

In FY 2003, Project 2002, Electronic Component Technology, efforts were transferred to Project 5016, Photonic Component Technology.

In FY 2003, Project 5016, Photonic Component Technology, efforts were transferred from Project 2002, Electronic Component Technology.

In FY 2003, Project 7622, RF Sensors and Countermeasure Technology, efforts were transferred to Project 5017, RF Processing for ISR Sensors.

In FY 2003, Project 5017, RF Processing for ISR Sensors, efforts were transferred from Project 7622, RF Sensors and Countermeasures Technology.

PROGRAM ELEMENT COMPARISON SUMMARY

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PROGRAM ELEMENT (by BUDGET ACTIVITY)

0602500F Multi-Disciplinary Space Technology

REMARKS

In FY 2003, this is a new PE.

In FY 2003, Project 5023, Laser & Imaging Space Technology, efforts were transferred from PE 0602605F, Directed Energy Technology, Project 4866, Laser & Imaging Technology, in conjunction with the Space Commission recommendation to consolidate space unique activities.

In FY 2003, Project 5024, efforts were transferred from PE 0602202F, Human Effectiveness Applied Research, Project 7184, Crew System Interface and Biodynamics, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

In FY 2003, Project 5025, Space Materials Development, efforts were transferred from PE 0602102F, Materials, Project 4347, Materials for Structures, Propulsion and Subsystems, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

In FY 2003, Project 5025, Space Materials Development, efforts were transferred from PE 0602102F, Materials, Project 4348, Materials for Electronics, Optics and Surveillance, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

In FY 2003, Project 5025, Space Materials Development, efforts were transferred from PE 0602102F, Materials, Project 4349, Materials Technology for Sustainment, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

In FY 2003, Project 5025, Space Materials Development, efforts were transferred from PE 0602102F, Materials, Project 5015, Rocket Materials Technology, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

In FY 2003, Project 5026, Rocket Propulsion Component Technology, efforts were transferred from PE 0602203F, Aerospace Propulsion, Project 4847, Rocket Propulsion Technology, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

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PROGRAM ELEMENT (by BUDGET ACTIVITY)

REMARKS

In FY 2003, Project 5027, High Speed Airbreathing Propulsion Technology, efforts were transferred from PE 0602203F, Aerospace Propulsion, Project 3012, Advanced Propulsion Technology, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

In FY 2003, Project 5028, Space Sensors, Photonics and RF Processes, efforts were transferred from PE 0602204F, Aerospace Sensors, Project 2002, Electronic Component Technology, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

In FY 2003, Project 5029, Space Sensor and Countermeasure Technology, efforts were transferred from PE 0602204F, Aerospace Sensors, Project 2002, Electronic Component Technology, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

In FY 2003, Project 5029, Space Sensor and Countermeasure Technology, efforts were transferred from PE 0602204F, Aerospace Sensors, Project 6095 Sensor Fusion Technology, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

In FY 2003, Project 5029, Space Sensor and Countermeasure Technology, efforts were transferred from PE 0602204F, Aerospace Sensors, Project 7622, RF Sensors and Countermeasures Technology, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

In FY 2003, Project 5030, Applied Space Access Vehicle Technology, efforts were transferred from PE 0602201F, Aerospace Vehicle Technologies, Project 2403, Flight Control/Vehicle-Pilot Interface, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

0602601F Space Technology

In FY 2003, Project 1010, Space Survivability & Surveillance, efforts were transferred to Project 5018, Spacecraft Protection Technology.

In FY 2003, Project 5018, Spacecraft Protection Technology, efforts were transferred from Project 1010, Space Survivability & Surveillance.

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PROGRAM ELEMENT (by BUDGET ACTIVITY)

REMARKS

0602605F Directed Energy Technology

In FY 2003, Project 4866, Laser & Imaging Technology, efforts were transferred to PE 0602500F, Multi-Disciplinary Space Technology, Project 5023, Laser & Imaging Space Technology, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

BUDGET ACTIVITY #3: ADVANCED TECHNOLOGY DEVELOPMENT (Volume I)

0603112F Adv Materials For Weapon Sys

In FY 2003, Project 2100, Laser Hardened Materials, efforts were transferred to PE 0603500F, Multi-Disciplinary Advanced Development Space Technology, Project 5032, Advanced Space Materials, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

In FY 2003, Project 3946, Materials Transition, efforts were transferred to PE 0603500F, Multi-Disciplinary Advanced Development Space Technology, Project 5032, Advanced Space Materials, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

0603203F Advanced Aerospace Sensors

In FY 2003, Project 69DF, Target Attack and Recognition Technology, efforts were transferred to Project 5019, Advanced RF Technology for ISR Sensors, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

In FY 2003, Project 665A, Advanced Aerospace Sensors Technology, efforts were transferred to PE 0603500F, Multi-Disciplinary Advanced Development Space Technology, Project 5034, Advanced Space Sensors, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

In FY 2003, Projects 665A, Advanced Aerospace Sensors Technology, were transferred to Project 5019, Advanced RF Technology for ISR Sensors, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

0603216F Aerospace Prop and Power Technology

In FY 2003, Project 4922, Space and Missile Rocket Propulsion, efforts were transferred to PE 0603500F, Multi-Disciplinary Advanced Development Space Technologies, Project 5033, Rocket Propulsion Demonstration, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

PROGRAM ELEMENT COMPARISON SUMMARY

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PROGRAM ELEMENT (by BUDGET ACTIVITY)	REMARKS
0603270F Electronic Combat Technology	<p>In FY 2003, Project 431G, RF Warning and Countermeasures Technology, efforts were transferred to PE 0603500F, Multi-Disciplinary Advanced Development Space Technology, Project 5034, Advanced Space Sensors, in conjunction with the Space Commission recommendation to consolidate all space unique activities.</p> <p>In FY 2003, Project 691X, EO/IR Warning and Countermeasures Technology, efforts were transferred to PE 0603500F, Multi-Disciplinary Advanced Development Space Technology, Project 5034, Advanced Space Sensors, in conjunction with the Space Commission recommendation to consolidate all space unique activities.</p>
0603231F Crew System and Personnel Protection Technology	<p>In FY 2003, Project 3257, Helmet-Mounted Sensory Technology, efforts were transferred to Project 5020, Directed Energy Protective Systems, in order to align resources with the Air Force Research Laboratory organization.</p> <p>In FY 2003, Project 5020, Directed Energy Protective Systems, efforts were transferred from Project 3257, Helmet-Mounted Sensory Technology, in order to align resources within the Air Force Research Laboratory organization.</p>
0603401F Advanced Spacecraft Technology	<p>In FY 2003, Project 4400, Space Systems Protection, efforts were transferred from Project 5021, Space Systems Survivability, due to a realignment of work within the project.</p> <p>In FY 2003, Project 5021, Space Systems Survivability, efforts were transferred to Project 4400, Space Systems Protection, due to a realignment of work within the project.</p>
0603500F Multi-Disciplinary Advanced Development Space Technology	<p>In FY 2003, this is a new PE.</p> <p>In FY 2003, Project 5031, Advanced Optics and Laser Space Technology, efforts were transferred from PE 0603605F, Advanced weapons Technology, Project 3150, Advanced Optics Technology, in conjunction with the Space Commission recommendation to consolidate all space unique activities.</p> <p>In FY 2003, Project 5031, Advanced Optics and Laser Space Technology, efforts were transferred from PE 0603605F, Advanced Weapons Technology, Project 3647, Hi Energy Laser Technology, in conjunction with the Space Commission recommendation to consolidate all space unique activities.</p>

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PROGRAM ELEMENT (by BUDGET ACTIVITY)

REMARKS

In FY 2003, Project 5032, Advanced Space Materials, efforts were transferred from PE 0603112F, Advanced Materials for Weapon Systems, Project 2100, Laser Hardened Materials, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

In FY 2003, Project 5032, Advanced Space Materials, efforts were transferred from PE 0603112F, Advanced Materials for Weapon Systems, Project 3946, Materials Transition, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

In FY 2003, Project 5033, Rocket Propulsion Demonstration, efforts were transferred from PE 0603216F, Aerospace Propulsion and Power Technology, Project 4922, Space and Missile Rocket Propulsion, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

In FY 2003, Project 5034, Advanced Space Sensors, efforts were transferred from PE 0603203F, Advanced Aerospace Sensors, Project 665A, Advanced Aerospace Sensors Technology, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

In FY 2003, Project 5034, Advanced Space Sensors, efforts were transferred from PE 0603270F, Projects 691X, EO/IR Warning and Countermeasures Technology, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

In FY 2003, Project 5034, Advanced Space Sensors, efforts were transferred from PE 0603270, Electronic Combat Technology, Projects 431G, RF Warning and Countermeasures, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

0603605F Advanced Weapons Technology

In FY 2003, Project 3150, Advanced Optics Technology, efforts were transferred to PE 0603500F, Multi-Disciplinary Advanced Development Space Technology, Project 5031, Advanced Optics and Laser Space Technology, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

PROGRAM ELEMENT COMPARISON SUMMARY

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PROGRAM ELEMENT (by BUDGET ACTIVITY)

REMARKS

In FY 2003, Project 3647, Hi Energy Laser Technology, were transferred to PE 0603500F, Multi-Disciplinary Advanced Development Space Technology, Project 5031, Advanced Optics and Laser Space Technology, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

BUDGET ACTIVITY #4: DEMONSTRATION AND VALIDATION (DEM/VAL) (Volume II)

0603438F Space Control Technology

In FY 2003, Project 2611, Technology Insertion Plan & Analysis, efforts were transferred to PE 0604421F, Counterspace Systems, Project A001, Counter Satellite Communications System, in order to perform Engineering and Manufacturing Development activities.

In FY 2003, Project 2611, Technology Insertion Plan & Analysis, efforts were transferred to PE 0604421F, Counterspace Systems, Project A002, Counter Surveillance Reconnaissance System, in order to perform Engineering and Manufacturing Development activities.

In FY 2003, Project 2611, Technology Insertion Plan & Analysis, efforts were transferred to PE 0604421F, Counterspace Systems, Project A003, Rapid Identification Detection and Reporting System, in order to perform Engineering and Manufacturing Development activities.

0603845F Advanced Wideband System (AWS)

In FY 2003, Project 4944, Advanced Wideband System, includes new start efforts.

0603790F NATO Cooperative R&D

In FY 2003, Project 64NATO, NATO Cooperative R&D, efforts were transferred to PE 0603791F, International Space Cooperative R&D, Project 5035, International Space Cooperative R&D, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

0603791F International Space Cooperative R&D

In FY 2003, this is a new PE.

In FY 2003, Project 5035, International Space Cooperative R&D, efforts transferred from PE 0603790F, NATO Cooperative R&D, Project 64NATO, NATO Cooperative R&D, in conjunction with the Space Commission recommendation to consolidate all space unique activities.

0603851F ICBM - Dem/Val

In FY 2003, Project 1020, ICBM Guidance Applications, includes new start efforts.

In FY 2003, Project 1023, Rocket System Launch Program, includes new start efforts.

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PROGRAM ELEMENT (by BUDGET ACTIVITY)

REMARKS

0603858F Space Based Radar Dem/Val

In FY 2003, this is a new PE.

In FY 2003, Project A004, SBR Concept & Technical Development, efforts were transferred from PE 0604251F, Space-Based Radar EMD, Project 5009, SBR Concept and Technical Development, in order to correct a database error which loaded the funding in the wrong PE.

0604327F Hardened Target Munitions

In FY 2003, Project 4641, GBU-28 Upgrade, includes new start efforts.

BUDGET ACTIVITY #5: ENGINEERING & MANUFACTURING DEVELOPMENT (EMD) (Volume II)

0207434F Link 16 Support & Sustainment

In FY 2003, this is a new PE.

In FY 2003, Project 5049, JINTACCS, efforts transferred from PE 0604779F, Tactical Data Link Interoperability, Project 2189, JINTACCS, in order to comply with CSAF 17 Apr 01 direction to consolidate tactical data link/Link 16 funding and manage tactical data links as an enterprise.

In FY 2003, Project 5050, TCL System Integration, efforts were transferred from PE 0604754F, Tactical Data Link Integration, Project 4749, Link 16 System Integration, in order to comply with CSAF 17 Apr 01 direction to consolidate tactical data link/Link 16 funding and manage tactical data links as an enterprise.

In FY 2003, Project 5051, Family of Interoperable Operational Pictures (FIOP), efforts were transferred from PE 0604754F, Tactical Data Link Integration, Project 4992, Family of Interoperable Operational Pictures (FIOP), in order to comply with CSAF 17 Apr 01 direction to consolidate tactical data link/Link 16 funding and manage tactical data links as an enterprise.

0401318F CV-22

In FY 2003, Project 4103, CV-22, includes new start efforts.

0604226F B-1B

In FY 2003, Project Number 4596, B-1B, includes new start efforts.

0604240F B-2 Advanced Tech Bomber

In FY 2003, Project 3843, B-2 Advanced Technology Bomber, includes new start efforts.

0604251F Space Based Radar EMD

In FY 2003, Project 5009, SBR Concept and Technical Development, efforts were transferred to PE 0603858F, Space Based Radar Dem/Val, Project A004, SBR Concept & Technical Development.

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PROGRAM ELEMENT (by BUDGET ACTIVITY)	REMARKS
0604421F Counter Space Systems	<p>In FY 2003, this is a new PE.</p> <p>In FY 2003, Project A001, Counter Satellite Communications System, efforts were transferred from PE 0603438F, Space Control Technology, Project 2611, Technology Insertion Plan & Analysis, in order to begin system Engineering and Manufacturing Development activities.</p> <p>In FY 2003, Project A002, Counter Surveillance Reconnaissance System, efforts were transferred from PE 0603438F, Space Control Technology, Project 2611, Technology Insertion Plan & Analysis, in order to begin system Engineering and Manufacturing Development activities.</p> <p>In FY 2003, Project A003, Rapid Attack Identification Detection & Reporting System (RAIDRS), includes new start efforts.</p> <p>In FY 2003, Project A003, Rapid Attack Identification Detection & Reporting System (RAIDRS), efforts were transferred from PE 0603438F, Space Control Technology, Project 2611, Technology Insertion Plan & Analysis, in order to begin system Engineering and Manufacturing Development activities.</p>
0604617F Agile Combat Support	<p>In FY 2003, Project 2895, Civil Engineering Readiness, includes new start efforts.</p>
0604735F Combat Training Ranges	<p>In FY 2003, Project 2286, Combat Training Ranges, includes new start efforts.</p>
0604754F Tactical Data Link Integration	<p>In FY 2003, Project 4749, Link 16 System Integration, efforts were transferred to PE 0207434F, Link 16 Support and Sustainment, Project 5050, TCL System Integration, in order to comply with CSAF 17 Apr 01 direction to consolidate tactical data link/Link 16 funding and manage tactical data links as an enterprise.</p> <p>In FY 2003, Project 4992, Family of Interoperable Operational Pictures (FIOP), efforts transferred to PE 0207434F, Link 16 Support and Sustainment, Project 5051, Family of Interoperable Operational Pictures (FIOP), in order to comply with CSAF 17 Apr 01 direction to consolidate tactical data link/Link 16 funding and manage tactical data links as an enterprise.</p>
0604779F Tactical Data Link Interoperability	<p>In FY 2003, Project 2189, JINTACCS, efforts transferred to PE 0207434F, Link 16 Support and Sustainment, Project 5049, JINTACCS, in order to comply with CSAF 17 Apr 01 direction to consolidate tactical data link/Link 16 funding and manage tactical data links as an enterprise.</p>

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PROGRAM ELEMENT (by BUDGET ACTIVITY)	REMARKS
0604851F ICBM - EMD	In FY 2003, Project 4823, Environmental Control System (ECS) Replacement Program, includes new start efforts.
BUDGET ACTIVITY #6: MANAGEMENT & SUPPORT (Volume II)	
0604256F Threat Simulator Development	In FY 2003, Project 3321, EW Ground Test Resources, includes new start efforts.
0604759F Major Test and Evaluation Investment	In FY 2003, Project 4597, Air Force Test Investments, includes new start efforts.
BUDGET ACTIVITY #7: OPERATIONAL SYSTEMS DEVELOPMENT (Volume III)	
0101120F Advanced Cruise Missile (ACM)	In FY 2003, Project 4798, Life Extension Program, was renamed (formerly Life Extension Study). This action did not change program content. In FY 2003, Project 4798, Life Extension Program, includes new start efforts.
0207134F F-15E Squadrons	In FY 2003, Project 670131, F-15E First Shooter (ALR-56C Processor Upgrade), includes new start efforts.
0207138F F-22 Squadrons	In FY 2003, Project 4785, F-22, includes new start efforts.
0207423F Advanced Communications Systems	In FY 2003, Project 4935, Joint Tactical Radio Systems (JTRS), includes new start efforts.
0207445F Fighter Tactical Data Link	In FY 2003, this is a new PE. In FY 2003, Project 5043, Fighter Tactical Data Link includes a new start efforts. In FY 2003, Project 5043, Fighter Tactical Data Link, efforts were transferred from PE 0207131F, A-10 Squadrons, Project 4809, A-10 Squadrons, in order to comply with CSAF 17 Apr 01 direction to consolidate tactical data link/Link 16 funding and manage tactical data links as an enterprise.
0207449F Multi-Sensor Command and Control Constellation (MC2C)	In FY 2003, this is a new PE.

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PROGRAM ELEMENT (by BUDGET ACTIVITY)	REMARKS
0207581F JOINT STARS	<p>In FY2003, Project 5064, Airframe, efforts were transferred from PE 0207581F, Joint Stars, Project 0003, JSTARS, in order to support transition to a new platform.</p> <p>In FY2003, Project 5065, Sensors, efforts were transferred from PE 0207581F, Joint Stars, Project 0003, JSTARS, in order to support transition to a new platform.</p>
0207581F JOINT STARS	<p>In FY 2003, Project 0003, JSTARS, efforts were transferred to PE 0207449F, Multi-Sensor Command and Control Constellation (MC2C), Project 5064, Airframe, in order to support transition to a new platform.</p> <p>In FY 2003, Project 0003, JSTARS, efforts were transferred to PE 0207449F, Multi-Sensor Command and Control Constellation (MC2C), Project 5065, Sensors, in order to support transition to a new platform.</p>
0303131F Minimum Essential Emergency Communications Network (MEECN)	<p>In FY 2003, Project 4610, Minuteman MEECN Program (MMP), was renamed (formerly MEECN EHF). This action did not change program content.</p>
0303141F Global Combat Support System (GCSS)	<p>In FY 2003, Project 4655, Integrated Logistics System - Supply (ILS-S), efforts were transferred to PE 0708611, Support Systems Development, Project 5044, Log Application Integrated Logistics System - Supply (LAILS-S) in order to align functional application development efforts into separate functional PE's.</p> <p>In FY 2003, 4904, Logistics Integration efforts transferred to PE 0708611F, Support Systems Development (SSD), Project 5042, Log Application Logistics Integration (LALI), in order to align functional application development efforts into separate functional PE's.</p> <p>In FY 2003, Project 4905, GCSS-AF Architectural Development, efforts were transferred to Project 5046, System Engineering and Integration (SE&I), in order to provide logical program grouping and allow for more effective oversight of this project.</p> <p>In FY 2003, Project 5046, SE&I, efforts were transferred from Project 4905, GCSS-AF Architectural Development.</p> <p>In FY 2003, Project 4906, GCSS-AF Domain Integration, efforts were transferred to Project Number 5046, System Engineering and Integration (SE&I), in order to provide logical program grouping and allow for more effective oversight of this project.</p>

PROGRAM ELEMENT COMPARISON SUMMARY

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PROGRAM ELEMENT (by BUDGET ACTIVITY)	REMARKS
	In FY 2003, Project 5046, SE&I, efforts were transferred from Project 4906, GCSS-AF Domain Integration.
	In FY 2003, Project 4907, Financial Information Resource System (FIRST), efforts were transferred to PE 0901538F, FIRST, Project 5036, FIRST.
0303601F MILSATCOM Terminals	In FY 2003, Project 2487, Milsatcom Terminals, includes new start efforts.
0305148F Air Force Tactical Measurement & Signatures	In FY 2003, this is a new PE. In FY 2003, Project 5053, Air Force Tactical Measurement & Signatures, includes new start efforts.
0305182F Spacelift Range System	In FY 2003, Project 4137, Range Standardization and Automation (RSA), was renamed Launch and Test Range System (LTRS) Modernization, to better depict on-going efforts.
0305205F Endurance Unmanned Aerial Vehicles	In FY 2003, Project 4883, JTC/SIL MUSE, efforts were transferred from PE 0308601F, Modeling and Simulation Support, Project 5052, JTC/SIL MUSE, in order to comply with 1999 PBD 220.
0305207F Manned Reconnaissance System	In FY 2003, Project 4754, Cobra Ball, includes new start efforts.
0308601F Modeling and Simulation Support	In FY 2003, Project 5052, JTC/SIL MUSE, were efforts transferred from PE 0305205F, Endurance Unmanned Aerial Vehicles, Project 4883, JTC/SIL MUSE in order to comply with 1999 PBD 220.
0401130F C-17 Aircraft Squadrons	In FY 2003, Project 2569, C-17, includes new start efforts.
0401839F Airlift/Other Tactical Data Link	In FY 2003, this is a new PE.
0708012F Logistic Support Activities	In FY 2003, Project 5054, Core Automated Maintenance System (CAMS) Modernization, efforts were transferred from PE 0708611F, Support Systems Development, Project 4654, Integrated Maintenance Data System (IMDS), in order to modernize the CAMS system to a level where it can be converted to IMDS.

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PROGRAM ELEMENT (by BUDGET ACTIVITY)

REMARKS

0708611F Support Systems Development

In FY 2003, Project 4654, Integrated Maintenance Data Systems, efforts transferred to PE 0708012F, Logistics Support Activities, Project 5054, CAMS, in order to provide funding to modernize the project.

In FY 2003, Project 5042, Log Application Logistics Integration (LALI), efforts were transferred from PE 0303141F, Global Command Support System (GCSS), 4904, Logistics Integration in order to align functional application development efforts into separate functional PE's.

In FY 2003, Project 5044, Log Application Integrated Logistics System - Supply (LAILS-S), efforts were transferred from PE 0303141F, Global Combat Support System (GCSS), 4655, Integrated Logistics System-Supply (ILS-S), in order to align functional application development efforts into separate functional PE's.

In FY 2003, Project 5042, Log Application Logistics Integration (LALI), efforts transferred to PE 0303141F, Global Combat Support System, Project 4904, Logistics Integration, in order to align functional application development efforts into separate functional PE's.

0905138F Financial Information Resources System (FIRST)

In FY 2003, this is a new PE.

In FY 2003, project 5036, Financial Information Resource System (FIRST), efforts were transferred from PE 0303141F, GCSS-AF, project 4907, Financial Information Resource System (FIRST), in order to provide logical program grouping and allow for more effective oversight of this project.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0101113F B-52 SQUADRONS					
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	47,431	66,205	55,794	47,157	92,588	125,510	109,417	Continuing	TBD
4810 Avionics Midlife Improvement (AMI)	35,625	37,607	33,197	29,663	5,642	4,493	247	Continuing	TBD
4875 Situational Awareness Defensive Improvement	11,806	28,598	22,597	0	0	0	0	0	70,925
4876 B-52 Global Air Traffic Management (GATM)	0	0	0	0	22,639	32,790	0	Continuing	TBD
5039 B-52 Modernization	0	0	0	17,494	64,307	88,227	109,170	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	Continuing	TBD
<p>(U) <u>A. Mission Description</u> The B-52 is the primary nuclear rolled bomber in the USAF inventory. It provides the only Air Launched Cruise Missile carriage in the USAF. The B-52 also provides theater CINCs with a long range strike capability. The current service life of the aircraft extends to 2040. The B-52's Avionics Midlife Improvement (AMI) program replaces unsupportable mission critical parts of the Offensive Avionics System that control navigation and weapons delivery on the B-52. Situational Awareness Defensive Improvement (SADI) program improves supportability, increases memory, allows reprogrammability, and adds a new display for improved situational awareness and system control. Global Air Traffic Management (GATM) avionics upgrades reduce airspace congestion, increase safety, and cost savings through more efficient flight routes and altitudes. B-52 Modernization provides communications upgrades for enhanced command and control, an inflight Convention Air Launch Cruise Missile mission planning system, and increased carriage of GPS guided gravity and standoff weapons. The B-52 program management is provided by Air Force Material Command's Oklahoma Air Logistics Center. The prime contractor for these projects is Boeing, McDonnell Defense in Wichita, Kansas.</p> <p>(U) <u>B. Budget Activity Justification</u> This program is in budget activity 7 - Operational System Development, because it supports a currently operational system.</p>									

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)				DATE
BUDGET ACTIVITY		PE NUMBER AND TITLE		
07 - Operational System Development		0101113F B-52 SQUADRONS		
(U)	<u>C. Program Change Summary (\$ in Thousands)</u>			
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>
	<u>Total Cost</u>			
(U)	Previous President's Budget	50,321	66,874	41,820
(U)	Appropriated Value	50,787	66,874	
(U)	Adjustments to Appropriated Value			
	a. Congressional/General Reductions	-625	-669	
	b. Small Business Innovative Research	-1,766		
	c. Omnibus or Other Above Threshold Reprogram			
	d. Below Threshold Reprogram			
	e. Rescissions	-466		
(U)	Adjustments to Budget Years Since FY 2002 PBR	-499		13,974
(U)	Current Budget Submit/FY 2003 PBR	47,431	66,205	55,794
				TBD
(U)	<u>Significant Program Changes:</u>			
	(U) FY01 number includes approximately \$12.0M for the Situational Awareness Defensive Improvement (SADI) program. The EMD schedule will lengthen by at least three months.			
	(U) FY03 was increased to perform ground and flight testing for Avionics Midlife Improvement (AMI) and Situational Awareness Defensive Improvement (SADI)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0101113F B-52 SQUADRONS				PROJECT 4810	
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4810 Avionics Midlife Improvement (AMI)	35,625	37,607	33,197	29,663	5,642	4,493	247	Continuing	TBD
<p>(U) <u>A. Mission Description</u> The current B-52H Offensive Avionics System (OAS) contains several subsystems which must be replaced. The Inertial Navigation System (INS) includes a spinning mass gyro based on 1960's technology which will soon be unsupported. The Avionics Control Unit (ACU) is an aging computer system with limited processing capability and memory. The Data Transfer Unit Cartridges (DTUCs) are bulky, unreliable, and based on old technology. The AMI program will use existing technology to replace these systems and the associated software, significantly increasing OAS reliability, maintainability, supportability, and capability while reducing operating costs.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$33,922 Design and development of replacement software (U) \$1,703 Ground and flight test (U) \$35,625 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$35,807 Design, development of replacement software (U) \$1,800 Ground and Flight Test (U) \$37,607 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$25,847 Design, development of replacement software (U) \$7,350 Ground and Flight Test (U) \$33,197 Total</p> <p>(U) <u>B. Project Change Summary</u> The EMD contract was awarded on 23 December 1999</p>									
Project 4810			Page 3 of 11 Pages				Exhibit R-2A (PE 0101113F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE				
								February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT				
07 - Operational System Development				0101113F B-52 SQUADRONS				4810				
(U) C. Other Program Funding Summary (\$ in Thousands)												
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>			
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>				
(U) AF RDT&E												
(U) Other APPN												
(U) Aircraft Procurement (BP1100)		0	0	17,036	33,816	32,253	3,100	850	87,055			
(U) D. Acquisition Strategy												
The AMI program will contract with Boeing Wichita for aircraft hardware integration and Flight Management System and the Stores Management Overlay software development. Specific vendors will be selected to provide hardware for use during EMD. The Government will contract with these vendors for production hardware to support aircraft installations.												
(U) E. Schedule Profile												
				<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>				
				1	2	3	4	1	2	3	4	
(U) Contract Award/Modifications	*	*	*	*	*	X	X	X	X	X	X	X
(U) Interface Development	*											
(U) Software Development	*	*	*	*	*	X						
(U) Test Planning	*	*	*	*	*							
(U) Group A Design	*											
(U) Group A Fabrication	*	*	*	*	*	X	X					
(U) Trial Install						X	X	X				
(U) Ground & Flight Test							X	X	X	X	X	X
(U) Milestone III Decision												X
(U) Program Office Support	*	*	*	*	*	X	X	X	X	X	X	X

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT				
07 - Operational System Development				0101113F B-52 SQUADRONS			4810				
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	Prototype Hardware					3,659		2,196		4,253	
(U)	Non-recurring Engineering					24,950		31,450		19,619	
(U)	Ground/Flight Test					2,425		1,800		7,350	
(U)	System Program Office Support					2,230		1,776		1,725	
(U)	Miscellaneous					2,361		385		250	
(U)	Total					35,625		37,607		33,197	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or</u>	<u>Contract</u>									
	<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
	<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	
										<u>Total</u>	
										<u>Program</u>	
<u>Product Development Organizations</u>											
	Boeing, Wichita	CONTRACT	FY01	109,100	109,100	26,670	26,909	31,450	19,619	Continuing	TBD
<u>Support and Management Organizations</u>											
	OC-ALC/LH	PMA	FY01	180	180	538	2,130	2,422	3,478	Continuing	TBD
	OC-ALC/LAS	206	FY01	400	400	400	1,500	1,435	2,250	Continuing	TBD
	OO-ALC/LIR	616	Aug 01	100	100	100	100	200	200	Continuing	TBD
	SER/CASU	MIPR	Aug 01	100	100	100	200	300	300	Continuing	TBD
	Miscellaneous	BTR/SIBR	Oct 00				2,361				2,361
<u>Test and Evaluation Organizations</u>											
	419 FLTS	Project Order	Aug 01	30	30	50	2,425	1,800	7,350	Continuing	TBD

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)				DATE February 2002		
BUDGET ACTIVITY		PE NUMBER AND TITLE			PROJECT	
07 - Operational System Development		0101113F B-52 SQUADRONS			4810	
		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
		<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>
						<u>Total</u>
	<u>Subtotals</u>					
	Subtotal Product Development	26,670	26,909	31,450	19,619	TBD
	Subtotal Support and Management	1,138	6,291	4,357	6,228	TBD
	Subtotal Test and Evaluation	50	2,425	1,800	7,350	TBD
	Total Project	27,858	35,625	37,607	33,197	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0101113F B-52 SQUADRONS				PROJECT 4875	
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4875 Situational Awareness Defensive Improvement	11,806	28,598	22,597	0	0	0	0	0	70,925
<p>(U) <u>A. Mission Description</u> The existing ALR-20A system provides the Electronic Warfare Officer (EWO) with the capability of simultaneously surveying, detecting, and displaying all radio frequency (RF) transmissions within its frequency range. It displays detected signals in a spectrum analyzer like presentation (i.e., in an amplitude versus frequency format) to the EWO on a multi-trace cathode ray tube. The ALR-20A provides the EWO with two capabilities. First, it is the main receiver used for early warning and situational awareness. Second, the analog signals displayed by the ALR-20A are required for the successful employment (i.e., jamming) of the following electronic countermeasures (ECM) systems: ALQ-122/ALQ-16A, ALT-32s, and ALQ-155(V) systems. The present ALR-20A system was designed in the 1960's and is becoming unsupportable due to vanishing vendors and obsolete technology. SADI removes and replaces the ALR-20A panoramic receiver.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$3,080 Group A kit and NRE (U) \$3,820 Group B kit and NRE (U) \$3,820 Software (U) \$1,086 Program Management (U) \$11,806 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$3,790 Group A kit and NRE (U) \$2,879 Group B kit and NRE (U) \$10,449 Ground/Flight Test (U) \$540 Install (U) \$1,620 Program Management (U) \$1,080 Trainers (U) \$4,550 Support Equipment/NRE (U) \$3,690 Software (U) \$28,598 Total</p>									
Project 4875			Page 7 of 11 Pages				Exhibit R-2A (PE 0101113F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2002			
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT			
07 - Operational System Development					0101113F B-52 SQUADRONS					4875			
(U) <u>A. Mission Description Continued</u>													
(U) <u>FY 2003 (\$ in Thousands)</u>													
(U) \$22,597 Development/Operational Testing													
(U) \$22,597 Total													
(U) <u>B. Project Change Summary</u>													
None.													
(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u>													
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>				
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>					
(U) AF RDT&E													
(U) Other APPN				36,700	46,800	23,900	30,000	35,800		173,200			
(U) <u>D. Acquisition Strategy</u>													
The SADI program will contract with Boeing Wichita for aircraft hardware integration. Lockheed-Martin has been selected to provide EMD hardware. The Government will contract with these vendors for production hardware and aircraft installation support.													
(U) <u>E. Schedule Profile</u>													
		<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>			
		1	2	3	4	1	2	3	4	1	2	3	4
(U) Contract Award		*	*	*	*	*	X	X	X	X			
(U) Interface Development		*	*	*	*	*	X	X	X				
(U) Test Planning		*	*	*	*	*	X	X	X				
(U) Group A Design		*	*	*	*	*	X	X	X				
(U) Group A Fabrication				*	*	*	X	X	X				
(U) Group B Design		*	*	*	*	*	X	X	X				
(U) Group B Fabrication				*	*	*	X	X	X				
(U) DT (2 Qtr FY 02)							X	X	X	X			
(U) OT (2 Qtr FY03)											X	X	X
(U) Program Office Support		*	*	*	*	*	X	X	X	X	X	X	X
Project 4875													
Page 8 of 11 Pages													
Exhibit R-2A (PE 0101113F)													

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2002					
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0101113F B-52 SQUADRONS				PROJECT 4875				
(U) <u>E. Schedule Profile Continued</u>												
		<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>		
	1	2	3	4	1	2	3	4	1	2	3	4
* = Complete X = On going												
Project 4875			Page 9 of 11 Pages				Exhibit R-2A (PE 0101113F)					

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
07 - Operational System Development				0101113F B-52 SQUADRONS				4875			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	Hardware/NRE					6,900		6,669		3,100	
(U)	Software					3,820		3,690			
(U)	Program management					1,086		1,620		1,262	
(U)	Trainers							1,080		1,110	
(U)	Support Equipment/NRE							4,550		8,310	
(U)	Ground/Flight Test							10,449		7,705	
(U)	Install							540			
(U)	Data									1,110	
(U)	Total					11,806		28,598		22,597	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
<u>Contractor or</u>	<u>Contract</u>										
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>							
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>	
<u>Product Development Organizations</u>											
Boeing Military Programs,	CPAF	Aug 00	2,793		6,863	10,732	22,255	15,832		55,682	
Wichita Division											
<u>Support and Management Organizations</u>											
OC-ALC/LH	PMA	Jun 00	225	N/A	813	694	900	900		3,307	
WR/ALC	616	Aug 00	98	N/A	98	120	120	120		458	
OO-ALC/YWT			N/A	N/A	110	130	1,080	1,080		2,400	
HQ ACC/XRA52	MORD	Jun 00	10	N/A	10	10	10	10		40	

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2002		
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0101113F B-52 SQUADRONS				4875		
(U) <u>Performing Organizations Continued:</u>										
<u>Test and Evaluation Organizations</u>										
36 EWS//EWF	616	Jun 00	10	N/A	10	20	110	110	250	
419 FLTS	616	Jun 00	10	N/A	10	50	2,110	2,200	4,370	
2LG & 49 TES	616	Jun 00	10	N/A	10	50	2,013	2,345	4,418	
(U) <u>Government Furnished Property:</u>										
<u>Contract</u>										
<u>Method/Type Award or</u>										
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>		<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>										
<u>Support and Management Property</u>										
<u>Test and Evaluation Property</u>										
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					6,863	10,732	22,255	15,832		55,682
Subtotal Support and Management					1,031	954	2,110	2,110		6,205
Subtotal Test and Evaluation					30	120	4,233	4,655		9,038
Total Project					7,924	11,806	28,598	22,597		70,925

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0101120F ADVANCED CRUISE MISSILE				PROJECT 4798	
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4798 Life Extension Program	3,881	2,462	2,788	5,310	3,079	3,139	3,201	Continuing	TBD
Quantity of RDT&E Articles	2	0	0	0	0	0	0	0	0

In FY 2003, Project 4798 renamed Life Extension Program (formerly Life Extension Study). This action did not change program content.
 In FY 2003, Project 4798, Life Extension Program, includes new start efforts.

(U) A. Mission Description
 AGM-129, The Advanced Cruise Missile (ACM), is a low-observable air-launched, strategic missile with significant improvements over the Air Launched Cruise Missile B version (ALCM-B) in range, accuracy, and survivability. Armed with a W-80 warhead, it is designed to evade air and ground-based defenses in order to strike heavily defended, hardened targets at any location within any enemy's territory. The ACM is designed for B-52H external carriage and there is currently 406 ACM in the inventory. The ACM fleet design service life expires between the years 2003 and 2008.

A Service Life Extension Plan (SLEP) was developed to meet an AF Long Range Plan requirement to extend ACM Service Life to FY30. The results of Service Life Extension Program (SLEP) studies will identify system components that cannot be sustained beyond the standard service life. The current system is experiencing obsolescence of parts/components. Missile support equipment and components are becoming non-supportable. Service Life Extension of this critical weapon is essential to meet ACC and STRATCOM SIOP commitments.

The FY01 PB request indicated the ACM SLEP program efforts would focus on ACM Nitrile Rubber element replacement. Subsequent analysis found Nitrile Rubber elements did not require immediate replacement. The current requirement for ACM SLEP is the development of a conforming JTIC door design. The program will develop 2 prototype JTIC doors for qualification and system-level testing.

New test range safety requirements and a Department of Energy (DOE)-mandated Joint Test Assembly (JTA) redesign, required the AF to re-configure existing Joint Test Instrumentation Kit (JTIC) doors and Non-tactical Test Instrumentation Kit (NTIK) doors. Range Commanders Council (RCC) #319 safety mandates require flight test vehicles, used on the test ranges, to possess a Global Positioning System (GPS) tracking capability in FY04 due to the shutting down of existing range radar systems.

Project 4798 Page 1 of 6 Pages Exhibit R-2 (PE 0101120F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
07 - Operational System Development	0101120F ADVANCED CRUISE MISSILE	4798
<p>(U) <u>A. Mission Description Continued</u> New start authorization for JTIK development was received in Nov 01 and efforts commenced immediately. Together government and contractor personnel prepared an efficient, economical program schedule, in order to realize potential program economies of scale and to ensure the contractor can manage any increased workload. The JTIK development effort is a low risk program, but an essential effort because DOE-compliant JTIK doors will be required in FY04 in order to continue conducting flight testing for weapon system reliability data collection used for Nuclear Certification and support of the W-80 Warhead Life Extension Program (LEP).</p>		
<p>(U) <u>FY 2001 (\$ in Thousands)</u></p>		
(U) \$562	Accomplished Design Definition, Develop Prime Item Specification and Begin Preliminary Design Review (PDR) for Development of JTIK doors.	
(U) \$903	Began JTIK Component Qualification	
(U) \$2,416	Began Development of 2 JTIK Prototype Doors to Conduct Qualification	
(U) \$3,881	Total	
<p>(U) <u>FY 2002 (\$ in Thousands)</u></p>		
(U) \$870	Continue Integration and Compatibility Testing of New JTIK Components	
(U) \$1,170	Continue JTIK Door/Vehicle Qualification and Integration	
(U) \$422	Continue Electromagnetic Compatibility (EMC) Testing of New JTIK Door/Vehicle	
(U) \$2,462	Total	
<p>(U) <u>FY 2003 (\$ in Thousands)</u></p>		
(U) \$938	Initiate System Design for Subsystem Simulator (SSS) and Advanced Missile Simulator (AMS) Upgrade	
(U) \$875	Begin Integration Design for 3rd Party Software to Support PDR & Critical Design Review (CDR) of Subsystem Simulator and Advanced Missile Simulator upgrade	
(U) \$975	Re-Host Raytheon Developed/Maintained software for SSS and AMS	
(U) \$2,788	Total	
<p>(U) <u>B. Budget Activity Justification</u> These programs are in Budget Activity 7, Operational System Development, due to efforts supporting a fielded, post Milestone III weapon system.</p>		
Project 4798	Page 2 of 6 Pages	Exhibit R-2 (PE 0101120F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0101120F ADVANCED CRUISE MISSILE			PROJECT 4798		
(U) C. Program Change Summary (\$ in Thousands)									
				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>		<u>Total Cost</u>	
(U)	Previous President's Budget			4,144	2,487	2,795		TBD	
(U)	Appropriated Value			4,182	2,487				
(U)	Adjustments to Appropriated Value								
	a. Congressional/General Reductions			-38	-25				
	b. Small Business Innovative Research			-263					
	c. Omnibus or Other Above Threshold Reprogram								
	d. Below Threshold Reprogram								
	e. Rescissions								
(U)	Adjustments to Budget Years Since FY 2002 PBR					-7			
(U)	Current Budget Submit/FY 2003 PBR			3,881	2,462	2,788		TBD	
(U)	<u>Significant Program Changes:</u>								
	None								
(U) D. Other Program Funding Summary (\$ in Thousands)									
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Total Cost</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	
(U)	MPAF, Aeronautical Vehicle (BA02, PE 0101120F, P-2)	63	0	0	0	0	0	0	63
(U)	MPAF, Missile Modifications (BA03, PE 0101120F, P-9)	0	779	3,376	3,626	3,683	3,334	1,316	Continuing TBD
(U)	MPAF, Replenishment Spares (BA04, PE 0101120F, P-17)	4,624	6,710	9,565	9,721	10,039	8,621	2,016	Continuing TBD
(U)	MPAF, Missile Modification Initial Spares (BA04, PE 0101120F, P-16)	1,924	0	379	322	322	320	252	Continuing TBD
(U) E. Acquisition Strategy									
JTIC door development will be performed by the prime contractor, Raytheon, utilizing Cost Plus Fixed Fee (CPFF) contract.									
Project 4798			Page 3 of 6 Pages			Exhibit R-2 (PE 0101120F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2002				
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT				
07 - Operational System Development					0101120F ADVANCED CRUISE MISSILE					4798				
(U) F. Schedule Profile														
		<u>FY 2001</u>					<u>FY 2002</u>					<u>FY 2003</u>		
		1	2	3	4	1	2	3	4	1	2	3	4	
(U)	FY01 New-Start approval received 11/21/01					*								
(U)	JTIK Development													
(U)	Contract Award						*							
(U)	PDR							X						
(U)	CDR								X					
(U)	Prototype delivery (2)								X	X				
(U)	Integration Testing									X	X			
(U)	Qual, Test & Evaluation									X	X	X	X	
(U)	Subsystem Simulator/Advanced Missile Sim													
(U)	Contract Award										X			
(U)	PDR											X		
(U)	CDR												X	
Note: * Represents a Completed Event; X Represents a Planned Event														

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
07 - Operational System Development				0101120F ADVANCED CRUISE MISSILE				4798			
(U) A. Project Cost Breakdown (\$ in Thousands)											
					<u>FY 2001</u>			<u>FY 2002</u>		<u>FY 2003</u>	
(U)	Accomplish design definition, develop prime item specification and begin Preliminary Design Review (PDR) for development of the Joint Test Instrumentation Kit (JTIK) doors.				562						
(U)	JTIK component qualification				903						
(U)	Develop 2 prototype JTIK doors				2,416						
(U)	JTIK Integration testing, door/vehicle qualification, EMC testing of new JTIK door/vehicle						2,462				
(U)	Perform system design for Subsystem Sim/Advance Missile Simulator Upgrade									938	
(U)	Integration design for 3rd party software to support PDR & CDR									875	
(U)	Re-Host Raytheon developed/maintained software									975	
(U)	Total				3,881		2,462			2,788	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
		<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>											
	Raytheon	CPFF	Dec 01	6,343	6,343	0	3,881	2,462	0	0	6,343
	Raytheon	CPFF	2 Q FY03	5,830	5,830	0	0	0	2,788	3,042	5,830
<u>Support and Management Organizations</u>											
N/A											
<u>Test and Evaluation Organizations</u>											
N/A											
Project 4798				Page 5 of 6 Pages				Exhibit R-3 (PE 0101120F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)				DATE February 2002					
BUDGET ACTIVITY		PE NUMBER AND TITLE				PROJECT			
07 - Operational System Development		0101120F ADVANCED CRUISE MISSILE				4798			
(U) Government Furnished Property:									
<u>Item</u>	<u>Contract</u>	<u>Award or</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Method/Type</u>	<u>or Funding</u>	<u>Date</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>						
<u>Product Development Property</u>									
<u>Support and Management Property</u>									
<u>Test and Evaluation Property</u>									
None									
<u>Subtotals</u>				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
				<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				0	3,881	2,462	2,788	3,042	12,173
Subtotal Support and Management									
Subtotal Test and Evaluation									
Total Project				0	3,881	2,462	2,788	3,042	12,173

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0101122F AIR LAUNCHED CRUISE MISSILE	PROJECT 4797
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COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4797 Flight Testing & Navigation Enhancement	5,984	6,772	26,713	11,649	7,851	0	0	0	64,349
Quantity of RDT&E Articles	0	0	5	0	0	0	0	0	0

(U) A. Mission Description

AGM-86B, The Air Launched Cruise Missile (ALCM), is a subsonic, air-to-surface strategic nuclear missile, operational since 1982. Armed with a W-80 warhead, it is designed to evade air and ground-based defenses in order to strike targets at any location within any enemy's territory. The ALCM is designed for B-52H internal and external carriage.

A Service Life Extension Plan (SLEP) was developed to meet an AF Long Range Plan requirement to extend ALCM Service Life to FY30. The results of Service Life Extension Program (SLEP) studies identify system components that cannot be sustained beyond the standard service life. The current system is experiencing obsolescence of parts/components. Missile components and support equipment are becoming non-supportable. Service Life Extension of this critical weapon is essential to meet Air Combat Command (ACC) and United States Strategic Command (USSTRATCOM) Single Integrated Operational Plan (SIOP) commitments.

Initial SLEP assessment required the development and acquisition of new Conventional Air Launched Cruise Missile (CALCM)/ALCM Test Instrumentation Kit (CATIK) flight test payload doors, replacement of the current navigation system, and replacement of Operational Test & Evaluation (OT&E) hardware and software. CATIK commenced in FY00 based on the AF decision to maintain this weapon system beyond its current design life. Previous payload doors were purchased to support the original service life only. CATIK development efforts are driven by DoE redesign of the Joint Test Assembly, which simulates the W-80 warhead during Follow-On Test and Evaluation (FOT&E) flight tests and complying with Range Command Council 319 (RCC-319) safety requirements and re-certification of the Flight Termination System. Five CATIK RDT&E test articles will be developed to support Developmental Test & Evaluation (DT&E) flight tests. The five test articles will be used to conduct one ALCM Operational Test Launch, one ALCM Joint Test Assembly (JTA) integration test to ensure compatibility with the warhead package, one CALCM Operational Test Launch, one Captive Carry and a backup test asset.

CATIK payload doors, containing range transponder and battery, are required to be replaced due lack of existing payload door assets. The new CATIK payload doors will provide an adequate inventory of test assets for continued testing throughout the service life extension. The CATIK payload door is a critical component for determining Weapon System Reliability (WSR).

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
07 - Operational System Development	0101122F AIR LAUNCHED CRUISE MISSILE	4797
<p>(U) <u>A. Mission Description Continued</u></p> <p>The current Inertial Navigation Element (INE) has been identified as the ALCM item with largest number of unscheduled maintenance hours. The INE is beset with parts obsolescence, little or no spares inventory, and manufacturers who have gone out of business or no longer support the antiquated technology. The current INE units are only maintainable through the use of a decreasing number of cannibalized parts from other INE units. The redesigned INE will utilize a more robust and maintainable solid-state circuitry.</p> <p>Operational Test & Evaluation (OT&E) hardware and software replacement will occur concurrently with the CATIK and INE development efforts.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <p>(U) \$1,970 - Continued CATIK Hardware Interface Development, Hardware Testing/Integration.</p> <p>(U) \$1,350 - Continued Operational Flight Software Development, Software Testing and Integration.</p> <p>(U) \$1,806 - Performed Pre-EMD INE Hardware Interface Development, Testing and Integration</p> <p>(U) \$858 - Performed Pre-EMD INE Software Emulation Development, Testing and Integration</p> <p>(U) \$5,984 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$1,560 - Continue CATIK payload door Interface Design/Development and Flight Termination System Engineering Change Proposal (ECP)</p> <p>(U) \$1,747 - Continue update of CATIK Interface Control Documents to Include Flight Termination System Requirements, acquire required hardware</p> <p>(U) \$1,150 - Complete Pre-EMD INE Hardware Interface Development, Testing and Integration</p> <p>(U) \$2,315 - Complete Pre-EMD INE Software Emulation Development, Testing and Integration</p> <p>(U) \$6,772 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$15,635 - Continue CATIK payload door Interface Design/Development and accomplish pre-planning for integration testing</p> <p>(U) \$2,360 - Continue update of CATIK Interface Control Documents and purchase hardware</p> <p>(U) \$2,863 - Begin INE Hardware Interface Development, Testing and Integration</p> <p>(U) \$5,855 - Begin INE Software Emulation Development, Testing and Integration</p> <p>(U) \$26,713 Total</p> <p>(U) <u>B. Budget Activity Justification</u></p> <p>These programs are in Budget Activity 7, Operational System Development, due to efforts supporting a fielded, post Milestone III operational weapon system.</p>		
Project 4797	Page 2 of 7 Pages	Exhibit R-2 (PE 0101122F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002			
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0101122F AIR LAUNCHED CRUISE MISSILE			PROJECT 4797			
(U) C. Program Change Summary (\$ in Thousands)										
			<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>				
(U)	Previous President's Budget		6,392	6,841	13,178	50,890				
(U)	Appropriated Value		6,457	6,841						
(U)	Adjustments to Appropriated Value									
	a. Congressional/General Reductions		-59	-69						
	b. Small Business Innovative Research		-407							
	c. Omnibus or Other Above Threshold Reprogram									
	d. Below Threshold Reprogram									
	e. Rescissions		-7							
(U)	Adjustments to Budget Years Since FY 2002 PBR				13,535					
(U)	Current Budget Submit/FY 2003 PBR		5,984	6,772	26,713	64,349				
(U) Significant Program Changes:										
FY03 funding increase is a result of an appropriation realignment in order to appropriately support further engineering and testing of the flight termination system to meet test range safety requirements.										
(U) D. Other Program Funding Summary (\$ in Thousands)										
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U)	MPAF, Missile Modifications (BA 03, PE 0101122F, P-13)	3,929	0	1,998	11,789	16,026	17,294	9,843	Continuing	TBD
(U)	MPAF, Missile Modifications Initial Spares (BA 04 PE 0101122F, P-16)	0	0	1,006	1,722	392	185	188	Continuing	TBD
(U)	MPAF, Replenishment Spares (BA 04, PE 0101122F, P-17)	4,576	9,759	4,143	4,225	4,321	4,415	291	Continuing	TBD
(U)	OPAF, Electronics and Telecommunications Equipment (BP83) (BA 03,	1,287	1,318	1,324	1,355	1,378	1,429	1,458	Continuing	TBD
Project 4797		Page 3 of 7 Pages							Exhibit R-2 (PE 0101122F)	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0101122F AIR LAUNCHED CRUISE MISSILE			PROJECT 4797		
(U) D. Other Program Funding Summary (\$ in Thousands)									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
PE 0101122F, P-18)									
(U) E. Acquisition Strategy									
<p>Begun in FY00, CATIK payload door development efforts are performed by Boeing utilizing a Cost Plus Award Fee (CPAF) contract.</p> <p>Begun in FY02, Pre-EMD INE replacement is being performed by TRW and Boeing. TRW's effort is defining requirements for enhancement of the INE computer utilizing their patented RePLACE technology using a Time and Materials (T&M) contract. Boeing's efforts concentrate on complete INE replacement using a Cost Plus Award Fee (CPAF) contract.</p>									
(U) F. Schedule Profile									
		<u>FY 2001</u>				<u>FY 2002</u>			<u>FY 2003</u>
	1	2	3	4	1	2	3	4	1
(U) Development Contract Milestones									
(U) -- Contract Award - CATIK (2QFY00)									
(U) -- Contract Award - INE			*						
(U) CATIK Development Milestones									
(U) -- Critical Design Review (CDR)									X
(U) INE Pre-EMD Milestones									
(U) -- System Requirements Review (SRR)						X			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)		DATE February 2002		
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT		
07 - Operational System Development	0101122F AIR LAUNCHED CRUISE MISSILE	4797		
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>				
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>
(U) CATIK:				
(U) Hardware Development				
(U) - Test Articles		0	0	5,000
(U) - Interface Development		1,870	1,160	8,095
(U) - Testing/Integration		100	400	2,540
(U) - Development of Interface Control Documents & Hardware purchase		0	1,747	2,360
(U) Software Development				
(U) - Operational Flight Software		778	0	0
(U) - Automated Test Equipment Development		430	0	0
(U) - Testing/Integration		142	0	0
(U) INE:				
(U) Hardware Definition/Development				
(U) - Card Development		1,409	1,150	2,863
(U) - Nuclear Certification		195	0	0
(U) - Testing/Integration		202	0	0
(U) Software Definition/ Development				
(U) - Operational Flight Software		735	2,027	5,250
(U) - Nuclear Certification		0	100	270
(U) - Mission Planning		52	0	0
(U) - Testing/Integration		71	88	180
(U) - Data Collection/Documentation		0	100	155
(U) Total		5,984	6,772	26,713
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>				
(U) <u>Performing Organizations:</u>				

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development					PE NUMBER AND TITLE 0101122F AIR LAUNCHED CRUISE MISSILE				PROJECT 4797	
(U) Performing Organizations Continued:										
<u>Contractor or Government Performing Activity</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>										
Development:										
Boeing - CATIK	Eng Asgn/CPAF	Jul 00	29,727	29,727	5,104	3,290	3,358	17,975	0	29,727
TRW - INE	Eng Asgn/T&M	Jun 01	1,444	1,444	0	1,096	348	0	0	1,444
Boeing - INE	Eng Asgn/CPAF	Jul 01	27,288	27,288	0	1,598	3,066	8,738	13,886	27,288
<u>Support and Management Organizations</u>										
N/A										
<u>Test and Evaluation Organizations</u>										
Utah Test Range	MIPR	TBD	3,390	3,390	0	0	0	0	3,390	3,390
49th Test Wing	MIPR	TBD	2,500	2,500	0	0	0	0	2,500	2,500
(U) Government Furnished Property:										
<u>Item Description</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Delivery Date</u>		<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Property</u>										
N/A										
<u>Support and Management Property</u>										
N/A										
<u>Test and Evaluation Property</u>										
None										
Project 4797					Page 6 of 7 Pages			Exhibit R-3 (PE 0101122F)		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)		DATE						
07 - Operational System Development		0101122F AIR LAUNCHED CRUISE MISSILE			4797			
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT						
			<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
			<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotals								
Subtotal Product Development			5,104	5,984	6,772	26,713	13,886	58,459
Subtotal Support and Management								
Subtotal Test and Evaluation			0	0	0	0	5,890	5,890
Total Project			5,104	5,984	6,772	26,713	19,776	64,349

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0101313F STRAT WAR PLANNING SYS - USSTRATCOM				PROJECT 5059		
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
5059	Strategic War Planning System (SWPS)	0	0	1,895	1,889	1,785	1,781	1,975	0	0
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

(U) A. Mission Description
Strategic War Planning System (SWPS) Mission Description

The mission of USSTRATCOM is to deter major military attack, especially nuclear attack, on the United States and its allies, and employ forces if deterrence fails. CINCSTRAT's responsibilities are to employ forces as directed by the National Command Authorities (NCA), to conduct strategic reconnaissance operations worldwide, to ensure command, control, communications and intelligence (C3I) capability for strategic force employment worldwide, and to provide support to other combatant commanders as required. To satisfy these missions, SWPS must be capable of both deliberate and adaptive strategic nuclear planning in fixed and mobile planning environments. The command's mission will continue to evolve; therefore, while the current nuclear planning process and system is primarily designed to accommodate strategic nuclear forces, the future planning system must be able to accommodate new missions. Future planning requirements may also be affected by changes in the threat, particularly the worldwide proliferation of Weapons of Mass Destruction (WMD). Functions performed: SWPS automation capabilities create, verify, and produce the Single Integrated Operational Plan (SIOP) and related products. SWPS includes automatic data processing equipment (ADPE), software, facilities support, manpower, and training to support the mission objectives of the SWPS, associated deployable and distributed data processing nodes, and subsidiary systems.

RDT&E dollars will be used to enhance/improve the applications associated with the Theater Application Mission of SWPS which is an evolving United States Strategic Command (USSTRATCOM) requirement is to provide planning and analysis support to the Theater CINC's. This support is to produce preplanned and adaptively planned options for Theater CINC-nominated Weapons of Mass Destruction (WMD) and Nuclear, Chemical and Biological (NBC) targets using nuclear and/or conventional weapons. As an integral component of the Strategic War Planning System (SWPS), SWPS Adaptive Planning (SWPS-AP) is the future operational and technical foundation for USSTRATCOM to supply timely theater planning support to Theater CINC's and combat units. This effort responds to CINC requirements to hold WMD targets at risk. In addition, SWPS-AP will implement a USSTRATCOM integrated, distributed, theater support capability for the future.

Project 5059 Page 1 of 7 Pages Exhibit R-2 (PE 0101313F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002												
BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0101313F STRAT WAR PLANNING SYS - USSTRATCOM	PROJECT 5059												
<p>(U) <u>A. Mission Description Continued</u></p> <p>This mission is now accelerating. The current processes are very manual, provide only a limited capability, and cannot meet projected requirements for preplanning or adaptive planning. To meet the growing requirements over the next 7 years, USSTRATCOM needs to improve functional processes, provide automation tools where appropriate to accomplish these processes, streamline communications within the Command and external to the Command, and implement a capability for managing the critical data. SWPS-AP will implement a USSTRATCOM integrated, distributed theater support capability for the future. The objective of the SWPS-AP is to improve, enhance, integrate, field and maintain a set of strategic planning capabilities, which will automate the current manual processes, required to produce decision documents [Theater Nuclear Planning Document (TNPD) and Theater Planning Support Document (TPSD)] for the theater Commanders-in-Chief (CINCs). Some additional capabilities will be added in this automation process. Current legacy software / tools will be integrated through the use of information compatibility using the United States Strategic Command (USSTRATCOM) Enterprise Database (EDB). Distributed collaborative planning will be established with the theater staffs, including the theater CINC staff and the Joint Force Air Component Commander (JFACC) staff, to enhance decision-making and Air Tasking Order (ATO) integration efforts. SWPS-AP will meet interoperability requirements through compliance with the Defense Information Infrastructure and Common Operating Environment (DII-COE).</p> <p>SWPS-AP provides automated tools to improve the planning, preparation, and future execution of USSTRATCOM support to the theater CINCs in peacetime, exercise, and wartime environments primarily at the force level with some unit level support. In this context, 'force level' refers to the headquarters elements of a United States Air Force (USAF) or US Navy (USN) operating command, or of a numbered air force, unified command, sub-unified command, joint task force, or combined (multi-national) command. 'Unit-level' refers to the wings and squadrons, which take direction from the force level organization.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <table border="0"> <tr> <td>(U) \$0</td> <td>No Activity</td> </tr> <tr> <td>(U) \$0</td> <td>Total</td> </tr> </table> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <table border="0"> <tr> <td>(U) \$0</td> <td>No Activity</td> </tr> <tr> <td>(U) \$0</td> <td>Total</td> </tr> </table> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <table border="0"> <tr> <td>(U) \$1,895</td> <td>Improvements/Enhancements/Integrations/Test for SWPS-AP and SWPS planning tools</td> </tr> <tr> <td>(U) \$1,895</td> <td>Total</td> </tr> </table>			(U) \$0	No Activity	(U) \$0	Total	(U) \$0	No Activity	(U) \$0	Total	(U) \$1,895	Improvements/Enhancements/Integrations/Test for SWPS-AP and SWPS planning tools	(U) \$1,895	Total
(U) \$0	No Activity													
(U) \$0	Total													
(U) \$0	No Activity													
(U) \$0	Total													
(U) \$1,895	Improvements/Enhancements/Integrations/Test for SWPS-AP and SWPS planning tools													
(U) \$1,895	Total													
Project 5059	Page 2 of 7 Pages	Exhibit R-2 (PE 0101313F)												

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002			
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0101313F STRAT WAR PLANNING SYS - USSTRATCOM			PROJECT 5059			
(U) B. Budget Activity Justification										
Strategic War Planning System is in budget activity 7, Operational System Development, because the program is operational and currently supports automated capabilities to create, verify, and produce the Single Integrated Operational Plan (SIOP) and other products.										
(U) C. Program Change Summary (\$ in Thousands)										
			<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>		<u>Total Cost</u>			
(U)	Previous President's Budget				1,895		TBD			
(U)	Appropriated Value									
(U)	Adjustments to Appropriated Value									
	a. Congressional/General Reductions									
	b. Small Business Innovative Research									
	c. Omnibus or Other Above Threshold Reprogram									
	d. Below Threshold Reprogram									
	e. Rescissions									
(U)	Adjustments to Budget Years Since FY 2002 PBR									
(U)	Current Budget Submit/FY 2003 PBR				1,895		TBD			
(U) Significant Program Changes:										
Funding adjustment in Program Decision Memorandum IV to support improving existing planning tools and interfaces necessary to meet growing theater planning support above current capacity.										
(U) D. Other Program Funding Summary (\$ in Thousands)										
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U)	AF RDT&E	0	0	1,895	1,889	1,785	1,781	1,975	Continuing	TBD
(U)	Other Procurement, AF WSC 833140 Strategic Command and Control	12,399	5,650	8,640	10,761	10,344	8,886	8,420	Continuing	TBD
(U)	Operations and Maintenance, AF	44,880	44,917	48,181	48,016	48,955	50,308	50,926	Continuing	TBD
Project 5059									Page 3 of 7 Pages	Exhibit R-2 (PE 0101313F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0101313F STRAT WAR PLANNING SYS - USSTRATCOM				PROJECT 5059	
(U) D. Other Program Funding Summary (\$ in Thousands)									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) Military Personnel, AF	3,640	1,921	2,144	2,213	2,296	2,383	2,471	Continuing	TBD
(U) Other APPN									
(U) E. Acquisition Strategy									
<p>The theater application requirements will be executed using current contract vehicles. This saves time, money, and streamlines the overall program execution. USSTRATCOM has acquisition contracts in place and within scope to develop this subsystem. Based on existing and planned workloads for these contracts, USSTRATCOM will prioritize and allocate work, and provide contractual direction to proceed consistent with available funding for each contractor. USSTRATCOM has flexibility in allocating tasks across these contracts when resources are not available or there exists acquisition risk mitigation approaches that vary from the USSTRATCOM development contractor normal role.</p> <p>SWPS encompasses software maintenance and hardware maintenance in open systems architecture. The major contractors for the SWPS projects are:</p> <p>British Aerospace Engineering (BAE) for Air Vehicle application tools. Logicon for the Automated, Quality Review and Analysis Software Support. SAIC for Targeting IPT tool support. Lockheed Martin Mission Systems provides analysis model support, hardware maintenance, and systems engineering.</p>									
(U) F. Schedule Profile									
	<u>FY 2001</u>			<u>FY 2002</u>			<u>FY 2003</u>		
	1	2	3	4	1	2	3	4	1
(U) Air Vehicle Planning Threat Assessment Software Modification									X
(U) Functional Analysis Model Modifications									X
(U) Quality Review application study of the Theater requirements									X
(U) Earth Penetration Weapon Targeting									X
(U) Theater Nuclear Options/Dachler Targeting Re-engineering									X
(U) Systems Engineering and Test Support									X
Project 5059			Page 4 of 7 Pages				Exhibit R-2 (PE 0101313F)		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0101313F STRAT WAR PLANNING SYS - USSTRATCOM				5059		
(U) A. Project Cost Breakdown (\$ in Thousands)										
					<u>FY 2001</u>		<u>FY 2002</u>			<u>FY 2003</u>
(U)	Air Vehicle Planning Threat Assissment Software Modification									300
(U)	Functional Analysis Model Modifications									290
(U)	Quality Review application study of the Theater requirements									240
(U)	Earth Penetration Weapon Targeting									330
(U)	Theater Nuclear Options/Dachler Targeting Re-engineering									170
(U)	System Engineering and Test Support									565
(U)	Total									1,895
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
BAE	CPAF	Oct 97*		TBD	0	0	0	300	Continuing	TBD
Logicon	FFP	Oct 01		TBD	0	0	0	240	Continuing	TBD
SAIC	CPAF	Oct01		TBD	0	0	0	500	Continuing	TBD
Lockheed Martin Mission Systems	CPAF	Oct 99		TBD	0	0	0	855	Continuing	TBD
*Renegotiated and will be awarded Apr 02										
<u>Support and Management Organizations</u>										
N/A										
<u>Test and Evaluation Organizations</u>										
N/A										
Project 5059					Page 6 of 7 Pages			Exhibit R-3 (PE 0101313F)		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)				DATE					
BUDGET ACTIVITY				PROJECT					
07 - Operational System Development				5059					
PE NUMBER AND TITLE				PROJECT					
0101313F STRAT WAR PLANNING SYS -				5059					
USSTRATCOM									
(U) Government Furnished Property:									
<u>Item</u>	<u>Contract</u>	<u>Award or</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Method/Type</u>	<u>Obligation</u>	<u>Date</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
	<u>or Funding</u>	<u>Date</u>	<u>Date</u>						
<u>Vehicle</u>									
<u>Product Development Property</u>									
N/A									
<u>Support and Management Property</u>									
N/A									
<u>Test and Evaluation Property</u>									
N/A									
<u>Subtotals</u>				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
				<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				0	0	0	1,895	TBD	TBD
Subtotal Support and Management									
Subtotal Test and Evaluation									
Total Project				0	0	0	1,895	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002								
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0102326F REGION/ SECTOR OPERATIONS CONTROL CENTER				PROJECT 4592								
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost						
4592	Region/Sector Operations Modernization Center (R/SAOC)	1,803	5,957	35,000	8,000	0	0	44,758	Continuing	TBD						
Quantity of RDT&E Articles		0	0	0	0	0	0	0	0	0						
<p>1. In FY02, Region Air Operations Center/Air Defense Sectors (RAOC/ADS) received \$9M as part of the Defense Emergency Relief Fund (DERF). Funding was used for the NORAD Contingency Suite (NCS) in support of NOBLE EAGLE. NCS will fulfill current Air Defense Command and Control functions and also enable the Air Defense Sectors (ADS) to accept additional data to include CONUS FAA radars. Additional \$9M was released of DERF funding to provide a point of departure system and the initial software spiral for RAOC/ADS modernization. This funding is not reflected in the FY02 program total.</p> <p>2. FY02 funds are a Congressional Add for Region Air Operations Center (RAOC) Modernization Aerospace and Range Surveillance in Alaska.</p> <p>(U) <u>A. Mission Description</u> The Region/Sector Air Operations Center (R/SAOC) has been renamed the Region Air Operations Center/Air Defense Sector (RAOC/ADS) by CINCNORAD. The RAOC/ADS Modernization Program, will provide a modernized Command, Control, Communication, Computer and Intelligence (C4I) system with enhanced capability to integrate data from existing and future civil and military defense surveillance system into a comprehensive recognized air picture to enhance CINC NORAD's (North American Aerospace Defense Command) capability to conduct a peacetime air sovereignty, transition and conventional warfare in the event of aggression toward the North American Continent. The current system has reached saturation in its capability to receive, process, display, exchange, and employ air surveillance data from current sensor and communication systems. In some cases, it has exceeded processing and displaying capacity, thus contributing to delayed C4I decisions. The outdated technology has become increasingly difficult and costly to sustain and provides no opportunity for application enhancement.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <table border="0"> <tr> <td>(U) \$1,551</td> <td>Continue Program Management/Systems Engineering for Program Restructuring Analysis</td> </tr> <tr> <td>(U) \$252</td> <td>Continue Program Office Support</td> </tr> <tr> <td>(U) \$1,803</td> <td>Total</td> </tr> </table>											(U) \$1,551	Continue Program Management/Systems Engineering for Program Restructuring Analysis	(U) \$252	Continue Program Office Support	(U) \$1,803	Total
(U) \$1,551	Continue Program Management/Systems Engineering for Program Restructuring Analysis															
(U) \$252	Continue Program Office Support															
(U) \$1,803	Total															
Project 4592		Page 1 of 6 Pages				Exhibit R-2 (PE 0102326F)										

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002																																																			
BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0102326F REGION/ SECTOR OPERATIONS CONTROL CENTER		PROJECT 4592																																																		
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$4,743 Begin Acquisition Activities associated with (RAOC/Alaska) System Development to include but not limited to Software Development, System Integration, Purchase of Production Representative Hardware, Test, Certification and System Support.</p> <p>(U) \$720 Continue Program Management/Systems Engineering</p> <p>(U) \$494 Continue Program Support (i.e. travel, supplies, equipment, misc)</p> <p>(U) \$5,957 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$32,060 Continue Acquisition Activities associated with System Development to include but not limited to Software Development, System Integration, Purchase of Production Representative Hardware, Test, Certification and System Support.</p> <p>(U) \$2,464 Continue Program Management/Systems Engineering</p> <p>(U) \$476 Continue Program Support (i.e. travel, supplies, equipment, misc)</p> <p>(U) \$35,000 Total</p> <p>(U) <u>B. Budget Activity Justification</u></p> <p>This program is a budget activity 7 - Operational System Development because it provides funding for the modernization of a currently existing and operating system.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:60%;"></th> <th style="text-align: center;"><u>FY 2001</u></th> <th style="text-align: center;"><u>FY 2002</u></th> <th style="text-align: center;"><u>FY 2003</u></th> <th style="text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: center;">992</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">TBD</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: center;">992</td> <td style="text-align: center;">5,957</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> a. Congressional/General Reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> b. Small Business Innovative Research</td> <td style="text-align: center;">-30</td> <td></td> <td></td> <td></td> </tr> <tr> <td> c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> d. Below Threshold Reprogram</td> <td style="text-align: center;">850</td> <td></td> <td></td> <td></td> </tr> <tr> <td> e. Rescissions</td> <td style="text-align: center;">-9</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2002 PBR</td> <td></td> <td></td> <td style="text-align: center;">35,000</td> <td></td> </tr> </tbody> </table>					<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>	(U) Previous President's Budget	992	0	0	TBD	(U) Appropriated Value	992	5,957			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions					b. Small Business Innovative Research	-30				c. Omnibus or Other Above Threshold Reprogram					d. Below Threshold Reprogram	850				e. Rescissions	-9				(U) Adjustments to Budget Years Since FY 2002 PBR			35,000	
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>																																																	
(U) Previous President's Budget	992	0	0	TBD																																																	
(U) Appropriated Value	992	5,957																																																			
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(U) Adjustments to Budget Years Since FY 2002 PBR			35,000																																																		
Project 4592		Page 2 of 6 Pages																																																			
		Exhibit R-2 (PE 0102326F)																																																			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002		
BUDGET ACTIVITY			PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development			0102326F REGION/ SECTOR OPERATIONS CONTROL CENTER				4592		
(U) C. Program Change Summary (\$ in Thousands) Continued									
			<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>			
(U)	Current Budget Submit/FY 2003 PBR		1,803	5,957	35,000	TBD			
(U)	<u>Significant Program Changes:</u> In Oct 01, RAOC/ADS received \$9M as part of the Defense Emergency Relief Fund (DERF). These funds were used for the NORAD Contingency Suite (NCS) in support of NOBLE EAGLE. FY02 funds were added for RAOC Modernization Aerospace and Range Surveillance in Alaska. FY03 and FY04 funds will continue the RAOC/ADS Modernization.								
(U) D. Other Program Funding Summary (\$ in Thousands)									
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Total Cost</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	
(U)	AF RDT&E	0	0	0	0	0			
(U)	Other Procurement, AF (3080)	0	0	0	0	0			TBD
(U)	Other APPN	0	0	0	0	0			
(U) E. Acquisition Strategy									
Program was restructured as a result of 9/11 and CINC NORAD's additional requirements for HOMELAND DEFENSE.									
The RAOC/ADS program will utilize the Common Battle Management Software (CBMS), an acquisition strategy, that could be utilized by several C2 platforms to further advance C2 concepts supporting future aerospace operations. The RAOC/ADS Modernization activities are planned to resume in FY02 with the additional funding for the initial spiral of RAOC/ADS Modernization and will continue through FY04. This program will fully support the enterprise integration strategy.									
(U) F. Schedule Profile									
			<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0102326F REGION/ SECTOR OPERATIONS CONTROL CENTER				4592		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	Program Office Support					252		494		476
(U)	Program Management/Systems Engineering					1,551		720		2,464
(U)	Acquisition Activities associated with System Development to include but not limited to Software Development, System Integration, Purchase of Production Representative Hardware, Test, Certification and System Support.					0		4,743		32,060
(U)	Total					1,803		5,957		35,000
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government Performing Activity</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>										
LITTON*	CPAF	14 Mar 97			48,274	0			Continuing	TBD
TBD	TBD	TBD					4,743	31,530		36,273
<u>Support and Management Organizations</u>										
MITRE	Various	N/A	N/A	N/A	6,263	1,051	540	1,299	Continuing	TBD
TEMS	Various	N/A	N/A	N/A	7,287	500	180	1,165	Continuing	TBD
Program Office Support	Various	N/A	N/A	N/A	2,751	252	494	476	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
46th Test Wing/Other Test Act					241	0		530	Continuing	TBD
Project 4592			Page 5 of 6 Pages				Exhibit R-3 (PE 0102326F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)				DATE					
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT		
07 - Operational System Development				0102326F REGION/ SECTOR OPERATIONS			4592		
				CONTROL CENTER					
(U) Government Furnished Property:									
<u>Item</u>	<u>Contract</u>	<u>Award or</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Method/Type</u>	<u>Obligation</u>	<u>Date</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Vehicle</u>		<u>Date</u>	<u>Date</u>						
<u>Product Development Property</u>									
TBD									
<u>Support and Management Property</u>									
TBD									
<u>Test and Evaluation Property</u>									
TBD									
<u>Subtotals</u>				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
				<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				48,274	0	4,743	31,530	TBD	TBD
Subtotal Support and Management				16,301	1,803	1,214	2,940	TBD	TBD
Subtotal Test and Evaluation				241	0		530	TBD	TBD
Total Project				64,816	1,803	5,957	35,000	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0203761F Warfighter Rapid Acquisition Program	PROJECT 4936
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COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4936 Warfighter Rapid Acquisition Program	0	28,740	25,057	24,992	24,954	24,930	24,903	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

In FY 2002, efforts transferred from Project 4814, Expeditionary Force Experiment (EFX), PE 0207027F, AC2ISR.

(U) A. Mission Description

WRAP provides approval and rapid transition funding, up to 2 years, for the development and fielding of the results of highly successful competitive experiments, demonstrations, and innovative approaches to support the Expeditionary Air Force (EAF) and other warfighters. WRAP supports the specific DoD goal of significantly shortening the acquisition response time and acquisition cycle times. This process is expected to shorten the project decision/initiation time by 2-5 years for selected projects due to the integrated headquarters review and immediate availability of transition funding. Candidate projects will compete for WRAP approval and funds based on business case analyses; identified and demonstrated operational impact; cost savings; project development, production, and lifecycle costs; project risk; and cost of delay. The Air Force corporate structure will nominate projects to the VCSAF, CSAF and SECAF for final approval. Potential sources of projects include, but are not limited to, JEFX, Battlelabs, Joint Experimentation, ATDs, ACTDs, S&T, and IR&D efforts. MAJCOM/Agencies must commit full project funding in the subsequent programming cycle. AF will ensure the successful projects are incorporated in the future annual planning and programming guidance or POM preparation instructions.

(U) FY 2001 (\$ in Thousands)

(U) \$0 No Activity
 (U) \$0 Total

(U) FY 2002 (\$ in Thousands)

(U) \$28,740 WRAP project selection and project initiation
 (U) \$28,740 Total

(U) FY 2003 (\$ in Thousands)

(U) \$25,057 WRAP project selection and project initiation
 (U) \$25,057 Total

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002																																																								
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0203761F Warfighter Rapid Acquisition Program			PROJECT 4936																																																								
<p>(U) <u>B. Budget Activity Justification</u> This effort is Budget Activity 7, Operational System Development, because the program provides a vehicle for developing operational concepts and attendant new technologies for enhancing capabilities of the 21st century aerospace force.</p>																																																															
<p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:60%;"></th> <th style="text-align: right;"><u>FY 2001</u></th> <th style="text-align: right;"><u>FY 2002</u></th> <th style="text-align: right;"><u>FY 2003</u></th> <th style="text-align: right;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: right;">0</td> <td style="text-align: right;">25,000</td> <td style="text-align: right;">25,118</td> <td style="text-align: right;">TBD</td> </tr> <tr> <td>(U) Appropriated Value</td> <td></td> <td style="text-align: right;">30,247</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> a. Congressional/General Reductions</td> <td></td> <td style="text-align: right;">-1,507</td> <td></td> <td></td> </tr> <tr> <td> b. Small Business Innovative Research</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> d. Below Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> e. Rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2002 PBR</td> <td></td> <td></td> <td style="text-align: right;">-61</td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY 2003 PBR</td> <td></td> <td style="text-align: right;">28,740</td> <td style="text-align: right;">25,057</td> <td style="text-align: right;">TBD</td> </tr> </tbody> </table> <p>(U) <u>Significant Program Changes:</u> Note: Actual Congressional/General Reductions for WRAP is -302. This will be reflected in the next update to the budget documentation.</p>										<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>	(U) Previous President's Budget	0	25,000	25,118	TBD	(U) Appropriated Value		30,247			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions		-1,507			b. Small Business Innovative Research					c. Omnibus or Other Above Threshold Reprogram					d. Below Threshold Reprogram					e. Rescissions					(U) Adjustments to Budget Years Since FY 2002 PBR			-61		(U) Current Budget Submit/FY 2003 PBR		28,740	25,057	TBD
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(U) AF RDT&E																																																															
(U) Other APPN																																																															
<p>(U) <u>E. Acquisition Strategy</u> WRAP enables Air Force innovation including experimentation and spiral development processes to decrease fielding timelines and allows development, fielding, or upgrading of systems until the sponsoring MAJCOM/Agency can incorporate them into their subsequent POM submission. The Air Force, through appropriate program offices, will manage the acquisition and development process for the integration and fielding of WRAP approved projects. Each project will have a complete acquisition plan defined and approved prior to project selection. The Air Staff and the Air Force corporate structure will complete an Operations Review and an Acquisition Review to ensure project affordability and appropriateness within the Air Force Overall program. Requirements, funding, and acquisition plans will be</p>																																																															
Project 4936			Page 2 of 4 Pages			Exhibit R-2 (PE 0203761F)																																																									

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002																																																						
BUDGET ACTIVITY 07 - Operational System Development					PE NUMBER AND TITLE 0203761F Warfighter Rapid Acquisition Program				PROJECT 4936																																																				
<p>(U) <u>E. Acquisition Strategy Continued</u> approved by the Air Force corporate structure. The AF corporate structure will nominate projects to the VCSAF, CSAF and SECAF for final approval.</p> <p>(U) <u>F. Schedule Profile</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:40%;"></th> <th colspan="4" style="text-align: center;"><u>FY 2001</u></th> <th colspan="4" style="text-align: center;"><u>FY 2002</u></th> <th colspan="3" style="text-align: center;"><u>FY 2003</u></th> </tr> <tr> <th></th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> </tr> </thead> <tbody> <tr> <td>(U) WRAP Project Initiation Round 1 (each FY)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>(U) WRAP Project Initiation Round 2 (each FY)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> </tr> </tbody> </table>												<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>				1	2	3	4	1	2	3	4	1	2	3	4	(U) WRAP Project Initiation Round 1 (each FY)						X				X			(U) WRAP Project Initiation Round 2 (each FY)						X					X	
	<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>																																																				
	1	2	3	4	1	2	3	4	1	2	3	4																																																	
(U) WRAP Project Initiation Round 1 (each FY)						X				X																																																			
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Project 4936			Page 3 of 4 Pages				Exhibit R-2 (PE 0203761F)																																																						

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0203761F Warfighter Rapid Acquisition Program				4936		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	WRAP Projects Round 1							23,740		20,000
(U)	WRAP Projects Round 2							5,000		5,057
(U)	Total							28,740		25,057
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
ESC, ASC, SMC, Various	Various	Various	N/A	N/A	0	0	28,740	25,057	Continuing	TBD
<u>Product Development Organizations</u>										
Various										
<u>Support and Management Organizations</u>										
Various										
<u>Test and Evaluation Organizations</u>										
Various										
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
					0	0	28,740	25,057	TBD	TBD
	Subtotal Product Development									
	Subtotal Support and Management									
	Subtotal Test and Evaluation									
	Total Project				0	0	28,740	25,057	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207027F Air Space Command & Control Agency				PROJECT 4814	
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4814 Expenditary Force Experiment (EFX)	28,476	0	0	0	0	0	0	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0
<p>Note:</p> <ul style="list-style-type: none"> - JEFX 98, 99,00 were executed within existing command and control space programs. - FY2001 is the first year of EFX has been included in the BES cycle. - Starting FY 2002 EFX will be performed under PE 0207028F, Joint Expeditionary Force Experiment, Project #674373. <p>(U) A. Mission Description</p> <p>The Joint Expeditionary Force Experiments (JEFX) are large-scale warfighter experiments and are part of the total AF experimentation effort. They combine live-fly forces and simulations into an operationally representative warfighter environment. These experiments provide a vehicle for experimentation with operational concepts and attendant new technologies for enhancing capabilities of the 21st century aerospace force. They are part of a broader effort to implement the Joint Vision 2010, exploit the Revolution in Military Affairs, and demonstrate emerging Air Force capabilities to deploy and employ decisive aerospace power for the Joint Force Commander.</p> <p>JEFX 2000 emphasized Agile Combat Support, but exploration also occurred in managing intelligence, surveillance, and reconnaissance assets; global mobility; and dynamic battle control. JEFX 2000 was planned and executed with reprogrammed funds and other Air Force funding from existing command and control, global power, global reach, and space Program Elements.</p> <p>In FY01, the Air Force moves to a biennial schedule for JEFX conducted in the even years. In addition, the Air Force begins the integration of proven initiatives into integrated Air Force/Joint/Coalition Command and Control providing integrated/interoperable fielded capabilities for warfighter use. Transition of selected technologies to the warfighter will be based on a rigorous, defined process which ensures interoperability with fielded programs and maximum return on investment. Specific weapon system development and procurement activities are funded in their own budget lines as applicable. A full-scale experiment, as performed in FY99 and FY00, will be conducted in FY02 in PE 0207028. Integrated Air Force/Joint/Coalition Command and Control integration of new initiatives and legacy systems into an integrated Command and Control, Intelligence, Surveillance, and Reconnaissance (C2ISR) baseline will be an ongoing activity.</p>									
Project 4814			Page 1 of 5 Pages				Exhibit R-2 (PE 0207027F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002			
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT			
07 - Operational System Development	0207027F Air Space Command & Control Agency	4814			
(U) <u>A. Mission Description Continued</u>					
(U) <u>FY 2001 (\$ in Thousands)</u>					
(U) \$1,200	Initiatives from government and industry, selection and prioritization of new and previously considered initiatives, C2 Center Communications and computer development upgrades				
(U) \$3,760	Developed systems architecture and integration, including engineering, for the experiment				
(U) \$6,039	Planned and coordinated experiment				
(U) \$7,477	Implemented JEFX 2000 architectural configuration, conduct Modeling & Simulation, install infrastructure, install and test LAN configurations and communications, and test operational software				
(U) \$10,000	Integrated new initiatives and legacy systems into an integrated C2ISR baseline				
(U) \$28,476	Total				
(U) <u>FY 2002 (\$ in Thousands)</u>					
(U) \$0	No Activity				
(U) \$0	Total				
(U) <u>FY 2003 (\$ in Thousands)</u>					
(U) \$0	No Activity				
(U) \$0	Total				
(U) <u>B. Budget Activity Justification</u>					
This effort is Budget Activity 7, Operational System Development, because the program will develop and implement software for operational computer applications.					
(U) <u>C. Program Change Summary (\$ in Thousands)</u>					
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>
(U) Previous President's Budget		24,769			
(U) Appropriated Value		24,769			
(U) Adjustments to Appropriated Value					
a. Congressional/General Reductions					
b. Small Business Innovative Research		-1,000			
c. Omnibus or Other Above Threshold Reprogram					
d. Below Threshold Reprogram		4,934			
Project 4814	Page 2 of 5 Pages	Exhibit R-2 (PE 0207027F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207027F Air Space Command & Control Agency			PROJECT 4814		
(U) C. Program Change Summary (\$ in Thousands) Continued									
				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>		<u>Total Cost</u>	
	e. Rescissions			-	227				
(U)	Adjustments to Budget Years Since FY 2002 PBR								
(U)	Current Budget Submit/FY 2003 PBR			28,476				TBD	
(U)	<u>Significant Program Changes:</u>								
(U) D. Other Program Funding Summary (\$ in Thousands)									
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Total Cost</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	
(U)	AF RDT&E	0	0	0	0	0		Continuing	TBD
(U)	Other Procurement (OPAF)								
(U)	Other APPN	0	0	0	0	0		Continuing	TBD
	FY 2000 executed with reprogrammed funds and other Air Force funding from existing command and control, global power, global reach, and space Program Elements.								
(U) E. Acquisition Strategy									
	Electronic Systems Center (ESC), Hanscom AFB, MA manages the acquisition and development process for the experimentation, integration, and fielding of selected technologies with legacy systems in an integrated C2ISR baseline. The spiral development system was created to field new and emerging technologies quickly. One of the tenets of the streamlined acquisition philosophy is to provide new capabilities through the integration of existing software components. JEFX periodically provides the opportunity to demonstrate new capabilities that provide decisive air and space power by identifying existing components and other software that can be integrated to further advance effectiveness. Research and development funding is used to develop the integrating code for various systems ranging from communications, C2, computers, weapons, ISR and aerospace delivery vehicles. In addition, funds are used to develop enhancements to existing capabilities necessary to demonstrate how emerging products can improve the warfighters' effectiveness. Spirals within the acquisition cycle allow deficiencies to be identified and considered for future spirals as well as the next experiment or applied to current capabilities. Selected technologies will be identified via a vigorous, defined process for integration with existing systems and transitioned to the field for warfighter use. Integration efforts will capitalize on the synergy between evolving technologies and on-going system program modifications to maximize the return on investment.								
(U) F. Schedule Profile									
				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2002				
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT				
07 - Operational System Development					0207027F Air Space Command & Control Agency					4814				
(U) <u>F. Schedule Profile Continued</u>														
		<u>FY 2001</u>					<u>FY 2002</u>					<u>FY 2003</u>		
		1	2	3	4	1	2	3	4	1	2	3	4	
(U)	Commence movement of selected initiatives to the field	X												
(U)	Call for Initiatives APTX 01	X												
(U)	Initiative Selection, APTX 01		X											
(U)	Architectural Development, APTX 01			X										
(U)	Conduct APTX 01								X					
(U)	Call for Initiatives, JEFX 2002											X		
(U)														
	* Denotes completed event													
	X Denotes planned event													

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
07 - Operational System Development				0207027F Air Space Command & Control Agency				4814			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	Initiatives from government and industry, selection and prioritization of new and previously considered initiatives, C2 Center Communications and Computer development upgrades					1,200					
(U)	Development of systems architecture and integration, including engineering, for the experiment					3,760					
(U)	Planning and coordination for the experiment					6,039					
(U)	Implement architectural configuration, conduct Modelling & Simulation, install and test communications configurations					7,477					
(U)	Integration of new initiatives and legacy systems into an integrated C2ISR baseline					10,000					
(U)	Total					28,476					
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation Date</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>	
	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>							
<u>Product Development Organizations</u>											
ESC, AC2ISRC	various	various	N/A	N/A		28,476			Continuing	TBD	
<u>Support and Management Organizations</u>											
<u>Test and Evaluation Organizations</u>											
					<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>	
<u>Subtotals</u>											
Subtotal Product Development						28,476			TBD	TBD	
Subtotal Support and Management											
Subtotal Test and Evaluation											
Total Project						28,476			TBD	TBD	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207028F Joint Expeditionary Force Experiment					
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	0	43,564	27,161	51,145	27,587	52,139	27,449	Continuing	TBD
4373 JEFX	0	38,982	20,783	44,483	20,934	47,192	22,508	Continuing	TBD
4991 JDEP	0	4,582	6,378	6,662	6,653	4,947	4,941	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

(U) **A. Mission Description**
 The Joint Expeditionary Force Experiments (JEFX) are large-scale warfighter experiments that address emerging operational challenges and are part of the total AF experimentation effort. They combine live-fly forces and simulations into an operationally representative warfighter environment. These experiments provide a vehicle for experimentation with operational concepts and attendant new technologies to evolve and transform our aerospace forces and capabilities for the 21st century. They are part of a broader effort to implement the Joint Vision 2020, exploit the Revolution in Military Affairs, demonstrate emerging Air Force capabilities to deploy and employ decisive aerospace power for the Joint Force Commander, and are important enablers of innovation and transformation.

In FY01, the Air Force moved to a biennial schedule for JEFX conducted in the even years. To reduce risk in the large scale experiments during the even years, a small scale Advanced Process and Technology Experiment (APTX) is scheduled for the odd years. These experiments will focus on specifically targeted capability requirements that will be part of the JEFX experiment. For 2001 (performed under PE 0207027) the focus was alliance operations that required building an open Combined Aerospace Operations Center (CAOC) floor. In addition, the Air Force began the integration of proven initiatives into integrated Air Force/Joint/Coalition Command and Control providing integrated/interoperable fielded capabilities for warfighter use. Transition of selected technologies to the warfighter will be based on a rigorous, defined process which ensures interoperability with fielded programs and maximum return on investment. Funding for transition of selected technologies is provided in the odd years only. Specific weapon system development and procurement activities are funded in their own budget lines as applicable.

A full-scale experiment as performed in FY99 and FY00 will be conducted in FY02. JEFX 02 will explore Time Critical Targeting and Intelligence, Surveillance and Reconnaissance Management in a reduced footprint expeditionary CAOC environment with alliance partners. JEFX 02 will also demonstrate the Global Strike Task

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207028F Joint Expeditionary Force Experiment
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(U) **A. Mission Description Continued**
Force concept as the service component of the joint Millennium Challenge 02.

APTX 03 will continue the success of the earlier small scale experiment by investigating selected initiatives that will reduce the risk to JEFX 04 and the associated joint experiment Olympic Challenge 04. The focus of the experiment will center on the presentation of forces in 2015 to conduct air and space operations in support of the USJAFCOM concept of Rapid Decisive Operations. The AF exploration of task forces to accomplish missions is a key aspect of the experiment. Global Strike Task Force (GSTF) to 'kick down the door', Global Response Task Force for striking terrorism, Homeland Security Task Force to protect homeland, Humanitarian Relief to cover natural disasters and finally C2ISR Task Force to explore multi use platforms, such as combining sensors with striking capability. In addition, the experiment will continue coalition operations to prepare for Olympic Challenge 04. Specific guidance will be given by COMACC. Results of this and earlier experiments will be considered for transition.

The Joint Distributed Engineering Plant (JDEP) connects combat system engineering sites and replicates Joint Force Combat Systems to create a network testbed to assess joint Battle Management, Command, Control, Communication, Computers and Intelligence. Its objective is to improve interoperability of weapons systems and platforms through more rigorous interoperability evaluation in a replicated battlefield environment. JDEP will provide the capability both to improve service and joint systems performance in a system-of-systems environment.

JDEP will link existing service and joint combat system engineering and test sites, such as C4I hardware in-the-loop and computer-program in-the-loop engineering sites (including design activities, software support activities, test and evaluation facilities and training commands) located around the country.

(U) **B. Budget Activity Justification**
This effort is a Budget Activity 7, Research, Development, Test and Evaluation, Management Support, because the program provides a vehicle for developers, testers and warfighters for experimentation, analysis, operational concepts and new technologies for enhancing capabilities of the 21st century aerospace force.

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>
(U) Previous President's Budget		64,005	31,987	
(U) Appropriated Value		64,005		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions				
b. Small Business Innovative Research				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)				DATE	
BUDGET ACTIVITY		PE NUMBER AND TITLE			
07 - Operational System Development		0207028F Joint Expeditionary Force Experiment			
(U)	<u>C. Program Change Summary (\$ in Thousands) Continued</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>
	c. Omnibus or Other Above Threshold Reprogram				
	d. Below Threshold Reprogram				
	e. Rescissions		-20,441		
(U)	Adjustments to Budget Years Since FY 2002 PBR			-4,826	
(U)	Current Budget Submit/FY 2003 PBR		43,564	27,161	TBD
(U)	<u>Significant Program Changes:</u>				
	\$4.6M was added to PE 0207028F for JDEP in FY02 to support interoperability assessment of key joint BMC4I systems.				
	FY03 includes \$ -4.5M for JEFX.				
	FY02 includes \$-20M for JEFX to accommodate planning and operational needs of Enduring Freedom and Noble Eagle.				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207028F Joint Expeditionary Force Experiment				PROJECT 4373		
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4373	JEFX	0	38,982	20,783	44,483	20,934	47,192	22,508	Continuing	TBD
<p>Note:</p> <ul style="list-style-type: none"> - FY 2001 was executed under PE 0207027 Expeditionary Force Experiment, Program #674814. - FY 2002 JEFX is the first year of execution under this PE 0207028F. <p>(U) <u>A. Mission Description</u></p> <p>The Joint Expeditionary Force Experiments (JEFX) are large-scale warfighter experiments that address emerging operational challenges and are part of the total AF experimentation effort. They combine live-fly forces and simulations into an operationally representative warfighter environment. These experiments provide a vehicle for experimentation with operational concepts and attendant new technologies to evolve and transform our aerospace forces and capabilities for the 21st century. They are part of a broader effort to implement the Joint Vision 2020, exploit the Revolution in Military Affairs, demonstrate emerging Air Force capabilities to deploy and employ decisive aerospace power for the Joint Force Commander, and are important enablers of innovation and transformation.</p> <p>In FY01, the Air Force moved to a biennial schedule for JEFX conducted in the even years. To reduce risk in the large scale experiments during the even years, a small scale Advanced Process and Technology Experiment (APTX) is scheduled for the odd years. These experiments will focus on specifically targeted capability requirements that will be part of the JEFX experiment. For 2001 (performed under PE 0207027) the focus was alliance operations that required building an open Combined Aerospace Operations Center (CAOC) floor. In addition, the Air Force began the integration of proven initiatives into integrated Air Force/Joint/Coalition Command and Control providing integrated/interoperable fielded capabilities for warfighter use. Transition of selected technologies to the warfighter is based on a rigorous, defined process which ensures interoperability with fielded programs and maximum return on investment. Funding for transition of selected technologies is provided in the odd years only. Specific weapon system development and procurement activities are funded in their own budget lines as applicable.</p> <p>A full-scale experiment as performed in FY99 and FY00 will be conducted in FY02. JEFX 02 will explore Time Critical Targeting and Intelligence, Surveillance and Reconnaissance Management in a reduced footprint expeditionary CAOC environment with alliance partners. JEFX 02 will also demonstrate the Global Strike Task Force concept as the service component of the joint experiment Millennium Challenge.</p> <p>APTX 03 will continue the success of the earlier small scale experiment by investigating selected initiatives that will reduce the risk to JEFX 04 and the associated joint experiment Olympic Challenge 04. The focus of the experiment will center on coalition operations and homeland defense, with specific guidance given by</p>										
Project 4373			Page 4 of 15 Pages				Exhibit R-2A (PE 0207028F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE February 2002
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
07 - Operational System Development	0207028F Joint Expeditionary Force Experiment	4373
(U) <u>A. Mission Description Continued</u> COMACC. Results of this and earlier experiments will be considered for transition.		
(U) <u>FY 2001 (\$ in Thousands)</u>		
(U) \$0	No Activity in PE 27028--Previous activity performed in PE 27027	
(U) \$0	Total	
(U) <u>FY 2002 (\$ in Thousands)</u>		
(U) \$8,800	Initiatives received from government and industry, select and prioritize new and previously considered initiatives. Design, develop and install C2 center communications and computer upgrades. Initiatives are the pieces of the experiment that utilize the infrastructure to expand the capabilities of the Aerospace Expeditionary Force (AEF) and consists of proposals submitted by government and industry for experimentation in the JEFX environment. The initiatives address processes as well as technology. The JEFX environment envisions a future that leverages existing infrastructure but projects capabilities that will or may be fielded in the near future. The initiatives introduce new technologies and operational capabilities into the AEF Concept of Operations (CONOPS). The systems architecture for JEFX 2002 will consist of capabilities carried over from JEFX 2000 and new capabilities in the form of initiatives for JEFX 2002. The main focus area for JEFX 2002 is Time Critical Targeting (TCT) and the C2 of ISR that enables it. The environment is a Combined Air Operations Center (CAOC) with alliance integration on an open floor. Initiatives are the key to implementing improvements into this operational area. Spiral development of successful initiatives will be necessary to enable rapid fielding. Funding also provides enabling technologies for enhancements to the Global Grid and Global Information Grid which enables geographically separated C2 centers the ability to communicate.	
(U) \$8,400	Development of systems architecture and integration, including engineering, for the experiment. Contract engineering expertise is required to integrate initiatives into a cohesive systems architecture creating a system of systems. The initiatives must be able to perform as an integrated system within the designed architecture. Previous successful experiments have employed a team of contractors for this effort. Integration of systems and processes is the major reason JEFX is an experiment and not simply a demonstration or exercise.	
(U) \$7,400	Plan, design, coordinate and assess the experiment, provide a quick look report of the experiment, and conduct a final report to the CSAF. Provide expertise to support SPO functions of initiative selection, acquisition, program management, communications and systems planning.	
(U) \$14,382	Implement architectural configuration, conduct modeling and simulation (M&S), install and test the communications infrastructure and architectural configurations during spiral development and the conduct of the experiment. Three spirals are conducted prior to the experiment to develop, test and evaluate the JEFX environment, identify and correct problem areas, and provide training to the operators on new tools and processes. Training is required to obtain a valid assessment of the initiatives performance. The experiment fully executes the environment by bringing operators, communicators, live-fly participants, and evaluators in fully integrated distributed nodes. M&S provides the ability to	
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE February 2002
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
07 - Operational System Development	0207028F Joint Expeditionary Force Experiment	4373
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2002 (\$ in Thousands) Continued</u>		
	replicate, as much as possible, the aerospace environment and CONOPS for experimentation while minimizing real world costs. Some tools and processes require live-fly to obtain valid assessments.	
(U) \$38,982	Total	
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$954	Initiatives received from government and industry, select and prioritize new and previously considered initiatives. Initiatives accepted for the experiment will utilize the infrastructure to expand the capabilities of the Aerospace Expeditionary Force (AEF) and consists of proposals submitted by government and industry for experimentation in the JEFX environment. The initiatives address processes as well as technology. The JEFX environment envisions a future that leverages existing infrastructure but projects capabilities that will or may be fielded in the near future. The initiatives introduce new technologies and operational capabilities into the AEF Concept of Operations (CONOPS). The main focus of APTX 03 will be on aerospace superiority, coalition operations and homeland defense with specific guidance provided by COMACC to provide risk reduction for the conduct of JEFX 04 and JFCOMs Olympic Challenge 04.	
(U) \$3,056	Develop plans for systems architecture, systems integration and engineering. Contract engineering expertise is required to integrate initiatives into a cohesive systems architecture for creating a C2 system of systems. Systems integration is the primary reason JEFX is an experiment and not a demonstration or exercise.	
(U) \$5,405	Plan, design, coordinate and assess the experiment, provide a quick look report of the experiment, and conduct a final report to the CSAF.	
(U) \$1,368	Provide expertise to support SPO functions of initiative selection, acquisition, program management, communications and systems planning.	
(U) \$10,000	implement architectural configuration, install and test communications and architectural configurations for the experiment. Execute and evaluate the proposed operational systems architecture through the use of operators, communicators, support personnel, and evaluators.	
(U) \$10,000	Transition funding for the integration of new initiatives and legacy systems into an integrated C2ISR baseline. (This funding is in the odd years only.)	
(U) \$20,783	Total	
(U) <u>B. Project Change Summary</u>		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207028F Joint Expeditionary Force Experiment			PROJECT 4373		
(U) C. Other Program Funding Summary (\$ in Thousands)									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E									
(U) Other APPN									
(U) D. Acquisition Strategy									
<p>Electronic Systems Center (ESC), Hanscom AFB, MA will manage the acquisition and development process for the experimentation, integration, and fielding of selected technologies with legacy systems in an integrated C2ISR baseline. The spiral development system was created to field new and emerging technologies quickly. One of the tenets of the streamlined acquisition philosophy is to provide new capabilities through the integration of existing software components. JEFX periodically provides the opportunity to demonstrate new capabilities that provide decisive air and space power by identifying existing DII components and other software that can be integrated to further advance effectiveness. Research and development funding will be used to develop the integrating code for various systems ranging from communications, C2, computers, weapons, Intelligence, Surveillance and Reconnaissance (ISR) and aerospace delivery vehicles. In addition, funds will be used to develop enhancements to existing capabilities necessary to demonstrate how emerging products can improve the warfighters' effectiveness. Spirals within the acquisition cycle allow deficiencies to be identified and considered for future spirals as well as the next experiment or applied to current capabilities. Selected technologies will be identified via a vigorous, defined process for integration with existing systems and transitioned to the field for warfighter use. Integration efforts will capitalize on the synergy between evolving technologies and on-going system program modifications to maximize the return on investment. Various time & materials CAAS contracts will be awarded during the first quarter to provide program support and various other contracts, CPFF, T&M, cost plus award fee, etc., will be awarded during the first and second quarters pending the initiatives selected during the initiative selection process.</p>									
(U) E. Schedule Profile									
		<u>FY 2001</u>				<u>FY 2002</u>			<u>FY 2003</u>
	1	2	3	4	1	2	3	4	1
			*						2
(U) Call for initiatives for JEFX 2002 (Performed under PE 0207027F)									
(U) Initiative selection, JEFX 2002 (Performed under PE 0207027F)									
(U) Architectural Development, JEFX 2002									
(U) Conduct Spiral I									
(U) Conduct Spiral II									
(U) Conduct Spiral III									
(U) Conduct JEFX 2002 Experiments									
Project 4373									
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2002				
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT				
07 - Operational System Development					0207028F Joint Expeditionary Force Experiment					4373				
(U) <u>E. Schedule Profile Continued</u>														
		<u>FY 2001</u>					<u>FY 2002</u>					<u>FY 2003</u>		
	1	2	3	4	1	2	3	4	1	2	3	4		
(U)	Perform Assessment, JEFX 2002 Experiments (1QFY03)												X	
(U)	Commence integration of selected initiatives (1QFY03)												X	
(U)	Call for Initiatives, APTX 03												X	
(U)	Initiative Selection, APTX 03												X	
(U)	Architectural Development												X	
(U)	Conduct APTX 03												X	
(U)	Call for Initiatives, JEFX 04												X	
(U)	* Denotes completed event													
	X Denotes planned event													
Project 4373														
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Exhibit R-2A (PE 0207028F)														

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
07 - Operational System Development				0207028F Joint Expeditionary Force Experiment				4373			
(U) A. Project Cost Breakdown (\$ in Thousands)											
					<u>FY 2001</u>			<u>FY 2002</u>		<u>FY 2003</u>	
(U)	Initiatives from government and industry, selection and prioritization of new and previously considered initiatives, C2 Center Communications and computer development upgrade						8,800			954	
(U)	Development of systems architecture and integration, including engineering, for the experiment						8,400			3,056	
(U)	Planning, coordination, and assessing the experiment.						7,400			5,405	
(U)	Implement architectural configuration, conduct modeling and simulation (M&S), install infrastructure, install and test communications configurations.						14,382			1,368	
(U)	Integration of new initiatives and legacy systems into an integrated C2ISR baseline. Funding provided in odd years only.						0			10,000	
(U)	Total						38,982			20,783	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
<u>Contractor or Government Performing Activity</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>	
<u>Product Development Organizations</u>											
ESC	MITRE	1 October	N/A	N/A			6,000		Continuing	TBD	
ESC	GSA	1 April	N/A	N/A			5,500		Continuing	TBD	
ESC	IDIQ	1 October	N/A	N/A			1,500		Continuing	TBD	
ESC	TBD	TBD	N/A	N/A			6,400	14,909	Continuing	TBD	
AC2ISRC	Time & Materials	1 December	N/A	N/A			1,000		Continuing	TBD	
AC2ISRC	Time & Materials	1 October	N/A	N/A			300		Continuing	TBD	
AC2ISRC	Time & Materials	1 October	N/A	N/A			250		Continuing	TBD	
Project 4373											
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Exhibit R-3 (PE 0207028F)											

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)						DATE February 2002				
BUDGET ACTIVITY			PE NUMBER AND TITLE			PROJECT				
07 - Operational System Development			0207028F Joint Expeditionary Force Experiment			4373				
(U) <u>Performing Organizations Continued:</u>										
<u>Product Development Organizations</u>										
AC2ISRC	Time & Materials	1 February	N/A	N/A	200	Continuing	TBD			
AC2ISRC	Time & Materials	1 December	N/A	N/A	1,811	Continuing	TBD			
AC2ISRC	Time & Materials	1 December	N/A	N/A	499	Continuing	TBD			
AC2ISRC	Time & Materials	1 December	N/A	N/A	959	Continuing	TBD			
AC2ISRC	Time & Materials	1 December	N/A	N/A	961	Continuing	TBD			
AC2ISRC	Time & Materials	1 Dec	N/A	N/A	287	Continuing	TBD			
AC2ISRC	Time & Materials	1 Dec	N/A	N/A	220	Continuing	TBD			
AC2ISRC	TBD	TBD	N/A	N/A	13,095	5,874	Continuing	TBD		
<u>Support and Management Organizations</u>										
<u>Test and Evaluation Organizations</u>										
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Subtotals</u>							38,982	20,783	TBD	TBD
Subtotal Product Development										
Subtotal Support and Management										
Subtotal Test and Evaluation										
Total Project							38,982	20,783	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002			
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207028F Joint Expeditionary Force Experiment				PROJECT 4991			
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost	
4991	JDEP	0	4,582	6,378	6,662	6,653	4,947	4,941	Continuing	TBD	
<p>(U) <u>A. Mission Description</u></p> <p>The Joint Distributed Engineering Plant (JDEP) connects combat system engineering sites and replicates Joint Force Combat Systems to create a network testbed to assess joint Battle Management, Command, Control, Communication, Computers and Intelligence. It's objective is to improve interoperability of weapons systems and platforms through more rigorous interoperability evaluation in a replicated battlefield environment. JDEP will provide the capability both to improve service and joint system performance in a system-of-systems environment.</p> <p>JDEP will link existing Service and Joint combat system engineering and test sites, such as C4I hardware in the loop and computer-program-in-the-loop engineering sites (including Design Activities, software support activities, test & evaluation facilities and training commands) located around the country.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <p>(U) \$0 No activity</p> <p>(U) \$0 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$1,495 Site activation and Ops support: JDEP leverages as much as possible the existing infrastructure at sites throughout DoD to connect combat system engineering sites to emulate tactical data links. It builds on a federation of sites that are activated expanding on the current sites and identifying which ones should be activated in the future. This process gives geographically separated C2 centers and program offices the ability to work interoperability issues early in the acquisition process. There are 3-programmed AF sites scheduled to be activated. This includes hardware, software and activation cost for each site.</p> <p>(U) \$875 Communication architectures, links and engineering and support for site activities. This includes hardware, software and network connections for each site activated. It incorporates configuration management, scheduling, development & implementation of communications architectures. This will support distributed hardware, software and warfighter-in-the-loop joint integration activities. It leverages connections at existing facilities, which allows a repeatable environment to be readily available to developers, engineers and warfighters.</p> <p>(U) \$590 Existing JDEP support activities. This includes ops and maintenance of the current sites, which are JDEP capable. This includes ops & maintenance support along with contracted personnel to assist in event activities.</p>											
Project 4991				Page 11 of 15 Pages				Exhibit R-2A (PE 0207028F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE February 2002							
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT							
07 - Operational System Development	0207028F Joint Expeditionary Force Experiment	4991							
(U) <u>A. Mission Description Continued</u>									
(U) <u>FY 2002 (\$ in Thousands) Continued</u>									
(U) \$295	Development of systems architecture and integration, including engineering, for the JDEP repeatable environment. This effort will include development of Joint simulation and stimulation environments to support integration & interoperability assessment. Allows a customer to come to a single facility for resolution to system solutions.								
(U) \$800	Experiment implementation and analysis to participant in various events during pre, during and post exercise events. It includes support staff to assist users in the analysis of data, identifying problems and assistance in system solutions.								
(U) \$527	Development of a simulation/stimulation environment for JDEP events. This incorporates the simulation of an environment that allows customers an opportunity to resolve interoperability issues with realistic scenarios.								
(U) \$4,582	Total								
(U) <u>FY 2003 (\$ in Thousands)</u>									
(U) \$1,645	Continue site activations and Operations support. This includes hardware, software and activation cost for each site.								
(U) \$1,220	Continue communication architectures, links and engineering and support for site activities.								
(U) \$1,224	Continue existing JDEP support activities to include ops & maintenance support along with contracted personnel to assist in event activities.								
(U) \$411	Continue development of systems architecture and integration, including engineering, for the JDEP repeatable environment.								
(U) \$1,144	Continue experiment implementation and analysis to participant in various events during pre, during and post exercise events.								
(U) \$734	Continue development of a simulation/stimulation environment for JDEP events.								
(U) \$6,378	Total								
(U) <u>B. Project Change Summary</u>									
(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u>									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E									
(U) Other APPN									
N/A									
Project 4991	Page 12 of 15 Pages			Exhibit R-2A (PE 0207028F)					

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2002																																																																																																																																	
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT																																																																																																																																	
07 - Operational System Development					0207028F Joint Expeditionary Force Experiment					4991																																																																																																																																	
<p>(U) <u>D. Acquisition Strategy</u> Acquisition Strategy: Electronic Systems Center (ESC), Hanscom AFB, MA will manage the acquisition and development process for the experimentation, integration and site activation activities for all Air Force JDEP activities. JDEP will provide and opportunity to perform integration activities with joint users from a single location for system integration, development and risk reduction activities.</p>																																																																																																																																											
<p>(U) <u>E. Schedule Profile</u></p> <table border="0" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:40%;"></th> <th colspan="4" style="text-align:center"><u>FY 2001</u></th> <th colspan="4" style="text-align:center"><u>FY 2002</u></th> <th colspan="4" style="text-align:center"><u>FY 2003</u></th> </tr> <tr> <th></th> <th style="text-align:center">1</th> <th style="text-align:center">2</th> <th style="text-align:center">3</th> <th style="text-align:center">4</th> <th style="text-align:center">1</th> <th style="text-align:center">2</th> <th style="text-align:center">3</th> <th style="text-align:center">4</th> <th style="text-align:center">1</th> <th style="text-align:center">2</th> <th style="text-align:center">3</th> <th style="text-align:center">4</th> </tr> </thead> <tbody> <tr> <td>(U) Event Planning</td> <td></td><td></td><td></td><td></td> <td style="text-align:center">X</td> <td></td><td></td><td></td> <td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Conduct SIAP Interoperability Event</td> <td></td><td></td><td></td><td></td> <td></td> <td style="text-align:center">X</td> <td></td><td></td> <td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Implement JDEP connectivity at Hanscom and other Air Force sites.</td> <td></td><td></td><td></td><td></td> <td></td> <td></td> <td style="text-align:center">X</td> <td></td> <td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Conduct PAC3 IOT&E (Extended)</td> <td></td><td></td><td></td><td></td> <td></td> <td></td> <td style="text-align:center">X</td> <td></td> <td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Conduct TACMEMO Interoperability Event</td> <td></td><td></td><td></td><td></td> <td></td> <td></td> <td></td> <td style="text-align:center">X</td> <td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Track 3 Event</td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td> <td style="text-align:center">X</td> </tr> <tr> <td> X - planned</td> <td colspan="11"></td> </tr> <tr> <td> * - completed</td> <td colspan="11"></td> </tr> </tbody> </table>													<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>					1	2	3	4	1	2	3	4	1	2	3	4	(U) Event Planning					X								(U) Conduct SIAP Interoperability Event						X							(U) Implement JDEP connectivity at Hanscom and other Air Force sites.							X						(U) Conduct PAC3 IOT&E (Extended)							X						(U) Conduct TACMEMO Interoperability Event								X					(U) Track 3 Event												X	X - planned												* - completed											
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Project 4991				Page 13 of 15 Pages				Exhibit R-2A (PE 0207028F)																																																																																																																																			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002						
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT					
07 - Operational System Development				0207028F Joint Expeditionary Force Experiment				4991					
(U) A. Project Cost Breakdown (\$ in Thousands)													
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>			
(U)	Site Activation and Ops support							1,495		1,645			
(U)	Communication architectures, links, and engineering support							875		1,220			
(U)	Existing JDEP support activities							590		1,224			
(U)	Development of systems architecture and integration for JDEP repeatable environment							295		411			
(U)	Experiment implementation and analysis to participants							800		1,144			
(U)	Development of a simulation/stimulation environment for JDEP events							527		734			
(U)	Total							4,582		6,378			
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)													
(U) Performing Organizations:													
	<u>Contractor or</u>		<u>Contract</u>										
	<u>Government</u>		<u>Method/Type</u>		<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
	<u>Performing</u>		<u>or Funding</u>		<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>			
	<u>Activity</u>		<u>Vehicle</u>		<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>			
									<u>Budget</u>	<u>Budget to</u>			
									<u>FY 2003</u>	<u>Complete</u>			
										<u>Total</u>			
										<u>Program</u>			
	<u>Product Development Organizations</u>												
	<u>Support and Management Organizations</u>												
	Site 1	Boeing		1 Oct 01		N/A	N/A	0	0	590	895	Continuing	TBD
	Site 2 (ESC)	MITRE		1 Oct 01		N/A	N/A	0	0	150	165	Continuing	TBD
	Site 2 (ESC)	ITSP		1 Oct 01		N/A	N/A	0	0	350	485	Continuing	TBD
	Site 3	TBD		1 Oct 01		N/A	N/A	0	0	500	690	Continuing	TBD
	Site 4	TBD		1 Oct 01		N/A	N/A	0	0	500	690	Continuing	TBD
	ESC	MITRE		1 Oct 01		N/A	N/A	0	0	650	900	Continuing	TBD
	ESC	ITSP		1 Oct 01		N/A	N/A	0	0	590	828	Continuing	TBD
	ESC	IDIQ		1 Oct 01		N/A	N/A	0	0	470	662	Continuing	TBD
	ESC	TRW		1 Dec 01		N/A	N/A	0	0	150	209	Continuing	TBD
	ESC	TBD		1 Dec 01		N/A	N/A	0	0	160	200	Continuing	TBD
	ESC	Raytheon		1 Oct 01		N/A	N/A	0	0	100	135	Continuing	TBD
Project 4991				Page 14 of 15 Pages				Exhibit R-3 (PE 0207028F)					

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2002			
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT	
07 - Operational System Development					0207028F Joint Expeditionary Force Experiment					4991	
(U) <u>Performing Organizations Continued:</u>											
<u>Support and Management Organizations</u>											
ESC	TBD	TBD	N/A	N/A	0	0	372	519	Continuing	TBD	
<u>Test and Evaluation Organizations</u>											
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
<u>Subtotals</u>					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>	
Subtotal Product Development											
Subtotal Support and Management					0	0	4,582	6,378	TBD	TBD	
Subtotal Test and Evaluation											
Total Project					0	0	4,582	6,378	TBD	TBD	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207131F A-10 SQUADRONS				PROJECT 4809		
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4809	A-10 Squadrons	8,102	5,501	7,650	44,275	8,997	9,305	9,487	Continuing	TBD
Quantity of RDT&E Articles		0	0	0	0	0	0	0	0	0
<p>(U) <u>A. Mission Description</u></p> <p>The primary mission of the A/OA-10 is to provide close air support (CAS) for friendly land forces and act as the forward air controller (FAC) to coordinate and direct friendly air forces in support of land forces. The A/OA-10 has a secondary mission of supporting combat search and rescue (CSAR) and special forces (SOF) operations. It also possesses the capability to perform interdiction missions under certain conditions. All of these missions may take place in a high- or low-threat environment. The A-10 System Program Office (SPO) is directed to upgrade and modernize the A/OA-10 aircraft to enhance its ability to support CAS and interdiction mission requirements. The Integrated Flight and Fire Control Computer (IFFCC), formerly known as the Low Altitude Safety and Targeting Enhancement (LASTE) computer upgrade, will enhance the computer memory, throughput, and system architecture to allow the aircraft to integrate advanced weapons and accommodate a situational awareness display, a data-link capability, an Electronic Warfare Management System, and the Digital Terrain System.</p> <p>A follow on to the current IFFCC program, called Precision Engagement, has been initiated to meet additional user requirements. It accelerates and integrates the Data Link and 1760 Bus upgrade and timelines to gain synergy in a single modification to the aircraft. The reduction in overlapping modification timelines and efforts allows an increase in net combat capability.</p> <p>RDT&E funds are executed in developing improved capability, maintenance, and safety modification development efforts. Without continuing avionics, airframe and weapon systems upgrades, the A/OA-10 will have difficulty adhering to the regional CINCs requirement for a Close Air Support platform.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <p>(U) \$8,102 Continue software update/conversion and hardware development for IFFCC/next generation IFFCC.</p> <p>(U) \$8,102 Total</p>										
Project 4809			Page 1 of 5 Pages				Exhibit R-2 (PE 0207131F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002			
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT			
07 - Operational System Development	0207131F A-10 SQUADRONS	4809			
(U) <u>A. Mission Description Continued</u>					
(U) <u>FY 2002 (\$ in Thousands)</u>					
(U) \$4,002	Initiate Precision Engagement development and integration efforts				
(U) \$1,499	Initiate 1760 Bus development and integration efforts				
(U) \$5,501	Total				
(U) <u>FY 2003 (\$ in Thousands)</u>					
(U) \$4,405	Continue Precision Engagement development and integration efforts				
(U) \$3,245	Continue 1760 Bus development and integration efforts				
(U) \$7,650	Total				
(U) <u>B. Budget Activity Justification</u>					
The A/OA-10 RDT&E program is in budget activity 7 - Operational System Development because it supports an operational system.					
(U) <u>C. Program Change Summary (\$ in Thousands)</u>					
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>
(U) Previous President's Budget		9,626	3,049	10,257	TBD
(U) Appropriated Value		9,715	3,049		
(U) Adjustments to Appropriated Value					
a. Congressional/General Reductions		-68	-48		
b. Small Business Innovative Research		-278			
c. Omnibus or Other Above Threshold Reprogram		-1,196			
d. Below Threshold Reprogram		-50			
e. Rescissions		-21			
(U) Adjustments to Budget Years Since FY 2002 PBR			2,500	-2,607	
(U) Current Budget Submit/FY 2003 PBR		8,102	5,501	7,650	TBD
(U) <u>Significant Program Changes:</u>					
(U) Starting in FY02 Digital Data Link funding transferred from the A-10 SPO (PE 207131) to the Tactical Data Link SPO under PE 0207445F.					
(U) FY02 Congressional plus-up of 2.452 for Precision Engagement					
(U) FY03 adjustment of 2.607M reflects a reduction in program support and -2.6M ZBT'd to 3010 to cover IFFCC funding requirements.					
Project 4809	Page 2 of 5 Pages	Exhibit R-2 (PE 0207131F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207131F A-10 SQUADRONS				PROJECT 4809	
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u>									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E									
(U) Other APPN									
(U) Aircraft Procurement, BP-11 (PE 27131F)	40,320	18,547	19,645	34,840	72,459	105,181	111,752	Continuing	TBD
(U) <u>E. Acquisition Strategy</u>									
The Integrated Flight and Fire Control Computer (IFFCC), Digital Terrain System (DTS), On-Board Oxygen Generating System (OBOGS), Precision Engagement, Digital Data Link (now under PE 0207445F), 1760 BUS, moving map, and flight data recorder development will be conducted under the A-10 Prime Contract which was awarded in Dec 1997 on a full-and-open basis. CPAF contract awarded for specific modernization efforts.									
(U) <u>F. Schedule Profile</u>									
				<u>FY 2001</u>			<u>FY 2002</u>		<u>FY 2003</u>
				1	2	3	4	1	2
							3	4	1
									2
									3
									4
(U) IFFCC production decision							*		
(U) IFFCC production contract award							*		
(U) Follow on IFFCC / Precision Engagement Systems Req. Review (SRR)							*		
(U) Precision Engagement Preliminary Design Review (PDR)								X	
(U) Precision Engagement Critical Design Review (CDR)									X
* =Completion X=Planned Event									

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
07 - Operational System Development					0207131F A-10 SQUADRONS			4809		
(U) A. Project Cost Breakdown (\$ in Thousands)										
					<u>FY 2001</u>		<u>FY 2002</u>			<u>FY 2003</u>
(U)	Integrated Flight and Fire Control Computer (IFFCC)				8,102		0			0
(U)	Precision Engagement				0		4,002			4,405
(U)	1760 Bus Upgrade				0		1,499			3,245
(U)	Mission Support				0		0			0
(U)	Total				8,102		5,501			7,650
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Performing Activity</u>	<u>or Funding Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
Lockheed Martin Systems Integration	IFFCC/Next Generation IFFCC A-10 Prime Contract/CPAF	2Q99	TBD	TBD	0	8,102	0		0	8,102
Lockheed Martin Systems Integration	Onboard Oxygen Generating Systems (OBOGS)	2Q05	TBD	TBD	0	0	0	0	Continuing	TBD
Lockheed Martin Systems Integration	1760 Bus	1Q02	TBD	28,234	0	0	1,499	3,245	17,227	21,971
Lockheed Martin Systems	Precision	1Q02	TBD	39,560	0	0	4,002	4,405	21,648	30,055
Project 4809					Page 4 of 5 Pages			Exhibit R-3 (PE 0207131F)		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE February 2002	
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT	
07 - Operational System Development					0207131F A-10 SQUADRONS					4809	
(U) <u>Performing Organizations Continued:</u>											
<u>Product Development Organizations</u>											
Integration Engagement											
Lockheed Martin Systems	Moving Map	2Q04	TBD	TBD	0	0	0	0	5,983	5,983	
Integration											
<u>Support and Management Organizations</u>											
<u>Test and Evaluation Organizations</u>											
(U) <u>Government Furnished Property:</u>											
<u>Contract</u>											
<u>Method/Type</u> <u>Award or</u>											
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>		<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>	
<u>Product Development Property</u>											
<u>Support and Management Property</u>											
<u>Test and Evaluation Property</u>											
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
<u>Subtotals</u>					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>	
Subtotal Product Development					0	8,102	5,501	7,650	TBD	TBD	
Subtotal Support and Management											
Subtotal Test and Evaluation											
Total Project					0	8,102	5,501	7,650	TBD	TBD	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207133F F-16 SQUADRONS				PROJECT 2671		
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
2671	F-16 Squadrons	114,712	113,959	81,338	71,872	97,082	93,910	102,107	Continuing	TBD
Quantity of RDT&E Articles		0	0	0	0	0	0	0	0	0

(U) **A. Mission Description**

The F-16 Fighting Falcon is the world's premier multi-mission fighter. It is a fixed-wing, high performance, single-engine fighter aircraft. In its 25-year history, the F-16 has proven itself in combat in a variety of air-to-air and air-to-surface missions such as defense suppression, armed reconnaissance, close air support, combat air patrol, forward air control, and battle air interdiction (day/night and all-weather). Also during these years the aircraft has evolved in its capabilities to exploit the advances made in computer, avionics systems, engine, and structures technologies. The F-16 has been selected by 20 air forces around the world. USAF and foreign military sales production will continue well into the 21st century. The F-16 System Program Office (SPO) develops, integrates, and qualifies systems to enhance the overall performance of the F-16 mission.

The F-16 program develops enhanced combat capability in both the air-to-ground and air-to-air role. Several modifications to improve the F-16's combat capabilities have been combined into a single modification known as the Common Configuration Implementation Program (CCIP) to save significant costs during the production phase. CCIP will modify all Block 40 and Block 50 F-16 aircraft; Block 50 is the lead platform. CCIP integrates several programs under one umbrella and allows incorporation of Link 16, Joint Helmet Mounted Cueing System (JHMCS), and Air-to-Air Interrogator (AAI) onto the F-16:

- a. The main driver for CCIP will be the Link 16 program. Link 16 is a data link that connects main components of a battle arena to maintain awareness and to share battle management data. The Link 16 program designs the appropriate Group A (hardware mounted permanently on aircraft) to incorporate existing Group B (hardware that is easily removed from airplane) developed by the Multifunctional Information Distribution System (MIDS) Office and adapted for use on the F-16.
- b. To enhance the display of the Link 16 data, the current black and white display will be replaced with the Color Multifunction Display (CMFD) used by the European Participating Air Force's (EPAF) F-16s.
- c. To have sufficient computing power in the Block 40/50 aircraft to operate Link 16 and to allow the cost savings by using a common Operational Flight Program, the General Avionics Computer (GAC) must be replaced with the Modular Mission Computer (MMC). The MMC is an upgraded version of the computer that was developed for the EPAF Mid-life Update program. The F-16 SPO is developing the MMC for USAF requirements. The MMC will extend the cost effective life of the F-16 through replacement of three Line Replaceable Units and the addition of significant memory and processing growth provisions.
- d. JHMCS incorporates a man-mounted, ejection capable helmet mounted display system, with the capability to cue and verify cueing of high off-axis sensors and

Project 2671 Page 1 of 8 Pages Exhibit R-2 (PE 0207133F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002																
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT																
07 - Operational System Development	0207133F F-16 SQUADRONS	2671																
<p>(U) <u>A. Mission Description Continued</u></p> <p>weapons. The F-16 JHMCS program will integrate the following government furnished equipment with the F-16: flight helmet with display optics, image source, helmet tracker transducer w/attached cable, graphics processor/video hardware and software to drive the display, helmet tracker hardware and software. The integration will interface with aircraft computers, weapons and sensor hardware and will provide software to integrate the JHMCS functions with other onboard systems.</p> <p>Other modifications which are being or will be developed during the FYDP:</p> <p>a. Advanced Weapons Integration will integrate Joint Direct Attack Munition (JDAM), Joint Stand-off Weapon (JSOW) and Wind Corrected Munition Dispenser (WCMD) smart weapons into the Block 40 and Block 50 F-16.</p> <p>b. Global Positioning System (GPS) Integration adds GPS capability to the Block 30 and supports testing of GPS changes to other F-16 Blocks. The F-16 development efforts are complemented by comprehensive Operational Flight Program (OFP) upgrades and flight tests.</p> <p>c. Integrate a targeting pod on the Block 50/52 and transition the HARM Targeting System (HTS) pod to the left inlet hardpoint. This will allow the F-16 Block 50 to perform the SEAD/DEAD mission.</p> <p>d. The Mark XII IFF system (Air-to-Air Interrogator) consists of a single unit interrogator/transponder, a beam forming network, fuselage-mounted array antenna elements, and a lower interrogator antenna. The system provides a higher reliability rate and increases performance over present systems. Initial capabilities include coverage of + or - 60 degrees azimuth and elevation coverage with a + or - 2 degree accuracy, a range accuracy of 152 meters and range of 100 nmi. 32 in beam targets can be handled. Modes 1, 2, 3/A, C, S, and 4 are available.</p> <p>e. Structural analysis from the on-going Structural Integrity Program (SIP) has indicated that the F-16 is experiencing structural fatigue that will impact the ability of the airframes to reach their 8,000 hrs service life. RDT&E funds are required to design the required structural modifications, as appropriate for each F-16 Block of aircraft. Falcon STAR development costs will be shared with the Multi-National Fighter Program (MNFP) countries.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <table border="0"> <tr> <td>(U) \$6,985</td> <td>Continue Block 40 Link 16</td> </tr> <tr> <td>(U) \$6,392</td> <td>Continue Block 40 JHMCS</td> </tr> <tr> <td>(U) \$2,067</td> <td>Continue Block 40 Color Display Development/Integration</td> </tr> <tr> <td>(U) \$6,899</td> <td>Continue Block 40 MMC</td> </tr> <tr> <td>(U) \$7,216</td> <td>Complete Training Devices</td> </tr> <tr> <td>(U) \$53,184</td> <td>Continue OFP Updates</td> </tr> <tr> <td>(U) \$31,237</td> <td>Continue Flight Tests DT&E</td> </tr> <tr> <td>(U) \$3,300</td> <td>Initiate Block 50 HTS/TGP Capability (Software development, design, test assets)</td> </tr> </table>			(U) \$6,985	Continue Block 40 Link 16	(U) \$6,392	Continue Block 40 JHMCS	(U) \$2,067	Continue Block 40 Color Display Development/Integration	(U) \$6,899	Continue Block 40 MMC	(U) \$7,216	Complete Training Devices	(U) \$53,184	Continue OFP Updates	(U) \$31,237	Continue Flight Tests DT&E	(U) \$3,300	Initiate Block 50 HTS/TGP Capability (Software development, design, test assets)
(U) \$6,985	Continue Block 40 Link 16																	
(U) \$6,392	Continue Block 40 JHMCS																	
(U) \$2,067	Continue Block 40 Color Display Development/Integration																	
(U) \$6,899	Continue Block 40 MMC																	
(U) \$7,216	Complete Training Devices																	
(U) \$53,184	Continue OFP Updates																	
(U) \$31,237	Continue Flight Tests DT&E																	
(U) \$3,300	Initiate Block 50 HTS/TGP Capability (Software development, design, test assets)																	
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		February 2002
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
07 - Operational System Development	0207133F F-16 SQUADRONS	2671
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2001 (\$ in Thousands) Continued</u></p> <p>(U) \$1,395 Initiate Falcon STAR (Structural analysis and design)</p> <p>(U) (\$3,963) Initiate Onboard Oxygen Generator System (OBOGS) Retrofit</p> <p>(U) \$114,712 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$3,800 Complete Block 40 Link 16</p> <p>(U) \$3,600 Complete Block 40 JHMCS</p> <p>(U) \$1,200 Complete Block 40 Color Display Development/Integration</p> <p>(U) \$2,000 Complete Block 40 MMC</p> <p>(U) \$59,494 Continue OFP Updates</p> <p>(U) \$30,848 Continue Flight Tests DT&E</p> <p>(U) \$2,717 Complete Block 50 HTS/TGP Capability (Software development, design, test assets)</p> <p>(U) \$6,000 Continue Falcon STAR (Structural analysis and design)</p> <p>(U) \$4,300 Distributed Training Centers</p> <p>(U) \$113,959 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$54,621 Continue OFP Updates</p> <p>(U) \$21,717 Continue Flight Tests DT&E</p> <p>(U) \$5,000 Continue Falcon STAR (Structural analysis and design)</p> <p>(U) \$81,338 Total</p> <p>(U) <u>B. Budget Activity Justification</u></p> <p>Since the development activities in this PE support an operational aircraft, these development activities are funded in the Operational System Development budget activity 7.</p>		
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)				DATE
				February 2002
BUDGET ACTIVITY	PE NUMBER AND TITLE			PROJECT
07 - Operational System Development	0207133F F-16 SQUADRONS			2671
(U) <u>C. Program Change Summary (\$ in Thousands)</u>				
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>
(U) Previous President's Budget	122,767	110,797	81,620	TBD
(U) Appropriated Value	123,903	110,797		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-1,136	-1,138		
b. Small Business Innovative Research	-4,265			
c. Omnibus or Other Above Threshold Reprogram	-4,182			
d. Below Threshold Reprogram	392			
e. Rescissions				
(U) Adjustments to Budget Years Since FY 2002 PBR		4,300	-282	
(U) Current Budget Submit/FY 2003 PBR	114,712	113,959	81,338	TBD
(U) <u>Significant Program Changes:</u>				
FY01: \$4,000 Congressional plus up for OBOGS retrofit, \$5,000 Congressional reduction for AGCAS				
FY01: (\$3,963) OBOGS Deduction				
FY01: \$3,000 Reprogramming				
FY01: (\$1,000) Inflation charges				
FY02: (\$1,085) Congressional reduction				
FY02: (\$53)RDT&E General reduction				
FY02: (\$4,300) Distributed Training Centers				
FY03: (\$84) Reduction in program support				
FY03: (\$198) Inflation charges				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207133F F-16 SQUADRONS				PROJECT 2671		
(U) D. Other Program Funding Summary (\$ in Thousands)										
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U)	Aircraft Procurement (3010F), Line Item 5; F-16 C/D (MYP)*	120,723	0	0	229,317	239,280	0	0		TBD
(U)	Aircraft Procurement (3010F), Line Item 34, F-16 Mods	306,205	238,962	277,194	293,180	258,904	272,678	242,625		TBD
(U)	Aircraft Procurement (3010F), Line Item 73, Post Production Support	31,176	18,522	14,422	12,496	12,973	13,571	12,696		TBD
* 3010F, Line Item 5 Program Funding for FY00, FY04, FY05, is for force structure aircraft, 10 A/C in FY 00, 6 A/C in FY04 and 6 A/C in FY05. The procurement of 4 Blk 50 aircraft in FY01 is for attrition reserve aircraft.										
(U) E. Acquisition Strategy										
The procurement of 22 (30 required) additional Blk 50/52 aircraft, 10 A/C in FY 00, 6 A/C in FY04 and 6 A/C in FY05, for the active force will enable the AF to replace the Blk 10/15 F-16 A/B aircraft of two Air National Guard (ANG) Air Defense Fighter (ADF) squadrons with newer, more capable Blk 30 F-16 C/D aircraft from the active fleet. The procurement of 4 Blk 50 aircraft in FY01 is for attrition reserve aircraft. RDT&E funds will primarily be executed in developing improved capability, maintenance and safety mods. Operational Flight Program (OFP) software will be continuously updated to complement mod development efforts. The approach to contracting varies by individual project. Lockheed Martin Aeronautics Company (LM Aero) is the prime contractor on all systems except the simulator/trainer (Hughes Co.), the 110 Engines (General Electric), and the 229 Engines (Pratt & Whitney). Contract types are CPIF, CPFF, FFP.										
(U) F. Schedule Profile										
				<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>		
				1	2	3	4	1	2	3
										4
(U)	Contract Milestone									
(U)	Initiate Block 50 HTS/TGP Capability					*				
(U)	Initiate Falcon STAR				*					
(U)	Complete Block 40 MMC/Color Display								X	
(U)	Complete Block 40 Link 16/JHMCS								X	
Project 2671				Page 5 of 8 Pages				Exhibit R-2 (PE 0207133F)		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)						DATE February 2002					
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT				
07 - Operational System Development				0207133F F-16 SQUADRONS			2671				
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>											
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	Link 16 Block 50					0		0		0	
(U)	Link 16 Block 40					6,985		3,800		0	
(U)	MMC Block 40					6,899		2,000		0	
(U)	Color Display Block 40					2,067		1,200		0	
(U)	JHMCS Block 50					0		0		0	
(U)	JHMCS Block 40					6,392		3,600		0	
(U)	Training Devices					7,216		0		0	
(U)	Block 30 GPS Integration					0		0		0	
(U)	OFP Updates (Includes AAI)					53,184		59,494		54,621	
(U)	Flight Tests DT&E					31,237		30,848		21,717	
(U)	Block 50 HTS/TGP Capability (Software development, design, test assets)					3,300		2,717		0	
(U)	Falcon STAR (Structural analysis and design)					1,395		6,000		5,000	
(U)	OBOGS Retrofit					-3,963		0		0	
(U)	Distributed Training Centers							4,300			
(U)	Total					114,712		113,959		81,338	
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>											
(U) <u>Performing Organizations:</u>											
<u>Contractor or</u>	<u>Contract</u>										
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>							
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>	
<u>Product Development Organizations</u>											
CCIP (LM Aero)	T&M	Feb 97	5,384	5,384	5,384	0	0	0	0	5,384	
Link 16 Blk 50 (LM Aero)	SS/CPIF	Apr 98	30,347	30,347	20,256	0	0	0	0	20,256	
Link 16 Blk 40 (LM Aero)	SS/CPIF	Apr 98	20,281	20,281	7,252	6,985	3,800	0	0	18,037	
MMC Blk 50 (LM Aero)	SS/CPIF	Jan 92	172,222	172,222	172,222	0	0	0	0	172,222	
Project 2671											

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE
BUDGET ACTIVITY										February 2002
07 - Operational System Development					PE NUMBER AND TITLE					PROJECT
					0207133F F-16 SQUADRONS					2671
(U) Performing Organizations Continued:										
<u>Product Development Organizations</u>										
MMC Blk 40 (LM Aero)	SS/CPIF	Apr 98	26,483	26,483	12,800	6,899	2,000	0	0	21,699
CMFDS Blk 50 (LM Aero)	SS/CPIF	Apr 98	650	650	650	0	0	0	0	650
CMFDS Blk 40 (LM Aero)	SS/CPIF	Apr 98	8,674	8,674	5,505	2,067	1,200	0	0	8,772
JHMCS Blk 50 (LM Aero)	SS/CPIF	Apr 98	9,231	9,231	4,950	0	0	0	0	4,950
JHMCS Blk 40 (LM Aero)	SS/CPIF	Apr 98	14,209	14,209	2,205	6,392	3,600	0	0	12,197
JHMCS Study (LM Aero)	SS/CPFF	Apr 98	4,458	4,458	4,458	0	0	0	0	4,458
AIM/9X (LM Aero)	CPAF	Apr 98	115	115	115	0	0	0	0	115
AAI Blk 50 (LM Aero)	SS/CPIF	Aug 99	5,336	5,336	1,020	0	0	0	0	1,020
Trainers (Hughes)	FFP	Apr 97	44,979	44,979	18,591	7,216	0	0	0	25,807
Smart Wpns (LM Aero)	CPIF	Dec 95	9,915	9,915	9,915	0	0	0	0	9,915
GPS Integration (Various)	Various	Jul 97	19,248	19,248	18,645	0	0	0	0	18,645
OPF Updates (LM Aero)	CPIF/T&M	Dec 95			153,746	53,184	59,494	54,621		321,045
IDM Blk 42 (LM Aero)	FP	Nov 98	630	630	630	0	0	0	0	630
LANTIRN BDA			100	100	100	0	0	0	0	100
Block 50 HTS/TGP			5,967	5,967	0	3,300	2,717	0	0	6,017
Falcon STAR	FFP	Mar 01	17,500	17,500	0	1,395	6,000	5,000	5,000	17,395
OBOGS Retrofit	TBD	TBD	TBD	TBD	0	-3,963	0	0	0	-3,963
ALE-50			1,400	1,400	1,400	0	0	0	0	1,400
<u>Support and Management Organizations</u>										
Radar Eval					280	0	0	0	0	280
Halon Eval					40	0	0	0	0	40
<u>Test and Evaluation Organizations</u>										
600 Gallon Tank					2,296	0	0	0	0	2,296
Distributed Training Centers							4,300			4,300
Flight Tests					150,586	31,237	30,848	21,717		234,388
F-16 Y2K Demo			850	850	850	0	0	0	0	850

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE February 2002	
BUDGET ACTIVITY			PE NUMBER AND TITLE			PROJECT
07 - Operational System Development			0207133F F-16 SQUADRONS			2671
			<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>
			to FY 2001	FY 2001	FY 2002	FY 2003
						<u>Budget to</u>
						<u>Complete</u>
						<u>Total</u>
						<u>Program</u>
<u>Subtotals</u>						
Rescission						
Subtotal Product Development			439,844	83,475	78,811	59,621
Subtotal Support and Management			320	0	0	0
Subtotal Test and Evaluation			153,732	31,237	35,148	21,717
Total Project			593,896	114,712	113,959	81,338
						5,000
						908,905

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207134F F-15E SQUADRONS				PROJECT 0131	
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
0131 Initial Operational Test and Evaluation	91,263	107,376	81,726	106,280	91,664	93,060	99,291	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

Note: In FY 2003, Project 670131, F-15E First Shooter (ALR-56C Processor Upgrade) includes new start efforts.

(U) **A. Mission Description**
 The F-15E is the most versatile fighter in the world today. Configured with conformal fuel tanks (CFTs), the F-15E can deploy worldwide with minimal tanker support and arrive combat-ready. The F-15E retains air superiority capability and adds systems, such as Low Altitude Navigation Targeting Infrared for Night (LANTIRN), to meet the requirement for all-weather, deep penetration, and night/under-the-weather, air-to-surface attack. The F-15E's avionics, armament, airframe, and engines must be improved to maintain its superiority against the threat into the next century. The threat includes a new generation of aircraft possessing all-weather detection and kill capabilities. Avionics updates (exploiting proven technological advances) will be incorporated into the F-15E providing expanded capability and supporting an updated and fully integrated electronic warfare suite. This will increase the offensive and defensive capability and survivability of the F-15E. The F-15E PE also funds RDT&E activities for PE 0207130F, F-15A-D.

(U) **FY 2001 (\$ in Thousands)**

(U) \$21,436	Continue Operational Flight Program (OFP) development efforts.
(U) \$16,382	Advanced Display Core Processor Development (ADCP) (formerly OFP effort).
(U) \$17,772	Continue flight test of the OFP and flight testing of improvements initiated in prior years.
(U) \$17,347	Continue integration of the Smart Weapons.
(U) \$6,000	Continue developments attributed to Diminishing Manufacturing Sources (DMS) (Obsolete Parts).
(U) \$7,250	Initiate BOL integration into F-15 A-D (per FY 2001 Congressional Add).
(U) \$1,780	Complete development of the Combat Identification (ID) System.
(U) \$3,122	Continue integration of the Joint Helmet Mounted Cuing System (JHMCS).
(U) \$174	Continue development of the Electronic Counter-Counter Measures (ECCM).
(U) \$91,263	Total

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002		
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT		
07 - Operational System Development	0207134F F-15E SQUADRONS	0131		
(U) <u>A. Mission Description Continued</u>				
(U) <u>FY 2002 (\$ in Thousands)</u>				
(U) \$37,005	Continue OFP development efforts.			
(U) \$19,924	Continue flight testing of improvements initiated in prior years.			
(U) \$6,297	Complete developments attributed to DMS (Obsolete Parts). Funding for this effort is moving to Material Support Division (MSD) at Warner-Robins Air Logistics Center (WR-ALC).			
(U) \$23,396	Continue development of ADCP (formerly OFP effort).			
(U) \$12,060	Complete integration of the Smart Weapons.			
(U) \$500	Complete integration of the JHMCS.			
(U) \$7,000	Initiate F-15 Block Upgrade Program. (FY02 Congressional Add.)			
(U) \$1,194	Complete development of the ECCM.			
(U) \$107,376	Total			
.				
(U) <u>FY 2003 (\$ in Thousands)</u>				
(U) \$36,590	Continue OFP development efforts.			
(U) \$16,764	Continue flight testing of improvements initiated in prior years.			
(U) \$21,372	Continue development of ADCP (formerly OFP effort).			
(U) \$7,000	Initiate ALR-56C Processor Upgrade.			
(U) \$81,726	Total			
(U) <u>B. Budget Activity Justification</u>				
The F-15E, which received contract award approval in FY84, is an operational aircraft and therefore the development activities in the Program Element are included in Budget Activity 7, Operational Systems Development.				
(U) <u>C. Program Change Summary (\$ in Thousands)</u>				
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>
(U) Previous President's Budget	68,228	101,439	69,036	TBD
(U) Appropriated Value	68,860	101,439		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-482	-1,063		
Project 0131	Page 2 of 8 Pages			Exhibit R-2 (PE 0207134F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)				DATE
				February 2002
BUDGET ACTIVITY	PE NUMBER AND TITLE			PROJECT
07 - Operational System Development	0207134F F-15E SQUADRONS			0131
(U) <u>C. Program Change Summary (\$ in Thousands) Continued</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>
b. Small Business Innovative Research	-1,915			
c. Omnibus or Other Above Threshold Reprogram	21,618			
d. Below Threshold Reprogram	3,332			
e. Rescissions	-150			
(U) Adjustments to Budget Years Since FY 2002 PBR		7,000	12,690	
(U) Current Budget Submit/FY 2003 PBR	91,263	107,376	81,726	TBD
(U) <u>Significant Program Changes:</u>				
Funding (FY01):				
<p>OFP Development \$21.436M - Realigned funds from OFP budget to the F-15 Flight Test budget to fund OFP flight tests. Includes \$5.618M that was part of the ADCP FY01 Congressionally approved reprogramming from 3010, BP10 to 3600. \$.148M Small Business Innovative Research (SBIR) was applied against OFP. \$.382M was realigned from OFP to ADCP. \$.174M was realigned from OFP to ECCM to cover ECCM Award Fees.</p> <p>Flight Test \$17.772M - Realigned funds from OFP budget to fund OFP flight tests.</p> <p>BOL Integration \$7.250M - FY01 Congressional add to fund F-15 R & D tasks.</p> <p>ADCP \$16.382M - FY01 Congressionally approved reprogramming from 3010, BP10 to 3600. \$.382M realigned from OFP to ADCP.</p>				
Funding (FY02):				
<p>OFP Development \$37.005M - Realigned funds from ADCP for OFP requirements definition.</p> <p>ADCP \$23.396M - Realigned funds to OFP Development to accomodate OFP requirements definition.</p> <p>F-15 Block Upgrade Program \$7.000M - FY02 Congressional Add to support F-15 Block Upgrade.</p>				
Funding (FY03):				
<p>\$12.690M - Funding increase of \$13.00M for ALR-56C Processor Upgrade and continued OFP Development efforts. Funding decrease of \$.199M for Nonpay Purchases Inflation. Funding decrease of \$.111M for A&AS.</p> <p>\$4.700M - Funding for DMS (Parts Obs) is moving to MSD at WR-ALC. Funding has been realigned to cover needed OFP Development and Flight Test Efforts.</p>				
Project 0131	Page 3 of 8 Pages	Exhibit R-2 (PE 0207134F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207134F F-15E SQUADRONS				PROJECT 0131	
(U) D. Other Program Funding Summary (\$ in Thousands)									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E									
(U) Other APPN									
(U) Aircraft Procurement (3010F), Line Item 5, F-15E (PE27134F) [BP 10]	356,200								356,200
(U) Aircraft Procurement (3010F), Line Item 27, F-15A-E (PEs 27130F and 27134F) [BP 11]	305,221	241,126	231,237	249,585	176,158	177,995	98,319	Continuing	TBD
(U) Aircraft Procurement (3010F), Line Item 27, F-15 (PE27442F) [IDECM]						22,350	22,776	Continuing	TBD
(U) Aircraft Procurement (3010F) F-15E (PE84731F) General Skills Training [BP11]			1,263						1,263
(U) Aircraft Procurement (3010F) F-15 (PE27434F) Link 16 Support and Sustainment [BP11]				5,742					
(U) Aircraft Procurement (3010F) F-15E (PE89731F) Training Support to Units [BP11]		511				2,169	1,321	Continuing	TBD
(U) Aircraft Procurement (3010F), Line Item 66, F-15A-E [BP 13]	6,831	7,263	7,512	7,709	7,862	8,196	8,346	Continuing	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2002				
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT				
07 - Operational System Development					0207134F F-15E SQUADRONS					0131				
(U) E. Acquisition Strategy														
Program is a continuation of effort which includes the development of all F-15 models. Funds are executed organically in support of equipment improvement, study, analysis, and test.														
(U) F. Schedule Profile														
		<u>FY 2001</u>					<u>FY 2002</u>					<u>FY 2003</u>		
	1	2	3	4	1		2	3	4	1		2	3	4
(U)	Smart Weapons DT&E start				*									
(U)	Smart Weapons DT&E complete						X							
(U)	OFP Suite 4 complete						X							
(U)	OFP Suite 5 Phase I complete						X							
(U)	OFP Suite 5 Phase II start							X						
(U)	ADCP Force Development Evaluation Start									X				
(U)	ADCP Force Development Evaluation Complete											X		
(U)	Air Data Processor EMD complete					*								
(U)	JHMCS OT&E complete						*							
(U)	ECCM EMD complete									X				
(U)	Initiate BOL Dispenser integration					*								
(U)	BOL EMD Complete												X	
(U)	ALR-56C Processor Upgrade EMD Start												X	
(U)	F-15 Block Upgrade Program Start							X						
	* - Completed Activity													
	X - Planned Start/Completion Date													

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT			
07 - Operational System Development				0207134F F-15E SQUADRONS			0131			
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	OFP					21,436		37,005		36,590
(U)	Flight Test					17,772		19,924		16,764
(U)	ALR-56C Processor Upgrade					0		0		7,000
(U)	Advance Display Core Processor (ADCP)					16,382		23,396		21,372
(U)	Smart Weapons					17,347		12,060		0
(U)	DMS (Parts Obsolescence)					6,000		6,297		0
(U)	Combat ID					1,780		0		0
(U)	Joint Helmet Mounted Cueing System					3,122		500		0
(U)	ECCM					174		1,194		0
(U)	BOL Dispenser					7,250		0		0
(U)	F-15 Block Upgrade Program					0		7,000		0
(U)	Total					91,263		107,376		81,726
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
P&W (-229 Eng)	CPAF	Sep 94	6,520	6,520	6,520	0	0	0	0	6,520
GE (-129 Eng)	CPAF	Feb 95	7,130	7,130	7,130	0	0	0	0	7,130
Boeing (GFE/GFP)	FFP	Dec 93	1,975	1,975	1,975	0	0	0	0	1,975
OFP Suite 4/5/6/7 Development	CPAF	May 98	339,808	339,808	148,297	21,436	37,005	36,590	Continuing	TBD
Boeing APG63 (Feasibility Study)	CPFF	Feb 94	778	778	778	0	0	0	0	778
Project 0131		Page 6 of 8 Pages					Exhibit R-3 (PE 0207134F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)									DATE	
BUDGET ACTIVITY									PROJECT	
07 - Operational System Development									0131	
PE NUMBER AND TITLE										
0207134F F-15E SQUADRONS										
(U) Performing Organizations Continued:										
<u>Product Development Organizations</u>										
(Risk Reduction)	CPFF	Feb 94	9,892	9,892	9,892	0	0	0	0	9,892
(EMD)	CPAF	Sep 94	223,033	223,033	223,033	0	0	0	0	223,033
Boeing (JHMCS A-D)	CPAF		11,358	11,358	9,483	3,122	500	0	0	13,105
PACS Upgrade	CPAF	May 95	28,343	28,343	28,343	0	0	0	0	28,343
Wright Lab (DMS)	MIPR/PRs	Sep 94	81,348	81,348	29,006	6,000	6,297	0	0	41,303
Smart Weapons Integration	CPAF	Feb 99	51,607	51,607	3,507	17,347	12,060	0	0	32,914
ADP(E)	CPAF	Jan 99	4,356	4,356	2,846	0	0	0	0	2,846
ADCP(E)	CPAF	Jan 00	108,522	108,522	0	16,382	23,396	21,372	0	61,150
NGA (ALQ-135 Band 1.5)	FFP	May 97	39,384	39,384	35,440	0	0	0	0	35,440
Link-16 Data Link	CPAF	Apr 98	19,400	19,400	19,400	0	0	0	0	19,400
Combat ID	CPAF	May 98	14,109	14,109	1,790	1,780	0	0	0	3,570
TISS Replacement	CPFF	Aug 97	4,896	4,896	3,560	0	0	0	0	3,560
Boeing/Raytheon ECCM	CPAF	Jan 00	15,000	15,000	0	174	1,194	0	0	1,368
BOL Dispenser	CPFF	Jun 01	7,118	7,118	0	7,250	0	0	0	7,250
ALR-56C	CPAF	Jan 03	0	0	0	0	0	7,000	Continuing	TBD
F-15 Block Upgrade Program	CPAF	May 02	0	0	0	0	7,000	0	0	7,000
<u>Support and Management Organizations</u>										
(Msn Spt) Misc.					16,708	0	0	0	0	16,708
<u>Test and Evaluation Organizations</u>										
Boeing (Flt Test)	FFP	Oct 96	123,434	123,434	51,815	9,465	11,924	9,764	Continuing	TBD
Edwards	PO	Oct 96	91,048	91,048	41,562	8,015	7,000	6,000	Continuing	TBD
Eglin (Flt Test)	PO	Oct 96	21,667	21,667	12,210	292	1,000	1,000	Continuing	TBD

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE February 2002	
BUDGET ACTIVITY		PE NUMBER AND TITLE			PROJECT	
07 - Operational System Development		0207134F F-15E SQUADRONS			0131	
		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
		<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>
						<u>Total</u>
<u>Subtotals</u>						<u>Program</u>
Subtotal Product Development		531,000	73,491	87,452	64,962	TBD
Subtotal Support and Management		16,708	0	0	0	16,708
Subtotal Test and Evaluation		105,587	17,772	19,924	16,764	TBD
Total Project		653,295	91,263	107,376	81,726	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207136F Manned Destructive Suppression				PROJECT 4595		
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4595	F-16 HARM Targeting System (HTS)	13,643	22,017	23,699	14,341	10,479	8,097	0	0	149,347
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0
<p>(U) <u>A. Mission Description</u> The overall Manned Destructive Suppression (MDS) program funds the development, procurement, and sustainment of the Air Force's Suppression of Enemy Air Defenses (SEAD) and Destruction of Enemy Air Defenses (DEAD) capabilities. The F-16 HARM Targeting System (HTS) is the only currently programmed reactive SEAD capability and enables targeting the HARM missile in its' most lethal 'range known' mode. The program provides F-16 Block 50/52 aircraft with the ability to employ the AN/ASQ-213 pod. The RDT&E effort continues HTS preplanned product improvements (P3I) and applies technologies similar to those demonstrated in the Advanced Tactical Targeting Technologies (AT3) program. In FY00, the Revision 7 (R7) P3I entered development to address evolving threats and to provide a precision geolocation capability to employ Precision Guided Munitions (PGMs) for the DEAD mission. In FY01, R7 Program Definition and Risk Reduction (PDRR) was completed and the contract was awarded for System Development and Demonstration (SDD). The R7 SDD effort in FY02 includes preliminary design review, integration efforts for F-16 software, critical design review, and flight test planning. FY03 marks the start of R7 flight test activities. R7 RDT&E changes will also enable the F-16 to carry both an AN/ASQ-213 pod and an Advanced Targeting Pod (ATP). These improvements represent the Air Force's near-term solution (capability can be transferred to JSF, UCAV, or a yet defined system) for reactive time critical targeting for the DEAD mission. R7 will target the Joint Standoff Weapon (JSOW) and potentially target other PGMs to destroy fixed and mobile enemy air defense elements. R7 precision coordinates will be available to all Joint Forces via Link-16.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <p>(U) \$1,534 Complete R7 Geolocation Upgrade Program Definition study & Risk Reduction (PDRR)</p> <p>(U) \$11,123 Continue R7 Geolocation Upgrade Development (Includes R7/TGP Dual Carriage)</p> <p>(U) \$25 Initiate R7 Upgrade Test and Evaluation Support</p> <p>(U) \$961 Continue Mission Support</p> <p>(U) \$13,643 Total</p>										
Project 4595			Page 1 of 5 Pages				Exhibit R-2 (PE 0207136F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002			
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT			
07 - Operational System Development	0207136F Manned Destructive Suppression	4595			
(U) <u>A. Mission Description Continued</u>					
(U) <u>FY 2002 (\$ in Thousands)</u>					
(U) \$20,699	Continue R7 Geolocation Upgrade Development				
(U) \$100	Continue R7 Upgrade Test and Evaluation Support				
(U) \$1,218	Continue Mission Support				
(U) \$22,017	Total				
(U) <u>FY 2003 (\$ in Thousands)</u>					
(U) \$19,276	Continue R7 Geolocation Upgrade Development				
(U) \$3,100	Continue R7 Upgrade Test and Evaluation Support				
(U) \$1,323	Continue Mission Support				
(U) \$23,699	Total				
(U) <u>B. Budget Activity Justification</u>					
This PE is in Budget Activity 7 - Operational System Development because it supports preplanned product improvements and upgrade development of F-16 HTS, a fielded system.					
(U) <u>C. Program Change Summary (\$ in Thousands)</u>					
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>
(U) Previous President's Budget		14,535	22,239	23,947	
(U) Appropriated Value		14,670	22,239		
(U) Adjustments to Appropriated Value					
a. Congressional/General Reductions		-103	-222		
b. Small Business Innovative Research		-469			
c. Omnibus or Other Above Threshold Reprogram		-23			
d. Below Threshold Reprogram		-400			
e. Rescissions		-32			
(U) Adjustments to Budget Years Since FY 2002 PBR				-248	
(U) Current Budget Submit/FY 2003 PBR		13,643	22,017	23,699	149,347
Project 4595	Page 2 of 5 Pages	Exhibit R-2 (PE 0207136F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207136F Manned Destructive Suppression				PROJECT 4595	
(U) C. Program Change Summary (\$ in Thousands) Continued									
(U) <u>Significant Program Changes:</u> Adjustments to FY 2002 and FY 2003 are for inflation and reductions in Advisory and Assistance Services (A&AS) funding requirements.									
(U) D. Other Program Funding Summary (\$ in Thousands)									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E									
(U) Other APPN									
(U) HTS Aircraft Procurement (BP11)AF PE 0207136F	835			10,343	14,520	16,502	5,335	Continuing	
(U) HTS Aircraft Procurement (BP19)AF PE 0207136F	13,993				19,853			Continuing	
(U) E. Acquisition Strategy									
The HTS program objective is to develop precision geolocation capability that significantly improves speed and accuracy of emitter targeting solutions on F-16 Block 50/52 aircraft. Precision geolocation capability will permit targeting of PGMs such as JSOW, in addition to the HARM missile, against mobile and fixed sites. The objective will be accomplished through study, risk reduction, and a System Development and Demonstration (SDD) effort leading to significant upgrades and increases in the F-16's and Joint Forces' reactive time critical targeting for Destruction of Enemy Air Defenses (DEAD) with JSOW.									
(U) F. Schedule Profile									
				<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
			1	2	3	4	1	2	3
(U) R6 Lot 4 Contract Award				*					
(U) R7 SDD Contract Award				*					
(U) R6 Fielding Completed in December 2001						*			
(U) R6 Lot 2 Pod Deliveries Complete (16 Pods)						X			
(U) R6 Lot 3 Pod Deliveries Complete (13 Pods)						X			
(U) R6 Lot 4 Pod Deliveries (31 Pods)							X		
(U) R7 Test Program Begins									X
* = Completed Event X = Planned Event									
Project 4595			Page 3 of 5 Pages				Exhibit R-2 (PE 0207136F)		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT			
07 - Operational System Development				0207136F Manned Destructive Suppression			4595			
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	R7 Program Definition study and Risk Reduction (PDRR)					1,534				
(U)	R7 Geolocation Dev (Includes R7/TGP Dual Carriage)					11,123		20,699		19,276
(U)	Test & Evaluation Support					25		100		3,100
(U)	Mission Support					961		1,218		1,323
(U)	Total					13,643		22,017		23,699
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
Raytheon Systems Co.	SS/Various	Various	63,404	63,404	9,868	12,657	20,486	19,109	19,028	81,148
Raytheon Systems Co.	SS/CPAF	Feb 96	31,331	31,331	31,331					31,331
AFMSS	SS/CPIF	Various	1,885	1,885	1,885		213	167	552	2,817
Lockheed/Ft Worth	SS/FFP	Various	2,400	2,400	2,400					2,400
<u>Support and Management Organizations</u>										
Prog. Mgt. and Mission Support	Various	Various			4,096	961	1,218	1,323	4,834	12,432
<u>Test and Evaluation Organizations</u>										
Eglin	PO	Various			2,175					2,175
Edwards	PO	Various			4,394	25	100	3,100	8,503	16,122
Light Defender		Various			922					922

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)				DATE February 2002					
BUDGET ACTIVITY		PE NUMBER AND TITLE				PROJECT			
07 - Operational System Development		0207136F Manned Destructive Suppression				4595			
(U) Government Furnished Property:									
<u>Item</u>	<u>Contract</u>	<u>Award or</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Method/Type</u>	<u>or Funding</u>	<u>Date</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>									
Not Applicable									
<u>Support and Management Property</u>									
Not Applicable									
<u>Test and Evaluation Property</u>									
Not Applicable									
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>				<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				45,484	12,657	20,699	19,276	19,580	117,696
Subtotal Support and Management				4,096	961	1,218	1,323	4,834	12,432
Subtotal Test and Evaluation				7,491	25	100	3,100	8,503	19,219
Total Project				57,071	13,643	22,017	23,699	32,917	149,347

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002			
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207138F F-22 SQUADRONS				PROJECT 4785			
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost	
4785	F-22	0	0	181,239	227,296	205,728	261,871	464,291	0	1,340,425	
Quantity of RDT&E Articles		0	0	0	0	0	0	0	0	0	
<p>(U) <u>A. Mission Description</u> The F-22 is designed to penetrate enemy airspace and achieve a first look, first kill capability against multiple targets. The F-22 is characterized by a low observable, highly maneuverable airframe, advanced integrated avionics, and aerodynamic performance that allows supersonic cruise without the use of afterburner. The F-22 is currently in the Engineering and Manufacturing Development (EMD) phase of acquisition. The Defense Aquisition Board (DAB) approved Low Rate Initial Production (LRIP) Aug 01.</p> <p>NOTE: This exhibit is for post EMD requirements/developments - which are hardware and software enhancements to the EMD baseline.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 (U) \$0 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$127,470 Operational Flight Program (OFP) development: - Continue Block 4 development. (NSP) - Initiate Block 5 development. (NSP) (U) \$22,500 Initiate Small Diameter Bomb Integration (Block 5). (U) \$24,169 Initiate Auto Ground Collision Avoidance System (AGCAS). (U) \$7,100 Initiate Air Vehicle Instrumentation support (SEEK EAGLE Instrumentation). (U) \$181,239 Total</p>											
Project 4785				Page 1 of 5 Pages				Exhibit R-2 (PE 0207138F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development			PE NUMBER AND TITLE 0207138F F-22 SQUADRONS				PROJECT 4785		
(U) <u>B. Budget Activity Justification</u>									
This program is in Budget Activity 7, Engineering and Manufacturing Development, because the F-22 Program is developing the next-generation air superiority fighter for the USAF to counter emerging worldwide threats.									
(U) <u>C. Program Change Summary (\$ in Thousands)</u>									
			<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>			<u>Total Cost</u>	
(U)	Previous President's Budget			16,092	51,339			585,817	
(U)	Appropriated Value			0				0	
(U)	Adjustments to Appropriated Value								
	a. Congressional/General Reductions							0	
	b. Small Business Innovative Research							0	
	c. Omnibus or Other Above Threshold Reprogram							0	
	d. Below Threshold Reprogram							0	
	e. Rescissions							0	
(U)	Adjustments to Budget Years Since FY 2002 PBR				129,900			754,608	
(U)	Current Budget Submit/FY 2003 PBR			0	181,239			1,340,425	
(U) <u>Significant Program Changes:</u>									
Auto Ground Collision Avoidance System (AGCAS), an OSD directed project, is scheduled to begin development FY03 through FY05. Block 5 development is scheduled to begin in FY03. FY02 adjustment reflects congressional realignment (moves funds from PE 27138F to PE 64239F). Funding in FY04 and out also includes manpower authorizations, peculiar and common support equipment, necessary facilities and the associated cost specifically identified and measurable to the following: Continue Post EMD development of the F-22 fighter.									
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u>									
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Total Cost</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	
(U)	AF RDT&E	1,001,023	732,686	627,266	250,000				23,220,673
(U)	{PE 64239F}								
(U)	PRTV II (6)	410,583	148,870						1,580,580
(U)	F-22 Squadrons Procurement (PE 0207138F)			16,098	41,287	30,791	20,200	52,006	160,382
Project 4785		Page 2 of 5 Pages							Exhibit R-2 (PE 0207138F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207138F F-22 SQUADRONS				PROJECT 4785	
(U) D. Other Program Funding Summary (\$ in Thousands)									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) Military Construction (PE 0604239F)	0	0	0	0	0	0	0	0	39,700
(U) Military Construction (PE 0207219F)*	25,300	61,253	42,790	21,700	49,800	47,110	41,180	160,014	449,147
(U) Aircraft Procurement (PE 0207219F) Advanced Tactical Fighter, P-1 Line Item #003**	2,536,494	3,037,312	4,633,883	4,591,650	4,718,979	4,704,479	5,735,641	11,775,692	42,895,959
(U) Munitions Procurement (PE 0207219F)	0	4,322	6,396	9,480	9,433	10,922	10,771	36,642	89,840
* NOTE: FY04 and outyears not listed in ABIDES. Estimate reflected in DAES/SAR.									
**NOTE: Includes BP10, 11, 16, 19 and Advance Buy.									
(U) E. Acquisition Strategy									
The FY03 acquisition strategy is currently being determined.									
(U) F. Schedule Profile									
				<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
				1 2 3 4		1 2 3 4		1 2 3 4	
(U) Initiate AGCAS hardware integration								X	
(U) Initiate Block 5 development/OFP Upgrades								X	
(U) Initiate Small Diameter Bomb Integration (Block 5)								X	
(U) Initiate Air Vehicle Instrumentation support								X	
* - Completed									
X - Planned									
Project 4785			Page 3 of 5 Pages				Exhibit R-2 (PE 0207138F)		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY			PE NUMBER AND TITLE				PROJECT				
07 - Operational System Development			0207138F F-22 SQUADRONS				4785				
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	Block 4 software development/integration									55,170	
(U)	Auto GCAS									24,169	
(U)	Block 5 development/OFP Upgrades									72,300	
(U)	Small Diameter Bomb Integration (Block 5)									22,500	
(U)	Air Vehicle Instrumentation support									7,100	
(U)	Total									181,239	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Performing Activity</u>	<u>or Funding Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
	<u>Product Development Organizations</u>										
	Block 4 software development/integration	TBD	3QFY02						55,170	50,018	105,188
	AGCAS	TBD	2QFY03					24,169	45,382	69,551	
	Block 5 development/OFP Upgrades	TBD	2QFY03					72,300	952,386	1,024,686	
	Small Diameter Bomb Integration (Block 5)	TBD	2QFY03					22,500	60,300	82,800	
	Air Vehicle Instrumentation support	TBD	2QFY03					7,100	51,100	58,200	
	<u>Support and Management Organizations</u>										
	<u>Test and Evaluation Organizations</u>										
Project 4785			Page 4 of 5 Pages				Exhibit R-3 (PE 0207138F)				

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT			
07 - Operational System Development				0207138F F-22 SQUADRONS			4785			
(U) Government Furnished Property:										
	<u>Contract</u>	<u>Award or</u>								
<u>Item</u>	<u>Method/Type</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>		<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	
<u>Product Development Property</u>										
Not Applicable										
<u>Support and Management Property</u>										
Not Applicable										
<u>Test and Evaluation Property</u>										
Not Applicable										
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	
<u>Subtotals</u>					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	
Subtotal Product Development								181,239	1,159,186	1,340,425
Subtotal Support and Management										
Subtotal Test and Evaluation										
Total Project								181,239	1,159,186	1,340,425

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207141F F-117A SQUADRON				PROJECT 3956	
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
3956 F-117A Stealth Fighter	1,606	2,282	3,525	10,059	51,047	56,488	1,088	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0
<p>(U) <u>A. Mission Description</u></p> <p>The F-117 is the world's first operational low-observable (LO) combat aircraft. Its combination of stealth and precision weapons delivery capability allows the United States Air Force to hold even the most highly defended targets at risk. The program completed production in Jul 1990 with the delivery of the final F-117 (number 59). The single operational F-117 unit is the 49th Fighter Wing stationed at Holloman AFB, NM. The program is now primarily engaged in modernization and sustainment activities for the F-117, which is projected to remain in service through at least 2018.</p> <p>This project provides research and development funding for multiple modifications to the F-117 weapon system to enhance combat capability while improving safety, reliability and supportability. The MIL-STD-1760 Stores Management Processor (SMP) modification, which completed development in May 01, is an essential prerequisite for integration of advanced weapons on the F-117. Development efforts continue for Smart Weapons Integration. The current program implements full EGBU-27 capability, full JDAM capability, and software integration for subsequent WCMD flight testing. EMD started in FY01. The Combat Capability Sustainment Program (CCSP), formerly referred to as Block Cycle 3 (BC3), replaces obsolete avionics systems, establishes new vendors and improves reliability and maintainability to keep the F-117 operational through its service life. CCSP began Program Definition/Risk Reduction (PDRR) in FY00 with Congressional Add funding. CCSP EMD begins in FY05.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <p>(U) \$1,606 Continue EMD for Smart Weapons Integration</p> <p>(U) \$1,606 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$2,282 Continue EMD for Smart Weapons Integration</p> <p>(U) \$2,282 Total</p>									
Project 3956			Page 1 of 5 Pages				Exhibit R-2 (PE 0207141F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207141F F-117A SQUADRON			PROJECT 3956		
(U) <u>A. Mission Description Continued</u>									
(U) <u>FY 2003 (\$ in Thousands)</u>									
(U) \$3,525 Continue EMD for Smart Weapons Integration									
(U) \$3,525 Total									
(U) <u>B. Budget Activity Justification</u>									
This program is in budget activity 7, Operational System Development, because all aircraft have been delivered and the program is in its deployment phase.									
(U) <u>C. Program Change Summary (\$ in Thousands)</u>									
			<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>		<u>Total Cost</u>		
(U)	Previous President's Budget		3,876	2,305	3,554		TBD		
(U)	Appropriated Value		3,912	2,305					
(U)	Adjustments to Appropriated Value								
	a. Congressional/General Reductions		-36	-23					
	b. Small Business Innovative Research		-135						
	c. Omnibus or Other Above Threshold Reprogram		-53						
	d. Below Threshold Reprogram		-2,082						
	e. Rescissions								
(U)	Adjustments to Budget Years Since FY 2002 PBR				-29				
(U)	Current Budget Submit/FY 2003 PBR		1,606	2,282	3,525		TBD		
(U) <u>Significant Program Changes:</u>									
FY03: Reduction in program support (-29).									
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u>									
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Total Cost</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	
(U)	Other APPN							<u>Cost to Complete</u>	
(U)	Aircraft Procurement (BA-5), Appn 3010/BP1100, AF F117A Squadrons, PE 27141F	30,020	27,069	21,079	8,173	22,669	53,378	131,485	Continuing TBD
Project 3956		Page 2 of 5 Pages					Exhibit R-2 (PE 0207141F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002		
BUDGET ACTIVITY	PE NUMBER AND TITLE						PROJECT		
07 - Operational System Development	0207141F F-117A SQUADRON						3956		
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u>									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) Other Procurement, Appn 3080/BP8300, AF F117A Squadrons, PE 27141F	2,242								2,242
(U) <u>E. Acquisition Strategy</u>									
Lockheed Martin Aeronautics Company at Palmdale (LMAC-P) is the F-117 prime contractor and has total system performance responsibility (TSPR) for the F-117 weapon system. Modification programs are sole source to LMAC-P as part of the larger TSPR effort. RDT&E funds are executed to develop improved capability, reliability, maintenance and safety modifications. Operational Flight Program (OFP) software is continuously updated as needed to complement modification development efforts. The contracting approach varies by individual effort and involves Cost Plus Fixed Fee (CPFF) and Cost Plus Award Fee (CPAF) contract types.									
(U) <u>F. Schedule Profile</u>									
		<u>FY 2001</u>			<u>FY 2002</u>			<u>FY 2003</u>	
	1	2	3	4	1	2	3	4	1
(U) Stores Mangement Processor (SMP) (EMD, Jul 96-May 01)			*						
(U) Smart Weapons Integ-Full JDAM (PDRR Sep 98-Nov 01)					*				
(U) Smart Weapons Integ- Full EGBU-27/JDAM (EMD, May 01-FY06)			*						
(U) Smart Weapons Integ Preliminary Design Review (PDR) (July 02)									X
(U) Smart Weapons Integ Critical Design Review (CDR) (May 03)									X
(U) CCSP Pre-EMD (PDRR Phase 1 Jun 00-Dec 03)									
* = Completed Effort X = Planned Effort									
Project 3956			Page 3 of 5 Pages				Exhibit R-2 (PE 0207141F)		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY			PE NUMBER AND TITLE				PROJECT				
07 - Operational System Development			0207141F F-117A SQUADRON				3956				
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	Stores Management Processor (SMP) EMD										
(U)	Smart Weapons Integration PDRR										
(U)	Smart Weapons Integration EMD					1,606		2,282		3,525	
(U)	CCSP PDRR										
(U)	Total					1,606		2,282		3,525	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government Performing Activity</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Product Development Organizations</u>										
	SMP EMD, Lockheed Martin, CPAF Palmdale CA		Jul 98	17,766	17,766	17,766	0	0	0	0	17,766
	Smart Wpn Integration PDRR, Lockheed Martin, Palmdale CA		Sep 98	2,762	2,762	2,762	0	0	0	0	2,762
	Smart Wpn Integration EMD, Lockheed Martin, Palmdale CA		May 01	27,463	27,463	0	1,606	2,282	3,525	Continuing	TBD
	CCSP PDRR, Lockheed Martin, Palmdale CA		Apr 00	7,284	7,284	7,284	0	0	0	0	7,284
	<u>Support and Management Organizations</u>										
	<u>Test and Evaluation Organizations</u>										
Project 3956			Page 4 of 5 Pages				Exhibit R-3 (PE 0207141F)				

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE February 2002	
BUDGET ACTIVITY		PE NUMBER AND TITLE			PROJECT	
07 - Operational System Development		0207141F F-117A SQUADRON			3956	
		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
		<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>
						<u>Total</u>
						<u>Program</u>
<u>Subtotals</u>						
Subtotal Product Development		27,812	1,606	2,282	3,525	TBD
Subtotal Support and Management						
Subtotal Test and Evaluation						
Total Project		27,812	1,606	2,282	3,525	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002																
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207161F Tactical AIM Missiles				PROJECT 4132																
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost														
4132	AIM-9 Product Improvement	21,657	5,713	2,943	382	5,659	15,419	5,702	Continuing	TBD														
	Quantity of RDT&E Articles	6	11	0	0	0	0	0	0	22														
<p>Note: The RDT&E articles are deliverables under the Engineering and Manufacturing Development (EMD) contract and are not separately priced. Quantities are delivered in the indicated Fiscal Years. Deliveries supported October 1999 restructured program.</p> <p>(U) <u>A. Mission Description</u> The AIM-9X is a long-term evolution of the AIM-9, a fielded system, qualifying this as a research category operational systems development. The AIM-9X (Sidewinder) short range air-to-air missile program provides a launch and leave, air combat munition that uses passive infrared (IR) energy for acquisition and tracking of enemy aircraft and complements the Advanced Medium Range Air-to-Air Missile. Air superiority in the short range air-to-air missile arena is essential and includes first-shot, first-kill opportunity against an enemy employing IR countermeasures. The AIM-9X employs several components common to the AIM-9M. Anti-Tamper features are being incorporated to protect improvements inherent in AIM-9X design. AIM-9X is an Acquisition Category IC (ACAT IC) joint-service program with Navy lead.</p> <p>Status: Acquisition Decision Memorandum (ADM) for LRIP II & III was signed in November 2001. The joint flight test program has completed 18 unguided and 19 guided launches proving revolutionary capabilities well beyond the fielded AIM-9M. OT-IIB is to begin 2nd quarter of FY2002.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <table border="0"> <tr> <td>(U) \$14,128</td> <td>Continued the EMD contract - completed DT-IIB/C, started DT-IID launches, and delivered six test articles</td> </tr> <tr> <td>(U) \$1,074</td> <td>Continued aircraft interface support to the EMD contractor</td> </tr> <tr> <td>(U) \$5,223</td> <td>Continued government flight test support of activities defined as DT-IID and DT Assist (with operational testers) at multiple test sites</td> </tr> <tr> <td>(U) \$356</td> <td>Field engineering support for government flight test activities</td> </tr> <tr> <td>(U) \$396</td> <td>Provided program office management support to include working capital funded personnel, supplies, and travel</td> </tr> <tr> <td>(U) \$480</td> <td>Provided for consulting services, technical engineering, and management support</td> </tr> <tr> <td>(U) \$21,657</td> <td>Total</td> </tr> </table>											(U) \$14,128	Continued the EMD contract - completed DT-IIB/C, started DT-IID launches, and delivered six test articles	(U) \$1,074	Continued aircraft interface support to the EMD contractor	(U) \$5,223	Continued government flight test support of activities defined as DT-IID and DT Assist (with operational testers) at multiple test sites	(U) \$356	Field engineering support for government flight test activities	(U) \$396	Provided program office management support to include working capital funded personnel, supplies, and travel	(U) \$480	Provided for consulting services, technical engineering, and management support	(U) \$21,657	Total
(U) \$14,128	Continued the EMD contract - completed DT-IIB/C, started DT-IID launches, and delivered six test articles																							
(U) \$1,074	Continued aircraft interface support to the EMD contractor																							
(U) \$5,223	Continued government flight test support of activities defined as DT-IID and DT Assist (with operational testers) at multiple test sites																							
(U) \$356	Field engineering support for government flight test activities																							
(U) \$396	Provided program office management support to include working capital funded personnel, supplies, and travel																							
(U) \$480	Provided for consulting services, technical engineering, and management support																							
(U) \$21,657	Total																							
Project 4132		Page 1 of 6 Pages				Exhibit R-2 (PE 0207161F)																		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
		February 2002
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
07 - Operational System Development	0207161F Tactical AIM Missiles	4132
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$3,818 Continue the EMD contract to include completion of the DT Assist, start of OT-IIB and delivery of eleven test articles</p> <p>(U) \$200 Continue providing aircraft interface support to the EMD contractor</p> <p>(U) \$818 Continue providing government flight test support of activities defined as DT Assist (with operational testers) at multiple test sites</p> <p>(U) \$290 Field engineering support for government flight test activities</p> <p>(U) \$272 Provide program office management support to include working capital funded personnel, supplies, and travel</p> <p>(U) \$315 Provide for consulting services, technical engineering, and management support</p> <p>(U) \$5,713 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$1,700 Continue the EMD contract to include correction of deficiencies found in OT, and EMD contract completion activities</p> <p>(U) \$610 Continue providing government flight test support of activities defined as DT Assist (with operational testers) at multiple test sites</p> <p>(U) \$386 Field engineering support for government flight test activities</p> <p>(U) \$165 Provide program office management support to include working capital funded personnel, supplies, and travel</p> <p>(U) \$82 Provide for consulting services, technical engineering, and management support</p> <p>(U) \$2,943 Total</p> <p>(U) <u>B. Budget Activity Justification</u></p> <p>The program is currently in budget activity 7 - Operational System Development.</p> <p>The AIM-9X joint program office was previously considered a modification program to the already fielded AIM-9M and a long-term evolution of the AIM-9 series of air-to-air missiles. The following Congressional language resulted from the FY01 Appropriations Conference - 'The conferees direct that future Air Force and Navy budget requests for AIM-9X be included in the new procurement sections of the Missile Procurement Air Force and Weapons Procurement Navy budget accounts rather than the current practice of budgeting AIM-9X as a modification.' As a result, FY01 procurement actions are addressed in BP21 documentation (P3A) and the remainder of the program is detailed in BP20 documentation (P40, 5, 5A, 21).</p>		
Project 4132	Page 2 of 6 Pages	Exhibit R-2 (PE 0207161F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207161F Tactical AIM Missiles			PROJECT 4132		
(U) C. Program Change Summary (\$ in Thousands)									
				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>		<u>Total Cost</u>	
(U)	Previous President's Budget			21,507	5,771	3,067		TBD	
(U)	Appropriated Value			21,706	5,771				
(U)	Adjustments to Appropriated Value								
	a. Congressional/General Reductions			-152	-58				
	b. Small Business Innovative Research								
	c. Omnibus or Other Above Threshold Reprogram								
	d. Below Threshold Reprogram			150					
	e. Rescissions			-47					
(U)	Adjustments to Budget Years Since FY 2002 PBR					-124			
(U)	Current Budget Submit/FY 2003 PBR			21,657	5,713	2,943		TBD	
(U)	<u>Significant Program Changes:</u>								
	Funding: FY2003 \$124K reduction due to reduction in program support.								
(U) D. Other Program Funding Summary (\$ in Thousands)									
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Total Cost</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	
(U)	AF RDT&E								
(U)	DOD PE (0603715D)								25,000
(U)	Other APPN								
(U)	Tactical AIM Missile Modification (BP21)	27,925							27,925
(U)	Tactical AIM Missile Procurement (BP20)		33,197	55,213	71,590	54,865	57,321	55,578	840,997
(U)	SEEK EAGLE	2,892	5,378	1,751	0	0	0	0	TBD
	Congressional language directed the program to report as a missile procurement, starting in FY02, and not as a missile modification.								

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207161F Tactical AIM Missiles	PROJECT 4132
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(U) E. Acquisition Strategy

After a full and open competition, a Cost Plus Incentive Fee/Award Fee contract was awarded to Hughes Missile Systems Company (now Raytheon Systems Corp (RSC)) to complete missile system development and prepare for production. This EMD contract includes three Fixed Price options for Low Rate Initial Production (LRIP) Lots 1, 2, and 3. The FY01 LRIP 1 option was exercised in Nov 2000, LRIP 2 option was exercised in Nov 2001 and LRIP 3 option is planned to be exercised in Nov 2002. The EMD contract and production options provide strong incentives for the contractor to control costs, achieve reliable performance, and deliver on schedule. The Acquisition Decision Memorandum (ADM) for LRIP 2 and 3 was signed in Nov 2001.

The Navy Acquisition Executive will make the Full Rate Production (FRP) decision with advice from the Air Force Acquisition Executive subsequent to the successful completion of the associated exit criteria. FRP Lots 4 through 7 contracts will be Firm Fixed-Price (FFP) with incentives provided if the contractor meets or beats his Procurement Price Commitment Curve (PPCC), a quantity price curve provided by RSC with the EMD proposal. Rewards or penalties are provided depending on RSC's performance relative to the PPCC. A Service review of RSC's Lot 4 through 7 proposals relative to the PPCC will be held prior to award of those contracts.

(U) F. Schedule Profile

	<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) LRIP 1 Award	*											
(U) DT Assist	*											
(U) LRIP 2 Decision				*								
(U) LRIP 2 Award					*							
(U) OT-IIB Starts						*						
(U) LRIP 3 Decision									X			
(U) LRIP 3 Award											X	
(U) OT-IIB Complete											X	
* - Completed Events												
X - Planned Events												

Schedule Notes:

Air Force RAA on the F-15C is 4QFY03 and FRP award scheduled for 1QFY04

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0207161F Tactical AIM Missiles				4132		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	Project Cost Categories									
(U)	a.	Primary Hardware Development				14,128		3,818		1,700
(U)	b.	Contractor Engineering Support (F-15 AIM-9X Aircraft Integration)				1,074		200		0
(U)	c.	Development and Test Evaluation				5,223		818		610
(U)	d.	Government Engineering Support				356		290		386
(U)	e.	Program Management (PMA)				396		272		165
(U)	f.	Contractor Services Support				480		315		82
(U)	Total					21,657		5,713		2,943
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>										
Hughes	C/CPIF	Dec 94	5,694	5,694	5,694	0	0	0	0	5,694
Raytheon	C/CPIF	Dec 94	5,694	5,694	5,695	0	0	0	0	5,695
Raytheon	C/CPIF	Dec 96	136,930	136,930	83,855	14,128	3,818	1,700		103,501
Boeing	C/CPIF	Jan 96	20,397	20,397	16,107	1,074	200	0		17,381
Engineering Services	Various	Various	N/A	N/A	14,162	356	290	386		15,194
Program Management*	PO	Various	N/A	N/A	8,300	396	272	165		9,133
Note*: Based on a Memorandum of Agreement, RDT&E program costs includes Navy PMA working capital funded personnel funded at 50%/50% ratio per Service.										
<u>Support and Management Organizations</u>										
Various Contracts	FFP	Various	N/A	N/A	1,811	480	315	82		2,688
<u>Test and Evaluation Organizations</u>										
Field Activities	PO	Oct 96	N/A	N/A	12,235	5,223	818	610		18,886

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207161F Tactical AIM Missiles			PROJECT 4132		
(U) Government Furnished Property:									
<u>Item</u>	<u>Contract</u>	<u>Award or</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Method/Type</u>	<u>or Funding</u>	<u>Obligation</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>						
<u>Product Development Property</u>									
N/A	N/A	N/A	N/A	0	0	0	0	0	0
<u>Support and Management Property</u>									
N/A	N/A	N/A	N/A	0	0	0	0	0	0
<u>Test and Evaluation Property</u>									
N/A	N/A	N/A	N/A	0	0	0	0	0	0
<u>Subtotals</u>				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
				<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				133,813	15,954	4,580	2,251	0	156,598
Subtotal Support and Management				1,811	480	315	82	0	2,688
Subtotal Test and Evaluation				12,235	5,223	818	610	0	18,886
Total Project				147,859	21,657	5,713	2,943	0	178,172

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207163F Advanced Medium Range Air-to-Air Missile				PROJECT 3777		
(U) D. Other Program Funding Summary (\$ in Thousands)										
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U)	Missile Procurement, Budget Activity #2, PE 0207163F, P-1 Line Item, AMRAAM	95,124	103,765	89,593	109,215	112,302	108,947	105,572	101,804	6,846,949
(U)	Replenishment Spares, BP25 and Missile Replacement Equipment	220	242	240	195	281	200	199	200	60,261
(U)	Initial Spares, BP26	137	76	89	75	75	75	74	75	63,332
(U)	Seek Eagle	607	0	0	0	0	0	0	0	15,132
(U) E. Acquisition Strategy										
<p>The AMRAAM Pre-Planned Product Improvement (P3I) program takes advantage of emerging technologies to update and expand the system capabilities to meet new user requirements. The Phase 1 missile allows internal carriage on the F-22 and JSF with clipped wings and fins as well as providing some software enhancements. The Phase 2 AIM-120 C4 missile adds a new warhead which increases lethality and the AIM-120 C5 missile has a +5 inch rocket motor for kinematic improvements. The first Phase 2 AIM-120 C4 missile was delivered in Aug of FY99. The Phase 2 AIM-120 C5 missiles started delivery in Jul of FY00. The Phase 3 missile is the first major upgrade to the seeker hardware and software to meet performance requirements for the FY04 and out time-period. The Phase 3 Cost Plus Award Fee EMD contract was awarded in Oct FY99. This missile will begin deliveries in FY04. The second stage of Phase 3, beginning in FY04, will result in improved guidance and kinematics.</p>										
(U) F. Schedule Profile										
				<u>FY 2001</u>			<u>FY 2002</u>		<u>FY 2003</u>	
				1	2	3	4	1	2	3
										4
(U)	P3I Phase 3 Seeker Critical Design Review (CDR)					*				
(U)	P3I Phase 3 ACE Flights Begin						X			
(U)	P3I Phase 3 Test Readiness Review (TRR)							X		
(U)	P3I Phase 3 Functional Configuration Audit (FCA)									X
(U)	P3I Phase 3 Program Complete									X
(U)	P3I Phase 3 Follow On Software Upgrade Award									X
Project 3777				Page 3 of 5 Pages				Exhibit R-2 (PE 0207163F)		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
07 - Operational System Development					0207163F Advanced Medium Range Air-to-Air Missile			3777		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	a.	Phase 3 EMD Improved Seeker and Advanced EP Updates				48,552		53,531		35,150
(U)	b.	Phase 3 Follow on Software Upgrade								1,000
(U)	c.	Gov Mission Support				1,116		566		830
(U)	d.	Gov Test & Evaluation				699		3,028		28
(U)		Total				50,367		57,125		37,008
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
Misc. Contracts	SS/FFP	Annual	N/A	N/A	9,935	701	2,923	1,388	5,656	20,603
F08635-90-C-0201 Hughes	SS/FFP	Aug 90	5,200	5,200	5,200	0	0		0	5,200
F08626-91-C-0034 Hughes	SS/CPIF	Mar 91	93,506	93,506	93,506	0	0		0	93,506
F08626-93-C-0044 (Phase 2) Hughes	SS/CPAF	Jun 94	117,558	117,558	117,558	0	0		0	117,558
Phase 3 Risk Reduction	SS/CPAF	Oct 95	24,484	24,484	24,484	0	0		0	24,484
Phase 3 Improved Fuzing Capability	SS/CPAF	Oct 99	3,937	3,937	3,937	0	0		0	3,937
Phase 3 Improved Seeker and Advanced EP. Raytheon	SS/CPAF	Oct 99	204,224	204,224	71,003	47,851	50,608	33,762	0	203,224
F08626-98-C-0027										
EMD Contract Phase 3 Follow on	SS/CPAF	Oct 04	TBD	TBD	0	0	0	1,000	130,783	131,783

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE
07 - Operational System Development										February 2002
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT
(U) Performing Organizations Continued:					0207163F Advanced Medium Range Air-to-Air Missile					3777
*Note: Hughes became part of Raytheon Systems effective Dec 97										
<u>Support and Management Organizations</u>										
COEA	PO/MIPR	Jan 94	N/A	N/A	3,358	0	0	0	3,358	
Contractor Support	REO/PR	Annual	N/A	N/A	17,244	669	164	271	1,175	19,523
JSP0 Operations	PR/IMPAC	Annual	N/A	N/A	18,699	447	402	559	2,492	22,599
<u>Test and Evaluation Organizations</u>										
Government Test	REO/MIPR	Annual	N/A	N/A	36,064	699	3,028	28	80	39,899
(U) Government Furnished Property:										
<u>Contract</u>										
<u>Method/Type</u>										
<u>Award or</u>										
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>		<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>										
Not Applicable										
<u>Support and Management Property</u>										
Not Applicable										
<u>Test and Evaluation Property</u>										
TM/ECM Pods	REO/MIPR	Annual			2,380	0	0		0	2,380
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					325,623	48,552	53,531	36,150	136,439	600,295
Subtotal Support and Management					39,301	1,116	566	830	3,667	45,480
Subtotal Test and Evaluation					38,444	699	3,028	28	80	42,279
Total Project					403,368	50,367	57,125	37,008	140,186	688,054

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207247F Air Force TENCAP	PROJECT 0001
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COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
0001 Air Force TENCAP	14,779	12,689	10,496	10,672	10,866	11,068	11,278	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

(U) **A. Mission Description**
 The Air Force Tactical Exploitation of National Capabilities (AF TENCAP) program was established in 1977 per Congressional direction and is a non-traditional acquisition program. AF TENCAP pursues seamless integration of space systems capabilities into military operations for tactical use by warfighters, expediting improvements to Air Force combat capabilities through rapid-prototyping projects, operational concept demonstrations, and transitions to the warfighter customer. Additionally, AF TENCAP-developed equipment is deployed in support of real-world contingency operations.

AF TENCAP leverages investments in space systems for tactical warfighter use in three ways:

- 1) Exploiting existing space systems for tactical applications, conceiving and demonstrating capabilities to exploit these systems through rapid-prototyping projects.
- 2) Influencing the design and operation of new space systems for warfighters by advocating tactical applications and missions for them (in the form of analyses and integration of space systems into roadmaps and architectures for Air Force weapons and C4I systems).
- 3) Supporting education and training of operational forces in emerging space/space-related technologies and concepts, as well as education of national providers about operational user requirements and environments, through participation in combat and contingency operations, exercises, and project demonstrations.

AF TENCAP efforts described in the individual years FY 2001, FY 2002 and FY 2003 are categorized in generalized groups containing the start, continuation and completion of one-to-two-year projects which are then transitioned to the user. This process is reflected in the Schedule Profile.

- (U) **FY 2001 (\$ in Thousands)**
- (U) \$8,131 Exploited existing space systems for tactical applications; influence the design of future space systems; support education and training of operational forces
 - (U) \$1,878 Space Long Range Planning (SLRP)
 - (U) \$4,000 Hyperspectral imagery sensor research, development, and testing (per FY 2001 Congressional direction)
 - (U) \$300 Transitioned AF TENCAP concept demonstrations to operational units/acquisition agency
 - (U) \$470 Provided program support

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)				DATE		
BUDGET ACTIVITY		PE NUMBER AND TITLE		PROJECT		
07 - Operational System Development		0207247F Air Force TENCAP		0001		
(U) <u>A. Mission Description Continued</u>						
(U) <u>FY 2001 (\$ in Thousands) Continued</u>						
(U)	\$14,779	Total				
(U) <u>FY 2002 (\$ in Thousands)</u>						
(U)	\$8,213	Exploit existing space systems for tactical applications; influence the design of future space systems; support education and training of operational forces				
(U)	\$2,000	GPS Jammer detection and location system (GPS-JLOC)				
(U)	\$1,749	Continue transition of AF TENCAP concept demonstrations to operational units/acquisition agency				
(U)	\$727	Provide program support				
(U)	\$12,689	Total				
(U) <u>FY 2003 (\$ in Thousands)</u>						
(U)	\$8,621	Exploit existing space systems for tactical applications; influence the design of future space systems; support education and training of operational forces				
(U)	\$1,200	Continue transition of AF TENCAP concept demonstrations to operational units/acquisition agency				
(U)	\$675	Provide program support				
(U)	\$10,496	Total				
(U) <u>B. Budget Activity Justification</u>						
Since this effort supports fielded systems, it is in Budget Activity 7, Operational Systems Development.						
(U) <u>C. Program Change Summary (\$ in Thousands)</u>						
			<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>
(U)	Previous President's Budget		13,669	10,811	10,534	TBD
(U)	Appropriated Value		13,826	12,811		
(U)	Adjustments to Appropriated Value					
	a. Congressional/General Reductions		-97	-122		
	b. Small Business Innovative Research		-948			
	c. Omnibus or Other Above Threshold Reprogram					
	d. Below Threshold Reprogram		2,028			
Project 0001		Page 2 of 6 Pages		Exhibit R-2 (PE 0207247F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207247F Air Force TENCAP			PROJECT 0001		
(U) C. Program Change Summary (\$ in Thousands) Continued									
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>				
e. Rescissions		-30							
(U) Adjustments to Budget Years Since FY 2002 PBR				-38					
(U) Current Budget Submit/FY 2003 PBR		14,779	12,689	10,496				TBD	
(U) Significant Program Changes:									
FY01: \$150K for Schriever 2001 Space War Game database development, model runs, and results analysis. \$2 million for Space Long Range Planning studies and analyses.									
FY02: \$2000K for GPS JLOC.									
(U) D. Other Program Funding Summary (\$ in Thousands)									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) Other APPN	195	197	196	200	203	207	211	Continuing	TBD
Other Procurement, Air Force funding in 'Intelligence Communications Equipment,' WSC 832070									
(U) E. Acquisition Strategy									
Cost plus award fee contracts with indefinite delivery and quantity contract vehicles available to AF TENCAP. Theater MAJCOM mission area plan (MAP) deficiencies provide the requirements for AF TENCAP development projects. Each project must correct a MAP deficiency or deficiencies and be approved by the Space Warfare Center (SWC) Strategic Planning Process. In addition, theater MAJCOMs must be willing to assume future acquisition and logistics responsibilities, budgeting for projects in their Program Objective Memorandum submissions.									
(U) F. Schedule Profile									
		<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2002				
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT				
07 - Operational System Development					0207247F Air Force TENCAP					0001				
(U) <u>F. Schedule Profile Continued</u>														
		<u>FY 2001</u>					<u>FY 2002</u>					<u>FY 2003</u>		
	1	2	3	4	1	2	3	4	1	2	3	4		
(U) FY 2001 Projects Authorized to Proceed	*													
(U) FY 2002 Projects Identified		*												
(U) Contractor Proposals for FY 2002 Projects				*										
(U) FY 2002 Projects Evaluated and Approved					*									
(U) FY 2002 Projects Authorized to Proceed								X						
(U) FY 2003 Projects Identified								X						
(U) Contractor Proposals for FY 2003 Projects									X					
(U) FY 2003 Projects Evaluated and Approved								X						
(U) FY 2003 Projects Authorized to Proceed									X					
(U) FY 2004 Projects Identified											X			
(U) Contractor Proposals for FY 2004												X		
(U) FY 2004 Projects Evaluated and Approved												X		
* = Completed Event														
X = Planned Event														
Project 0001					Page 4 of 6 Pages					Exhibit R-2 (PE 0207247F)				

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
07 - Operational System Development					0207247F Air Force TENCAP			0001		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	Exploiting existing space systems; influencing future systems; supporting education and training					8,131		8,213		8,621
(U)	Space Long Range Planning					1,878				
(U)	Hyperspectral imagery sensor research, development and testing (per FY 2000 and FY 2001 Congressional direction)					4,000		0		
(U)	GPS-JLOC							2,000		
(U)	Transitioning concept demonstrations to operational units/acquisition agency					300		1,749		1,200
(U)	Program support					470		727		675
(U)	Total					14,779		12,689		10,496
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation Date</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
Lockheed Martin	C/CPAF	Sept 95	42,494	42,494	42,494	0	0	0	0	42,494
EADDS II Contract*	C/CPAF	Aug 00	Continuing	Continuing	105	6,452	7,745	7,501	Continuing	TBD
APTI	**	**	4,213	4,213	1,951	2,262	0	0		4,213
General Atomics	***	***			395	1,000	0	0		1,395
Multiple	Various	Multiple	Continuing	Continuing	24,478	3,817	2,938	919	Continuing	TBD
* Science Applications International Corporation (SAIC), Computer Science Corporation (CSC), and SPARTA (a group of small businesses) are the prime contractors for the Engineering Analysis Design & Development II contract that now serves as the primary AF TENCAP contract vehicle.										
**FY00 funds were obligated on a classified Navy TENCAP contract. FY01 funds placed on GSA contract.										
***Funds obligated on a classified Big Safari contract.										
<u>Support and Management Organizations</u>										
Program Oversight	Various	Multiple	Continuing	Continuing	2,400	1,248	2,006	2,076	Continuing	TBD

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT
07 - Operational System Development					0207247F Air Force TENCAP			0001
(U) <u>Performing Organizations Continued:</u>								
<u>Test and Evaluation Organizations</u>								
Not Applicable								
(U) <u>Government Furnished Property:</u>								
	<u>Contract</u>							
	<u>Method/Type</u>	<u>Award or</u>						
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>
<u>Product Development Property</u>								
None								
<u>Support and Management Property</u>								
None								
<u>Test and Evaluation Property</u>								
None								
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
<u>Subtotals</u>				<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>
Subtotal Product Development				69,423	13,531	10,683	8,420	TBD
Subtotal Support and Management				2,400	1,248	2,006	2,076	TBD
Subtotal Test and Evaluation								
Total Project				71,823	14,779	12,689	10,496	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207253F Compass Call				PROJECT 4804		
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4804	Compass Call	20,770	3,868	3,877	3,859	0	4,979	30,126	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

In FY02, COMPASS CALL received \$12.0M as part of the Defense Emergency Relief Fund (DERF). Funding was used to begin integration of Project Suter capability to link information operations and intelligence, surveillance and reconnaissance platforms in support of operation ENDURING FREEDOM. This funding is not reflected in the FY02 program total.

(U) A. Mission Description
 COMPASS CALL is the USAF's airborne wide area coverage offensive counter information system. It denies, disrupts, degrades and deceives adversary voice and data communications, disrupting their ability to effectively command and control forces in the field. Although COMPASS CALL has been a fielded, operational capability since 1983, it continues to evolve and adapt to counter the constantly changing adversary tactical communications. Most recently, this is reflected in a shift from traditional military communication systems to an increasing reliance on commercial/civil capabilities.

The development to be accomplished by these funds center around the direct incorporation of capabilities provided by Engineering and Manufacturing Development (EMD) and other related programs/activities into the operational system to include Block 20, Block 30, Block 35 and related integration, testing, training, simulation and deploying systems. The evolution of the adversary threat requires developmental investments in a wide range of activities and ancillary subsystems. These activities include significant effort in the development and operational fielding of the Tactical Radio Acquisition and Countermeasures Subsystem (TRACS) which represents the next evolutionary capability increase in receiver/countermeasure effectivity for COMPASS CALL. Activities are also required in the related areas of human-machine interfaces, software, testing and integration, signals analysis, countermeasure development for the evolving threat, mission planning, Concept of Operations (CONOPS) development and program planning for the production of subsystems and capabilities. RDT&E articles for FY00-04 include TRACS engineering and manufacturing development units necessary for this system to evolve to counter emerging threats as well as other subsystems to counter the evolving threat..

Project 4804 Page 1 of 5 Pages Exhibit R-2 (PE 0207253F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002		
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT		
07 - Operational System Development	0207253F Compass Call	4804		
(U) <u>A. Mission Description Continued</u>				
(U) <u>FY 2001 (\$ in Thousands)</u>				
(U) \$4,011	Completed TRACS-C development and integration			
(U) \$986	Continued flight test for TRACS-C			
(U) \$300	Conducted TRACS-F ground demonstration			
(U) \$7,736	Conducted Spear System Improvements (Congressional add)			
(U) \$7,737	Conducted Analysis System Upgrade (Congressional add)			
(U) \$20,770	Total			
(U) <u>FY 2002 (\$ in Thousands)</u>				
(U) \$2,983	Develops and integrates classified capabilities using new technologies against emerging/evolving C3I threats			
(U) \$885	Ground and Flight Test			
(U) \$3,868	Total			
(U) <u>FY 2003 (\$ in Thousands)</u>				
(U) \$2,482	Develops and integrates classified capabilities using new technologies against emerging/evolving C3I threats			
(U) \$1,395	Ground and Flight Test			
(U) \$3,877	Total			
(U) <u>B. Budget Activity Justification</u>				
This program is categorized as Budget Activity 7 because it provides for development of technologies and capabilities in support of operational system development.				
(U) <u>C. Program Change Summary (\$ in Thousands)</u>				
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>
(U) Previous President's Budget	5,834	3,908	3,877	TBD
(U) Appropriated Value	21,834	3,908		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions		-40		
b. Small Business Innovative Research	-669			
c. Omnibus or Other Above Threshold Reprogram				
d. Below Threshold Reprogram	-195			
Project 4804	Page 2 of 5 Pages	Exhibit R-2 (PE 0207253F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE		
								February 2002		
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0207253F Compass Call				4804		
(U) C. Program Change Summary (\$ in Thousands) Continued										
				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>			<u>Total Cost</u>	
	e. Rescissions			-200						
(U)	Adjustments to Budget Years Since FY 2002 PBR									
(U)	Current Budget Submit/FY 2003 PBR			20,770	3,868	3,877			TBD	
(U)	<u>Significant Program Changes:</u>									
(U) D. Other Program Funding Summary (\$ in Thousands)										
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U)	PE 0207253F, Aircraft Modification (3010)	44,725	41,636	18,546	17,474	8,239	8,400	130,466		TBD
(U)	PE 0207253F, Aircraft Initial Spares (3010)	8,072	12,346	13,295	13,761	14,032	13,993	14,259		TBD
(U)	PE 0207253F, Other Charges (3010)	41,959	50,827	36,061	33,185	16,782	8,551	8,713		TBD
(U)	PE 0207253F, Support Equipment, (3010)	271	264	262	268	274	281	287		TBD
(U) E. Acquisition Strategy										
Cost Plus Award Fee (CPAF) contracting was employed for both EMD and flight test in FY00 and 01. Upgrades for waveform development to preserve system viability for the remainder of the program will employ Cost Plus Incentive Fee (CPIF) contracting.										
(U) F. Schedule Profile										
				<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>		
				1 2 3 4		1 2 3 4		1 2 3 4		
(U)	TRACS-C Production Long Lead Starts									
(U)	TRACS-C Flight Test Begins									
(U)	TRACS-C EMD Unit Deliveries Begin			*						
(U)	TRACS-C Acceptance Test Plan					*				
	* Denotes completed event									
Project 4804				Page 3 of 5 Pages				Exhibit R-2 (PE 0207253F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002						
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207253F Compass Call				PROJECT 4804					
(U) <u>F. Schedule Profile Continued</u>													
		<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>			
		1	2	3	4	1	2	3	4	1	2	3	4
X Denotes planned event													
Note: FY03 has no major milestones under the Schedule Profile to report. The focus of the program will be geared towards system sustainment.													
Project 4804			Page 4 of 5 Pages				Exhibit R-2 (PE 0207253F)						

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0207253F Compass Call				4804		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	Hardware/Software Development					19,784		3,213		3,233
(U)	System Integration					986		655		644
(U)	Total					20,770		3,868		3,877
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
BAE Systems, Nashua NH	CPAF/IF	FY99	TBD	TBD	11,892	19,784	3,213	3,233	Continuing	TBD
<u>Support and Management Organizations</u>										
None										
<u>Test and Evaluation Organizations</u>										
TBD	MIPR	FY00	TBD	TBD		986	655	644	Continuing	TBD
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					11,892	19,784	3,213	3,233	TBD	TBD
Subtotal Support and Management										
Subtotal Test and Evaluation						986	655	644	TBD	TBD
Total Project					11,892	20,770	3,868	3,877	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207268F Aircraft Engine Component Improvement Program (CIP)				PROJECT 1012		
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
1012	Aircraft Engine Component Improvement Program	154,308	173,351	186,690	211,027	168,278	171,514	174,764	Continuing	TBD
Quantity of RDT&E Articles		0	0	0	0	0	0	0	0	0
<p>(U) A. Mission Description</p> <p>The Aircraft Engine Component Improvement Program (CIP) provides the only source of critical sustaining engineering support for in-service Air Force engines throughout their service life. The program's highest priority is to maintain flight safety. Aircraft Engine CIP corrects service revealed deficiencies and reduces total ownership costs (RTOC). Additional goals include improved system Operational Readiness (OR) and Reliability and Maintainability (R&M). Historically, aircraft systems change missions, tactics, and environments to meet changing threats throughout their lives. Numerous new problems can develop in the engines through actual use and Engine CIP provides the only funds to develop fixes for these field problems. Engine CIP funding is driven by field events and types/maturity of engines, not by the total engine quantity. Engine CIP starts with delivery of the first production engine purchased with procurement funds, and continues over the engine's life, gradually decreasing to a minimum level (safety/depot repairs) sufficient to keep older inventory engines operational. Engine CIP addresses out-of-warranty usage and life and enables the Air Force to obtain additional warranties when manufacturers incorporate Engine CIP improvements into production engines. Since operational and safety problems arise throughout a system's service life, Engine CIP must be maintained at a level to provide the engineering support to make the changes essential for continued satisfactory system performance at affordable costs. Engine CIP ensures continued improvements in engine R&M factors, which reduce outyear support costs. Historically, R&M related Engine CIP efforts reduce outyear Operations and Maintenance (O&M) and spares costs by a ratio greater than 21 to 1. MAJCOMs assume a viable Engine CIP effort is in place when submitting their budget requests for O&M and engine spares. Without the outyear cost avoidance provided by Engine CIP, outyear support funding would have to be significantly increased.</p> <p>(U) FY 2001 (\$ in Thousands)</p> <p>(U) \$126,026 Continuing CIP tasks (such as, but not limited to, improvement, support equipment, and repair tasks)</p> <p>(U) \$21,702 Continuing engine testing (such as, but not limited to, altitude, sea level, and flight tests)</p> <p>(U) \$3,000 Continuing petroleum, oil, lubricants (POL), see below note</p> <p>(U) \$3,580 Continuing mission support</p> <p>(U) \$154,308 Total</p> <p>Note: POL ends after FY01 as per process change directed in July 01 by the AF Petroleum Office after realignment under Defense Energy Support Center. Starting in</p>										
Project 1012				Page 1 of 5 Pages				Exhibit R-2 (PE 0207268F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002			
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT			
07 - Operational System Development	0207268F Aircraft Engine Component Improvement Program (CIP)	1012			
(U) <u>A. Mission Description Continued</u>					
(U) <u>FY 2001 (\$ in Thousands) Continued</u> FY02, allocation is included in Continuing CIP tasks.					
(U) <u>FY 2002 (\$ in Thousands)</u>					
(U) \$139,715	Continuing CIP tasks (such as, but not limited to, improvement, support equipment, and repair tasks)				
(U) \$29,436	Continuing engine testing (such as, but not limited to, altitude, sea level, and flight tests)				
(U) \$4,200	Continuing mission support				
(U) \$173,351	Total				
(U) <u>FY 2003 (\$ in Thousands)</u>					
(U) \$159,590	Continuing CIP tasks (such as, but not limited to, improvement, support equipment, and repair tasks)				
(U) \$21,500	Continuing engine testing (such as, but not limited to, altitude, sea level, and flight tests)				
(U) \$5,600	Continuing mission support				
(U) \$186,690	Total				
(U) <u>B. Budget Activity Justification</u> This program is in budget activity 7 - Operational System Development, Research Category 6.6 because all efforts support fielded systems.					
(U) <u>C. Program Change Summary (\$ in Thousands)</u>					
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>
(U) Previous President's Budget		165,395	175,101	187,144	TBD
(U) Appropriated Value		166,926	175,101		
(U) Adjustments to Appropriated Value					
a. Congressional/General Reductions		-1,531	-1,750		
b. Small Business Innovative Research		-5,992			
c. Omnibus or Other Above Threshold Reprogram					
d. Below Threshold Reprogram		-3,820			
e. Rescissions					
(U) Adjustments to Budget Years Since FY 2002 PBR		-1,275		-454	
Project 1012					

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002						
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207268F Aircraft Engine Component Improvement Program (CIP)				PROJECT 1012					
(U) C. Program Change Summary (\$ in Thousands) Continued													
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>								
(U)	Current Budget Submit/FY 2003 PBR	154,308	173,351	186,690	TBD								
(U) Significant Program Changes:													
Funding increases starting in FY01 were primarily due to F119 Engine (F-22) CIP work which commenced in FY01.													
FY 2001 decrease of \$1,275K due to payment of F-16 F110-GE-100 engine cancelled year bill.													
FY 2002 decrease of \$1,750K due to RDT&E General Reduction and Congressional Action Multi-Appropriation.													
FY 2003 decrease of \$454K due to nonpay purchase inflation adjustment.													
(U) D. Other Program Funding Summary (\$ in Thousands)													
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>			
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>				
(U)	AF RDT&E												
(U)	Other APPN												
RELATED ACTIVITIES:													
(U) - PEs # 0604268A and #0604268N, Army/Navy Aircraft Engine CIPs for prior years													
(U) - PEs # 0203752A and #0205633N, Army/Navy Aircraft Engine CIPs for FY 1996 and following years													
(U) E. Acquisition Strategy													
Contracts within this Program Element are awarded sole source to engine manufacturers. CIP tasks are generally assigned to original engine manufacturers. Tasks are assigned based on available funding and prioritization of candidate tasks.													
(U) F. Schedule Profile													
		<u>FY 2001</u>			<u>FY 2002</u>			<u>FY 2003</u>					
		1	2	3	4	1	2	3	4	1	2	3	4
(U)	Not applicable. CIP is a level of effort program that funds 600-700 separate engineering tasks per year.												
Project 1012				Page 3 of 5 Pages				Exhibit R-2 (PE 0207268F)					

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0207268F Aircraft Engine Component Improvement Program (CIP)				1012		
(U) A. Project Cost Breakdown (\$ in Thousands)										
					<u>FY 2001</u>		<u>FY 2002</u>			<u>FY 2003</u>
(U)	Contracted Tasks				126,026		139,715			159,590
(U)	AFFTC Flight Tests				4,637		711			1,500
(U)	AEDC Altitude Tests				17,065		28,725			20,000
(U)	Petroleum/Oil/Lubricants (POL) - see below note				3,000		0			0
(U)	Mission Support				3,580		4,200			5,600
(U)	Total				154,308		173,351			186,690
Note: POL ends after FY01 as per process change directed in July 01 by the AF Petroleum Office after realignment under Defense Energy Support Center. Starting in FY02, allocation is included in Contracted Tasks										
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Performing Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
GE-Evandale, OH	CPAF	Dec 99	N/A	N/A		53,578	62,555	63,090	Continuing	TBD
Pratt & Whitney	CPAF	Dec 99	N/A	N/A		62,380	65,588	82,419	Continuing	TBD
GE-Lynn, MA	CPFF	Dec 99	N/A	N/A		5,079	5,287	6,241	Continuing	TBD
Rolls Royce/Allison	CPFF	Jan 98	N/A	N/A		1,190	1,372	1,846	Continuing	TBD
Teledyne	CPFF	Dec 99	N/A	N/A		2,500	3,120	3,763	Continuing	TBD
Allied Signal/Honeywell	CPFF	Jan 98	N/A	N/A		677	599	885	Continuing	TBD
Williams International	CPFF	Jan 98	N/A	N/A		340	896	905	Continuing	TBD
Sundstrand	CPFF	Jan 98	N/A	N/A		282	298	441	Continuing	TBD

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE February 2002	
BUDGET ACTIVITY			PE NUMBER AND TITLE		PROJECT	
07 - Operational System Development			0207268F Aircraft Engine Component Improvement Program (CIP)		1012	
(U) Performing Organizations Continued:						
<u>Support and Management Organizations</u>						
In House Support/ Misc Studies			3,580	4,200	5,600	Continuing TBD
Petroleum/Oil/Lubricants (POL) See below note			3,000	0	0	Continuing TBD
Note: POL ends after FY01 as per process change directed in July 01 by the AF Petroleum Office after realignment under Defense Energy Support Center. Starting in FY02, allocation is included in Product Development totals.						
<u>Test and Evaluation Organizations</u>						
AFFTC-Edwards AFB, CA			4,637	711	1,500	Continuing TBD
AEDC-Arnold AFB, TN			17,065	28,725	20,000	Continuing TBD
			<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>
<u>Subtotals</u>					<u>Budget to Complete</u>	<u>Total Program</u>
Subtotal Product Development			126,026	139,715	159,590	TBD TBD
Subtotal Support and Management			6,580	4,200	5,600	TBD TBD
Subtotal Test and Evaluation			21,702	29,436	21,500	TBD TBD
Total Project			154,308	173,351	186,690	TBD TBD
Footnote: Total prior to FY 2001 is not reflected above because the program was funded in procurement through FY 1979 and RDT&E funding began in FY 1980.						

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207277F Chief's Innovation Program				PROJECT 4931	
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4931 Eagle Vision	0	1,874	1,920	1,915	1,913	1,911	1,909	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0
<p>Eagle Vision transferred from PE 35208F in FY02.</p> <p>(U) <u>A. Mission Description</u> Eagle Vision is a deployable ground station for programming and collecting panchromatic, multispectral, and synthetic aperture radar broad-area imagery from commercial earth remote sensing satellites and processing/merging it with national imagery for mission planning, topographic analysis, and intelligence-gathering purposes. The AF has an operational Eagle Vision system at Ramstein AFB, GE. The Reno ANGB, NV National Eagle (commercial imagery post processing capability) is being upgraded with direct downlink capability along with Eagle Vision being procured for South Carolina ANG. Eagle Vision transferred from PE 35208F in FY02.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$1,366 Continue to update baselines and reduce footprints on Eagle Vision units (U) \$508 Continue to provide sustaining system engineering and technical support (U) \$1,874 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$1,418 Continue to update baselines and reduce footprints on Eagle Vision units (U) \$502 Continue to provide sustaining system engineering and technical support (U) \$1,920 Total</p> <p>(U) <u>B. Budget Activity Justification</u> Program is in Budget Activity 7 because it provides for the development of technologies and capabilities in support of operational system development.</p>									
Project 4931			Page 1 of 3 Pages				Exhibit R-2 (PE 0207277F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2002			
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT			
07 - Operational System Development					0207277F Chief's Innovation Program					4931			
(U) C. Program Change Summary (\$ in Thousands)													
					<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>			<u>Total Cost</u>	
(U)	Previous President's Budget				0		1,950		1,925				
(U)	Appropriated Value						1,950						
(U)	Adjustments to Appropriated Value												
	a. Congressional/General Reductions						-76						
	b. Small Business Innovative Research												
	c. Omnibus or Other Above Threshold Reprogram												
	d. Below Threshold Reprogram												
	e. Rescissions												
(U)	Adjustments to Budget Years Since FY 2002 PBR								-5				
(U)	Current Budget Submit/FY 2003 PBR						1,874		1,920			TBD	
(U)	<u>Significant Program Changes:</u>												
	This effort, previously part of Distributed Common Ground System PE 0305208F, was transferred in FY02 to this PE.												
(U) D. Other Program Funding Summary (\$ in Thousands)													
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>		<u>Cost to</u>		<u>Total Cost</u>	
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>		<u>Complete</u>			
(U)	AF RDT&E												
(U)	Other APPN				3,689	3,748	3,476	4,595	4,742	4,791	Continuing		TBD
(U) E. Acquisition Strategy													
	Eagle Vision was approved to use Sole Source procurement via an International Agreement Competitive Restrictions (IACR) for Acquisition and Sustainment. Future systems and technology will be contracted for under a competitive Request for Proposal (RFP) process where possible.												
(U) F. Schedule Profile													
					<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>				
					1	2	3	4	1	2	3	4	
(U)	Continue baseline upgrades and footprint reduction								X			X	
Project 4931				Page 2 of 3 Pages				Exhibit R-2 (PE 0207277F)					

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207325F Joint Air-to-Surface Standoff Missile (JASSM)				PROJECT 4515		
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4515	Joint Air-to-Surface Standoff Missile (JASSM)	110,611	79,197	42,097	8,822	5,658	172	0	0	874,702
	Quantity of RDT&E Articles	21	0	0	0	0	0	0	0	82
<p>(U) <u>A. Mission Description</u> JASSM is a joint Air Force/Navy program with the Air Force as the lead Service. Designated ACAT 1C by the Defense Acquisition Board (DAB) during the Low Rate Initial Production (LRIP) decision, this program provides an affordable long range, conventional air-to-surface, autonomous, precision guided, standoff cruise missile compatible with fighter and bomber aircraft able to attack a variety of fixed or relocatable targets. Initial integration efforts are for the B-52H and F-16 (Block 50). Objective aircraft include the B-1, B-2, F-15E, F-16 (Block 40), F-117, and F/A-18E/F.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$72,849 Continue EMD. (U) \$20,845 Continue flight test support, test aircraft modifications, live fire test support, target construction/rehab. (U) \$10,699 Continue aircraft integration. (U) \$1,033 Continue mission planning and intelligence systems integration. (U) \$4,612 Continue program office support . (U) \$573 Continue mission support. (U) \$110,611 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$51,772 Continue EMD. (U) \$16,498 Continue flight test support, live fire test support, target construction/rehab. (U) \$6,626 Continue aircraft integration. (U) \$510 Continue mission planning and intelligence systems integration. (U) \$3,233 Continue program office support . (U) \$558 Continue mission support.</p>										
Project 4515				Page 1 of 6 Pages				Exhibit R-2 (PE 0207325F)		

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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207325F Joint Air-to-Surface Standoff Missile (JASSM)	PROJECT 4515																																																							
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2002 (\$ in Thousands) Continued</u></p> <p>(U) \$79,197 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$22,442 Continue EMD</p> <p>(U) \$10,732 Continue flight test support, live fire test support, target construction/rehab.</p> <p>(U) \$2,249 Continue aircraft integration.</p> <p>(U) \$1,531 Continue mission planning and intelligence systems integration.</p> <p>(U) \$4,559 Continue program office support.</p> <p>(U) \$584 Continue mission support</p> <p>(U) \$42,097 Total</p> <p>(U) <u>B. Budget Activity Justification</u></p> <p>This program is reflected in Budget Activity 7, Operational System Development, because production (Low Rate Initial Production) began in FY02.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="width:10%; text-align: right;"><u>FY 2001</u></th> <th style="width:10%; text-align: right;"><u>FY 2002</u></th> <th style="width:10%; text-align: right;"><u>FY 2003</u></th> <th style="width:20%; text-align: right;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: right;">115,214</td> <td style="text-align: right;">79,197</td> <td style="text-align: right;">42,367</td> <td style="text-align: right;">880,117</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: right;">116,281</td> <td style="text-align: right;">79,197</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> a. Congressional/General Reductions</td> <td style="text-align: right;">-814</td> <td></td> <td></td> <td></td> </tr> <tr> <td> b. Small Business Innovative Research</td> <td style="text-align: right;">-4,437</td> <td></td> <td></td> <td></td> </tr> <tr> <td> c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> d. Below Threshold Reprogram</td> <td style="text-align: right;">-166</td> <td></td> <td></td> <td></td> </tr> <tr> <td> e. Rescissions</td> <td style="text-align: right;">-253</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2002 PBR</td> <td></td> <td></td> <td style="text-align: right;">-270</td> <td style="text-align: right;">-5,415</td> </tr> <tr> <td>(U) Current Budget Submit/FY 2003 PBR</td> <td style="text-align: right;">110,611</td> <td style="text-align: right;">79,197</td> <td style="text-align: right;">42,097</td> <td style="text-align: right;">874,702</td> </tr> </tbody> </table>				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>	(U) Previous President's Budget	115,214	79,197	42,367	880,117	(U) Appropriated Value	116,281	79,197			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions	-814				b. Small Business Innovative Research	-4,437				c. Omnibus or Other Above Threshold Reprogram					d. Below Threshold Reprogram	-166				e. Rescissions	-253				(U) Adjustments to Budget Years Since FY 2002 PBR			-270	-5,415	(U) Current Budget Submit/FY 2003 PBR	110,611	79,197	42,097	874,702
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Project 4515	Page 2 of 6 Pages	Exhibit R-2 (PE 0207325F)																																																							

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207325F Joint Air-to-Surface Standoff Missile (JASSM)			PROJECT 4515		
(U) C. Program Change Summary (\$ in Thousands) Continued									
(U) Significant Program Changes:									
Funding: FY03 reduction of \$270 due to the two following actions: Inflation Adjustment of \$102.									
Schedule: None.									
Technical: None.									
(U) D. Other Program Funding Summary (\$ in Thousands)									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) Missile Procurement (AF) JASSM	150	43,965	50,505	101,801	145,494	148,578	197,633	1,438,684	2,126,810
(U) SEEK EAGLE	0	744	3,735	1,485	2,966	0	2,939	0	11,869
(U) E. Acquisition Strategy									
All major contracts within this Program Element were awarded through full and open competition. The EMD phase option for JASSM is Cost Plus Award Fee (CPAF). This contract type provides the government the flexibility to periodically evaluate contractor performance while motivating the contractor to execute a successful program with emphasis on EMD schedule, system performance, and management effectiveness.									
JASSM is an OSD flagship program under Cost as An Independent Variable (CAIV). This allows the contractor to have maximum trade space to develop an affordable missile that meets the four key performance parameters. Under CAIV, the program maintains a threshold AUPP of \$700,000 (BY95\$) and an objective AUPP of \$400,000 (BY95\$).									
The government is buying the JASSM system based on a contractor-developed, government-approved System Performance Specification (SPS) which became contractually binding at downselect. The contractor assumes Total System Performance Responsibility (TSPR) as defined in the SPS and warrants system performance for 15 years. Accordingly, the contractor is responsible not only for the design of the missile system, but also for planning and executing the Development Test and Evaluation (DT&E) program to verify the missile system performance. In its role as facilitator and advisor to the contractor, the government formally arranges and funds the use of government flight test support for DT&E. Although funded by the government, flight test support funds are part of the negotiated commitment between the contractor and the government ensuring the contractor is able to execute the DT&E program according to the scope of the EMD contract.									
Project 4515			Page 3 of 6 Pages			Exhibit R-2 (PE 0207325F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0207325F Joint Air-to-Surface Standoff Missile (JASSM)				4515		
(U) A. Project Cost Breakdown (\$ in Thousands)										
					<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	Major Contracts				72,616		51,420		22,442	
(U)	Associated Contracts				10,699		6,626		2,249	
(U)	Support Contracts				5,878		4,095		6,090	
(U)	In-House				573		558		584	
(U)	Test Support				20,845		16,498		10,732	
(U)	Total				110,611		79,197		42,097	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
MDA - PDRR I	C/CPFF	Jun 96	120,570	120,570	120,570	0	0	0	0	120,570
LM - PDRR I& II	C/CPFF	Jun 96	151,107	151,107	151,107	0	0	0	0	151,107
LM - EMD	C/CPAF	Nov 98	388,589	388,589	228,711	72,616	51,420	22,442	0	375,189
NOTE: Contractors are MDA										
- McDonnell Douglas										
Aircraft; LM - Lockheed										
Martin										
Project 4515				Page 5 of 6 Pages				Exhibit R-3 (PE 0207325F)		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE
BUDGET ACTIVITY										PROJECT
07 - Operational System Development										4515
PE NUMBER AND TITLE										
0207325F Joint Air-to-Surface Standoff Missile										
(JASSM)										
(U) Performing Organizations Continued:										
The performing activity and project office EAC include \$13.4M unfunded requirement due to cost growth and overrun.										
<u>Support and Management Organizations</u>										
F-16 SPO	PO	Apr 96	N/A	N/A	15,825	5,535	5,013	2,249	1,667	30,289
B-52 SPO	PO	Sep 96	N/A	N/A	24,935	5,163	1,613	0	0	31,711
Other Acft Integ	PO	Various	N/A	N/A	3,462	1	0	0	0	3,463
Sverdrup Inc.	C/CPAF	Jan 96	N/A	N/A	12,097	2,321	2,099	2,490	1,023	20,030
Navy	MIPR	Jan 96	N/A	N/A	2,248	0	0	0	0	2,248
JASSM SPO/Other	Misc	Various	N/A	N/A	24,079	4,130	2,554	4,184	6,549	41,496
<u>Test and Evaluation Organizations</u>										
46TW	PO	Jan 96	N/A	N/A	45,111	20,845	16,498	10,732	5,413	98,599
(U) Government Furnished Property:										
<u>Contract</u>										
<u>Method/Type</u>										
<u>Award or</u>										
<u>Delivery</u>										
<u>Total Prior</u>										
<u>Budget</u>										
<u>Budget</u>										
<u>Budget</u>										
<u>Budget to</u>										
<u>Total</u>										
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>								
<u>Product Development Property</u>										
Not Applicable										
<u>Support and Management Property</u>										
Not Applicable										
<u>Test and Evaluation Property</u>										
Not Applicable										
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					500,388	72,616	51,420	22,442	0	646,866
Subtotal Support and Management					82,646	17,150	11,279	8,923	9,239	129,237
Subtotal Test and Evaluation					45,111	20,845	16,498	10,732	5,413	98,599
Total Project					628,145	110,611	79,197	42,097	14,652	874,702

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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207410F AEROSPACE OPERATION CENTER (AOC) 4372
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COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4372 Time Critical Targeting	0	19,125	35,875	2,392	2,391	2,386	1,286	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

Time Critical Targeting Concept Exploration/Concept Definition efforts were funded in FY00 and FY01 in PE 0208060F. Time Critical Targeting functionality funding transferred to PE 0207410F (from 0207027F) beginning in FY02.

(U) A. Mission Description

The Air Operations Center (AOC) enables the successful prosecution of the air campaign by Air Force, joint, and coalition leaders allowing them to make rapid and effective Command and Control (C2) decisions by providing the necessary air operations C2 and force execution tools. The AOC program also provides a necessary structure to transition and act as the focal point for a singular technical 'center of mass' for systems integration, technical transition, and process refinement for rapidly evolving C2 programs, processes and concepts. Numerous independent systems inherent in the entire spectrum of command, control, and communications and Intelligence, Surveillance and Reconnaissance (ISR) battle management encompass a robust fully functioning AOC. The AOC program utilizes the spiral development acquisition process supported by the Combined Air Operations Center-eXperimental (CAOC-X) located at Langley AFB, Virginia. CAOC-X serves as the place and process to bring together the user, developer and tester to improve the ability of C2 systems to support the USAF's Air Expeditionary Forces. In addition, CAOC-X serves as the engineering test bed, mirroring the operational baselines to the greatest possible extent.

As a subset of AOC functionality, Time Critical Targeting (TCT) provides a C2 capability for the Joint Forces Commander (JFC) / Joint Force Air Component Commander (JFACC) to defeat theater time critical targets across the spectrum of conflict. Coupled with updated operational procedures, the TCT functionality supports tighter integration of C2, Intelligence, Surveillance and Reconnaissance (C2ISR) and attack systems. The TCT functionality will utilize a mix of land, air, space and sea-based assets to find, fix, track, target, and engage time critical targets. Follow-on AOC initiatives will include spiral-developed enhancements/integration of other relevant C2ISR systems supporting the AF's present and future global command and control system.

The primary program objectives of the AOC program are to:

- Provide capabilities to collect, share and aggregate decision quality data between C2 nodes, ISR assets and attack aircraft
- Integrate the relevant AOC weapons system components to provide improved USAF, joint and coalition air operations C2
- Provide a scaleable, deployable, integrated capability to the AOCs that is fully supportable
- Support receipt and display of ISR data through the use of existing and acquired C4ISR systems
- Develop regular updates to initial capability on a spiral development timeline (12-18 month)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
BUDGET ACTIVITY		PROJECT
07 - Operational System Development	0207410F AEROSPACE OPERATION CENTER (AOC)	February 2002 4372
<p>(U) <u>A. Mission Description Continued</u></p> <ul style="list-style-type: none"> - Continue to drive down life cycle cost for the evolving system - Evaluate Commercial Off-the-Shelf (COTS)/Government Off-the-Shelf (GOTS) and service/coalition C2 and ISR systems for integration into the AOC baseline <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <p>(U) \$0 No Activity</p> <p>(U) \$0 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$17,222 Develop and integrate software capability meeting threshold requirements of the Operational Requirements Document, TCT Functionality, ACAT III, AC2ISRC. Core Increment functionality will include target development, sensor integration, threat launch and impact prediction, weapon-to-target pairing, intelligence preparation of the battlespace, and terrain and mobility analyses. Support evolving air ops C2 concepts, exercises and user evaluations (e.g. CAOC-X)</p> <p>(U) \$1,903 Survey applicable commercial and government applications and technologies to evaluate capabilities to enhance AOC functionality.</p> <p>(U) \$19,125 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$23,075 Continue software development and integration of TCT Functionality. Integrate field, train and support core increment at operational locations (hardware and software). Post Core Increment functionality will include additional decision aids, situation awareness, and analytical software applications to locate, identify, track, nominate and recommend ISR/strike assignments against TCTs as defined in TCT Functionality ORD. Develop an interface to the Intelligence, Surveillance and Reconnaissance Battle Manager (ISRBM) to enable dynamic re-tasking of ISR assets to support prosecution of TCTs. Continue migration to Web-Enabled capabilities.</p> <p>(U) \$10,000 Conduct further development and groundwork for the standardization of Block 20 upgrade and architecture to include development/integration of existing AOC Command Control, Intelligence & Reconnaissance (C2ISR) capabilities, tools to prosecute time critical targets, and enhance coalition interoperability</p> <p>(U) \$2,800 Conduct test and evaluation activities (DT&E and OT&E) for Core Increment</p> <p>(U) \$35,875 Total</p> <p>(U) <u>B. Budget Activity Justification</u></p> <p>This program is a budget activity 7 - Operational System Development because it provides funding for the modernization of a currently existing and operating system.</p>		
Project 4372	Page 2 of 6 Pages	Exhibit R-2 (PE 0207410F)

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BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207410F AEROSPACE OPERATION CENTER (AOC)			PROJECT 4372			
(U) C. Program Change Summary (\$ in Thousands)										
			<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>			<u>Total Cost</u>		
(U)	Previous President's Budget		0	19,514	25,962			TBD		
(U)	Appropriated Value		0	19,514						
(U)	Adjustments to Appropriated Value									
	a. Congressional/General Reductions		0	-389						
	b. Small Business Innovative Research		0							
	c. Omnibus or Other Above Threshold Reprogram		0							
	d. Below Threshold Reprogram		0							
	e. Rescissions		0							
(U)	Adjustments to Budget Years Since FY 2002 PBR		0		9,913					
(U)	Current Budget Submit/FY 2003 PBR		0	19,125	35,875			TBD		
(U)	<u>Significant Program Changes:</u> Time Critical Targeting Concept Exploration/Concept Definition efforts were funded in FY00 and FY01 in PE 28060F. Time Critical Targeting functionality funding transferred to PE 27410F (from 27027F) beginning in FY02.									
(U) D. Other Program Funding Summary (\$ in Thousands)										
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U)	AF RDT&E	0	0	0	0	0	0	0	0	TBD
(U)	Other APPN	0	0	0	9	9	9	9	0	TBD
(U)	Other Procurement Air Force	0	0	1,390	1,454	1,454	1,285	1,121	Continuing	TBD
(U)	<u>E. Acquisition Strategy</u> Electronic Systems Center (ESC) provides program management for the Time Critical Targeting (TCT) Functionality Program. The acquisition strategy builds on Theater Missile Defense (TMD) concept exploration and prototyping concluding at the end of FY01. The TCT Functionality is an outgrowth of the Air Force's limited ability to respond to TCTs in the desert and the Balkans. The following documents provide the requirements and guidance: Combat Air Force (CAF) Concept of Operations for Command and Control Against Time Critical Targets, July 1997; AF Mission Need Statement (MNS) for Theater Missile Defense, October 1991; JROCM 065-99, MNS for Theater Air and Missile Defense (TAMD), July 1999; Mission Need Statement (MNS) for Joint TAMD, May 1999; Program Management Directive (PMD) 2440/Program Element (PE) # 27410 for AOC; Operational Requirements Document (ORD) Aerospace Command and Control and Intelligence,									

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(U) **E. Acquisition Strategy Continued**

Reconnaissance, Surveillance Center AC2ISRC Time Critical Targeting Functionality, ACAT III, Draft, August 2000. In support of the timely prosecution of TCTs, the AC2ISRC, ESC, Air Force Research Lab (AFRL), Space Warfare Center (SWC), and others have been involved in the development of several TCT decision support tools. As a means to evaluate and integrate the above applications, AC2ISRC/C2N and ESC/ACP established a Software Interoperability Facility for TCT (SWIFT). This effort will serve as the initial baseline for the development of a TCT capability that will be fielded at designated Theater Air Control Systems (TACS) locations. An 8(a) set aside contract was awarded to design, develop, test, integrate, install, train and support TCT Functionality software. Separate contractors will be used to procure communication and computer hardware. The TCT Functionality will be updated using evolutionary acquisition guidelines. The plan is to field a rapidly deployable, small footprint construct to match Air Force AEF concept. The basic TCT Functionality configuration will augment the basic communications links and utilities services already in place at the individual AOC locations. Evolutionary acquisition IAW DoDI 5000.1, AFI 63-123 provides the opportunity to introduce additional capabilities during the course of development. Other products that may extend the capabilities as a whole will be investigated. There will be a continuing review of emerging technologies and products to enhance the TCT capabilities. The system will be supported using existing AOC maintenance support structure (a combination of contract and organic resources). Systems Engineering and Technical Analysis (SETA) contracts will be used to support the effort.

(U) **F. Schedule Profile**

	<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) TCT Functionality Design					X							
(U) TCT Pre-Core Delivery to Field (One Site)						X						
(U) TCT Core Drop to CAOC-X								X				
(U) TCT Core delivery to field (1st site)									X			
(U) TCT Post Core Design Review											X	
(U) TCT Post Core Drop to CAOC-X												X
(U) AOC Block upgrade to the Baseline											X	

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
07 - Operational System Development				0207410F AEROSPACE OPERATION CENTER (AOC)				4372			
(U) A. Project Cost Breakdown (\$ in Thousands)											
					<u>FY 2001</u>		<u>FY 2002</u>			<u>FY 2003</u>	
(U)	TCT Software Development and Integration				0		17,222			23,075	
(U)	Evaluation of Other Development Efforts for Future Interface/Integration				0		1,664				
(U)	Development of Block 20 Architecture				0		0			10,000	
(U)	Test and Evaluation				0		239			2,800	
(U)	Total				0		19,125			35,875	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Performing Activity</u>	<u>or Funding Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
	<u>Product Development Organizations</u>										
	Zel Technologies	CPAF	Nov 02			0	0	13,811	13,217	Continuing	TBD
	TBD (comm& comp equip)	Multiple	Nov 02			0	0	2,425	8,258	Continuing	TBD
	<u>Support and Management Organizations</u>										
	FFRDC	FPAF	Nov 02			0	0	1,600	1,600	Continuing	TBD
	<u>Test and Evaluation Organizations</u>										
	Non-FFRDC		Nov 02			0	0	1,050	11,050	Continuing	TBD
	46TS	AF Form 616	Nov 02			0	0	239	239	Continuing	TBD
	Zel Technologies	CPAF	Nov 12			0	0	0	1,511		1,511
(U) Government Furnished Property:											
	<u>Item</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Delivery</u>		<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Description</u>	<u>or Funding Vehicle</u>	<u>Date</u>	<u>Date</u>							
	<u>Product Development Property</u>										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)		DATE	
07 - Operational System Development		February 2002	
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT	
(U) <u>Government Furnished Property Continued:</u>			
<u>Support and Management Property</u>			
<u>Test and Evaluation Property</u>			
		<u>Total Prior</u>	<u>Budget</u>
		<u>to FY 2001</u>	<u>FY 2001</u>
		<u>Budget</u>	<u>Budget</u>
		<u>FY 2002</u>	<u>FY 2003</u>
		<u>Budget to</u>	<u>Complete</u>
		<u>Program</u>	<u>Total</u>
<u>Subtotals</u>			
Subtotal Product Development		0	0
Subtotal Support and Management		0	0
Subtotal Test and Evaluation		0	0
Total Project		0	0
		16,236	21,475
		1,600	1,600
		1,289	12,800
		19,125	35,875
		TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207412F Modular Control System				PROJECT 485L		
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
485L	Theater Air Control System Imp (TACSI)	17,164	6,749	6,652	4,687	19,798	4,860	4,942	Continuing	TBD
Quantity of RDT&E Articles		0	0	0	0	0	0	0	0	0
<p>(U) <u>A. Mission Description</u> The Battle Control System (BCS), formerly known as the Ground Theater Air Control System (GTACS), and also referred to under PE Title 'Modular Control System (MCS),' is a low density/high demand rapidly deployable ground Command and Control (C2) asset conducting both deployed theater operations and homeland defense. The BCS is the tactical C2 execution element supporting the Joint Forces Air Component Commander (JFACC) and the Commander in Chief North American Aerospace Defense (CINCNORAD providing connectivity and interoperability among elements of the Theater Air Control System (TACS) to include United States Air Force, Navy, Marine Corps, Army and allied/coalition assets. Modernization depended on 'reusing' software development under the Region/Sector Air Operations Center Modernization (R/SAOC) Program, which was terminated in Oct 99. BCS modernization utilizes an acquisition strategy entitled Common Battle Management Software (CBMS) to develop a capability to assure technical coordination with the AWACS 40/45 upgrade, interoperability with the Region/Sector Operations Centers (R/SAOC) and Air Operations Center (AOC), and to further advance C2 concepts supporting current and emerging aerospace operations. BCS acquisition activities will include, but not be limited to requirements analysis, modeling and simulation, risk reduction, acquisition planning, enterprise integration, prototype development (i.e., productizing, development suite, radio/radar/data link remoting, software development), and continued development of Theater Air Defense (TAD) Missile Tracking System (MTS) Engineering/Manufacturing Development (EMD).</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <p>(U) \$6,879 Continued Concept Definition/Development of Evolutionary Upgrades to the BCS (to include, but not limited to, advanced planning, Modular Control Equipment (MCE) Upgrades, CBMS, enhanced radio/radar/data link remoting, misc. (includes Evolutionary Upgrades direct mission support))</p> <p>(U) \$704 Continued Program Support (i.e., travel, supplies, equipment, miscellaneous)</p> <p>(U) \$9,047 Continued Development of TAD MTS Upgrade for the Radar Sensors (includes TAD MTS direct mission support)</p> <p>(U) \$534 Continued Systems Engineering</p> <p>(U) \$17,164 Total</p>										
Project 485L			Page 1 of 6 Pages				Exhibit R-2 (PE 0207412F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002																																													
BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207412F Modular Control System	PROJECT 485L																																													
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$3,674 Continue Concept Definition/Development of Evolutionary Upgrades to the BCS (to include, but not be limited to, advanced planning, MCE Upgrades, CBMS, enhanced radio/radar/data link remoting, misc. (includes Evolutionary Upgrades direct mission support))</p> <p>(U) \$469 Continue Program Support (i.e., travel, supplies, equipment, miscellaneous)</p> <p>(U) \$1,959 Continue development of TAD MTS Upgrade for the Radar Sensors (Includes TAD MTS direct mission Support)</p> <p>(U) \$647 Continued Systems Engineering</p> <p>(U) \$6,749 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$4,543 Continue Concept Definition/Development of Evolutionary Upgrades to the BCS (to include, but not be limited to, advanced planning, MCE Upgrades, CBMS, enhanced radio/radar/data link remoting, misc. (includes Evolutionary Upgrades direct mission support))</p> <p>(U) \$506 Continue Program Support (i.e., travel, supplies, equipment, miscellaneous)</p> <p>(U) \$937 Continue development of TAD MTS Upgrade for the Radar Sensors (includes TAD MTS direct mission support)</p> <p>(U) \$666 Continue Systems Engineering</p> <p>(U) \$6,652 Total</p> <p>(U) <u>B. Budget Activity Justification</u> The program is in Budget Activity 7 because CRC is a fielded, operational system.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 55%;"></th> <th style="width: 10%; text-align: center;"><u>FY 2001</u></th> <th style="width: 10%; text-align: center;"><u>FY 2002</u></th> <th style="width: 10%; text-align: center;"><u>FY 2003</u></th> <th style="width: 15%; text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: center;">19,691</td> <td style="text-align: center;">7,047</td> <td style="text-align: center;">6,668</td> <td style="text-align: center;">TBD</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: center;">19,691</td> <td style="text-align: center;">6,749</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">a. Congressional/General Reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">b. Small Business Innovative Research</td> <td style="text-align: center;">-700</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">c. Omnibus or Other Above Threshold Reprogram</td> <td style="text-align: center;">-1,001</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">d. Below Threshold Reprogram</td> <td style="text-align: center;">-826</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">e. Rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Project 485L</p>				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>	(U) Previous President's Budget	19,691	7,047	6,668	TBD	(U) Appropriated Value	19,691	6,749			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions					b. Small Business Innovative Research	-700				c. Omnibus or Other Above Threshold Reprogram	-1,001				d. Below Threshold Reprogram	-826				e. Rescissions				
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Page 2 of 6 Pages		Exhibit R-2 (PE 0207412F)																																													

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002				
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207412F Modular Control System				PROJECT 485L				
(U) <u>C. Program Change Summary (\$ in Thousands) Continued</u>												
				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>					
(U)	Adjustments to Budget Years Since FY 2002 PBR					-16						
(U)	Current Budget Submit/FY 2003 PBR			17,164	6,749	6,652			TBD			
(U)	<u>Significant Program Changes:</u>											
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u>												
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>		
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>			
(U)	Other APPN											
(U)	Other Procurement Air Force, WSC 833040, Theater Air Control System Improvement			1,932	10,500	3,273	22,300	27,025	44,661	45,103	Continuing	TBD
(U)	Other Procurement Air Force, WSC 838010, Comm Electronic Mods			745	787	592						TBD
(U)	Other Procurement Air Force, WSC 86190A, Initial Spares			921	1,071	421	386	88	0	0	Continuing	TBD
(U) <u>E. Acquisition Strategy</u>												
Primary emphasis on this program continues to be sustainment, while more modest steps toward upgrade/improvement were initiated in FY01 and are as outlined below.												
Concept Definition/Development of Evolutionary Upgrades Strategies:												
1. In FY00, funding was used to perform an environmental assessment and independent study. The principle portion of the Radio Remoting effort [to include design, prototype and Secure Voice Adapter (SVA) productization] was funded and begun in FY01 with the remaining effort to be funded through FY03. This strategy satisfies both an upgrade and an improvement, which allows for rapid insertion of technology and accommodates enhanced capability necessary to meet critical EAF requirements (reduces forward deployed footprint, keeping personnel out of harms way). This capability ensures connectivity with Forward C2 platforms and fighters.												
2. The BCS Program is utilizing an acquisition strategy entitled Common Battle Management Software (CBMS) to develop a capability to be used to further advance												
Project 485L				Page 3 of 6 Pages				Exhibit R-2 (PE 0207412F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)											DATE February 2002																																																																																																																																																																																																			
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07 - Operational System Development					0207412F Modular Control System						485L																																																																																																																																																																																																			
<p>(U) <u>E. Acquisition Strategy Continued</u> C2 concepts supporting future aerospace operations. This strategy improves warfighting capabilities, better utilizes Low Density/High Demand (LD/HD) crews, enables C2ISR data fusion and forwarding, and fully supports the enterprise integration strategy.</p>																																																																																																																																																																																																														
<p>(U) <u>F. Schedule Profile</u></p> <table border="0" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:35%;"></th> <th colspan="4" style="text-align:center"><u>FY 2001</u></th> <th colspan="4" style="text-align:center"><u>FY 2002</u></th> <th colspan="4" style="text-align:center"><u>FY 2003</u></th> </tr> <tr> <th></th> <th style="text-align:center">1</th> <th style="text-align:center">2</th> <th style="text-align:center">3</th> <th style="text-align:center">4</th> <th style="text-align:center">1</th> <th style="text-align:center">2</th> <th style="text-align:center">3</th> <th style="text-align:center">4</th> <th style="text-align:center">1</th> <th style="text-align:center">2</th> <th style="text-align:center">3</th> <th style="text-align:center">4</th> </tr> </thead> <tbody> <tr> <td>(U) TAD MTS Contract Award</td> <td style="text-align:center">*</td> <td></td> </tr> <tr> <td>(U) TAD MTS Software Build 1</td> <td></td> <td></td> <td style="text-align:center">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) TAD MTS Critical Design Review</td> <td></td> <td></td> <td style="text-align:center">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) TAD MTS Software Build 2</td> <td></td> <td></td> <td></td> <td style="text-align:center">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) TAD MTS Software Build 3</td> <td></td> <td></td> <td></td> <td style="text-align:center">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) TAD MTS Software Build 4</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align:center">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) TAD MTS Developmental Test & Evaluation (DT&E)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align:center">X</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) TAD MTS Operational Test & Evaluation (OT&E)</td> <td></td> <td style="text-align:center">X</td> <td></td> </tr> <tr> <td>(U) Radio Remoting (RR) Spiral 1 Contract Award</td> <td></td> <td style="text-align:center">*</td> <td></td> </tr> <tr> <td>(U) RR Critical Design Review</td> <td></td> <td></td> <td></td> <td style="text-align:center">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) RR Secure Voice Adapter Integration</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align:center">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) RR Spiral 1 Follow-On Test & Evaluation (FOT&E)</td> <td></td> <td style="text-align:center">X</td> <td></td> </tr> <tr> <td>(U)</td> <td></td> </tr> </tbody> </table> <p>* Denotes completed event x Denotes planned event</p>													<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>					1	2	3	4	1	2	3	4	1	2	3	4	(U) TAD MTS Contract Award	*												(U) TAD MTS Software Build 1			*										(U) TAD MTS Critical Design Review			*										(U) TAD MTS Software Build 2				*									(U) TAD MTS Software Build 3				*									(U) TAD MTS Software Build 4							*						(U) TAD MTS Developmental Test & Evaluation (DT&E)								X					(U) TAD MTS Operational Test & Evaluation (OT&E)											X		(U) Radio Remoting (RR) Spiral 1 Contract Award		*											(U) RR Critical Design Review				*									(U) RR Secure Voice Adapter Integration							*						(U) RR Spiral 1 Follow-On Test & Evaluation (FOT&E)											X		(U)												
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Project 485L				Page 4 of 6 Pages				Exhibit R-2 (PE 0207412F)																																																																																																																																																																																																						

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
07 - Operational System Development				0207412F Modular Control System				485L			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	Program Support (i.e. travel, supplies, and miscellaneous)					704		469		506	
(U)	Systems Engineering					534		647		666	
(U)	Concept Definition/Development for Evolutionary Upgrades to the BCS [includes CBMS, enhanced radio/radar remoting, and misc. (includes dedication Evolutionary Upgrades SPO Support)]					6,879		3,674		4,543	
(U)	Development of TAD MTS Upgrade for the Radar Sensors (includes dedicated TAD MTS direct mission support)					9,047		1,959		937	
(U)	Total					17,164		6,749		6,652	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation Date</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>	
<u>Product Development Organizations</u>											
Contractor Northrop Grumman, Baltimore - TAD MTS	FFP	1QFY01	N/A	N/A	5,604	9,047	1,959	937	Continuing	TBD	
Rome Labs & NAWCAD - Concept Definition/Development of Evolutionary Upgrades	FFP	2QFY01	N/A	N/A	425	6,879	3,674	4,543	Continuing	TBD	
<u>Support and Management Organizations</u>											
Miscellaneous program support (travel, supplies, etc.)	Various	Various	N/A	N/A	325	704	469	506	Continuing	TBD	
Systems Engineering.	Various	Various	N/A	N/A	0	534	647	666	Continuing	TBD	
Project 485L				Page 5 of 6 Pages				Exhibit R-3 (PE 0207412F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE				
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT	
07 - Operational System Development					0207412F Modular Control System			485L	
(U) <u>Performing Organizations Continued:</u>									
<u>Test and Evaluation Organizations</u>									
GFP/GFE: None									
(U) <u>Government Furnished Property:</u>									
	<u>Contract</u>								
	<u>Method/Type</u>	<u>Award or</u>							
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>									
None									
<u>Support and Management Property</u>									
None									
<u>Test and Evaluation Property</u>									
None									
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>				<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				6,029	15,926	5,633	5,480	TBD	TBD
Subtotal Support and Management				325	1,238	1,116	1,172	TBD	TBD
Subtotal Test and Evaluation									
Total Project				6,354	17,164	6,749	6,652	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207417F Airborne Warning and Control System (AWACS)	PROJECT 411L
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COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
411L Airborne Warning & Control System (AWACS)	33,171	38,972	173,956	294,100	317,777	139,901	89,063	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

(U) A. Mission Description

The funding set forth in this document investigates, develops, and integrates system improvements to enable the E-3 AWACS to remain an effective Battle Management airborne surveillance system for command and control of combat forces and for strategic defense of the U.S. This PE funds the following efforts:

Modernization Programs: (3600)

The Satellite Communication (SATCOM) Demand Assigned Multiple Access (DAMA) compliance was mandated by the Joint Chiefs of Staff (JCS) to expand Ultra High Frequency (UHF) SATCOM access and improve UHF SATCOM system interoperability. The AWACS DAMA SATCOM program will replace two non-DAMA UHF SATCOM terminals on each aircraft with two new DAMA compliant terminals. RDT&E funding covers AWACS aircraft integration risk reduction /Engineering Manufacturing Development (EMD) beginning in FY02.

The Block 40/45 risk reduction program drives down risk of utilizing new technology to meet the AWACS Block 40/45 Operational Requirements Document (ORD) ensuring the Block 40/45 program will meet war fighting requirements. Some of the techniques that will be utilized are modeling and simulation, requirement analysis, and designing a Commercial Off the Shelf (COTS) insertion process. Block 40/45 expects to deliver sensor fusion capability in support of the Single Integrated Air Picture (SIAP) via Multi-Sensor Integration (MSI), improve AWACS' contribution to Time Critical Targeting (TCT) via Data Link Infrastructure (DLI), and replace a 70's vintage mission computer and display system to improve quality and timeliness of sensor data to the shooter, improve Combat Identification (CID) and more effective, faster upgrades via open systems architecture.

Comm projects such as HF Messenger, provide the AWACS system with an effective method for electronically receiving critical mission information such as the Air Tasking Order. The program will focus on engineering and retrofitting the current fleet.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
07 - Operational System Development	0207417F Airborne Warning and Control System (AWACS)	411L
<p>(U) <u>A. Mission Description Continued</u></p> <p>Air Traffic Control (ATC) Compliance, the first spiral of the Global Air Traffic Management (GATM) program seeks to make communications and navigation improvements required to meet current mandated Air Traffic Control requirements through EMD and production.</p> <p>Command & Control, Intelligence, Surveillance and Reconnaissance (C2ISR): C2ISR System Architecture Improvements provide timely enhancements to improve critical areas of the AWACS mission system, particularly in four areas:</p> <ol style="list-style-type: none"> 1) Worldwide deployment and airspace access: Increasingly restrictive International Civil Aviation Organization (ICAO) and Federal Aviation Administration (FAA) standards require the AWACS to achieve navigational and communications enhancements in order to retain its worldwide deployment commitment. Programs will focus on risk reduction, EMD, and fielding. 2) Mission Capable (MC) rate improvement : Reliability, Maintainability, & Availability (RM&A) analysis and development projects provide system improvements that boost the below-standard MC rate of this critical C2 platform and increase airframe longevity in order to support its flight commitment to end of operational life. Such efforts focus on increasing reliability of the air vehicle, command, control and computer, and sensor systems and infrastructure improvements as well as providing solutions to diminishing manufacturing sources. Efforts will also focus on reduction of maintenance man-hours along with periodic depot maintenance improvements to increase aircraft availability. Programs will focus on risk reduction, development, and fielding. 3) C2ISR enhancement and integration: AWACS seeks to fulfill the requirements of Joint Vision 2010/2020, Real Time Defense Information Infrastructure Common Operating Environment, and the Expeditionary Air Force Concept of Operations, as well as supporting the needs of the warfighter (as outlined in Kosovo Lessons Learned and other sources). AWACS seeks to achieve horizontal integration through Network Centric Collaborative Targeting (NCCT). Sensor and communications improvements, such as the ability to send and receive the air and ground picture via data link to fighter aircraft and record mission data for timely and accurate debriefings, will be developed through rapid prototyping, modeling, and simulation, participation in Joint live and simulated exercises (e.g., Joint Distributed Engineering Plant (JDEP)), and collaboration with other sensor platforms through tools such as NCCT. Certain near-term efforts, required by the warfighter to improve the timelines and accuracy of information passed to and from fighter aircraft in the engagement zone and to provide consistent and replayable mission data once the mission is complete, are quick reaction programs that can be developed and fielded to support the next air war. The program includes concept exploration & technology development and system development & demonstration efforts that support continuous improvements and implementation of C2ISR capabilities to enable a joint global strike task force. This effort includes, but is not limited to, manned and unmanned platforms, space, data links and advanced Battle Management Command, Control and Communications (BMC3) concepts. Fielding strategies will provide for immediate field retrofit when able, otherwise occur in current or <p>Project 411L</p>		

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002																				
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT																				
07 - Operational System Development	0207417F Airborne Warning and Control System (AWACS)	411L																				
<p>(U) <u>A. Mission Description Continued</u> future modernization programs. All programs are designed to integrate with and transition into the next C2ISR platform.</p> <p>4) The Training, Support, and Infrastructure Integrated Product Team is responsible for an array of cross cutting efforts. The efforts include a dehumidification study, Software Integration Lab & Development facility (SIL/SDF) support and trainer and simulator studies. A comprehensive dehumidification system is needed to combat pervasive corrosion. A new dehumidification system will reduce costs and man-hours necessary to perform preventative and corrective repairs. The SIL/SDF needs to be maintained in order to provide the US owned APY-1/2 radar subsystems/radar development equipment configured as a development lab. The effort is currently funded through FY04 by RSIP. Trainer and simulator concurrency studies are required for future modifications and upgrades. Associate contractor agreements have not been established and are needed for the current fee for service contracts.</p> <p>Test System 3 (TS-3) and lab support includes maintenance and operations of the Government owned/contractor-operated test aircraft and associated laboratory facilities located at Boeing in Seattle, Washington. These facilities support AWACS modernization and support programs. They also provide the infrastructure for AWACS to participate in live fly and ground-based simulation exercises such as JDEP, Virtual Warfighter Center (VWC), SIAP, and Cooperative Engagement Capability (CEC) studies.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <table border="0"> <tr> <td>(U) \$16,290</td> <td>Continuing C2ISR System Architecture Improvements</td> </tr> <tr> <td>(U) \$6,852</td> <td>Continuing Test System-3/AITS support and program sustaining efforts</td> </tr> <tr> <td>(U) \$9,018</td> <td>Starting Block 40/45 Risk Reduction</td> </tr> <tr> <td>(U) \$1,011</td> <td>Other</td> </tr> <tr> <td>(U) \$33,171</td> <td>Total</td> </tr> </table> <p>The following net transactions are not reflected in the FY01 program total: \$1.815M Cnx bill, 31 Aug 01</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <table border="0"> <tr> <td>(U) \$4,446</td> <td>Continuing C2ISR System Architecture Improvements</td> </tr> <tr> <td>(U) \$15,947</td> <td>Continuing Test System-3/AITS support and program sustaining efforts</td> </tr> <tr> <td>(U) \$8,707</td> <td>Continuing Block 40/45 Risk Reduction</td> </tr> <tr> <td>(U) \$2,700</td> <td>Starting ATC Compliance EMD</td> </tr> <tr> <td>(U) \$1,757</td> <td>Starting Comm Projects (HF Messenger) EMD</td> </tr> </table>			(U) \$16,290	Continuing C2ISR System Architecture Improvements	(U) \$6,852	Continuing Test System-3/AITS support and program sustaining efforts	(U) \$9,018	Starting Block 40/45 Risk Reduction	(U) \$1,011	Other	(U) \$33,171	Total	(U) \$4,446	Continuing C2ISR System Architecture Improvements	(U) \$15,947	Continuing Test System-3/AITS support and program sustaining efforts	(U) \$8,707	Continuing Block 40/45 Risk Reduction	(U) \$2,700	Starting ATC Compliance EMD	(U) \$1,757	Starting Comm Projects (HF Messenger) EMD
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Project 411L	Page 3 of 8 Pages	Exhibit R-2 (PE 0207417F)																				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002																																																								
BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207417F Airborne Warning and Control System (AWACS)		PROJECT 411L																																																							
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2002 (\$ in Thousands) Continued</u></p> <p>(U) \$5,415 Starting SATCOM DAMA EMD</p> <p>(U) \$38,972 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$4,853 Continuing C2ISR System Architecture Improvements</p> <p>(U) \$18,318 Continuing Test System-3/AITS support and program sustaining efforts</p> <p>(U) \$130,693 Starting Block 40/45 EMD</p> <p>(U) \$9,206 Continuing ATC Compliance EMD</p> <p>(U) \$10,886 Continuing SATCOM DAMA EMD</p> <p>(U) \$173,956 Total</p> <p>(U) <u>B. Budget Activity Justification</u></p> <p>Operational Systems Development, Budget Activity 7. AWACS is a fielded, operational system currently undergoing major modifications/block upgrades and continuing sustainment activities.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:55%;"></th> <th style="text-align: right;"><u>FY 2001</u></th> <th style="text-align: right;"><u>FY 2002</u></th> <th style="text-align: right;"><u>FY 2003</u></th> <th style="text-align: right;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: right;">35,325</td> <td style="text-align: right;">39,787</td> <td style="text-align: right;">104,626</td> <td style="text-align: right;">TBD</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: right;">35,653</td> <td style="text-align: right;">39,787</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> a. Congressional/General Reductions</td> <td></td> <td style="text-align: right;">-815</td> <td></td> <td></td> </tr> <tr> <td> b. Small Business Innovative Research</td> <td style="text-align: right;">-1,092</td> <td></td> <td></td> <td></td> </tr> <tr> <td> c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> d. Below Threshold Reprogram</td> <td style="text-align: right;">753</td> <td></td> <td></td> <td></td> </tr> <tr> <td> e. Rescissions</td> <td style="text-align: right;">-328</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2002 PBR</td> <td style="text-align: right;">-1,815</td> <td></td> <td style="text-align: right;">69,330</td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY 2003 PBR</td> <td style="text-align: right;">33,171</td> <td style="text-align: right;">38,972</td> <td style="text-align: right;">173,956</td> <td style="text-align: right;">TBD</td> </tr> </tbody> </table>					<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>	(U) Previous President's Budget	35,325	39,787	104,626	TBD	(U) Appropriated Value	35,653	39,787			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions		-815			b. Small Business Innovative Research	-1,092				c. Omnibus or Other Above Threshold Reprogram					d. Below Threshold Reprogram	753				e. Rescissions	-328				(U) Adjustments to Budget Years Since FY 2002 PBR	-1,815		69,330		(U) Current Budget Submit/FY 2003 PBR	33,171	38,972	173,956	TBD
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Project 411L	Page 4 of 8 Pages	Exhibit R-2 (PE 0207417F)																																																								

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002				
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207417F Airborne Warning and Control System (AWACS)				PROJECT 411L			
(U) C. Program Change Summary (\$ in Thousands) Continued											
(U) Significant Program Changes:											
FY03: OSD added \$70M PBR for Block 40/45											
(U) D. Other Program Funding Summary (\$ in Thousands)											
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>		
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>			
(U) AF RDT&E											
(U) Other APPN											
(U) Aircraft Procurement, AF, E-3 Mods	117,577	90,695	29,478	28,186	13,492	39,760	134,422		TBD		
(U) E-3 Initial Spares, AF	20,932,108	28,344	15,841	17,573	16,811	7,329	7,508		TBD		
(U) Replacement Supt Equip	3,290										
(U) E. Acquisition Strategy											
Most major programs (SATCOM DAMA, Block 40/45, TS-3and lab support) will be sole source to Boeing aircraft in Seattle, Wa.											
(U) F. Schedule Profile											
				<u>FY 2001</u>			<u>FY 2002</u>		<u>FY 2003</u>		
				1	2	3	4	1	2	3	4
(U) RSIP FOT&E Complete											
(U) RSIP IOC June 01						*					
(U) BLK 30/35 FOC 1QTR FY02							*				
(U) BLK 40/45 Risk Reduction START				*							
(U) SATCOM DAMA EMD START								X			
(U) COMM PROJECTS EMD START								X			
(U) ATC COMPLIANCE EMD START								X			
(U) BLK 40/45 EMD START										X	
Project 411L											
Page 5 of 8 Pages											
Exhibit R-2 (PE 0207417F)											

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
07 - Operational System Development					0207417F Airborne Warning and Control System (AWACS)			411L		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	Contracts					23,049		27,954		164,284
(U)	MITRE/ITSP					5,193		6,135		8,290
(U)	Travel					640		601		678
(U)	Other					4,289		4,282		704
(U)	Total					33,171		38,972		173,956
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
(U)	Boeing (Block 40/45)	FPIF/CPAF	N/A	N/A	16,902	9,793	7,108	109,060	Continuing	TBD
(U)	Boeing (PDMA)*	Multiple	N/A	N/A	58,149	0			Continuing	TBD
(U)	Boeing (C2ISR Sys Arch Imp)	FPIF/CPAF	N/A	N/A	29,450	6,426	2,422	23,020	Continuing	TBD
(U)	Boeing (DAMA SATCOM)	T&M (ISC)	10/00	N/A	0	0	6,072	7,083		13,155
(U)	Comm Projects (HF Messenger)	FFP	10/01	N/A	0	0	1,732		2,768	4,500
(U)	ATC Compliance/GATM	Multiple	10/01	N/A	0	0	1,029	12,053	Continuing	TBD
(U)	Raytheon (CEC)	CPAF	11/99	N/A	11,981	0	0		0	11,981

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE February 2002	
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT	
07 - Operational System Development					0207417F Airborne Warning and Control System (AWACS)					411L	
(U) <u>Performing Organizations Continued:</u>											
* N/A based on Program Depot Maintenance Airframe (PDMA) Acquisition Strategy which includes multiple contracts with multiple organizations with overlapping and continuing performance periods.											
** Total Program does not include NATO funds.											
<u>Support and Management Organizations</u>											
(U)Support/ITSP	Multiple	N/A	N/A	N/A	562,100	10,937	11,833	9,672	Continuing	TBD	
MITRE, travel, other contracts											
<u>Test and Evaluation Organizations</u>											
(U) Test System-3 ADAPT	Multiple	N/A	N/A	N/A	364,730	6,015	8,776	13,068	Continuing	TBD	
Contract/AITS Contract / Other test activities											
(U) <u>Government Furnished Property:</u>											
<u>Item</u>	<u>Contract Method/Type or Funding</u>	<u>Award or Obligation</u>	<u>Delivery Date</u>		<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>	
<u>Product Development Property</u>											
<u>Support and Management Property</u>											
<u>Test and Evaluation Property</u>											
<u>Subtotals</u>					<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>	
Subtotal Product Development					116,482	16,219	18,363	151,216	TBD	TBD	
Subtotal Support and Management					562,100	10,937	11,833	9,672	TBD	TBD	
Subtotal Test and Evaluation					364,730	6,015	8,776	13,068	TBD	TBD	
Total Project					1,043,312	33,171	38,972	173,956	TBD	TBD	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207423F Advanced Communications Systems					
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	533	9,126	29,133	4,641	2,732	2,491	2,489	Continuing	TBD
1013 Theater Deployable Communications (TDC)	317	0	0	0	0	0	0	0	20,832
2982 Anti-Jam Radio Communications	216	0	0	0	0	0	0	0	23,139
4934 Tactical Air Control Party (TACP)	0	9,126	29,133	4,641	2,732	2,491	2,489	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	Continuing	TBD

All Joint Tactical Radio System (JTRS) RDT&E funds have been transferred to PE 0604280F, JTRS.

(U) **A. Mission Description**
 The Advanced Communication Systems program procures commercially available ground communications equipment for deployment to theaters of operation; and develops and procures jam-resistant, ultra high frequency (UHF) and very high frequency (VHF) frequency-hopping tactical radios. The Theater Deployable Communications (TDC) program provides funding for research, development, test and evaluation for the modernization of operational deployable communications, and integration of commercial off the shelf (COT) equipment that support tactical air operations in a combat environment. The integration of deployable communications equipment for active duty, guard and reserve forces. TDC equipment will be fielded at wings, combat communications squadrons, Air Force Special Operations Command and Air Mobility Command communication units, and Theater Air Control System units. This funding also provides System Program Office (SPO) internal management, engineering, and technical support for the continuing spiral development of (COTS) equipment and will examine appropriate emerging technologies. TDC equipment is composed of three components Lightweight Multi band Satellite Terminal equipment, the Integrated Communications Access Packages (ICAP), and Network Management System/Base Information Protection (NMS/BIP).

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)			DATE February 2002																																																								
BUDGET ACTIVITY 07 - Operational System Development		PE NUMBER AND TITLE 0207423F Advanced Communications Systems																																																									
<p>(U) <u>A. Mission Description Continued</u> TACPs advise the ground commander and staff on the capabilities and use of aerospace power and assist them in planning for air support operations. TACPs provide United States Air Force (USAF) Tactics, Techniques and Procedures (TTP) expertise and a focal point for detailed integration of Close Air Support (CAS) with the fire and maneuver of ground forces. TACP tasks include requesting/coordinating aerospace missions, integrating aerospace and ground force plans, target marking and Suppression of Enemy Air Defenses (SEAD) control. To accomplish this, a mix of vehicle mounted communications pallets, Manpack Radios (MPRs), Laser Range Finders (LRFs) and digital communications devices. Together these three systems provide communications infrastructure in deployed bare base environments. The increase FY03 can be attributed to an internal re-programming of Other Procurement, Air Force (OPAF) to RDTE funds required for cluster 1 TACP-M link-16 development</p> <p>Joint Tactical Radio System (JTRS) is the Department of Defense family of software-defined radios, DOD anticipates this radio's technology will support the warfighter's information and transmission requirements reflected in Joint Vision 2020. JTRS's technology is essential to the Air Force's Tactical Data Link implementation. The Air Force is establishing an acquisition program office and pursuing the Service lead for the JTRS Airborne Cluster.</p>																																																											
<p>(U) <u>B. Budget Activity Justification</u> This program is in budget activity 7, Operational System Development RDT&E, AF because it examines appropriate emerging technologies for the continuing spiral development of commercial off-the-shelf (COTS) equipment; provide software development, determines and resolves integration issues pertaining to COTS equipment</p>																																																											
<p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="text-align: right;"><u>FY 2001</u></th> <th style="text-align: right;"><u>FY 2002</u></th> <th style="text-align: right;"><u>FY 2003</u></th> <th style="text-align: right;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: right;">2,867</td> <td style="text-align: right;">2,907</td> <td style="text-align: right;">8,512</td> <td style="text-align: right;">TBD</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: right;">2,867</td> <td style="text-align: right;">9,324</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">a. Congressional/General Reductions</td> <td style="text-align: right;">0</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">b. Small Business Innovative Research</td> <td style="text-align: right;">-107</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">c. Omnibus or Other Above Threshold Reprogram</td> <td style="text-align: right;">0</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">d. Below Threshold Reprogram</td> <td style="text-align: right;">-2,200</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">e. Rescissions</td> <td style="text-align: right;">-27</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2002 PBR</td> <td></td> <td style="text-align: right;">-198</td> <td style="text-align: right;">20,621</td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY 2003 PBR</td> <td style="text-align: right;">533</td> <td style="text-align: right;">9,126</td> <td style="text-align: right;">29,133</td> <td style="text-align: right;">TBD</td> </tr> </tbody> </table>						<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>	(U) Previous President's Budget	2,867	2,907	8,512	TBD	(U) Appropriated Value	2,867	9,324			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions	0				b. Small Business Innovative Research	-107				c. Omnibus or Other Above Threshold Reprogram	0				d. Below Threshold Reprogram	-2,200				e. Rescissions	-27				(U) Adjustments to Budget Years Since FY 2002 PBR		-198	20,621		(U) Current Budget Submit/FY 2003 PBR	533	9,126	29,133	TBD
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>																																																							
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
BUDGET ACTIVITY	PE NUMBER AND TITLE	
07 - Operational System Development	0207423F Advanced Communications Systems	
<p>(U) <u>C. Program Change Summary (\$ in Thousands) Continued</u></p> <p>(U) <u>Significant Program Changes:</u> FY03 \$20.6 million increase is required for Cluster 1 TACP-M link-16 development and system integration.</p>		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207423F Advanced Communications Systems				PROJECT 1013	
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
1013 Theater Deployable Communications (TDC)	317	0	0	0	0	0	0	0	20,832
<p>(U) <u>A. Mission Description</u> As clearly demonstrated during Desert Shield/Desert Storm (DS/DS), '70s generation of deployable communications equipment is bulky, inflexible in design and does not meet today's projected airlift availability or interoperability standards. Theater Deployable Communications (TDC) packages have reduced airlift requirements and is designed to support a wide range of operational scenarios during deployment/employment and sustainment operations. Combat communications units are equipped with TDC Integrated Communication Access Packages (ICAP), Lightweight Multiband Satellite Terminals (LMST) and Network Management System /Base Information Protection (NMS/BIP) were deployed to Bosnia and Kosovo in support of theater air operations and deployed tactical air and mobility wings. LMST provided the reach back from the forward battle area back to the National Command Center and backbone theater communication required to operate in an austere environment to expedite dissemination of critical war fighter information. TDC performance during these operations exceeded Air Force and CINC expectations.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$100 Prepared TDC roadmap and acquisition 'way ahead' (U) \$111 Completed field interoperability and integration activities (U) \$106 Completed Program Management Activity (travel, supplies, etc) (U) \$317 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>B. Project Change Summary</u></p>									
Project 1013			Page 4 of 13 Pages				Exhibit R-2A (PE 0207423F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002				
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207423F Advanced Communications Systems				PROJECT 1013				
(U) C. Other Program Funding Summary (\$ in Thousands)												
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>			
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>				
(U) AF RDT&E												
(U) Other APPN OPAF	74,664	76,373	122,377	165,554	122,764	96,329	73,295	Continuing	TBD			
(U) D. Acquisition Strategy												
The TDC contracts were awarded after full and open competitions. (When restricted technologies are involved, foreign competition is not allowed)												
(U) E. Schedule Profile												
	<u>FY 2001</u>			<u>FY 2002</u>				<u>FY 2003</u>				
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Complete Roadmap				*								
(U) Complete 3600 integration activities				*								
(U) Complete TDC "Way-ahead"				*								
* Denotes completed event												

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2002		
BUDGET ACTIVITY					PE NUMBER AND TITLE				PROJECT	
07 - Operational System Development					0207423F Advanced Communications Systems				1013	
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	Software Support					110		0		0
(U)	Engineering Support					111		0		0
(U)	Travel					96		0		0
(U)	Total					317		0		0
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
	Various				14,497	100			0	14,597
<u>Support and Management Organizations</u>										
	MITRE	FFP	Oct 97	5,517	0	4,559	105		0	4,664
	In house contractor Spt	FFP	Varies	2,317	0	1,459	112		0	1,571
<u>Test and Evaluation Organizations</u>										
						<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
	<u>Subtotals</u>					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>
	Subtotal Product Development					14,497	100			0
	Subtotal Support and Management					6,018	217			0
	Subtotal Test and Evaluation									
	Total Project					20,515	317			0

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BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207423F Advanced Communications Systems				PROJECT 2982																																
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost																														
2982	Anti-Jam Radio Communications	216	0	0	0	0	0	0	0	23,139																														
<p>(U) <u>A. Mission Description</u> The SINCGARS (Single Channel Ground and Airborne Radio System) waveform provides anti-jam, very high frequency (VHF) hopping voice and data communications and is the primary mode of ECCM communications between the Air Force, Army and USMC. It is utilized during Close Air Support (CAS) for maneuver units and joint battlefield operations.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$116 Completed software update for resolution of GPS incompatibility (U) \$50 Completed AN/ARC 222 fielding (U) \$50 Completed technical supportability for AN/ARC 164 and AN/ARC 204 units (U) \$216 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>B. Project Change Summary</u></p> <p>(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u></p> <table border="1"> <thead> <tr> <th></th> <th><u>FY 2001</u> Actual</th> <th><u>FY 2002</u> Estimate</th> <th><u>FY 2003</u> Estimate</th> <th><u>FY 2004</u> Estimate</th> <th><u>FY 2005</u> Estimate</th> <th><u>FY 2006</u> Estimate</th> <th><u>FY 2007</u> Estimate</th> <th><u>Cost to</u> <u>Complete</u></th> <th><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) AF RDT&E</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Other APPN</td> <td align="right">0</td> </tr> </tbody> </table>												<u>FY 2001</u> Actual	<u>FY 2002</u> Estimate	<u>FY 2003</u> Estimate	<u>FY 2004</u> Estimate	<u>FY 2005</u> Estimate	<u>FY 2006</u> Estimate	<u>FY 2007</u> Estimate	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>	(U) AF RDT&E										(U) Other APPN	0	0	0	0	0	0	0	0	0
	<u>FY 2001</u> Actual	<u>FY 2002</u> Estimate	<u>FY 2003</u> Estimate	<u>FY 2004</u> Estimate	<u>FY 2005</u> Estimate	<u>FY 2006</u> Estimate	<u>FY 2007</u> Estimate	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>																															
(U) AF RDT&E																																								
(U) Other APPN	0	0	0	0	0	0	0	0	0																															
Project 2982		Page 7 of 13 Pages				Exhibit R-2A (PE 0207423F)																																		

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BUDGET ACTIVITY 07 - Operational System Development					PE NUMBER AND TITLE 0207423F Advanced Communications Systems				PROJECT 2982																																																																												
<p>(U) <u>D. Acquisition Strategy</u> The Anti-Jam (SINCGARS) is an Army lead program that was awarded after full and open competition.</p> <p>(U) <u>E. Schedule Profile</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:40%;"></th> <th colspan="4" style="text-align: center;"><u>FY 2001</u></th> <th colspan="4" style="text-align: center;"><u>FY 2002</u></th> <th colspan="3" style="text-align: center;"><u>FY 2003</u></th> </tr> <tr> <th style="text-align: left;"></th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> </tr> </thead> <tbody> <tr> <td>(U) Investigate Anti-Jam Improvements</td> <td style="text-align: center;">*</td> <td></td> </tr> <tr> <td>(U) Software Updates</td> <td></td> </tr> <tr> <td>(U) Support Fielding</td> <td></td> </tr> <tr> <td colspan="11">* Denotes completed event</td> </tr> </tbody> </table>												<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>				1	2	3	4	1	2	3	4	1	2	3	4	(U) Investigate Anti-Jam Improvements	*												(U) Software Updates													(U) Support Fielding													* Denotes completed event										
	<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>																																																																												
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Project 2982			Page 8 of 13 Pages				Exhibit R-2A (PE 0207423F)																																																																														

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
07 - Operational System Development				0207423F Advanced Communications Systems				2982			
(U) A. Project Cost Breakdown (\$ in Thousands)											
					<u>FY 2001</u>		<u>FY 2002</u>			<u>FY 2003</u>	
(U)	Software Support				98		0			0	
(U)	Engineering Support				80		0			0	
(U)	Miscellaneous				38		0			0	
(U)	Total				216		0			0	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
<u>Contractor or</u>	<u>Contract</u>										
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>							
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>	
<u>Product Development Organizations</u>											
<u>Support and Management Organizations</u>											
MITRE	FFP	Oct 97	401	0	0	160			0	160	
ITSP	FFP	Varies			22,923	56				22,979	
<u>Test and Evaluation Organizations</u>											
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
<u>Subtotals</u>					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>	
Subtotal Product Development											
Subtotal Support and Management					22,923	216			0	23,139	
Subtotal Test and Evaluation											
Total Project					22,923	216			0	23,139	

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BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207423F Advanced Communications Systems				PROJECT 4934		
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4934	Tactical Air Control Party (TACP)	0	9,126	29,133	4,641	2,732	2,491	2,489	Continuing	TBD
<p>(U) <u>A. Mission Description</u></p> <p>Tactical Air Control Party (TACP) provide numerous critical functions across the battlespace. They advise the warfighter on aircraft employment; coordinate and control aerospace operations and participate in battle planning. TACPs are equipped with various communications and support gear needed to interface with both ground forces and aircraft conducting air operations, aerospace command and control (C2) agencies; including AWACS and Intelligence, Surveillance and Reconnaissance (ISR) agencies. TACPs advise the ground commander and staff on the capabilities and use of aerospace power and assist them in planning for air support operations. TACPs provide United States Air Force (USAF) Tactics, Techniques and Procedures (TTP) expertise and a focal point for detailed integration of Close Air Support (CAS) with the fire and maneuver of ground forces. TACP tasks include requesting/coordinating aerospace missions, integrating aerospace and ground force plans, target marking and Suppression of Enemy Air Defenses (SEAD) control. To accomplish this, they use a mix of vehicle mounted communications pallets, Manpack Radios (MPRs), Laser Range Finders (LRF) and computers with associated informational software.</p> <p>The Air Force fully supports the Joint Tactical Radio System (JTRS) procurement acquisition strategy and is a participant in the Army led JTRS Cluster 1 initiative. The AF's significant FY03 funding increase supports needed for the development of an AF unique requirement within this Cluster. One of the JTRS cluster ground rules is a service must fund any Service unique requirements. The AF's requirement for Link-16 capability within the Cluster 1 radio is considered Service unique, therefore the AF will contribute \$19.8M to the Army for TACP-M JTRS Link-16 vehicular-mounted communication system development (none KPP) and system integration software.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <p>(U) \$0 No Activity</p> <p>(U) \$0 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$6,419 Begin developing JTRS compliant TACP Vehicular Communication System (VCS) hardware in conjunction with Army's JTRS Cluster I acquisition strategy.</p> <p>(U) \$2,502 Software development and system integration begins.</p> <p>(U) \$205 Operational and interoperability test planning.</p>										
Project 4934				Page 10 of 13 Pages				Exhibit R-2A (PE 0207423F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2002			
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207423F Advanced Communications Systems				PROJECT 4934		
(U) <u>A. Mission Description Continued</u>										
(U) <u>FY 2002 (\$ in Thousands) Continued</u>										
(U) \$9,126 Total										
(U) <u>FY 2003 (\$ in Thousands)</u>										
(U) \$19,788 Continue JTRS compliant TACP Vehicular Communication System (VCS) hardware in conjunction with Army's JTRS Cluster I acquisition strategy.										
(U) \$9,245 Software development and System integration.										
(U) \$100 Operational and interoperability test planning.										
(U) \$29,133 Total										
(U) <u>B. Project Change Summary</u>										
<p>\$19.8M in funding was reallocated internally within this PE from Other Procurement, Air Force (OPAF) to RDT&E appropriation to support Cluster 1 TACP-M link-16 development. This reallocation was driven by an AF independent cost estimate on this Army led development.</p>										
(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u>										
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>	
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>		
(U) AF RDT&E										
(U) Other APPN	19,695	18,062	12,050	11,693	6,738	18,933	19,366	Continuing	TBD	
(U) <u>D. Acquisition Strategy</u>										
All major contracts within this Program Element and BPACS will be awarded after full and open competition										
(U) <u>E. Schedule Profile</u>										
		<u>FY 2001</u>				<u>FY 2002</u>			<u>FY 2003</u>	
			1	2	3	4	1	2	3	4
(U) VCS JTRS Cluster I RFP Release							X			
(U) VCS JTRS Cluster I Contract Award								X		
(U) VCS JTRS Radio Development begins								X		
(U) Integration activities								X		
(U) Start operational test planning									X	
Project 4934										

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207423F Advanced Communications Systems	PROJECT 4934
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(U) **E. Schedule Profile Continued**

	<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
'X' Activity has not been completed												

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2002			
BUDGET ACTIVITY					PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development					0207423F Advanced Communications Systems				4934		
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>											
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	Engineering Support							2,771		2,929	
(U)	VCS JTRS Compliant Radio Development							3,300		16,558	
(U)	Software development and System Integration							2,700		9,316	
(U)	Travel							150		130	
(U)	Test							205		200	
(U)	Total							9,126		29,133	
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>											
(U) <u>Performing Organizations:</u>											
	<u>Contractor or</u>	<u>Contract</u>									
	<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
	<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	
										<u>Total</u>	
	<u>Product Development Organizations</u>										
	ESC / CECOM Cluster I	CPAF	TBD	TBD	TBD	0	0	3,300	16,658	Continuing	TBD
	ESC Sys Int Software Dev't	TBD	TBD	TBD	TBD			2,700	9,216	Continuing	TBD
	<u>Support and Management Organizations</u>										
	ESC	FFP	Varies			0	0	2,921	3,059	Continuing	TBD
	<u>Test and Evaluation Organizations</u>										
	JITC / 605th TS / 46th TS					0	0	205	200	Continuing	TBD
						<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
	<u>Subtotals</u>					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
	Subtotal Product Development					0	0	6,000	25,874	TBD	TBD
	Subtotal Support and Management					0	0	2,921	3,059	TBD	TBD
	Subtotal Test and Evaluation					0	0	205	200	TBD	TBD
	Total Project					0	0	9,126	29,133	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207438F Theater Battle Management (TBM) C4I					
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	44,091	37,469	34,700	30,175	30,734	31,627	32,236	Continuing	TBD
3330 Cmd Cntrl Info Process Sys (C2IPS)	9,189	1,996	2,324	0	0	0	0	0	51,402
4790 Theater Battle Management Core System (TBMCS)	23,579	23,386	22,160	19,779	20,144	20,717	21,117	Continuing	TBD
4802 Deliberate and Crisis Action Planning and Execution Segment (DCAPES)	11,323	12,087	10,216	10,396	10,590	10,910	11,119	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	Continuing	TBD

Note: Also received additional \$3.0 million funded by FY02 Defense Emergency Response Fund (DERF) to support urgent software service pack releases and technical support to contingency operations (Enduring Freedom/Noble Eagle).

(U) **A. Mission Description**
 TBM C4I develops force-level and wing-level command, control, and intelligence systems which utilize DoD's Defense Information Infrastructure (DII) common operating environment (COE). Acquisition of these systems supports the Air Force's expeditionary force concept and will allow the execution of Theater Battle Management (TBM) planning, intelligence, and operational functions of the Joint Forces Air Component Commander (JFACC). Those functions include: generation and dissemination of the air tasking order (ATO) from the Air Operations Center (AOC) down to the wing and unit levels; aerospace defense planning and execution; airspace deconfliction; targeting and weaponeering; and many other applications supporting air operations command and control. Projects included in this program element are Command & Control Information Processing System (C2IPS), Theater Battle Management Core Systems (TBMCS), and Deliberate and Crisis Action Planning and Execution Segment (DCAPES).

(U) **B. Budget Activity Justification**
 The TBMCS effort is post Milestone III effort, and is in Budget Activity 7, Operational Systems Development because it incrementally upgrades and develops capabilities for currently operational systems.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207438F Theater Battle Management (TBM) C4I				PROJECT 3330	
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
3330 Cmd Cntrl Info Process Sys (C2IPS)	9,189	1,996	2,324	0	0	0	0	0	51,402
<p>(U) <u>A. Mission Description</u> The Command & Control Information Processing System (C2IPS) project develops communications and information processing hardware and software for all echelons of the Air Mobility Command (AMC). C2IPS provides AMC the automated capability to perform command and control functions associated with planning, scheduling, and global execution and monitoring of airlift and air refueling missions consisting of both fixed and deployable nodes. C2IPS satisfies the warfighters needs for horizontal and vertical communication.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$4,134 Continue Increment 4 (Detailed Planning & Scheduling for integration of AMC aircraft schedules) (U) \$4,856 Continue higher level integration of C2IPS in DII/COE (U) \$199 Continue requirements planning for future C2IPS architecture migration (U) \$9,189 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$1,996 Completion of Increment 4 (Detailed Planning & Scheduling for integration of AMC aircraft schedules) (U) \$1,996 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$2,324 Increment 4 software deficiency reports cleanup (U) \$2,324 Total</p> <p>(U) <u>B. Project Change Summary</u> N/A</p>									
Project 3330			Page 3 of 15 Pages				Exhibit R-2A (PE 0207438F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2002			
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207438F Theater Battle Management (TBM) C4I				PROJECT 3330		
(U) C. Other Program Funding Summary (\$ in Thousands)										
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>	
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>		
(U) AF RDT&E										
(U) Other APPN										
(U) D. Acquisition Strategy										
The C2IPS will be developed and installed in four increments. A spiral development process is used to produce consecutive software releases within each increment. The first three increments were developed under contract with Computer Sciences Corporation. Increment 1 provided a digital data message handling capability at each Information Processing System (IPS) node and implements mission execution monitoring. Increment 2 built on Increment 1 software to support mission planning and scheduling. Increment 3 provided C2IPS with a client server architecture as part of the system migration efforts. Increment 4 continues the evolutionary acquisition process, using modular development through government wide agency contracts. It also lays the foundation for the migration strategy that will result in interoperability of C2IPS with TBMCS and achieve level 7 DII/COE integration.										
(U) E. Schedule Profile										
			<u>FY 2001</u>			<u>FY 2002</u>		<u>FY 2003</u>		
			1	2	3	4	1	2	3	4
(U) Increment 4 Completion Dates										
(U) Spiral A (Planning & Sched)										
(U) Spiral B (Plan & Sched, DII/COE)										
(U) Spiral C (Planning & Scheduling)										
Note: * Denotes Completed Event; X Denotes Planned Event										
Project 3330			Page 4 of 15 Pages				Exhibit R-2A (PE 0207438F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
07 - Operational System Development					0207438F Theater Battle Management (TBM) C4I			3330		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	Major Product Development Contracts					8,676		1,621		1,776
(U)	Support Contracts					313		225		343
(U)	Program Management Support					200		150		205
(U)	Total					9,189		1,996		2,324
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
CSC	FPIF	Dec 88	TBD	TBD	19,315	8,676	1,621	1,776	0	31,388
Unisys	IDIQ	Dec 98	TBD	TBD	7,925	0	0	0	0	7,925
<u>Support and Management Organizations</u>										
MITRE	T&M	Oct 94	N/A	N/A	7,275	0	0	0	0	7,275
TEMS/ITSP	Various	Various	N/A	N/A	1,786	313	225	343	0	2,667
ESC (government organization)	n/a	n/a	N/A	N/A	1,592	200	150	205	0	2,147
<u>Test and Evaluation Organizations</u>										
N/A										
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Subtotals</u>										
Subtotal Product Development					27,240	8,676	1,621	1,776	0	39,313
Subtotal Support and Management					10,653	513	375	548	0	12,089
Subtotal Test and Evaluation										
Total Project					37,893	9,189	1,996	2,324	0	51,402
Project 3330					Page 5 of 15 Pages			Exhibit R-3 (PE 0207438F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207438F Theater Battle Management (TBM) C4I	PROJECT 4790
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COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4790 Theater Battle Management Core System (TBMCS)	23,579	23,386	22,160	19,779	20,144	20,717	21,117	Continuing	TBD

Note: Also received additional \$3.0 million funded by FY02 Defense Emergency Response Fund (DERF) to support urgent software service pack releases and technical support to contingency operations (Enduring Freedom/Noble Eagle).

(U) **A. Mission Description**
 The Theater Battle Management Core Systems (TBMCS) develops force-level and wing-level command, control, and intelligence systems which utilize DoD's Defense Information Infrastructure (DII) common operating environment (COE) and Joint Technical Architecture (JTA). It links planning, intelligence and operations functions in an integrated battle management system for planning and executing the air war at the theater level and evaluates future aerospace command and control concepts identified and incorporated via evolutionary acquisition. Functions supported include: generation and dissemination of the air tasking order in support of the Joint Forces Air Component Commander (JFACC) from the Air Operations Center (AOC) down to the wing and unit levels; aerospace defense planning and execution; airspace deconfliction; targeting and weaponeering; and many other applications supporting air operations command and control. TBMCS integrated functionality of the following legacy systems: Contingency Theater Automated Planning System (CTAPS), Wing Command & Control System (WCCS), and Combat Intelligence System (CIS). Funds were added in FY01 for NATO R&D to collectively enhance interoperability between the emerging NATO Air Command and Control System (ACCS) and TBMCS, and to share relevant research. Per OSD direction, during FY 02 the USAF plans to consolidate TBMCS, AOC, and GCCS-AF infrastructure into an ACAT-IA Major Automated Information System (MAIS) program to enable the joint synchronization of service command and control systems.

- (U) **FY 2001 (\$ in Thousands)**
- (U) \$16,930 TBMCS software v1.1 development (renamed increment 1.1)
 - (U) \$3,719 TBMCS software v2.0 development (renamed increment 1.2)
 - (U) \$1,080 NATO R&D
 - (U) \$1,850 System Engineering
 - (U) \$23,579 Total

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207438F Theater Battle Management (TBM) C4I				PROJECT 4790		
(U) <u>A. Mission Description Continued</u>										
(U) <u>FY 2002 (\$ in Thousands)</u>										
(U)	\$5,300	Complete TBMCS software increment 1.1 development (support Joint Expeditionary Forces Experiment (JEFX-02))								
(U)	\$15,338	Continue TBMCS software increment 1.2 development (Web-Enable TBMCS)								
(U)	\$900	Initiate TBMCS Block 2 planning								
(U)	\$1,848	System engineering and interoperability with US, NATO or other coalition systems								
(U)	\$23,386	Total								
(U) <u>FY 2003 (\$ in Thousands)</u>										
(U)	\$19,242	Complete TBMCS Increment 1.2 development								
(U)	\$1,000	Begin TBMCS Block 2 development								
(U)	\$1,918	System engineering and interoperability with US, NATO, or other coalition systems								
(U)	\$22,160	Total								
(U) <u>B. Project Change Summary</u>										
(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u>										
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U)	AF RDT&E									
(U)	Other APPN									
(U)	Other Procurement, AF, PE 0207438F, WSC 832010									
(U)	Other Procurement, AF, PE 0207438F, WSC 834520	49,576	43,383	46,255	47,644	48,436	48,993	50,022	Continuing	TBD
(U)	Other Procurement, AF, PE 0207431F, WSC 834520	3,179	2,802	0	0	0	0	0		5,981
(U)	Other Procurement, AF, PE 0207431F, WSC 832010, Intelligence Data Handling System, Combat Intelligence	0	0	0	0	0			Continuing	
Project 4790		Page 7 of 15 Pages								Exhibit R-2A (PE 0207438F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE				
							February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
07 - Operational System Development				0207438F Theater Battle Management (TBM) C4I				4790			
(U) C. Other Program Funding Summary (\$ in Thousands)											
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>		
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>			
System portion											
(U) D. Acquisition Strategy											
Electronic Systems Center (ESC), Hanscom AFB, MA manages the TBMCS program. Lockheed-Martin Mission Systems (LMMS) was competitively selected after full and open competition. They were awarded a cost plus award fee contract to develop improved capabilities in support of effective Theater Battle Management and to integrate existing and evolutionary capabilities in the DII Common Operating Environment. The program uses an evolutionary acquisition strategy with a series of incremental, spiral development software releases. This approach accommodates refinement and prioritization of user requirements and improves adaptability to advances in commercial technology to fulfill evolving aerospace command and control requirements.											
(U) E. Schedule Profile											
				<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>			
				1	2	3	4	1	2	3	4
(U)	TBMCS software version 1.0.1										
(U)	Multi-Service Operational T&E										
(U)	Version 1.0.1 Release										
(U)	TBMCS software version 1.0.2										
(U)	In-Plant Test			*							
(U)	Version 1.0.2 Release				*						
(U)	TBMCS software increment 1.1										
(U)	In-Plant Test					*					
(U)	Combined Dev Test/Ops Test						X				
(U)	Increment 1.1 release						X				
(U)	JEFX							X			
(U)	TBMCS software increment 1.2										
(U)	In-Plant Test								X		
(U)	Combined Dev Test/Ops Test									X	
(U)	Increment 1.2 Release										X
Project 4790				Page 8 of 15 Pages				Exhibit R-2A (PE 0207438F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2002						
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT						
07 - Operational System Development					0207438F Theater Battle Management (TBM) C4I					4790						
(U) <u>E. Schedule Profile Continued</u>																
					<u>FY 2001</u>					<u>FY 2002</u>		<u>FY 2003</u>				
					1	2	3	4	1	2	3	4	1	2	3	4
(U) Initiate TBMCS software blk 2 Planning										X						
(U) Begin blk 2 development														X		
Note: * Denotes Completed Event; X Denotes Planned Event																
Project 4790				Page 9 of 15 Pages				Exhibit R-2A (PE 0207438F)								

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY 07 - Operational System Development					PE NUMBER AND TITLE 0207438F Theater Battle Management (TBM) C4I			PROJECT 4790			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	System Integration and Development					20,669		21,538		20,242	
(U)	System Engineering and Support					2,910		1,848		1,918	
(U)	Total					23,579		23,386		22,160	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government Performing Activity</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>											
	LMMS	CPAF	Oct 95	TBD	TBD		18,069	17,538	17,242	Continuing	TBD
	Accenture	DO	Sep 01	TBD	TBD		1,600	2,000	2,000	Continuing	TBD
	Rome Lab	MIPR	Jun 01	TBD	TBD		1,000	1,000	1,000	Continuing	TBD
	INEEL	MIPR	Feb 02	TBD	TBD			1,000		Continuing	TBD
<u>Support and Management Organizations</u>											
	MITRE	CPAF	Oct 94	N/A	N/A		2,780	1,718	1,788	Continuing	TBD
<u>Test and Evaluation Organizations</u>											
	46TS	Project Order	Various	N/A	N/A		130	130	130	Continuing	TBD
(U) Government Furnished Property:											
	<u>Item Description</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Delivery Date</u>		<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Property</u>											
<u>Support and Management Property</u>											
<u>Test and Evaluation Property</u>											

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)				DATE February 2002		
BUDGET ACTIVITY		PE NUMBER AND TITLE			PROJECT	
07 - Operational System Development		0207438F Theater Battle Management (TBM) C4I			4790	
		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
		<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>
						<u>Total</u>
	<u>Subtotals</u>					<u>Program</u>
	Subtotal Product Development		20,669	21,538	20,242	TBD
	Subtotal Support and Management		2,780	1,718	1,788	TBD
	Subtotal Test and Evaluation		130	130	130	TBD
	Total Project		23,579	23,386	22,160	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207438F Theater Battle Management (TBM) C4I				PROJECT 4802		
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4802	Deliberate and Crisis Action Planning and Execution Segment (DCAPES)	11,323	12,087	10,216	10,396	10,590	10,910	11,119	Continuing	TBD
<p>(U) <u>A. Mission Description</u> Deliberate and Crisis Action Planning and Execution Segment (DCAPES) is being developed as the next generation AF interface to the Joint Operational Planning and Execution System (JOPES). This effort is an evolutionary follow-on to the Contingency Operations Mobility Planning and Execution System (COMPES), which is currently the Air Force interface to JOPES. COMPES is the legacy system ported from the World-Wide Military Command and Control System (WWMCCS) to Global Command and Control System (GCCS) in 1996 as a stop gap measure. DCAPES will replace the functionality of COMPES with modern relational databases, integrated-distributed database, and common and shared data consistent with the Joint vision for integrated C2. DCAPES is intended to be more tightly coupled with the range of planning support systems to provide a more effective crisis action planning capability for a wider range of operational scenarios and will fully support the force provider function of the AF Forces (AFFOR) Commander. DCAPES provides a real time, two way interchange of manpower, logistics, and operational data between the Air Force and the warfighting CINCs. It matches people and airframes/weapon systems to the CINC's warfighting requirements.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$10,424 DCAPES Increment 1 development, prototyping, coding, and testing (U) \$560 Government development testing and integration and interoperability testing (U) \$339 DCAPES Increment 2 requirements definition, development, prototyping, coding, and testing (U) \$11,323 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$9,487 DCAPES Increment 2 development, prototyping, coding, and testing (includes program management support). Consists of LOGFAC, LOGMOD/MANPER B, WMP, MANPER X, Web enablement, and JOPES Modernization Migration (U) \$600 Government deployment and test support (U) \$2,000 Complete government interoperability testing and field DCAPES Increment 1 (U) \$12,087 Total</p>										
Project 4802			Page 12 of 15 Pages				Exhibit R-2A (PE 0207438F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207438F Theater Battle Management (TBM) C4I			PROJECT 4802		
(U) <u>A. Mission Description Continued</u>									
(U) <u>FY 2003 (\$ in Thousands)</u>									
(U) \$7,226 DCAPES Increment 2 development (Requirements definition, prototyping, coding, testing, and program management support. Components consists of LOGFAC, LOGMOD/MANPER B, WMP, MANPER X, Web enablement, and JOPES Modernization Migration.)									
(U) \$500 DCAPES Increment 3 requirements definition									
(U) \$1,850 DCAPES Increment 2 Program Engineering Support									
(U) \$640 Government deployment operational testing and interoperability support									
(U) \$10,216 Total									
(U) <u>B. Project Change Summary</u>									
(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u>									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E									
(U) Other APPN									
(U) <u>D. Acquisition Strategy</u>									
DCAPES will be managed by Electronic Systems Center, Hanscom AFB, MA. In July 98, the DCAPES contract was awarded to the Raytheon, Computer Sciences Corporation, and Science Applications International Corporation team under Command and Control Product Line (CCPL) contracts awarded and maintained by Electronic Systems Center. Computer Sciences Corporation and Science Applications International Corporation were awarded the follow-on support contract. The program uses an evolutionary acquisition strategy with a series of incremental software releases. This approach accommodates refinement and prioritization of user requirements and improves adaptability to improvements in commercial technology.									
(U) <u>E. Schedule Profile</u>									
		<u>FY 2001</u>			<u>FY 2002</u>		<u>FY 2003</u>		
		1	2	3	4	1	2	3	4
(U) Complete Increment 1 Development *									
(U) Government Acceptance Testing (Incr 1) X									
(U) DCAPES Initial Increment Fielded X									
(U) Increment 2, Spiral 1, Requirements analysis X									
Project 4802			Page 13 of 15 Pages			Exhibit R-2A (PE 0207438F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2002		
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT		
07 - Operational System Development					0207438F Theater Battle Management (TBM) C4I					4802		
(U) <u>E. Schedule Profile Continued</u>												
		<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>		
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Increment 2, Spiral, 1 Fielded									X			
(U) Increment 2, Spiral 2, Requirements Analysis							X					
(U) Increment 2, Spiral 2, Fielded										X		
(U) Increment 2, Spiral 3, Requirements Analysis								X				
(U) Increment 2, Spiral 3, Fielded												X
(U) Increment 2 Fielding												X
(U) DCAPES Increment 2 IOT&E												
(U) Begin Increment 3 Development												
(U)												
Note 1: * Denotes Completed event; X Denotes Planned Event												
Note 2: 'DCAPES Increment 2 IOT&E' and 'Begin Increment 3 Development' now planned for first quarter of FY 04												
Project 4802				Page 14 of 15 Pages				Exhibit R-2A (PE 0207438F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207445F FIGHTER TACTICAL DATA LINK	PROJECT 5043
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COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
5043 Fighter Tactical Data Link	0	0	39,034	38,937	44,553	57,511	27,551	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

In FY 2003, this is a new PE. In FY 2003, #675043, Fighter Tactical Data Link includes a new start effort for F-22 JTIDS Xmit. It also includes efforts transferred from PE 0207131F, #674809, A-10 Squadrons, in order to comply with CSAF 17 Apr 01 direction to consolidate tactical data link/Link 16 funding and manage tactical data links as an enterprise.

(U) A. Mission Description

Tactical Data Links (TDL) are used in a combat environment to exchange information such as messages, data, radar tracks, target information, platform status, imagery, and command assignments. TDLs provide interoperability, local and global connectivity, and situational awareness to the user when operating under rapidly changing operational conditions. TDLs are used by the Air Force, Army, Navy, and Marine Corps theater Command and Control (C2) elements, weapons platforms, and sensors. TDLs include but are not limited to: Link-16, Link-11, Situational Awareness Data Link (SADL), Variable Message Format (VMF), Enhanced Position Location Reporting System (EPLRS), and Common Data link (CDL).

This effort adds tactical data link capability to the A/OA-10 aircraft. The A/OA-10 upgrade is required to enhance its ability to support CAS and interdiction mission requirements. This effort also adds Link 16 transmit capability to the F-22. Link 16 provides a jam-resistant, secure digital data transfer network capability with a standardized waveform and data format allowing intra and inter-flight communications. Link 16 will increase mission effectiveness, provide situational awareness, provide positive identification of aircraft in the network, correlate on and off-board sensor data sharing target and threat information. Link 16 efforts include incorporating MIL-STD-6016 additions and changes, and applicable Interface Change Proposals (ICPs), and interoperability certification testing with the Joint Interoperability Test Center (JITC).

(U) FY 2001 (\$ in Thousands)

(U) \$0 No Activity
(U) \$0 Total

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002																																																								
BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207445F FIGHTER TACTICAL DATA LINK		PROJECT 5043																																																							
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$0 No Activity* (see Note)</p> <p>(U) \$0 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$29 A-10 Digital Data Link</p> <p>(U) \$39,005 F-22 JTIDS Xmit</p> <p>(U) \$39,034 Total</p> <p>*Note: No activity in this PE; however, prior to A-10 Digital Data Link activity (\$3,000 in FY02) was reflected in the R-2 in PE 0207131, #674809, A-10 Squadrons.</p> <p>(U) <u>B. Budget Activity Justification</u></p> <p>Fighter Tactical Data Link program is in Budget Activity 7, Operational System Development, since it supports integration of tactical data links into operational systems.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 10%; text-align: center;"><u>FY 2001</u></th> <th style="width: 10%; text-align: center;"><u>FY 2002</u></th> <th style="width: 10%; text-align: center;"><u>FY 2003</u></th> <th style="width: 10%; text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td></td> <td></td> <td style="text-align: center;">0</td> <td style="text-align: center;">TBD</td> </tr> <tr> <td>(U) Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> a. Congressional/General Reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> b. Small Business Innovative Research</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> d. Below Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> e. Rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2002 PBR</td> <td></td> <td></td> <td style="text-align: center;">39,034</td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY 2003 PBR</td> <td></td> <td></td> <td style="text-align: center;">39,034</td> <td style="text-align: center;">TBD</td> </tr> </tbody> </table> <p>(U) <u>Significant Program Changes:</u></p> <p>FY03: The FY03 BES added \$39.1M for F-22 JTIDS transmit capability. FY03 also includes Digital Data Link efforts transferred from PE 0207131F, #674809, A-10 Squadrons.</p>					<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>	(U) Previous President's Budget			0	TBD	(U) Appropriated Value					(U) Adjustments to Appropriated Value					a. Congressional/General Reductions					b. Small Business Innovative Research					c. Omnibus or Other Above Threshold Reprogram					d. Below Threshold Reprogram					e. Rescissions					(U) Adjustments to Budget Years Since FY 2002 PBR			39,034		(U) Current Budget Submit/FY 2003 PBR			39,034	TBD
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>																																																						
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(U) Current Budget Submit/FY 2003 PBR			39,034	TBD																																																						
Project 5043	Page 2 of 4 Pages	Exhibit R-2 (PE 0207445F)																																																								

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002			
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207445F FIGHTER TACTICAL DATA LINK				PROJECT 5043			
(U) D. Other Program Funding Summary (\$ in Thousands)											
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>		
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>			
(U) AF RDT&E											
(U) Other APPN											
(U) APPN 10, BP-11, A-10 Digital Data Link (0207445F)				303	5,609	6,198	5,990	Continuing	TBD		
(U) APPN 28 & 10, A-10 Precision Engagement (0207131F)		3,049	7,669	44,543	9,075	9,402	9,607	Continuing	TBD		
(U) Appn 10, BP-11, F-22 JTIDS Xmit (0207138F)							1,217	Continuing	TBD		
(U) E. Acquisition Strategy											
A-10: Digital Data Link (DDL) will be conducted under the A-10 Prime Contract which was awarded in Dec 1997 on a full-and-open basis. CPAF contract awarded.											
F-22: The FY02 acquisition strategy is currently being determined.											
(U) F. Schedule Profile											
				<u>FY 2001</u>			<u>FY 2002</u>		<u>FY 2003</u>		
				1	2	3	4	1	2	3	4
(U) A-10 Digital Data Link								*			
(U) F-22 JTIDS Xmit									*		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development					PE NUMBER AND TITLE 0207445F FIGHTER TACTICAL DATA LINK			PROJECT 5043		
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>										
					<u>FY 2001</u>			<u>FY 2002</u>		<u>FY 2003</u>
(U)	A-10 Digital Data Link									29
(U)	Begin EMD for F-22 JTIDS Xmit effort									39,005
(U)	Total									39,034
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>										
(U) <u>Performing Organizations:</u>										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
Lockheed Martin Systems	CPAF	1QFY02	TBD	214				29	191	220
Integration (A-10 Digital Data Link)										
F-22 JTIDS Xmit	TBD	2QFY03	TBD	TBD				39,100	Continuing	TBD
<u>Support and Management Organizations</u>										
<u>Test and Evaluation Organizations</u>										
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development								39,129	TBD	TBD
Subtotal Support and Management										
Subtotal Test and Evaluation										
Total Project								39,129	TBD	TBD

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207449F Multi-sensor Command and Control Constellation (MC2C)					
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	0	0	191,089	402,258	514,223	729,506	645,856	Continuing	TBD
5064 Airframe	0	0	41,764	198,121	276,393	562,801	560,190	Continuing	TBD
5065 Sensors	0	0	149,325	204,137	237,830	166,705	85,666	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0
<p>1. In FY 2003, the Air Force established a program element for the Multi-sensor Command and Control Constellation (MC2C). The MC2C is a horizontally integrated architecture of Command and Control (C2) and Intelligence, Surveillance, and Reconnaissance (ISR) capabilities. The MC2C is a key enabler for the effects-based capabilities needed to achieve Global Strike Task Force (GSTF) objectives. MC2C absorbs, and continues the Multi-Platform Radar Technology Insertion Program radar effort that was previously reported in PE 0207581F Joint STARS, Project Number 674995. MC2C also transitions the 707-based MP-RTIP radar to a 767-based MP-RTIP radar with funding from PE 0207581F Joint STARS, Project Number 670003.</p> <p>2. FYDP RDT&E Article Deliveries: FY 2004: 1 767-400ER Testbed FY 2006: 1 Global Hawk MP-RTIP radar for integration FY 2007: 1 767 MP-RTIP radar for integration 1 NATAR radar for integration</p> <p>3. In FY03, the Multi-sensor Command and Control Constellation (MC2C) program anticipates receiving \$488.0M from th Cost of War Transfer Account. These funds are not included in the Air Force baseline. Funding will be used to accelerate the purchase of an RDT&E 767-400ER aircraft from FY 2004 to FY 2003 (see note 2 above). Additionally, funds will be used for engineering aircraft integration, designing common fleet modifications, network development, and future spiral effort exploration and planning.</p>									

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002
BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207449F Multi-sensor Command and Control Constellation (MC2C)	
<p>(U) <u>A. Mission Description</u></p> <p>The Multi-sensor Command and Control Constellation (MC2C) is a horizontally integrated architecture of Command and Control (C2) and Intelligence, Surveillance, and Reconnaissance (ISR) capabilities. The MC2C will function as an enabling force for the Global Strike Task Force and other military operations. This vision integrates current, developmental, and future manned/unmanned space, air and ground sensors, data links, ground stations, exploitation tools, communication/information dissemination systems and C2 and battle management elements to give the warfighter real-time visibility on of the battlefield and other areas of military operations. The MC2C seeks to achieve horizontal integration through Network Centric Collaborative Targeting (NCCT).</p> <p>A key element of MC2 Constellation (MC2C) is the Multi-sensor Command and Control Aircraft (MC2A) which is vital to constellation system integration and overall system architecture. The MC2A is an advanced manned aircraft with state-of-the-art sensors that will extend the commander's eyes and ears while serving as a primary element of the theater C2 architecture. A constellation of high and medium altitude endurance Unmanned Air Vehicles (UAVs) and space sensors will augment and supplement the sensor capabilities of the MC2A to provide precise target location/identification data. This will provide a seamless environment to re-task sensors from collection to targeting support missions. The MC2 Constellation of C2 and ISR sensors must provide capabilities over the entire range of military operations from peacetime, through small-scale contingencies, to major theater war.</p> <p>The MC2A, an advanced manned wide area surveillance and battle management weapon system, will employ Ground Moving Target Indication (GMTI) and Air Moving Target Identification (AMTI) sensors, battle management cells, communications, data links, an AOC execution cell for execution of operations, and after action battlefield assessments. The MC2A will also interface with multi-service ground and space-based sensors, fighter and bomber aircraft and other sensors creating decision-quality data to increase battlespace awareness and shorten the decision cycle for combat operations, such as detection, designation, and prosecution of time critical targets. The Air Force will develop the MC2A capability in a spiral development fashion. The Multi-Platform Radar Technology Insertion Program, delivering an advanced GMTI as a Pre-Planned Product Improvement (P3I) for Joint STARS E-8C, integrated on a 767-400ER airframe, is the first spiral of the MC2A. Future spirals will be integrated based on concept/development studies, with AMTI as a candidate for spiral 2 of MC2A.</p> <p>The vision for MC2A Spiral 1, GMTI and battle management on a 767-400ER, is fully consistent with the currently approved MP-RTIP program. The MP-RTIP program was restructured and approved by SECAF and USD(AT&L) on 28 Jul 00 and placed in pre-engineering and manufacturing development to design the advanced radar while the warfighter conducted an Analysis of Alternative (AoA) to determine which platform would host the advanced radar capability (see FY2001 & FY2002 R-2 Exhibit for PE 0207581F). While MP-RTIP will deliver the Spiral 1 (GMTI) capability to the warfighter, it will also provide for a robust Global Hawk reconnaissance capability, and enable NATO's Alliance Ground Surveillance (AGS) program.</p>		
Page 2 of 14 Pages		Exhibit R-2 (PE 0207449F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002																																																								
BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207449F Multi-sensor Command and Control Constellation (MC2C)																																																									
<p>(U) <u>B. Budget Activity Justification</u> These funds are required to meet the requirements, capabilities and efforts further defined in the 'Mission Description' section of the two following R-2s.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="text-align: center;"><u>FY 2001</u></th> <th style="text-align: center;"><u>FY 2002</u></th> <th style="text-align: center;"><u>FY 2003</u></th> <th style="text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> <tr> <td>(U) Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">a. Congressional/General Reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">b. Small Business Innovative Research</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">d. Below Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">e. Rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2002 PBR</td> <td></td> <td></td> <td style="text-align: right;">191,089</td> <td style="text-align: right;">TBD</td> </tr> <tr> <td>(U) Current Budget Submit/FY 2003 PBR</td> <td></td> <td></td> <td style="text-align: right;">191,089</td> <td style="text-align: right;">TBD</td> </tr> </tbody> </table> <p>(U) <u>Significant Program Changes:</u> The FY03 increase since the FY02 PBR reflects the transition of an MP-RTIP radar hosted on a JSTARS E-8C platform to a 767-400ER platform as the first spiral toward a Multi-sensor Command and Control Aircraft (MC2A) capability.</p>					<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>	(U) Previous President's Budget	0	0	0	0	(U) Appropriated Value					(U) Adjustments to Appropriated Value					a. Congressional/General Reductions					b. Small Business Innovative Research					c. Omnibus or Other Above Threshold Reprogram					d. Below Threshold Reprogram					e. Rescissions					(U) Adjustments to Budget Years Since FY 2002 PBR			191,089	TBD	(U) Current Budget Submit/FY 2003 PBR			191,089	TBD
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>																																																						
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Page 3 of 14 Pages		Exhibit R-2 (PE 0207449F)																																																								

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207449F Multi-sensor Command and Control Constellation (MC2C)				PROJECT 5064		
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
5064	Airframe	0	0	41,764	198,121	276,393	562,801	560,190	Continuing	TBD
<p>1. In FY 2003, the Air Force established a program element for the Multi-sensor Command and Control Constellation (MC2C). The MC2C is a horizontally integrated architecture of Command and Control (C2) and intelligence, Surveillance, and Reconnaissance (ISR) capabilities. The MC2C is a key enabler for the effect-based capabilities needed to achieve Global Strike Task Force (GSTF) objectives. MC2C Project Number 675074, Airframe transition hosting of a 707-based Multi-Platform Radar Technology Insertion Program (MP-RTIP) radar to a 767-400ER with funding from PE 0207581 Joint STARS, Project Number 670003.</p> <p>2. In FY03, the Multi-sensor Command and Control Constellation (MC2C) program anticipates receiving \$488.0M from the Cost of War Transfer Account. These funds are not included in the Air Force baseline. Funding will be used to accelerate the purchase of an RDT&E 767-400ER aircraft from FY 2004 to FY 2003 (see note 1 above). Additionally, funds will be used for engineering aircraft integration, designing common fleet modifications, network development, and future spiral effort exploration and planning.</p> <p>(U) <u>A. Mission Description</u></p> <p>Project 675064, Airframe, is established within the MC2C PE 0207449F in response to the Air Force Chief of Staff direction to develop an integrated intelligence, surveillance, and reconnaissance capability known as the Multi-sensor Command and Control Constellation (MC2C). The MC2C is a key enabler for the effects-based capabilities necessary to achieve Global Strike Task Force (GSTF) objectives. Project 675064 is applicable for platforms chosen to host sensor and communications capability that contribute to the MC2 Constellation. The Multi-sensor Command and Control Aircraft (MC2A) is a vital element for constellation integration and overall architecture.</p> <p>The Multi-sensor Command and Control Aircraft (MC2A) is a 767-400ER aircraft that will host the Multi-Platform Radar Technology Insertion Program sensor to form the core capability for the MC2A Spiral 1, Ground Moving Target Indicator (GMTI) and battle management capability. There is an Air Force and Army need to provide, from airborne platforms, near-real time surveillance and targeting information on moving and stationary ground targets (growth to maritime operations), slow moving rotary and fixed wing aircraft and rotary antennas to enable operational and tactical commander's make and execute battle decisions. A current level of wide area surveillance (WAS) capability exists in the Joint Surveillance Target Attack Radar System (Joint STARS) E-8C (707 aircraft) based weapons systems. The system is capable of being cued by other reconnaissance, surveillance, and target acquisition systems and is able to respond rapidly to worldwide contingencies. The Multi-Platform Radar Technology Insertion Program (MP-RTIP), formerly a pre-planned product improvement to Joint STARS, will deliver a significantly enhanced</p>										
Project 5064			Page 4 of 14 Pages				Exhibit R-2A (PE 0207449F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE February 2002
BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207449F Multi-sensor Command and Control Constellation (MC2C)	PROJECT 5064
<p>(U) <u>A. Mission Description Continued</u> WAS system capability to the warfighter when hosted on a 767-400ER as the MC2A. The MC2A will greatly improve the commander's ability to conduct wide area surveillance to detect, locate, classify, track, and monitor moving targets and provide target information to assigned direct aerospace and ground weapons systems.</p> <p>Funds in Project 675064 will be used to purchase a Boeing 767-400ER aircraft and design, develop, and execute the acquisition program to transform the 'green' 767-400ER into a testbed suitable for integration of the MP-RTIP radar and all necessary subsystems required to form an advanced WAS capability as Spiral 1 of MC2A. This activity will yield a 'smart' design that preserves size, weight and power allocations for MC2A Spiral 2, an Air Moving Target Indicator capability. The testbed will be production representative of MC2A Spiral 1 suitable for effectively demonstrating operational utility in the DT/OT environment.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$0 Activity prior to FY02 reported in PE 0207581F, Project 670003. (U) \$0 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Activity prior to FY03 reported in PE 0207581F, Project 674995. (U) \$0 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$16,429 Continue C2ISR Transitioning/Replatforming (707 to 767-400ER) (U) \$25,000 Continue Future Studies/Spiral Development--includes concept exploration, program definition/risk reduction, evaluation of airframe to host Spiral 2 (AMTI sensor) and other spiral development efforts supporting continuous improvements and implementation of Command & Control, Intelligence, Surveillance, and Reconnaissance (C2ISR) capabilities to enable a joint global strike task force. These efforts include but are not limited to manned and unmanned platforms, space, data links--Multi-Platform Common Data Link (MP-CDL) etc, combat identification, and advanced battle management command, control, and communications (BMC3) concepts such as Network Centric Collaborative Targeting (NCCT). (U) \$335 SPO Operations (U) \$41,764 Total</p>		
Project 5064	Page 5 of 14 Pages	Exhibit R-2A (PE 0207449F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002																																																																																																																										
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207449F Multi-sensor Command and Control Constellation (MC2C)				PROJECT 5064																																																																																																																										
<p>(U) <u>B. Project Change Summary</u> This program is in Budget Activity 7 - Operational System Development. FY03-FY07 funds transferred to this project originated in PE 0207581 Joint STARS, Project 670003.</p> <p>(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;"></th> <th style="width:10%;"><u>FY 2001</u></th> <th style="width:10%;"><u>FY 2002</u></th> <th style="width:10%;"><u>FY 2003</u></th> <th style="width:10%;"><u>FY 2004</u></th> <th style="width:10%;"><u>FY 2005</u></th> <th style="width:10%;"><u>FY 2006</u></th> <th style="width:10%;"><u>FY 2007</u></th> <th style="width:10%;"><u>Cost to</u></th> <th style="width:10%;"><u>Total Cost</u></th> </tr> <tr> <td></td> <td style="text-align: center;"><u>Actual</u></td> <td style="text-align: center;"><u>Estimate</u></td> <td style="text-align: center;"><u>Complete</u></td> <td></td> </tr> </thead> <tbody> <tr> <td>(U) AF RDT&E</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) PE 0207449F/Project 675065 Sensors</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">149,325</td> <td style="text-align: center;">204,137</td> <td style="text-align: center;">237,830</td> <td style="text-align: center;">166,705</td> <td style="text-align: center;">85,666</td> <td style="text-align: center;">Continuing</td> <td style="text-align: center;">Continuing</td> </tr> <tr> <td>(U) PE 0207581F/Project 674995 MP-RTIP</td> <td style="text-align: center;">0</td> <td style="text-align: center;">77,630</td> <td style="text-align: center;">0</td> <td style="text-align: center;">Continuing</td> <td style="text-align: center;">Continuing</td> </tr> <tr> <td>(U) PE 0207581F/Project 670003 JSTARS (partial total)</td> <td style="text-align: center;">50,359</td> <td style="text-align: center;">0</td> <td style="text-align: center;">Continuing</td> <td style="text-align: center;">Continuing</td> </tr> <tr> <td>(U) Other APPN</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>(U) <u>D. Acquisition Strategy</u> The MP-RTIP Acquisition Strategy was approved by SECAF and USD(AT&L) on 28 Jul 00. The warfighter, AC2ISRC/A3, has completed the MP-RTIP Platform Analysis-of-Alternatives (Dec 01) and has received AFROC and Chief of Staff of the Air Force direction. The Boeing 767-400ER testbed will be procured and system design engineering initiated in FY2003 to transform the green aircraft into an operationally representative testbed. Subsequent to a Milestone B decision in FY2003 for the MC2A Spiral 1/MP-RTIP, system development & demonstration (SDD) will proceed for the enhanced WAS</p> <p>(U) <u>E. Schedule Profile</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;"></th> <th colspan="4" style="text-align: center;"><u>FY 2001</u></th> <th colspan="4" style="text-align: center;"><u>FY 2002</u></th> <th colspan="3" style="text-align: center;"><u>FY 2003</u></th> </tr> <tr> <td></td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> </tr> </thead> <tbody> <tr> <td>(U) Purchase 767-400ER</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Initiate System Design Engineering</td> <td></td> <td style="text-align: center;">X</td> <td></td> </tr> </tbody> </table> <p>* Denotes completed event X Denotes planned event</p>											<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>		(U) AF RDT&E										(U) PE 0207449F/Project 675065 Sensors	0	0	149,325	204,137	237,830	166,705	85,666	Continuing	Continuing	(U) PE 0207581F/Project 674995 MP-RTIP	0	77,630	0	0	0	0	0	Continuing	Continuing	(U) PE 0207581F/Project 670003 JSTARS (partial total)	50,359	0	0	0	0	0	0	Continuing	Continuing	(U) Other APPN											<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>				1	2	3	4	1	2	3	4	1	2	3	4	(U) Purchase 767-400ER									X				(U) Initiate System Design Engineering											X	
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Project 5064			Page 6 of 14 Pages				Exhibit R-2A (PE 0207449F)																																																																																																																											

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0207449F Multi-sensor Command and Control Constellation (MC2C)				5064		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	707 to 767 Transition									16,000
(U)	Future Studies/Spiral Development Activities									25,429
(U)	SPO Operations									335
(U)	Total									41,764
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
TBD	TBD	TBD						41,429	Continuing	TBD
<u>Support and Management Organizations</u>										
Program Office Support	N/A	N/A						335	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
TBD	TBD	TBD						0	Continuing	TBD
(U) Government Furnished Property:										
<u>Item</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Delivery</u>		<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>							
<u>Product Development Property</u>										
N/A										
<u>Support and Management Property</u>										
N/A										
Project 5064				Page 7 of 14 Pages				Exhibit R-3 (PE 0207449F)		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)		DATE				
07 - Operational System Development		February 2002				
BUDGET ACTIVITY		PROJECT				
07 - Operational System Development		5064				
PE NUMBER AND TITLE		PROJECT				
0207449F Multi-sensor Command and Control Constellation (MC2C)		5064				
(U) Government Furnished Property Continued:						
<u>Test and Evaluation Property</u>						
N/A						
	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Subtotals</u>						
Subtotal Product Development				41,429	TBD	TBD
Subtotal Support and Management				335	TBD	TBD
Subtotal Test and Evaluation				0	TBD	TBD
Total Project				41,764	TBD	TBD
Project 5064						
Page 8 of 14 Pages						
Exhibit R-3 (PE 0207449F)						

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207449F Multi-sensor Command and Control Constellation (MC2C)	PROJECT 5065
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COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
5065 Sensors	0	0	149,325	204,137	237,830	166,705	85,666	Continuing	TBD

1. In FY2003, the Air Force established a program element for the Multi-Sensor Command and Control Constellation (MC2C). The MC2C is a horizontally integrated architecture of Command and Control (C2) and Intelligence, Surveillance, and Reconnaissance capabilities. The MC2C is a key enabler for the effects-based capabilities needed to achieve Global Strike Take Force (GSTF) objectives. MC2C absorbs, and continues the Multi-Platform Radar Technology Insertion Program radar effort that was previously reported in PE 0207581F Joint STARS, Project Number 674995.

2. In FY03, the Multi-sensor Command and Control Constellation (MC2C) program anticipates receiving \$488.0M from th Cost of War Transfer Account. These funds are not included in the Air Force baseline. Funding will be used to accelerate the purchase of an RDT&E 767-400ER aircraft from FY 2004 to FY 2003 (see note 1 above). Additionally, funds will be used for engineering aircraft integration, designing common fleet modifications, network development, and future spiral effort exploration and planning.

(U) A. Mission Description

Project 5065, Sensors, is established within the MC2C PE 0207449F in response to the Air Force Chief of Staff direction to develop an integrated intelligence, surveillance, and reconnaissance capability known as the Multi-sensor Command and Control Constellation (MC2C).

A sensor program with direct application to the MC2 Constellation is the Multi-Platform Radar Technology Insertion Program delivering a sensor that will form the core capability for the MC2A Spiral 1 767-400ER based weapons system. The Multi-Platform Radar Technology Insertion Program (MP-RTIP), as reported in FY2001 and FY2002 R-2 Exhibit for PE 0207581F, is the result of a restructuring of the Joint STARS Radar Technology Insertion Program (RTIP), formerly a Pre-Planned Product Improvement to Joint STARS. MP-RTIP will deliver Multi-sensor Command and Control Aircraft (MC2A) capability to the warfighter, provide for a robust Global Hawk reconnaissance/surveillance capability, and enable a NATO Trans-Atlantic Advanced Radar program for NATO AGS. The MC2A capability will allow commanders to conduct wide area surveillance to detect, locate, classify, track, and monitor moving targets and provide target information to assigned direct aerospace and ground weapons systems. Wide area surveillance is required to monitor the movement and disposition of enemy forces and for use in resource prioritization, force allocation, and Intelligence Preparation of the Battlefield at Air Force, Army, Navy Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) elements. To this end, MP-RTIP, consistent with an MC2A spiral development strategy, will design a modular, scalable, two-dimensional active electronically scanned array (2D-AESA) radar, and develop, fabricate, and test the MP-RTIP radars on the 767-400ER

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
07 - Operational System Development	0207449F Multi-sensor Command and Control Constellation (MC2C)	5065
<p>(U) <u>A. Mission Description Continued</u> testbed developed by using funds in PE 0207449F Project 5064 for the MC2A Spiral 1 capability and/or other suitable testbeds for Global Hawk and NATO capabilities. Specifically, the MP-RTIP radar, when integrated on the 767-400ER platform must deliver mission capability as reflected in the validated RTIP Operational Requirements Document (ORD) by 2012. Although the users' need date for an MP-RTIP capability remains 2010, the user has accepted 2012. The Global Hawk variant of the MP-RTIP family will meet requirements and provide a robust reconnaissance and surveillance capability. The NATO variant of the MP-RTIP family of radars must meet the US sensor commitment to NATO in 2007 and support any level of cooperative development at Air Force direction.</p> <p>The MP-RTIP program includes concept exploration, technology development, system development/demonstrations, and spiral development supporting continuous improvements of the future MC2A 767-400ER based weapons system as well as the family of modular scalable AESA radars developed under the program. Activity to understand engineering trades for Spiral 1 and Spiral 2 sensor suites will be accomplished early in the program.</p>		
(U) <u>FY 2001 (\$ in Thousands)</u>		
(U) \$0	Activity prior to FY02 reported in PE 0207581F, Project 670003.	
(U) \$0	Total	
(U) <u>FY 2002 (\$ in Thousands)</u>		
(U) \$0	Activity prior to FY03 reported in PE 0207581F, Project 674995.	
(U) \$0	Total	
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$145,610	Continue Multi-Platform RTIP radar design and development for integration on a 767-400ER, Global Hawk target platforms, and NATAR.	
(U) \$1,910	Continue Test Efforts (includes Operator-In-The-Loop [OITL]; Joint Test Force Support; AFOTEC Support)	
(U) \$1,205	Continue SPO Operations	
(U) \$600	Continue Future Studies/Spiral Development--includes concept exploration, program definition/risk reduction, and spiral development efforts supporting continuous improvements and implementation of Command & Control, Intelligence, Surveillance, and Reconnaissance (C2ISR) capabilities to enable a joint global strike task force. These efforts include but are not limited to manned and unmanned platforms, space, data links--Multi-Platform Common Data Link (MP-CDL) etc, combat identification, and advanced battle management command, control, and communications (BMC3) concepts such as Network Centric Collaborative Targeting (NCCT).	
(U) \$149,325	Total	
Project 5065	Page 10 of 14 Pages	Exhibit R-2A (PE 0207449F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2002																																																																																												
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207449F Multi-sensor Command and Control Constellation (MC2C)				PROJECT 5065																																																																																											
<p>(U) <u>B. Project Change Summary</u> This program is in Budget Activity (BA) 7, Operational System Development. In an Acquisition Decision Memorandum dated 11 Dec 00, the Multi Platform-Radar Technology Insertion Program (MP-RTIP) was created from the Radar Technology Insertion Program (RTIP) to leverage the RTIP Wide Area Surveillance radar design for application to the Global Hawk and NATAR platforms. The MP-RTIP program is the result of a restructuring of the Joint Stars RTIP program, formerly a Pre-Planned Product Improvement to Joint Stars.</p> <p>Specific Changes: FY 2002: No Change FY 2003: Increase \$149,325 reflects decision to host the MP-RTIP radar on a 767-400ER and transfers funding for this continuing effort from PE 0207581F, Joint STARS, Project 674995, MP-RTIP.</p>																																																																																																			
<p>(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u></p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th><u>FY 2001</u></th> <th><u>FY 2002</u></th> <th><u>FY 2003</u></th> <th><u>FY 2004</u></th> <th><u>FY 2005</u></th> <th><u>FY 2006</u></th> <th><u>FY 2007</u></th> <th><u>Cost to</u></th> <th><u>Total Cost</u></th> </tr> <tr> <th></th> <th><u>Actual</u></th> <th><u>Estimate</u></th> <th><u>Estimate</u></th> <th><u>Estimate</u></th> <th><u>Estimate</u></th> <th><u>Estimate</u></th> <th><u>Estimate</u></th> <th><u>Complete</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>(U) AF RDT&E</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) PE 0207449F/Project 675064 Airframe</td> <td align="right">0</td> <td align="right">0</td> <td align="right">41,764</td> <td align="right">198,121</td> <td align="right">276,393</td> <td align="right">562,801</td> <td align="right">560,190</td> <td align="center">Continuing</td> <td align="center">Continuing</td> </tr> <tr> <td>(U) PE 0207581F/Project 674995 MP-RTIP</td> <td align="right">0</td> <td align="right">77,630</td> <td align="right">0</td> <td align="right">0</td> <td align="right">0</td> <td align="right">0</td> <td align="right">0</td> <td align="center">Continuing</td> <td align="center">Continuing</td> </tr> <tr> <td>(U) PE 0207581F/Project 670003 JSTARS (partial)</td> <td align="right">50,359</td> <td align="right">0</td> <td align="right">0</td> <td align="right">0</td> <td align="right">0</td> <td align="right">0</td> <td align="right">0</td> <td align="center">Continuing</td> <td align="center">Continuing</td> </tr> <tr> <td>(U) PE 0305206F/Project 674819</td> <td align="right">0</td> <td align="right">9,000</td> <td align="right">10,000</td> <td align="right">7,000</td> <td align="right">2,000</td> <td align="right">0</td> <td align="right">0</td> <td align="center">Continuing</td> <td align="center">Continuing</td> </tr> <tr> <td>(U) PE 0305205F/Project 674799</td> <td align="right">0</td> <td align="right">0</td> <td align="right">17,000</td> <td align="right">40,000</td> <td align="right">13,000</td> <td align="right">1,000</td> <td align="right">0</td> <td align="center">Continuing</td> <td align="center">Continuing</td> </tr> <tr> <td>(U) Other APPN Multi Platform-Common Data Link (PE 0305206F) GLOBAL HAWK (PE 0305205F)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>											<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>		(U) AF RDT&E										(U) PE 0207449F/Project 675064 Airframe	0	0	41,764	198,121	276,393	562,801	560,190	Continuing	Continuing	(U) PE 0207581F/Project 674995 MP-RTIP	0	77,630	0	0	0	0	0	Continuing	Continuing	(U) PE 0207581F/Project 670003 JSTARS (partial)	50,359	0	0	0	0	0	0	Continuing	Continuing	(U) PE 0305206F/Project 674819	0	9,000	10,000	7,000	2,000	0	0	Continuing	Continuing	(U) PE 0305205F/Project 674799	0	0	17,000	40,000	13,000	1,000	0	Continuing	Continuing	(U) Other APPN Multi Platform-Common Data Link (PE 0305206F) GLOBAL HAWK (PE 0305205F)									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>																																																																																										
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Project 5065			Page 11 of 14 Pages				Exhibit R-2A (PE 0207449F)																																																																																												

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207449F Multi-sensor Command and Control Constellation (MC2C)	PROJECT 5065
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(U) **D. Acquisition Strategy**
 The MP-RTIP Program is currently planning for 4 to 5 manned wide area surveillance aircraft as well as 35 Global Hawk air vehicles to receive the 2D-AESA radars. The number of WAS and Global Hawk platforms is being redefined thru the Air Force transformation activity. Low Rate Initial Production (LRIP) quantity is one 767-400ER MC2A Spiral 1 system and seven sensors for Global Hawk. Exit criteria will be established at MS B that must be satisfied prior to proceed with LRIP. All other procurement activities for all platforms will be formally updated at MS B in FY03

(U) **E. Schedule Profile**

	<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) **MP-RTIP PHASE 1 AWARD	*											
(U) **MP-RTIP PHASE 1 DEFINITIZED			*									
(U) **MP-RTIP INTEGRATED BASELINE REVIEW			*									
(U) **RADAR REQUIREMENTS REVIEW					*							
(U) **RADAR FUNCTIONAL REVIEW						X						
(U) INITIAL DESIGN REVIEW (IDR)									X			
(U) MILESTONE B											X	

* Denotes completed event

X Denotes planned event

** Activity begun prior to FY 2003 under PE 0207581F, Joint STARS, Projects 670003 and 674995.

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT				
07 - Operational System Development				0207449F Multi-sensor Command and Control Constellation (MC2C)			5065				
(U) A. Project Cost Breakdown (\$ in Thousands)											
					<u>FY 2001</u>			<u>FY 2002</u>		<u>FY 2003</u>	
(U)	MP-RTIP									145,610	
(U)	Test Efforts (OITL, JTF, AFOTEC)									1,910	
(U)	SPO Operations									1,205	
(U)	Future Studies/Spiral Development									600	
(U)	Total									149,325	
MP-RTIP's funding was a part of Joint Stars PE 0207581F, Project 670003 through FY01. In FY02, MP-RTIP funding was reported in the Joint Stars PE 0207581F, Project 674995. In FY03, the Multi-sensor Command and Control Constellation (MC2C), PE 0207449F absorbed and continued the MP-RTIP effort.											
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
<u>Contractor or Government Performing Activity</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>	
<u>Product Development Organizations</u>											
Northrop	CPAF	DEC 00						145,610	Continuing	TBD	
Grumman-Multi-Platform Radar Technology Insertion Program (RTIP)											
MIT/Lincoln Labs	Various	Various	N/A	N/A				600	Continuing	TBD	
<u>Support and Management Organizations</u>											
Program Office Support	N/A	N/A	N/A	N/A				1,205	Continuing	TBD	
<u>Test and Evaluation Organizations</u>											
OITL	Allotment	N/A	N/A	N/A				1,150	Continuing	TBD	
JTF Support	Allotment	N/A	N/A	N/A				60	Continuing	TBD	
AFOTEC Support	Allotment	N/A	N/A	N/A				700	Continuing	TBD	
Project 5065				Page 13 of 14 Pages				Exhibit R-3 (PE 0207449F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002		
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT		
07 - Operational System Development				0207449F Multi-sensor Command and Control Constellation (MC2C)			5065		
(U) Government Furnished Property:									
<u>Item</u>	<u>Contract</u>	<u>Award or</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Method/Type</u>	<u>Obligation</u>	<u>Date</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Vehicle</u>		<u>Date</u>	<u>Date</u>						
<u>Product Development Property</u>									
N/A									
<u>Support and Management Property</u>									
N/A									
<u>Test and Evaluation Property</u>									
N/A									
<u>Subtotals</u>				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
				<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development							146,210	TBD	TBD
Subtotal Support and Management							1,205	TBD	TBD
Subtotal Test and Evaluation							1,910	TBD	TBD
Total Project							149,325	TBD	TBD

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207581F JOINT STARS					
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	145,592	152,728	55,515	112,207	141,883	125,483	55,510	Continuing	TBD
0003 JSTARS	145,592	75,098	55,515	112,207	141,883	125,483	55,510	Continuing	TBD
4995 Multi-Platform RTIP	0	77,630	0	0	0	0	0	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

(U) **A. Mission Description**
 This program element funds two related but distinct Air Force efforts: the Joint Surveillance Target Attack Radar System (Joint STARS) and the Multi-Platform Radar Technology Insertion Program (MP-RTIP).

 Beginning in FY03 MP-RTIP funding will be identified under PE 27449F.

 There is an Air Force and Army need to provide, from airborne platforms, near-real time surveillance and targeting information on moving and stationary ground targets (growth to maritime operations), slow moving rotary and fixed wing aircraft, and rotating antennas. This information enables operational and tactical commanders to make and execute battle decisions. To meet these needs, the Air Force and Army initiated the Joint Surveillance Target Attack Radar System (Joint STARS) program with the Air Force as lead service. Joint STARS provides target information for pairing direct attack aircraft and standoff weapons against selected targets.

 The Multi-Platform Radar Technology Insertion Program (MP-RTIP) program is the result of a restructuring of the Joint STARS Radar Technology Insertion Program (RTIP), formerly a Pre-Planned Product Improvement to Joint STARS. MP-RTIP will deliver enhanced Wide Area Surveillance (WAS) system capabilities to the warfighter, provide for a robust Global Hawk reconnaissance capability, and enable NATO's Alliance Ground Surveillance (AGS) program.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002																																																								
BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207581F JOINT STARS																																																									
<p>(U) <u>B. Budget Activity Justification</u> This program is in Budget Activity 7, Operational Systems Development, due to efforts supporting a fielded, post MS III operational weapon system. These funds are required to meet the requirements, capabilities and efforts further defined in the 'Mission Description' section of the two following R-2s.</p>																																																										
<p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="text-align: right;"><u>FY 2001</u></th> <th style="text-align: right;"><u>FY 2002</u></th> <th style="text-align: right;"><u>FY 2003</u></th> <th style="text-align: right;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: right;">144,118</td> <td style="text-align: right;">147,859</td> <td style="text-align: right;">247,203</td> <td style="text-align: right;">TBD</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: right;">149,118</td> <td style="text-align: right;">147,859</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">a. Congressional/General Reductions</td> <td></td> <td style="text-align: right;">-1,261</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">b. Small Business Innovative Research</td> <td style="text-align: right;">-4,566</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">d. Below Threshold Reprogram</td> <td style="text-align: right;">2,408</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">e. Rescissions</td> <td style="text-align: right;">-1,368</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2002 PBR</td> <td></td> <td style="text-align: right;">6,130</td> <td style="text-align: right;">-191,688</td> <td style="text-align: right;">TBD</td> </tr> <tr> <td>(U) Current Budget Submit/FY 2003 PBR</td> <td style="text-align: right;">145,592</td> <td style="text-align: right;">152,728</td> <td style="text-align: right;">55,515</td> <td style="text-align: right;">TBD</td> </tr> </tbody> </table>					<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>	(U) Previous President's Budget	144,118	147,859	247,203	TBD	(U) Appropriated Value	149,118	147,859			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions		-1,261			b. Small Business Innovative Research	-4,566				c. Omnibus or Other Above Threshold Reprogram					d. Below Threshold Reprogram	2,408				e. Rescissions	-1,368				(U) Adjustments to Budget Years Since FY 2002 PBR		6,130	-191,688	TBD	(U) Current Budget Submit/FY 2003 PBR	145,592	152,728	55,515	TBD
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<p>(U) <u>Significant Program Changes:</u> The FY03 decrease from the FY03 BES is attributable to C2ISR transition and MP-RTIP moving to the Multi-Sensor Cmd & Control Constellation PE 27449F.</p>																																																										

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207581F JOINT STARS	PROJECT 0003
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COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
0003 JSTARS	145,592	75,098	55,515	112,207	141,883	125,483	55,510	Continuing	TBD

In FY2003 the Air Force established a program element for the Multi-Platform Radar Technology Insertion Program (MP-RTIP). Effective with FY03 funding, MP-RTIP efforts will be transferred to PE 27449F, Multi-Sensor Command & Control Constellation, from PE 27581F Joint STARS, BPAC 674995.

(U) A. Mission Description

There is an Air Force and Army need to provide, from airborne platforms, near-real time surveillance and targeting information on moving and stationary ground targets (growth to maritime operations), slow moving rotary and fixed wing aircraft, and rotating antennas. This information enables operational and tactical commanders to make and execute battle decisions. To meet these needs, the Air Force and Army initiated the Joint Surveillance Target Attack Radar System (Joint STARS) program with the Air Force as lead service. Joint STARS provides target information for pairing direct attack aircraft and standoff weapons against selected targets. The system is capable of being cued by other reconnaissance, surveillance, and target acquisition systems and is able to respond rapidly to worldwide contingencies. In addition, the program office (office symbol: Electronic Systems Center/Joint STARS (ESC/JS)) is providing a flight crew training system which supports initial qualification training, update, and continuation training for JSTARS pilots, copilots and flight engineers at a rate that meets ACC operational needs. The operational utility of the system was effectively demonstrated by the two developmental aircraft in support of combat operations during Desert Storm. ESC/JS is also determining the means to enhance the warfighter's battle management command, control & communications (C3) capability to achieve the Global Strike Task Force (GSTF) vision. ESC/JS is developing advanced battle management decision aids and information fusion to enable commanders to make more timely decisions in tracking and killing time critical targets (TCTs) and achieving a Predictive Battle-Space Awareness (PBA) environment (see Kill Chain Enhancement Modification). The Joint STARS Program Office has been designated as the Air Force acquisition lead for the Joint Service Work Station (JSWS) and is currently servicing the Combat Air Forces JSWS needs. In Sep 96 the Defense Acquisition Board (DAB) Milestone III Review approved full rate production of a 19 E-8C program. The 93d Air Control Wing, Robins AFB, GA, declared Joint STARS Initial Operational Capability (IOC) in Dec 97 and the system is now participating in operational and training exercises. After the 1996 Quadrennial Defense Review recommended a revision of the Joint STARS production profile, the Air Force reduced Joint STARS production from 19 to 13 E-8Cs. Full funding for the 14th, 15th and 16th E-8C was provided by OSD and the Congress during the FY00, FY01 and FY02 budget cycles respectively. Long lead funding for the 17th E-8C was included in FY02 PB; full funding is included in the FY03 PB.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE February 2002
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
07 - Operational System Development	0207581F JOINT STARS	0003
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2001 (\$ in Thousands)</u>		
(U) \$25,786	Continued Block 20 Training Systems (examples include Support Training System (STS) & Distributed Mission Training (DMT) and complete CRP Development) Efforts	
(U) \$23,511	Continued Block 30 (such as: SATCOM, Connectivity, ASU (Link 16)) Efforts	
(U) \$50,359	Continued Block 40 (Multi-Platform RTIP) Efforts. Beginning in FY02 funding moves to BPAC 674995.	
(U) \$30,955	Continued Test Efforts (for example: JTF, FOTS/JETS, Range Support, Support of T-3 and Test Labs)	
(U) \$6,500	Continued Flight Crew Training System (FCTS) Development	
(U) \$100	Continued R&M/International Cooperation/Standardization/Interoperability Activities (for example: DMS, DII COE, NC3A, ABCCC Divestiture, Multi-Mission Command & Control (MC2C) Constellation Studies/Analysis, Network Centric Collaborative Targeting (NCCT) Studies/Implementation, Improved Data Modem, etc.)	
(U) \$3,534	Indirect SPO OPS Support	
(U) \$4,847	Began Global Air Traffic Management (GATM) Pre EMD Risk Reduction Activities (Congressional Add)	
(U) \$145,592	Total	
(U) <u>FY 2002 (\$ in Thousands)</u>		
(U) \$13,766	Continue Training & Support Systems Development	
(U) \$23,628	Continue Block 30 (such as: SATCOM, Connectivity, ASU(Link 16)) Efforts	
(U) \$27,083	Continue Test Efforts (for example: JTF, JETS, Range Support, Support of T-3 & Test Labs)	
(U) \$643	Complete FCTS Development	
(U) \$5,800	Reduced Vertical Separation Minimum (RVSM)	
(U) \$3,224	Indirect SPO OPS Support	
(U) \$954	Kill Chain Enhancements/Spiral Development	
(U) \$75,098	Total	
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$7,500	Complete SATCOM EMD effort.	
(U) \$30,759	Continue Test Effort (for example: JTF, JETS, Range Support, Support of T-3 & Test Labs).	
(U) \$9,100	Continue efforts such as: ASU (Link 16), Connectivity, etc.	
(U) \$372	Kill Chain Enhancements/Spiral Development	
Project 0003	Page 4 of 15 Pages	Exhibit R-2A (PE 0207581F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207581F JOINT STARS			PROJECT 0003		
(U) <u>A. Mission Description Continued</u>									
(U) <u>FY 2003 (\$ in Thousands) Continued</u>									
(U) \$4,000 ABCCC Migration to Joint STARS									
(U) \$3,784 Indirect SPO OPS Spt									
(U) \$55,515 Total									
(U) <u>B. Project Change Summary</u>									
This program is in Budget Activity 7 - Operational System Development. Initial operational capability was achieved in Dec 97. Developmental work continues on advanced planning activities and systems upgrades, as well as systems integration and interoperability efforts.									
(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u>									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) Aircraft Procurement, AF, BP10 (PE 27581F)	286,738	317,805	279,268	0	0	0	0		5,560,847
(U) Modifications, BP11 (PE 27581F)	33,948	66,458	19,307	25,811	44,705	30,767	33,174		
(U) Spares, BP16 (PE 27581F)	32,212	26,364	1,810	35,190	36,407	611	1,151		424,431
(U) Quantity, Joint STARS E-8C Aircraft Proc.	1	1	1						
(U) <u>D. Acquisition Strategy</u>									
Joint STARS Low Rate Initial Production (LRIP) was approved by the Defense Acquisition Board (DAB) in FY93. Acquisition began with the procurement of 2 E-8Cs in FY93, and continued at 2 E-8Cs per year through FY97. Procurement funding continued with 1 E-8C in FY98, 2 E-8Cs in FY99, 1 E-8C in FY00, 1 E-8C in FY01 and 1 E-8C in FY02. Long lead funding for the 17th E-8C is included in the FY 02 PB; full funding is included in the FY03 PB.									
(U) <u>E. Schedule Profile</u>									
				<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2002													
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT													
07 - Operational System Development					0207581F JOINT STARS					0003													
(U) <u>E. Schedule Profile Continued</u>																							
					<u>FY 2001</u>							<u>FY 2002</u>								<u>FY 2003</u>			
					1	2	3	4	1	2	3	4	1	2	3	4							
(U)	RTIP EMD Contract Award				*																		
(U)	STS Development Start				*								X										
(U)	SATCOM Development Complete																				X		
(U)	FCTS Delivered												X										
(U)	RVSM Contract Award											X											
	* Denotes completed event																						
	X Denotes planned event																						
	Note: Beginning in FY02 MP- RTIP funding moves to BPAC 674995, same PE 27581F.																						
	Beginning in FY03 MP-RTIP funding moved under new Program Element #27449F.																						
Project 0003					Page 6 of 15 Pages					Exhibit R-2A (PE 0207581F)													

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT			
07 - Operational System Development				0207581F JOINT STARS			0003			
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	Block 20 (CRP, Training & Support Systems)					25,786		13,766		
(U)	Block 30 (SATCOM, ASU (Link 16), Connectivity), etc.					23,511		23,628		16,600
(U)	Block 40 Multi-Platform RTIP Efforts (funds realigned to BPAC 674995 in FY02. In FY03 new PE established #27449F.					50,359		0		0
(U)	Test Efforts					30,955		27,083		30,759
(U)	FCTS Development					6,500		643		0
(U)	GATM PreEMD Risk Reduction (Congressional Add)					4,847		0		0
(U)	Indirect SPO Support					3,534		3,224		3,784
(U)	R&M Enhancements/International Activities (NC3A, CAESAR, etc.)					100		0		0
(U)	Kill Chain Enhancements (Spiral Development)					0		954		372
(U)	Reduced Vertical Separation Minimum (RVSM)					0		5,800		0
(U)	ABCCC Migration					0		0		4,000
(U)	Total					145,592		75,098		55,515
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government Performing Activity</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>										
NG**	CPFF	May 97	166,491	166,491	123,518	0	0		Continuing	TBD
Computer Replacement Program										
NG -STS Phase I	FFP	Dec 00	42,100	42,100	0	25,786	13,766	0		39,552
NG - SATCOM EMD	CPFF	May 97	35,074	37,950	8,370	23,511	23,628	7,500		63,009
NG - Link 16	FFP	Dec 02	28,400	28,400	0	0	0	9,100		9,100

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE
BUDGET ACTIVITY										PROJECT
07 - Operational System Development										0003
PE NUMBER AND TITLE										
0207581F JOINT STARS										
(U) <u>Performing Organizations Continued:</u>										
<u>Product Development Organizations</u>										
NG - GATM	Various	Mar 01	4,847	4,847	0	4,847	0	0	157,400	162,247
NG - Kill Chain Enhancements (Spiral Dev)	Various	Various	N/A	N/A	0	0	954	372	Continuing	TBD
NG - Multi-Platform Radar Tech. Insertion Prog.	CPFF	May 97	146,384	146,384	22,372	50,359	0	0		72,731
NG - Other Dev. Efforts	Various	Various	N/A	N/A	2,339,634	100	0	0		2,339,734
NLX Corp - Flight Crew Training Sys	FFP	SEP 00	11,914	11,914	0	6,500	643	0		7,143
NG - RVSM	TBD	Jun 02	N/A	N/A	0	0	5,800	0		5,800
ABCCC Migration	Various	Various	N/A	N/A	0	0	0	4,000		4,000
** Northrop Grumman										
<u>Support and Management Organizations</u>										
Joint Program Office - Indirect SPO Ops Support		N/A	N/A	N/A	0	3,534	3,224	3,784		10,542
<u>Test and Evaluation Organizations</u>										
NG - E-8C Follow-On Test Support	SS/FFP/CPFF	Aug 96	N/A	N/A	30,625	17,841	15,400	18,499	Continuing	TBD
NG - Aircraft Over & Above Tests	SS/FFP/CPFF	Aug 96	N/A	N/A	5,480	4,070	3,473	3,358	Continuing	TBD
NG - Follow- On Test Support - MILSTRIP	SS/FFP/CPFF	Aug 96	N/A	N/A	1,259	333	338	344	Continuing	TBD
Range Support	Allotment	N/A	N/A	N/A	26,696	1,165	1,200	1,236	Continuing	TBD
Horizons Tech. (SETA)	Time and Materials	Various	N/A	N/A	36,136	5,525	4,708	5,149	Continuing	TBD
Joint Test Force Support	Allotment	N/A	N/A	N/A	25,863	2,021	1,964	2,173	Continuing	TBD

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)				DATE		
BUDGET ACTIVITY				PROJECT		
07 - Operational System Development				0207581F JOINT STARS		
				0003		
(U) Government Furnished Property:						
<u>Item</u>	<u>Contract</u>	<u>Award or</u>				
<u>Description</u>	<u>Method/Type</u>	<u>or Funding</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>
	<u>Vehicle</u>	<u>Obligation</u>	<u>Date</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>
		<u>Date</u>				<u>Budget</u>
						<u>FY 2003</u>
						<u>Budget to</u>
						<u>Complete</u>
						<u>Total</u>
						<u>Program</u>
<u>Product Development Property</u>						
N/A						
<u>Support and Management Property</u>						
N/A						
<u>Test and Evaluation Property</u>						
N/A						
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>
				<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>
						<u>Budget</u>
						<u>FY 2003</u>
						<u>Budget to</u>
						<u>Complete</u>
						<u>Total</u>
						<u>Program</u>
<u>Subtotals</u>						
Subtotal Product Development				2,493,894	111,103	44,791
Subtotal Support and Management				0	3,534	3,224
Subtotal Test and Evaluation				126,059	30,955	27,083
Total Project				2,619,953	145,592	75,098
						55,515
						TBD
						TBD
						TBD
						TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207581F JOINT STARS				PROJECT 4995	
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4995 Multi-Platform RTIP	0	77,630	0	0	0	0	0	Continuing	TBD
<p>1. In FY 2002, Project Number 674995, Multi-Platform RTIP was established within PE 0207581F, Joint STARS, using existing RTIP funds from PE 0207581F, Joint STARS, Project Number 670003, JSTARS, to better track program funding. Commencing in FY 2003, funding for this continuing project transferred to PE 0207449F Multi-sensor Command and Control Constellation (MC2C), Project 675065 Sensors, reflecting decision to host MP-RTIP radar on 767-400ER platform.</p> <p>(U) <u>A. Mission Description</u> The Multi-Platform Radar Technology Insertion Program (MP-RTIP) program is the result of a restructuring of the Joint STARS Radar Technology Insertion Program (RTIP), formerly a Pre-Planned Product Improvement to Joint STARS. MP-RTIP will deliver enhanced Wide Area Surveillance (WAS) system capabilities to the warfighter, provide for a robust Global Hawk reconnaissance capability, and enable the NATO Trans Atlantic Advanced Radar (NATAR) program. This WAS system capability will allow commanders to conduct wide area surveillance to detect, locate, classify, track, and monitor moving targets and provide target information to assigned direct aerospace and ground weapons systems. Wide-Area surveillance is required to monitor the movement and disposition of enemy forces and for use in resource prioritization, force allocation and Intelligence Preparation of the Battlefield at Army, Navy and Air Force Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) elements. To that end, MP-RTIP will include design of a modular, scalable two-dimensional active electronically scanned array (2D-AESA) radar, and development, fabrication, and test of MP-RTIP radars suitable for future integration on various airborne platforms. Specifically, this modular, scalable radar, when integrated on a suitable WAS airborne platform, must deliver mission capability as reflected in the validated RTIP Operational Requirements Document (ORD) by 2012. Although the users' need date for an RTIP capability remains 2010; the user has accepted the 2012 delivery date. The radar must meet the US sensor commitment to NATO in 2007, and when integrated on an unmanned air vehicle, provide enhanced Global Hawk (GH) capability. The MP-RTIP program includes concept exploration, technology development, system development/demonstration, and spiral development efforts supporting continuous improvements and implementation of Command & Control, Intelligence, Surveillance, and Reconnaissance (C2ISR) capabilities to enable a joint global strike task force. These efforts include but are not limited to manned and unmanned platforms, space, data links, combat identification, and advanced battle management command, control, and communications (BMC3) concepts.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$0 Activity prior to FY02 reported in PE 0207581; Project 670003. (U) \$0 Total</p>									
Project 4995			Page 10 of 15 Pages				Exhibit R-2A (PE 0207581F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE
		February 2002
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
07 - Operational System Development	0207581F JOINT STARS	4995
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$73,970 Continue Multi-Platform RTIP radar design and development for Wide Area Surveillance (WAS), Global Hawk target platforms, and NATAR.</p> <p>(U) \$1,760 Continue Test Efforts (includes Operator-In-The-Loop [OITL]; Joint Test Force Support; AFOTEC Support)</p> <p>(U) \$1,300 Continue SPO Operations</p> <p>(U) \$600 Continue Future Studies/Spiral Development--includes concept exploration, program definition/risk reduction, and spiral development efforts supporting continuous improvements and implementation of Command & Control, Intelligence, Surveillance, and Reconnaissance (C2ISR) capabilities to enable a joint global strike task force. These efforts include but are not limited to manned and unmanned platforms, space, data links, combat identification, and advanced battle management command, control, and communications (BMC3) concepts.</p> <p>(U) \$77,630 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$0 Continuing activity transferred to PE 0207449F, Multi-sensor Command and Control Constellation (MC2C), Project 675065 Sensors, reflecting decision to host MP-RTIP on a 767-400ER.</p> <p>(U) \$0 Total</p> <p>(U) <u>B. Project Change Summary</u></p> <p>This program is in Budget Activity (BA) 7 , Operational System Development. In an Acquisition Decision Memorandum dated 11 Dec 00, the Multi-Platform Radar Technology Insertion Program (MP-RTIP) was created from the Radar Technology Insertion Program (RTIP) to leverage the RTIP Wide Area Surveillance radar design for application to the Global Hawk and NATAR platforms. The MP-RTIP program is a result of a restructuring of the Joint STARS RTIP program, formerly a Pre-Planned Product Improvement to Joint STARS.</p> <p>Specific Changes:</p> <p>FY 2002: Decrease of \$1,370 reflects general Congressional reductions.</p> <p>FY 2003: Continuing activity in FY 2003 for this project transferred to PE 0207449F Multi-sensor Command and Control Constellation (MC2C), Project 675065 Sensors, reflecting decision to host MP-RTIP radar on 767-400ER platform. Transferred funding increased by \$10,325 for additional risk reduction testing during radar design.</p>		
Project 4995	Page 11 of 15 Pages	Exhibit R-2A (PE 0207581F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002			
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207581F JOINT STARS				PROJECT 4995			
(U) C. Other Program Funding Summary (\$ in Thousands)											
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>		
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>			
(U) AF RDT&E											
(U) PE 0305206F/Project 674819		9,000	10,000	7,000	2,000			Continuing	Continuing		
(U) PE 0305205F/Project 674799			17,000	40,000	13,000	1,000		Continuing	Continuing		
(U) Other APPN											
Multi Platform-Common Data Link (PE 0305206F)											
GLOBAL HAWK (PE 0305205F)											
(U) D. Acquisition Strategy											
The MP-RTIP program is currently planning for five manned WAS aircraft** as well as 35 Global Hawk air vehicles to receive the 2D-AESA radars. Low Rate Initial Production (LRIP) quantity is one sensor kit for the WAS aircraft, and seven sensors for Global Hawk. Exit criteria will be established at MS B that must be satisfied prior to proceeding with LRIP. All other procurement activities for all platforms will be formally updated at MS B in FY03.											
(U) E. Schedule Profile											
				<u>FY 2001</u>			<u>FY 2002</u>		<u>FY 2003</u>		
				1	2	3	4	1	2	3	4
(U) MP-RTIP PHASE 1 AWARD				*							
(U) MP-RTIP PHASE 1 DEFINITIZED						*					
(U) MP-RTIP INTEGRATED BASELINE REVIEW						*					
(U) RADAR REQUIREMENTS REVIEW							*				
(U) RADAR FUNCTIONAL REVIEW							X				
(U) MP-RTIP PLATFORM DECISION							*				
(U) **INITIAL DESIGN REVIEW (IDR)								X			
(U) **MILESTONE B										X	
* Denotes completed event											
X Denotes planned event											
** Note: FY 2003 activity transfers to PE 0207449F, Multi-sensor Command and Control Constellation (MC2C); Project 675065 Sensors, reflecting decision to host											
Project 4995			Page 12 of 15 Pages				Exhibit R-2A (PE 0207581F)				

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT			
07 - Operational System Development				0207581F JOINT STARS			4995			
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>										
					<u>FY 2001</u>		<u>FY 2002</u>			<u>FY 2003</u>
(U)	MP-RTIP						73,970			0
(U)	Test Efforts (OITL, JTF, AFOTEC)						1,760			0
(U)	SPO Operations						1,300			0
(U)	Future Studies/Spiral Development						600			0
(U)	Total						77,630			0
<p>MP-RTIP's funding was a part of Joint Stars PE 0207581F, Project 670003 until FY02. For FY 2002, MP-RTIP funding is reported in the Joint Stars PE 0207581F, Project 674995. NATAR within the restructured MP-RTIP program continues effort previously begun under JSTARS RTIP program. NATAR is not a New Start. Commencing in FY 2003 this continuing activity will transfer to PE 0207449F, Multi-sensor Command and Control Constellation (MC2C); Project 675065, Sensors, reflecting decision to host MP-RTIP on a 767-400ER platform.</p>										
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>										
(U) <u>Performing Organizations:</u>										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
Northrop Grumman-Multi	CPAF	DEC 00					73,970	0	Continuing	TBD
Platform-Radar Technology Insertion Program (RTIP funding prior to FY02 reported in Project 670003, same PE)										
MIT/Lincoln Labs	Various	Various	N/A	N/A			600	0	Continuing	TBD
<u>Support and Management Organizations</u>										
Program Office Support	N/A	N/A	N/A	N/A			1,300	0	Continuing	TBD
Project 4995				Page 14 of 15 Pages				Exhibit R-3 (PE 0207581F)		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002		
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT		
07 - Operational System Development				0207581F JOINT STARS			4995		
(U) <u>Performing Organizations Continued:</u>									
<u>Test and Evaluation Organizations</u>									
OITL	Allotment	N/A	N/A	N/A	1,000	0	Continuing	TBD	
JTF Support	Allotment	N/A	N/A	N/A	60	0	Continuing	TBD	
AFOTEC Support	Allotment	N/A	N/A	N/A	700	0	Continuing	TBD	
** Note: FY 2003 activity transfers to PE 0207449F, Multi-sensor Command and Control Constellation (MC2C); Project 675065 Sensors, reflecting decision to host MP-RTIP on a 767-400ER platform.									
(U) <u>Government Furnished Property:</u>									
	<u>Contract</u>								
	<u>Method/Type</u>	<u>Award or</u>							
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>									
N/A							Continuing		TBD
<u>Support and Management Property</u>									
N/A							Continuing		TBD
<u>Test and Evaluation Property</u>									
N/A							Continuing		TBD
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>				<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development						74,570	0	TBD	TBD
Subtotal Support and Management						1,300	0	TBD	TBD
Subtotal Test and Evaluation						1,760	0	TBD	TBD
Total Project						77,630	0	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002												
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207590F Seek Eagle				PROJECT 4037												
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost										
4037	SEEK EAGLE Certifications	18,284	17,654	16,972	20,965	23,577	21,737	18,846	Continuing	TBD										
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0										
<p>(U) <u>A. Mission Description</u> The Air Force has a variety of combat aircraft and numerous stores (munitions, missiles, fuel tanks, electronic countermeasures pods, etc.). Aircraft carry these stores in countless different loading combinations determined by operational scenarios, missions, and tactics. Loading configurations change as operational plans and tactics change, and as new aircraft and stores are developed and produced. Before operational use, the Air Force must certify these configurations for safe loading, carriage, and separation (jettison and normal release), and must verify ballistics accuracy under the user-certified carriage and employment parameters. The Air Force SEEK EAGLE program completes these certifications through any combination of ground and flight testing, wind tunnel testing, modeling and simulation, and engineering analysis. Over 700 aircraft-store combinations exist to be certified, with new ones added on a regular basis. Depending upon the complexity, certification takes from months to years. The SEEK EAGLE program is also responsible for insertion of new and emerging technologies into the SEEK EAGLE process and providing resources for sustainment of a viable Air Force aircraft-store certification capability. Electronic Technical Orders are developed through the Combat Weapons Delivery Software (CWDS), creating cost savings by eliminating paper technical orders. SEEK EAGLE funds are currently budgeted to support certification for new weapons programs including Wind Corrected Munitions Dispenser (WCMD), Joint Direct Attack Munition (JDAM), Joint Air to Surface Standoff Missile (JASSM), Joint Standoff Weapon (JSOW), AIM-9X, AIM-120 C5 (AMRAAM), and many other inventory stores on inventory aircraft. Planning and budgeting estimations are in progress for future certifications of weapons on F-22 and the Joint Strike Fighter (JSF).</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <table border="0"> <tr> <td>(U) \$1,000</td> <td>Continue development of F-22 data and engineering models to use for follow-on F-22 weapons certification</td> </tr> <tr> <td>(U) \$2,971</td> <td>Conduct various automation projects and automated Technical Orders/mission planning projects using CWDS</td> </tr> <tr> <td>(U) \$2,442</td> <td>Continue/complete various technology improvement projects and aircraft load/separation prediction capabilities using ACFD</td> </tr> <tr> <td>(U) \$11,871</td> <td>Conduct various aircraft-store certifications on USAF fighter and bomber aircraft</td> </tr> <tr> <td>(U) \$18,284</td> <td>Total</td> </tr> </table>											(U) \$1,000	Continue development of F-22 data and engineering models to use for follow-on F-22 weapons certification	(U) \$2,971	Conduct various automation projects and automated Technical Orders/mission planning projects using CWDS	(U) \$2,442	Continue/complete various technology improvement projects and aircraft load/separation prediction capabilities using ACFD	(U) \$11,871	Conduct various aircraft-store certifications on USAF fighter and bomber aircraft	(U) \$18,284	Total
(U) \$1,000	Continue development of F-22 data and engineering models to use for follow-on F-22 weapons certification																			
(U) \$2,971	Conduct various automation projects and automated Technical Orders/mission planning projects using CWDS																			
(U) \$2,442	Continue/complete various technology improvement projects and aircraft load/separation prediction capabilities using ACFD																			
(U) \$11,871	Conduct various aircraft-store certifications on USAF fighter and bomber aircraft																			
(U) \$18,284	Total																			
Project 4037			Page 1 of 6 Pages				Exhibit R-2 (PE 0207590F)													

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002			
BUDGET ACTIVITY		PE NUMBER AND TITLE		PROJECT	
07 - Operational System Development		0207590F Seek Eagle		4037	
(U) <u>A. Mission Description Continued</u>					
(U) <u>FY 2002 (\$ in Thousands)</u>					
(U)	\$1,000	Continue development of F-22 data and engineering models to use for follow-on F-22 weapons certification			
(U)	\$2,963	Conduct various automation projects and automated Technical Orders/mission planning projects using CWDS			
(U)	\$2,559	Continue/complete various technology improvement projects and aircraft load/separation prediction capabilities using ACFD			
(U)	\$11,132	Conduct various aircraft-store certifications on USAF fighter and bomber aircraft			
(U)	\$17,654	Total			
(U) <u>FY 2003 (\$ in Thousands)</u>					
(U)	\$1,800	Continue development of F-22 data and engineering models to use for follow-on F-22 weapons certification			
(U)	\$3,082	Conduct various automation projects and automated Technical Orders/mission planning projects using CWDS			
(U)	\$2,661	Continue/complete various technology improvement projects and aircraft load/separation prediction capabilities using ACFD			
(U)	\$9,429	Conduct various aircraft-store certifications on USAF fighter and bomber aircraft			
(U)	\$16,972	Total			
(U) <u>B. Budget Activity Justification</u>					
The RDT&E Budget Activity is 7, Operational Systems Development, because the program supports fielded systems.					
(U) <u>C. Program Change Summary (\$ in Thousands)</u>					
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>
(U)	Previous President's Budget	19,472	17,833	17,273	TBD
(U)	Appropriated Value	19,472	17,833		
(U)	Adjustments to Appropriated Value				
	a. Congressional/General Reductions	-136	-179		
	b. Small Business Innovative Research	-717			
	c. Omnibus or Other Above Threshold Reprogram				
	d. Below Threshold Reprogram	-293			
	e. Rescissions	-42			
(U)	Adjustments to Budget Years Since FY 2002 PBR			-301	
(U)	Current Budget Submit/FY 2003 PBR	18,284	17,654	16,972	TBD
Project 4037		Page 2 of 6 Pages		Exhibit R-2 (PE 0207590F)	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development					PE NUMBER AND TITLE 0207590F Seek Eagle			PROJECT 4037	
(U) C. Program Change Summary (\$ in Thousands) Continued									
(U) Significant Program Changes:									
Funding: FY03 change due to OSD reduction for Nonpay Purchases Inflation and to fund contractor support (-\$0.301M)									
Schedule: None									
Technical: None									
(U) D. Other Program Funding Summary (\$ in Thousands)									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E									
(U) Other APPN									
(U) Proc of Ammunition, AF*									
(U) - P-1 Line JDAM	0	147	300	144	0	0	103	Continuing	965
(U) - P-1 Line WCMD	0	0	0	134	0	0	96	Continuing	4,144
(U) Missile Procurement, AF*							0		
(U) - P-1 Line JSOW	0	1,032	0	999	0	996	0	Continuing	22,735
(U) - P-1 Line AIM-120 C5	607	0	0	0	0	0	0	Continuing	15,137
(AMRAAM)									
(U) - P-1 Line AIM-9X, (Sidewinder)	2,892	5,378	1,751	0	0	0	0	Continuing	TBD
(U) - P-1 Line JASSM	0	744	3,735	1,485	2,966	0	2,939	Continuing	11,869
* Note: The SEEK EAGLE procurement dollars shown above are appropriated in each weapon's P-1 line.									
(U) E. Acquisition Strategy									
Budget authorization for procurement funds are given directly to the weapon system program offices, who then procure the required certification test articles through the weapon production contract.									
(U) F. Schedule Profile									
				<u>FY 2001</u>		<u>FY 2002</u>			<u>FY 2003</u>

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2002			
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT			
07 - Operational System Development					0207590F Seek Eagle					4037			
(U) <u>F. Schedule Profile Continued</u>													
		<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>			
	1	2	3	4	1	2	3	4	1	2	3	4	
(U) JDAM					*	X	X	X	X	X	X	X	
(U) AIM-120 C5 (AMRAAM)	*	*	*	*									
(U) AIM-9X (Sidewinder)	*	*	*	*	*	X	X	X	X	X	X	X	
(U) JSOW					*	X	X	X					
(U) JASSM					*	X	X	X	X	X	X	X	
<p>Note: The SEEK EAGLE program does not execute in accordance with established acquisition program milestones. Each aircraft-store configuration requested by the user goes through the SEEK EAGLE process by the designated user priority.</p> <p>* = Completed Event</p> <p>X = Planned hardware buy in support of upcoming certification activities.</p>													
Project 4037				Page 4 of 6 Pages				Exhibit R-2 (PE 0207590F)					

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
07 - Operational System Development					0207590F Seek Eagle			4037		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	Process Sustainment					2,042		1,504		1,044
(U)	F-22 Data & Engineering Models					1,000		1,000		1,800
(U)	Engineering Analysis					5,159		5,400		4,800
(U)	Flight Testing					6,350		5,487		4,821
(U)	Wind Tunnel Testing					0		500		575
(U)	Other					2,971		2,963		3,082
(U)	- Ballistic/ Safe Escape Analysis									
(U)	- Tech Order/P.C. Floppy Disk									
(U)	- Loading Process Development/Verification									
(U)	Mission Support					762		800		850
(U)	Total					18,284		17,654		16,972
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
Lockheed Martin	C/CPFF	Jul 98	15,648	15,648	3,545	1,000	1,000	1,800	8,303	15,648
Leigh Aerosystems	FFP	Jan 00	943	943	943	0	0	0	0	943
<u>Support and Management Organizations</u>										
Mission Support	PO/REO	Continuous	N/A	N/A	9,892	762	800	850	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
46th Test Wing	PO/REO	Continuous	N/A	N/A	98,287	9,561	9,005	8,583	Continuing	TBD
AEDC	PO/REO	Continuous	N/A	N/A	16,166	0	500	575	Continuing	TBD
Various	PO/REO	Continuous	N/A	N/A	47,077	6,961	6,349	5,164	Continuing	TBD
Project 4037					Page 5 of 6 Pages			Exhibit R-3 (PE 0207590F)		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE February 2002	
BUDGET ACTIVITY		PE NUMBER AND TITLE			PROJECT	
07 - Operational System Development		0207590F Seek Eagle			4037	
		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
		<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>
						<u>Total</u>
	<u>Subtotals</u>					
	Subtotal Product Development	4,488	1,000	1,000	1,800	8,303
	Subtotal Support and Management	9,892	762	800	850	TBD
	Subtotal Test and Evaluation	161,530	16,522	15,854	14,322	TBD
	Total Project	175,910	18,284	17,654	16,972	TBD

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207601F USAF Modeling and Simulation					
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	19,407	30,361	21,895	20,139	18,108	13,161	9,389	Continuing	TBD
1008 National Air and Space Warfare Model (NASM)	13,744	22,316	14,258	12,465	11,396	6,296	2,397	Continuing	TBD
4567 Joint Modeling and Simulation System (JMASS)	5,663	6,832	6,314	6,329	5,342	5,465	5,566	Continuing	TBD
5004 Joint Model Transition (JMT)	0	392	404	411	418	420	425	Continuing	TBD
5005 Executive Agent For Air /Space Natural Environment	0	821	919	934	952	980	1,001	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0
<p>In FY02, Project 675004, Joint Model Transition (formerly known as Legacy Model Transition) and Project 675005, Executive Agent For Air/Space Natural Environment efforts transferred from PE 0308601F, Modeling & Simulation Support, Project 671011, Legacy Model Transition (LMT) and Project 674566, Executive Agent for Air/Space natural Environment, in order to provide a more cohesive, manageable Modeling, Simulation and Analysis effort.</p> <p>(U) A. Mission Description Provides RDT&E funding for major USAF Modeling and Simulation efforts such as the National Air and Space [Warfare] Model (NASM)-the air and space element of the Joint Simulation System (JSIMS); and the Joint Modeling and Simulation System (JMASS). JSIMS will be the sole readiness training simulation used by all CINCs, Services, NAFs and at all simulation centers to train Joint Force Commanders, Joint Task Force staffs, Components and their staffs, including Joint Force Air Component Commanders and Air Operations Center personnel. JMASS provides High Level Architecture (HLA)-compliant architecture for engagement level simulations.</p> <p>This PE also includes funding to support an organized growth and management of modeling and simulation (M&S) systems as the Air Force transitions from numerous legacy models and simulations to emerging DoD standard models and architecture. Numerous models currently exist and are being modified or developed for a broad range of areas including acquisition, analysis, test and evaluation, and training. The Joint Model Transition (JMT) Program (formerly known as the Legacy</p>									

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002																																																		
BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207601F USAF Modeling and Simulation																																																			
<p>(U) <u>A. Mission Description Continued</u> Model Transition) funds the upgrades to selected R&D models through a board process. The selection process allows the board to influence the direction of legacy model development and interaction for the entire modeling and simulation community. Emphasis is placed on joint applicability and acceptance. The Executive Agent for Air & Space Natural Environment (ASNE) serves the M&S community as subject matter experts for ASNE M&S databases (including relevant standards), dynamic processes, and other applications. This enables the major Joint simulation systems (i.e., Joint Warfare Simulation (JWARS), Joint Simulation System (JSIMS), Joint Modeling and Simulation System (JMASS), and Joint and Service component programs (i.e., Joint Strike Fighter (JSF), Ballistic Missile Defense Organization (BMDO), etc.) to represent the air and space natural environment rapidly, thoroughly, and consistently in a manner that promotes cost-effectiveness, ready access, interoperability, re-use, and confidence. Primary users will be unified commanders and service components for use in joint or service-specific exercises involving air, ground, sea, and space campaigns.</p> <p>Provides funding for the development of the Synthetic Theater Operations Research Model (STORM). STORM will replace the current Air Force theater level campaign model, THUNDER, with enhanced capability to feed aerospace representation in the Joint Warfare System (JWARS) and support Quadrennial Defense Reviews. In addition, the Intelligent Flight Control System Simulation Research and Oklahoma City ALC Modeling and Simulation programs are funded in this PE.</p>																																																				
<p>(U) <u>B. Budget Activity Justification</u> Initiated in FY 94, this program is in budget activity 7 - Operational System Development, Research Category because it provides RDT&E funding for major USAF Modeling and Simulation efforts. These funds also support development activities for the AF as executive agent for air/space natural environment and continued development and integration of AF models in the Joint Model Transition (JMT) program.</p>																																																				
<p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="text-align: right;"><u>FY 2001</u></th> <th style="text-align: right;"><u>FY 2002</u></th> <th style="text-align: right;"><u>FY 2003</u></th> <th style="text-align: right;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: right;">17,624</td> <td style="text-align: right;">25,345</td> <td style="text-align: right;">21,895</td> <td></td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: right;">18,024</td> <td style="text-align: right;">25,345</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">a. Congressional/General Reductions</td> <td></td> <td style="text-align: right;">5,500</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">b. Small Business Innovative Research</td> <td style="text-align: right;">-552</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">d. Below Threshold Reprogram</td> <td style="text-align: right;">2,100</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">e. Rescissions</td> <td style="text-align: right;">-165</td> <td style="text-align: right;">-484</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2002 PBR</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>	(U) Previous President's Budget	17,624	25,345	21,895		(U) Appropriated Value	18,024	25,345			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions		5,500			b. Small Business Innovative Research	-552				c. Omnibus or Other Above Threshold Reprogram					d. Below Threshold Reprogram	2,100				e. Rescissions	-165	-484			(U) Adjustments to Budget Years Since FY 2002 PBR				
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>																																																
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)				DATE
BUDGET ACTIVITY		PE NUMBER AND TITLE		
07 - Operational System Development		0207601F USAF Modeling and Simulation		
(U)	<u>C. Program Change Summary (\$ in Thousands) Continued</u>			
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>
(U)	Current Budget Submit/FY 2003 PBR	19,407	30,361	21,895
(U)	<u>Significant Program Changes:</u>			<u>Total Cost</u>
	Significant Program Changes: In FY00, funding from PE 0604256F, Threat Simulator Development, was transferred into PE 0207601F in FY00 and FY01 for the Joint Modeling and Simulation (JMASS) program development.			
	In FY02, Congress added \$5.5M for the Synthetic Theater Operations Research Model (STORM), Intelligent Flight Control System Simulation Research, and the Oklahoma City ALC Modeling and Simulation program. These programs will be realigned under Project 675004, Joint Model Transition.			
				TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002			
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207601F USAF Modeling and Simulation				PROJECT 1008			
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost	
1008	National Air and Space Warfare Model (NASM)	13,744	22,316	14,258	12,465	11,396	6,296	2,397	Continuing	TBD	
<p>(U) <u>A. Mission Description</u> This program provides funds for Air Force and Joint wargaming architecture and model development, primarily in support of battlestaff training, education, and military operations. New simulation federate components are being developed by the NASM program to replace the existing Air Force standard Air Warfare Simulation (AWSIM) within the JSIMS system. NASM will expand the use and role of modeling and simulation (M&S) in support of operational and acquisition decision making, and increase the interoperability between Air Force and joint efforts such as Joint Synthetic Battlespace (JSB). NASM includes, but is not limited to, representation of the full range of AFM 1-1 missions to meet the needs of USAF MAJCOMs and Unified/Specified Command air components to train Air Component Commanders and their battle staffs. Additionally, NASM provides the JSIMS Civil Environment for accurate portrayal of strategic and cascading effects. Also, NASM is providing additional common components under JSIMS Alliance resources. Primary users will be the unified command air components, Commanders in Chief (CINCs), Joint Forces Air Component Commander's (JFACC), and Service components, as supported by the C2 Technology Interoperability Group, the Korean Air Simulation Center (KASC), and the Warrior Preparation Center (WPC) for use in joint exercises involving air, ground, and sea campaigns.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$10,240 Continue development of specific air objects to support JSIMS architecture (U) \$3,104 Continue NASM integration effort and operate the program management office (U) \$400 Upgrade Synthetic Theater Operations Research Model (STORM). (U) \$13,744 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$14,209 Continue development of specific air objects to support JSIMS architecture. (U) \$2,607 Continue NASM integration effort and operate the program management office (U) \$1,000 Upgrade STORM. This task will be realigned under Project 675004, Joint Model Transition. (U) \$4,500 Execute the Congressionally directed Intelligent Flight Control System Simulation and Oklahoma City ALC Modeling and Simulation programs. These tasks will be realigned under Project 675004, Joint Model Transition. (U) \$22,316 Total</p>											
Project 1008				Page 4 of 17 Pages				Exhibit R-2A (PE 0207601F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE February 2002																																																
BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207601F USAF Modeling and Simulation	PROJECT 1008																																																
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$12,000 Continue development of specific air objects to support JSIMS architecture.</p> <p>(U) \$2,258 Continue NASM integration effort and operate the program management office</p> <p>(U) \$14,258 Total</p> <p>(U) <u>B. Project Change Summary</u></p> <p>FY2001 Congressional Plus-up of \$400K for STORM</p> <p>FY2002-2005 JSIMS \$21.6M added to align NASM program to JSIMS integrated master schedule to meet IOC requirements.</p> <p>In FY02, Congress added \$5.5M for the Synthetic Theater Operations Research Model (STORM), Intelligent Flight Control System Simulation Research, and the Oklahoma City ALC Modeling and Simulation program. These programs will be realigned under Project 675004, Joint Model Transition.</p> <p>(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;"></th> <th style="width: 10%; text-align: center;"><u>FY 2001</u></th> <th style="width: 10%; text-align: center;"><u>FY 2002</u></th> <th style="width: 10%; text-align: center;"><u>FY 2003</u></th> <th style="width: 10%; text-align: center;"><u>FY 2004</u></th> <th style="width: 10%; text-align: center;"><u>FY 2005</u></th> <th style="width: 10%; text-align: center;"><u>FY 2006</u></th> <th style="width: 10%; text-align: center;"><u>FY 2007</u></th> <th style="width: 10%; text-align: center;"><u>Cost to</u></th> <th style="width: 10%; text-align: center;"><u>Total Cost</u></th> </tr> <tr> <td></td> <td style="text-align: center;"><u>Actual</u></td> <td style="text-align: center;"><u>Estimate</u></td> <td style="text-align: center;"><u>Complete</u></td> <td></td> </tr> </thead> <tbody> <tr> <td>(U) AF RDT&E</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">Continuing</td> <td style="text-align: center;">Continuing</td> </tr> <tr> <td>(U) Other APPN</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">Continuing</td> <td style="text-align: center;">Continuing</td> </tr> </tbody> </table> <p>(U) <u>D. Acquisition Strategy</u></p> <p>NASM provides the Air and Space software components of the Joint Simulation System (JSIMS). Resources are reviewed and measured against an Alliance program baseline, with the Earned Value and performance measurement reporting against the baseline accomplished on a monthly basis. The contract was selected by source selection and is a Cost Plus Award Fee (CPAF).</p> <p>(U) <u>E. Schedule Profile</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 20%; text-align: center;"><u>FY 2001</u></th> <th style="width: 20%; text-align: center;"><u>FY 2002</u></th> <th style="width: 20%; text-align: center;"><u>FY 2003</u></th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>		(U) AF RDT&E								Continuing	Continuing	(U) Other APPN								Continuing	Continuing		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>				
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>																																									
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Project 1008	Page 5 of 17 Pages	Exhibit R-2A (PE 0207601F)																																																

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT			
07 - Operational System Development					0207601F USAF Modeling and Simulation			1008			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	Software development					10,240		14,209		12,000	
(U)	Program Management/Contractor Support					3,104		2,607		2,258	
(U)	Congressional Add; Synthetic Theater Operations Research Model (STORM) upgrade					400		1,000			
(U)	Intelligent Flight Control System Simulation and Oklahoma City ALC Modeling and Simulation programs							4,500			
(U)	Total					13,744		22,316		14,258	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation Date</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Performing Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
	<u>Product Development Organizations</u>										
	Raytheon (NASM)	TRN	3 Mar 97	74,541	74,541	17,135	10,075	14,209	12,000	Continuing	TBD
	Raytheon (AWSIM/R)	TRN	7 Apr 94	9,876	9,876	11,454	0	0	0	0	11,454
	Hughes (AWSIM/R)	TRN	2 Jun 94	4,676	4,676	4,059	0	0	0	0	4,059
	TRW (AFSOM)	TRN	12 Dec 97	39	39	39	0	0	0	0	39
	TRW (JSB)	Contract Mod	1 Nov 00	150	150	0	0	0	0	0	0
	SysSimSolutions (STORM)	Task Order	11 Aug 00	1,623	1,623	0	400	1,000	0	0	1,400
	Powerscene	Contract	Sep 00	700	700	0	0	0	0	0	0
	Breakaway Solutions	Contract Mod	Aug 01	0	0	0	165	0	0		165
	Intelligent Flight Control System Sim Research Task	TBD	TBD	2,500	2,500			2,500		Continuing	TBD
	Oklahoma City ALC Modeling and Simulation Task	TBD	TBD	2,000	2,000			2,000		Continuing	TBD
Project 1008											
Page 7 of 17 Pages											
Exhibit R-3 (PE 0207601F)											

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE
BUDGET ACTIVITY										February 2002
07 - Operational System Development					PE NUMBER AND TITLE					PROJECT
					0207601F USAF Modeling and Simulation					1008
(U) Performing Organizations Continued:										
<u>Support and Management Organizations</u>										
Tech Eng Mgt Spt (TEMS)	Del Order	Various	15,413	15,413	8,082	1,809	1,215	1,008	Continuing	TBD
/ITSP										
MITRE	Contract Mod	Various	13,200	13,200	5,869	898	1,142	1,000	Continuing	TBD
Other*	Various	Various	19,180	19,180	17,112	397	250	250	Continuing	TBD
*Includes Prototype Contracts										
<u>Test and Evaluation Organizations</u>										
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					32,687	10,640	19,709	12,000	TBD	TBD
Subtotal Support and Management					31,063	3,104	2,607	2,258	TBD	TBD
Subtotal Test and Evaluation										
Total Project					63,750	13,744	22,316	14,258	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207601F USAF Modeling and Simulation	PROJECT 4567
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COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4567 Joint Modeling and Simulation System (JMASS)	5,663	6,832	6,314	6,329	5,342	5,465	5,566	Continuing	TBD

(U) **A. Mission Description**
 The Joint Modeling & Simulation System (JMASS) is a simulation support environment for the development, configuration, execution, and analysis of high fidelity, repeatable simulations with re-usable models-focus is tactical/engagement level simulations with the present concentration on electronic combat. JMASS is a full system software implementation of a modern object based simulation architecture. JMASS provides users with the tools to: Develop objects, assemble these objects into models, configure the models in a complete simulation, execute the simulation, and post process the simulation data. JMASS tools assist users in developing fully compliant objects; users concentrate on the models and analysis, not computer science.

(U) **FY 2001 (\$ in Thousands)**
 (U) \$3,313 JMASS Legacy Model Transition and Development
 (U) \$2,100 Joint JMASS Architecture development (Environment, Terrain, Human interaction, background models and simulations)
 (U) \$250 JMASS Integration with Other Service Simulations
 (U) \$5,663 Total

(U) **FY 2002 (\$ in Thousands)**
 (U) \$4,732 JMASS Legacy Model Transition and Development
 (U) \$2,100 Joint JMASS Architecture development (Environment, Terrain, Human interaction, background models and simulations)
 (U) \$6,832 Total

(U) **FY 2003 (\$ in Thousands)**
 (U) \$4,214 JMASS Legacy Model Transition and Development
 (U) \$2,100 Joint JMASS Architecture development (Environment, Terrain, Human interaction, background models and simulations)
 (U) \$6,314 Total

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2002																																																																
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207601F USAF Modeling and Simulation				PROJECT 4567																																																															
<p>(U) <u>B. Project Change Summary</u> PE 64256F, Threat Simulator Development, transferred \$2.1M in FY00 and FY01 for JMASS Joint Program Development.</p> <p>Also, JMASS funding was increased \$12.59M from FY02-FY07 to develop Blue and Threat system models and transition legacy functionality into the JMASS system.</p>																																																																							
<p>(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;"></th> <th style="width:10%;"><u>FY 2001</u></th> <th style="width:10%;"><u>FY 2002</u></th> <th style="width:10%;"><u>FY 2003</u></th> <th style="width:10%;"><u>FY 2004</u></th> <th style="width:10%;"><u>FY 2005</u></th> <th style="width:10%;"><u>FY 2006</u></th> <th style="width:10%;"><u>FY 2007</u></th> <th style="width:10%;"><u>Cost to</u></th> <th style="width:10%;"><u>Total Cost</u></th> </tr> <tr> <td></td> <td style="text-align: center;"><u>Actual</u></td> <td style="text-align: center;"><u>Estimate</u></td> <td style="text-align: center;"><u>Complete</u></td> <td></td> </tr> </thead> <tbody> <tr> <td>(U) AF RDT&E</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">Continuing</td> <td style="text-align: center;">Continuing</td> </tr> <tr> <td>(U) Other APPN</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) PE64256F, Threat Simulator Development Project 3321 (EW Test Resources)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">Continuing</td> <td style="text-align: center;">Continuing</td> </tr> </tbody> </table>											<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>		(U) AF RDT&E								Continuing	Continuing	(U) Other APPN										(U) PE64256F, Threat Simulator Development Project 3321 (EW Test Resources)								Continuing	Continuing												
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>																																																														
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>																																																															
(U) AF RDT&E								Continuing	Continuing																																																														
(U) Other APPN																																																																							
(U) PE64256F, Threat Simulator Development Project 3321 (EW Test Resources)								Continuing	Continuing																																																														
<p>(U) <u>D. Acquisition Strategy</u> All major contracts for JMASS model development will be awarded after full and open competition.</p>																																																																							
<p>(U) <u>E. Schedule Profile</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:45%;"></th> <th colspan="3" style="width:15%;"><u>FY 2001</u></th> <th colspan="3" style="width:15%;"><u>FY 2002</u></th> <th colspan="3" style="width:15%;"><u>FY 2003</u></th> </tr> <tr> <td></td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> </tr> </thead> <tbody> <tr> <td>(U) Initial Delivery Completed</td> <td style="text-align: center;">*</td> <td></td> </tr> <tr> <td>(U) IOC Block I</td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) IOC Block II</td> <td></td> <td style="text-align: center;">X</td> </tr> </tbody> </table>											<u>FY 2001</u>			<u>FY 2002</u>			<u>FY 2003</u>				1	2	3	4	1	2	3	4	1	2	3	4	(U) Initial Delivery Completed	*												(U) IOC Block I					*								(U) IOC Block II												X
	<u>FY 2001</u>			<u>FY 2002</u>			<u>FY 2003</u>																																																																
	1	2	3	4	1	2	3	4	1	2	3	4																																																											
(U) Initial Delivery Completed	*																																																																						
(U) IOC Block I					*																																																																		
(U) IOC Block II												X																																																											
Project 4567			Page 10 of 17 Pages				Exhibit R-2A (PE 0207601F)																																																																

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0207601F USAF Modeling and Simulation				4567		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	JMASS: Software Development					5,513		6,682		6,164
(U)	JMASS: Travel					150		150		150
(U)	Total					5,663		6,832		6,314
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
	Various (JMASS)	Various				5,663	6,832	6,314	Continuing	TBD
<u>Support and Management Organizations</u>										
<u>Test and Evaluation Organizations</u>										
<u>Subtotals</u>					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
	Subtotal Product Development					5,663	6,832	6,314	TBD	TBD
	Subtotal Support and Management									
	Subtotal Test and Evaluation									
	Total Project					5,663	6,832	6,314	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207601F USAF Modeling and Simulation				PROJECT 5004	
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
5004 Joint Model Transition (JMT)	0	392	404	411	418	420	425	Continuing	TBD
<p>In, FY2002, Project 675004, Joint Model Transition (JMT) efforts transferred from PE 0308601F, Modeling & Simulation Support, Project 671011, Legacy Model Transition (LMT) in order to provide a more cohesive, manageable Modeling, Simulation and Analysis effort.</p> <p>(U) A. Mission Description Numerous models are being developed for a broad range of areas including acquisition, analysis, test and evaluation, and training. The Joint Model Transition (JMT) Program (formerly known as Legacy Model Transition) supports the development and upgrade of R&D models selected through a board process. The selection process allows the board to influence the direction of model development and integration for the modeling and simulation community. Emphasis is placed on joint applicability and acceptance.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$156 Develop and integrate service analysis models into next generation joint models. (U) \$154 Requirements/cost-benefit analysis for Next Generation Mission Model (NGMM). (U) \$82 Develop comprehensive Digital System Models (DSMs) to support Analysis of Alternatives (AoAs) for potential development programs. DSMs digitally represent weapon system platforms and are used to evaluate existing platform capabilities against new threats, ability to upgrade weapon systems to satisfy new requirements, etc. Results of AoAs using DSMs are used as a decision tool to determine future weapon system developments and/or upgrades. (U) \$392 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$100 Develop and integrate service analysis models into next generation joint models (U) \$218 Develop extended/enhanced analytical capabilities for AF Standard Digital System Models to meet emerging analytical challenges; exploiting new and developmental analytical and technological methods and techniques supporting campaign, mission, and engagement-level operational analyses, experimentation, and decision support tools. This is a continuation of the requirements/cost-benefit analysis for the Next Generation</p>									
Project 5004	Page 12 of 17 Pages				Exhibit R-2A (PE 0207601F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2002			
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207601F USAF Modeling and Simulation				PROJECT 5004		
(U) <u>A. Mission Description Continued</u>										
(U) <u>FY 2003 (\$ in Thousands) Continued</u>										
Mission Model (NGMM).										
(U) \$86 Develop comprehensive Digital System Models (DSMs) to support Analysis of Alternatives (AoAs) for potential development programs. DSMs digitally represent weapon system platforms and are used to evaluate existing platform capabilities against new threats, ability to upgrade weapon systems to satisfy new requirements, etc. Results of AoAs using DSMs are used as a decision tool to determine future weapons system developments and/or upgrades.										
(U) \$404 Total										
(U) <u>B. Project Change Summary</u> Project transferred from PE 0308601F in FY02										
(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u>										
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>	
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>		
(U) AF RDT&E								Continuing	Continuing	
(U) Other APPN										
(U) <u>D. Acquisition Strategy</u> The funds are provided to the Office of Aerospace Studies (OAS), GSA Heartland Contract for Analysis of Alternative Studies for analytical and digital system models and for the advancement and capability extension of analytic models and digital system models. AF/XOCA will oversee a prioritization process for contract selection and development effort.										
(U) <u>E. Schedule Profile</u>										
		<u>FY 2001</u>				<u>FY 2002</u>			<u>FY 2003</u>	
		1	2	3	4	1	2	3	4	
(U) Joint Accreditation Support Activity (Phase 1)						*				
(U) Joint Accreditation Support Activity (Phase 2)							X			
(U) Develop Digital System Models to support AoAs								X		
(U) Develop Next Generation Joint Models									X	
(U) Develop/Extend Enhance AF Analytical Models									X	
Project 5004										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT			
07 - Operational System Development				0207601F USAF Modeling and Simulation			5004			
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	Contractor Support					0		313		318
(U)	Program Management Suppor					0		32		35
(U)	Travel					0		47		51
(U)	Total					0		392		404
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
Various	Various	Various					392	404	Continuing	TBD
<u>Support and Management Organizations</u>										
<u>Test and Evaluation Organizations</u>										
<u>Subtotals</u>					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
	Subtotal Product Development						392	404	TBD	TBD
	Subtotal Support and Management									
	Subtotal Test and Evaluation									
	Total Project						392	404	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0207601F USAF Modeling and Simulation	PROJECT 5005
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COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
5005 Executive Agent For Air /Space Natural Environment	0	821	919	934	952	980	1,001	Continuing	TBD

In FY2002, Project 675005, Executive Agent For Air/Space Natural Environment efforts transferred from PE 0308601F, Modeling & Simulation Support, Project 674566, Executive Agent for Air/Space Natural Environment to provide a more cohesive, manageable Modeling, Simulation and Analysis effort.

(U) A. Mission Description

Air Force Director of Weather (AF/XOW) is designated as the DoD Modeling and Simulation Executive Agent (MSEA) for Air and Space Natural Environment (ASNE). This program provides funds for MSEA joint wargaming architecture, data base, model development support for Joint Warfare Simulation (JWARS), Joint Simulation System (JSIMS), Joint Modeling and Simulation System (JMASS), and other joint M&S program offices. Primary users will be unified commanders and service components for use in joint exercises involving air, ground, sea, and space campaigns.

(U) FY 2001 (\$ in Thousands)

- (U) \$0** No Activity
- (U) \$0** Total

(U) FY 2002 (\$ in Thousands)

- (U) \$135** Space Weather Prototyping and Integration
- (U) \$527** Production Center Integration
- (U) \$159** Air/Land Battlefield Integration
- (U) \$821** Total

(U) FY 2003 (\$ in Thousands)

- (U) \$350** Space Weather Prototyping and Integration
- (U) \$359** Production Center Integration
- (U) \$210** Air/Land Battlefield Integration
- (U) \$919** Total

(U) B. Project Change Summary

Project transferred from PE 38601F in FY02

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)											DATE February 2002			
BUDGET ACTIVITY 07 - Operational System Development					PE NUMBER AND TITLE 0207601F USAF Modeling and Simulation						PROJECT 5005			
(U) C. Other Program Funding Summary (\$ in Thousands)														
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>					
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>						
(U) AF RDT&E								Continuing			Continuing			
(U) Other APPN														
(U) D. Acquisition Strategy														
The Executive Agent for Air & Space Natural Environment will develop, prototype, and integrate the current suite of production and research grade models for Service and Joint distributed simulation models. The majority of efforts are executed and managed through the DoD laboratory system.														
(U) E. Schedule Profile														
				<u>FY 2001</u>				<u>FY 2002</u>			<u>FY 2003</u>			
			1	2	3	4	1	2	3	4	1	2	3	4
(U) ESG IOC								X						
(U) Weather Scenario Production IOC								X						
(U) Warfighter Weather Effects IOC										X				
(U) Weather Scenario Production FOC														X
(U) Space Environmental Effects IOC									X					
(U) Ionospheric Effects FOC											X			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0207601F USAF Modeling and Simulation				5005		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	Software Development					0		416		473
(U)	Lab Overhead/Management					0		90		120
(U)	Prototyping					0		290		296
(U)	Travel					0		25		30
(U)	Total					0		821		919
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
Various	Various	Various				821	919	Continuing		TBD
<u>Support and Management Organizations</u>										
<u>Test and Evaluation Organizations</u>										
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development							821	919	TBD	TBD
Subtotal Support and Management										
Subtotal Test and Evaluation										
Total Project							821	919	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002			
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0207605F Wargaming and Simulation Centers				PROJECT 2888			
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost	
2888	Theater Air Command & Control Sim Facility (TACCSF)	7,485	7,961	5,278	5,389	6,510	6,634	6,759	Continuing	TBD	
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	Continuing	TBD	
<p>(U) <u>A. Mission Description</u></p> <p>The Theater Aerospace Command and Control Simulation Facility (TACCSF) develops and maintains a persistent tactical-level Synthetic Battlespace for training, testing, experimentation and mission rehearsal for Combat Aerospace Forces.</p> <p>TACCSF is the hub for ACC's tactical-level Synthetic Battlespace. TACCSF develops or acquires technologies that permit the effective integration of, and scheduling for, resources which comprise the Synthetic Battlespace. These include, but are not limited to, high-fidelity aircraft simulators, realistic threat replications, detailed weapons and weather models, and connectivity to distributed resources. TACCSF develops and archives realistic scenarios, and makes them available to other organizations. TACCSF hosts a cadre of simulator controllers trained in adversary tactics, and makes their services available to other organizations. TACCSF links the tactical-level Synthetic Battlespace to operational- and strategic-level simulations. TACCSF makes its Synthetic Battlespace available to other commands, services, and nations seeking to improve programs or processes through the use of synthetic means.</p> <p>TACCSF is the lead agent for ACC Synthetic Battlespace inter-team training events, and will continually develop and refine inter-team training events that meld unit and team-level training resources and objectives into the over-arching inter-team exercise environment.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <p>(U) \$1,790 Continue to maintain core structure to support users conducting RDT&E, mission rehearsal, and concepts of operation development.</p> <p>(U) \$1,500 Continue to support requirements definition, test support, scenario development, analysis, system engineering support, and VV&A of core systems.</p> <p>(U) \$254 Provides program management.</p> <p>(U) \$100 Continue communications connectivity between TACCSF and various other M&S facilities.</p> <p>(U) \$3,841 Continue work on Congressionally directed National Infrastructure Simulation & Analysis Consortium (NISAC) at Sandia National Labs and Los Alamos National Labs.</p> <p>(U) \$7,485 Total</p>											
Project 2888				Page 1 of 4 Pages				Exhibit R-2 (PE 0207605F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002		
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT		
07 - Operational System Development	0207605F Wargaming and Simulation Centers	2888		
(U) <u>A. Mission Description Continued</u>				
(U) <u>FY 2002 (\$ in Thousands)</u>				
(U) \$7,102	Continue to maintain core structure to support users conducting RDT&E, mission rehearsal, and concepts of operation development.			
(U) \$500	Continue to support requirements definition, test support, scenario development, analysis, system engineering support, and VV&A of core systems.			
(U) \$259	Provides program management.			
(U) \$100	Continue communications connectivity between TACCSF and various other M&S facilities.			
(U) \$7,961	Total			
(U) <u>FY 2003 (\$ in Thousands)</u>				
(U) \$4,244	Continue to maintain core structure to support users conducting RDT&E, mission rehearsal, and concepts of operation development.			
(U) \$675	Continue to support requirements definition, test support, scenario development, analysis, system engineering support, and VV&A of core systems.			
(U) \$259	Provides program management.			
(U) \$100	Continue communications connectivity between TACCSF and various other M&S facilities.			
(U) \$5,278	Total			
(U) <u>B. Budget Activity Justification</u>				
This program is in budget activity 7 - Operation System Development, because it continues development and upgrades of the Air Force's premier warfighter-in-the-loop simulation facility.				
(U) <u>C. Program Change Summary (\$ in Thousands)</u>				
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>
(U) Previous President's Budget	3,874	5,033	5,278	
(U) Appropriated Value	7,874	5,033		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions				
b. Small Business Innovative Research	-241			
c. Omnibus or Other Above Threshold Reprogram				
d. Below Threshold Reprogram	-76			
e. Rescissions	-72	-72		
Project 2888				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE						
										February 2002						
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT						
07 - Operational System Development					0207605F Wargaming and Simulation Centers					2888						
(U) <u>C. Program Change Summary (\$ in Thousands) Continued</u>																
					<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>								
(U) Adjustments to Budget Years Since FY 2002 PBR						3,000										
(U) Current Budget Submit/FY 2003 PBR					7,485	7,961	5,278				TBD					
(U) <u>Significant Program Changes:</u>																
In FY02, Congress added \$3.0M to support shortfalls in funding TACCSF development of simulations to support mission rehearsal and distributed mission operations.																
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u>																
					<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>			
					<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>				
(U) AF RDT&E																
(U) Other APPN																
(U) <u>E. Acquisition Strategy</u>																
Provides funds for development, upgrade, and maintenance of virtual simulators. Simulators include Airborne Warning and Control Systems (AWACS), Joint Surveillance Attack Radar Systems (JSTARS), Advanced Airborne Sensor, Airborne Laser (ABL), TSQ-73 Fire Direction Center, PATRIOT and HAWK battalion and batteries, and the F-15C to name a few.																
(U) <u>F. Schedule Profile</u>																
					<u>FY 2001</u>		<u>FY 2002</u>			<u>FY 2003</u>						
					1	2	3	4	1	2	3	4	1	2	3	4
(U) Develop Core Structure (Phase 3: Estimated Completion 1QFY03)					*				*				X			
(U) Develop & Integraste DIS & HLA (Phase 1: Completed 3QFY99)							*									
(U) Develop Joint Synthetic Battlespace													X			X
(U) Integrate new AWACS & MCE & test										X						
(U) Distributed Training / Integration (Desert Pivots / Blue Flags)					*	*	*	*		X	X	X	X	X	X	X

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2002		
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0207605F Wargaming and Simulation Centers				2888		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>		
(U)	Software Development					5,635	6,111	4,187		
(U)	Contractor Support					1,500	1,500	741		
(U)	Program Management Support					350	350	350		
(U)	Total					7,485	7,961	5,278		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
	Det 4, AFC2TIG	1 Jan 90	Continuing	Continuing	5,272	7,485	7,961	5,278	Continuing	TBD
<u>Support and Management Organizations</u>										
<u>Test and Evaluation Organizations</u>										
<u>Subtotals</u>					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
	Subtotal Product Development				5,272	7,485	7,961	5,278	TBD	TBD
	Subtotal Support and Management									
	Subtotal Test and Evaluation									
	Total Project				5,272	7,485	7,961	5,278	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0208006F Mission Planning Systems				PROJECT 3858		
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
3858	Air Force Mission Support System (AFMSS)	19,589	17,887	17,002	73,841	146,687	159,620	265,472	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

(U) A. Mission Description

The Mission Planning System program was established in 1990 to consolidate mission planning system development efforts into a single unit-level mission planning system. This program maintains and preserves combat capability on existing legacy planning systems while migrating into a USAF wide standard mission planning system known as the Air Force Mission Support System (AFMSS). Integrating military and commercial software on Commercial-Off-The-Shelf (COTS) hardware, AFMSS encompasses evolutionary software and hardware development in an open systems architecture. AFMSS today consists of the Mission Planning System (MPS), a UNIX-based system; the Portable Flight Planning Software (PFPS), a personal computer (PC)-based system; and the Joint Mission Planning System (JMPS), which is the next generation PC-based system.

The MPS provides comprehensive mission planning tools to conduct missions ranging from day-to-day training, peace time operations/exercises to complex operations supporting conventional and nuclear armed conflict. The MPS currently or will support the following aircraft and associated weapons: B-1, B-2, B-52, F-15, F-16, F-117, F-22, U-2, AGM-130, AGM-142, JDAM, JSOW, WCMD, ABL, JASSM, MALD, Global Hawk, and Predator. Platforms use tailored software called Aircraft/Weapon/Electronics (A/W/E) that integrate with the MPS core software to specialize the software for their mission.

The PFPS provides flight planning tools that support day-to-day training, peace time operations/exercises, and conventional armed conflict. The PFPS design is based on single user PCs using Windows as its interface. The PFPS currently or will support the following aircraft: F-16, MC-130, EC-130, HC-130H/N/P, AC-130, E-3, E-8, C-130E/H/J, LC-130, WC-130, C-27, C-17, E-4, T-38, C-141, RC-135, KC-10, KC-135R/E, C-5, C-9, A-10, MH-53, MH-47, AH/MH-6J, and MH/HH-60.

The JMPS is a continuation effort to move the AFMSS MPS and PFPS and the Navy's Tactical Automated Mission Planning System (TAMPS) to the Global Command and Control System (GCCS). The JMPS will provide a mission planning system that is scaleable, extensible, and configurable to meet the full range of mission planning needs from basic flight planning to planning precision guided munitions on low observable aircraft. The JMPS design uses an open architecture allowing a plug-and-play approach for additional capabilities to be added to the system. The JMPS will meet interoperability requirements through compliance with the Defense Information Infrastructure and Common Operating Environment (DII/COE). The JMPS will support all Air Force/Navy/Army weapons and aircraft.

Project 3858 Page 1 of 7 Pages Exhibit R-2 (PE 0208006F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002
BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0208006F Mission Planning Systems	PROJECT 3858
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2001 (\$ in Thousands)</u>		
(U) \$331	A/W/E development/support/integration for the platforms listed above	
(U) \$14,929	AFMSS development effort	
(U) \$3,339	Begin AFMSS (PC-based) Combat Capabilities, to include Global Positioning System (GPS) crypto key, Global Air Traffic Management (GATM), PGM migration	
(U) \$990	Responsible Test Organization (RTO) support	
(U) \$19,589	Total	
(U) <u>FY 2002 (\$ in Thousands)</u>		
(U) \$344	Continue A/W/E development/support/integration for the platforms listed above	
(U) \$6,158	Continue AFMSS development effort (including but not limited to JMPS development and MPS enhancements)	
(U) \$8,870	Continue AFMSS (PC-based) Combat Capabilities, which could include but is not limited to GPS crypto key, GATM, PGM migration	
(U) \$1,015	Continue RTO support	
(U) \$1,500	Development/integration of Powerscene (Mission Rehearsal) into the Air Force Mission Support System (Congressional add)	
(U) \$17,887	Total	
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$351	Continue Aircraft Weapons and Electronics development/support/integration for the platforms listed above	
(U) \$5,929	Continue AFMSS development effort (including but not limited to JMPS development and MPS enhancements)	
(U) \$9,682	Continue AFMSS (PC-based) Combat Capabilities, which could include but is not limited to GPS crypto key, GATM, PGM migration, Conventional Weapons Planning, Automated Target Data Transfer, Airdrop Planning, Auto Routing, Low Observable Planning, Computer Based Training (CBT), Single Integrated Operational Plan (SIOP), Vertical Profile, Weather Planning, Sensor Prediction, Mission Rehearsal, Web Browsing, Electronic Warfare (EW) Planning, and System Security	
(U) \$1,040	Continue RTO support	
(U) \$17,002	Total	
Project 3858	Page 2 of 7 Pages	Exhibit R-2 (PE 0208006F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE			
							February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT			
07 - Operational System Development				0208006F Mission Planning Systems			3858			
(U) <u>B. Budget Activity Justification</u>										
Mission Planning Systems is in budget activity 7, Operational System Development, because the program currently supports deployed AFMSS systems, which include transportable, non-deployable, and portable laptop workstations. AFMSS MPS C2.0, C2.1, C2.2, and PFPS 3.0, 3.1, and 3.1.1 are operationally fielded to the Combat Air Forces. PFPS 3.2, 3.3 (SOF only), and 3.4 updates will be released in FY02. MPS C2.2c software has been delivered for integration into platforms with releases staggered over FY01 and FY02. MPS C2.2d is under development with delivery scheduled in FY02. JMPS v1.0 began development in Jun 99. The first four of six JMPS Beta releases have been completed and are being evaluated by the Air Force.										
(U) <u>C. Program Change Summary (\$ in Thousands)</u>										
				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>		<u>Total Cost</u>		
(U)	Previous President's Budget			20,755	16,904	17,154		TBD		
(U)	Appropriated Value			20,755	18,404					
(U)	Adjustments to Appropriated Value									
	a. Congressional/General Reductions			-190	-180					
	b. Small Business Innovative Research			-650	-337					
	c. Omnibus or Other Above Threshold Reprogram									
	d. Below Threshold Reprogram			-326						
	e. Rescissions									
(U)	Adjustments to Budget Years Since FY 2002 PBR					-152				
(U)	Current Budget Submit/FY 2003 PBR			19,589	17,887	17,002		TBD		
(U) <u>Significant Program Changes:</u>										
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u>										
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U)	Other Procurement, AF WSC 833040, Theater Air Control System Improvement (TACSI)	12,800	8,921	13,440	14,218	14,493	15,483	16,068	Continuing	TBD
(U)	Other Procurement, AF, WSC 86190A, Initial Spares	820	790	753	531	380	0	0	Continuing	TBD
Project 3858		Page 3 of 7 Pages					Exhibit R-2 (PE 0208006F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0208006F Mission Planning Systems				PROJECT 3858	
(U) D. Other Program Funding Summary (\$ in Thousands)									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) Operations & Maintenance, AF, 0208006F	32,074	38,887	38,910	38,063	38,411	41,977	40,684	Continuing	TBD
<p>O&M funds for PE 0208006F support the software and hardware maintenance costs of the Air Force Mission Support System (AFMSS) and the Common Mapping Production System. These funds also support the maintenance of the following existing operational systems until replaced by AFMSS: Mission Data Preparation System (MDPS) supports conventional and nuclear mission planning, aircraft/weapons avionics loading, compatibility between evolving B-52H avionics, its weapons systems, and USSTRATCOM. O&M funding supported approximately 240 older systems in FY94. By FY02, a similar amount of funding will support over 2900 AFMSS mission planning systems world-wide.</p> <p>There are no other AFMSS core related RDT&E activities for unit level mission planning in the USAF. Over 50 individual aircraft and weapons programs develop their respective software to be used in conjunction with the AFMSS core software. The aircraft and weapons software is a complimentary, synergistic effort that provides specific aircraft and weapons information and functionality to the core AFMSS software. The combined software gives the warfighter the full spectrum of mission planning and combat capabilities for their aircraft or weapon including interoperability with planned Theater Battle Management (TBM) systems.</p>									
(U) E. Acquisition Strategy									
<p>The Air Force Mission Support System (AFMSS) program is managed within the Combat Air Forces (CAF) Command and Control (C2) Systems Program Office, Electronic Systems Center, Hanscom AFB, Massachusetts. The AFMSS acquisition strategy leverages military and commercial software integrated on Commercial-Off-The-Shelf (COTS) hardware. AFMSS encompasses evolutionary software and hardware development in an open systems architecture. The contractors for the AFMSS projects are British Aerospace Engineering (BAE) Information Dominance Systems, Nashua, NH, for the MPS and C-17, KC-10, C-5, C-9, C-141, E-3, E-8, KC-135E/R A/W/Es; 46TS, Eglin AFB, FL, for the PFPS; and Logicon, San Pedro, CA for JMPS. A/W/E development is also performed in-house (government) by Oklahoma City Air Logistics Center (OC-ALC), Tinker AFB, OK; Warner Robins Air Logistics Center (WR-ALC), Robins AFB, GA; and Ogden Air Logistics Center (OO-ALC), Hill AFB, UT.</p> <p>The JMPS is in the development phase. Development and initial migration activities began in FY99. The current plan is to continue development and migration activities in the FY01-FY03 time frame while individual weapon systems transition with planned Operational Flight Program (OFP) upgrades. The Air Force is a minor player in JMPS Combat 1 which is a follow-on contract with Logicon for development of components. JMPS Combat 1 is primarily Navy unique components necessary to retire the Navy's Tactical Air Mission Planning Systems (TAMPS) in FY04. The Air Force is developing combat capabilities to plug into JMPS Version 1 to provide combat planning capability to Air Force as well as some Navy platforms. Combat capabilities (synonymous with common capabilities) provide mission</p>									
Project 3858			Page 4 of 7 Pages				Exhibit R-2 (PE 0208006F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2002																																																																																																																																															
BUDGET ACTIVITY 07 - Operational System Development					PE NUMBER AND TITLE 0208006F Mission Planning Systems					PROJECT 3858																																																																																																																																															
<p>(U) <u>E. Acquisition Strategy Continued</u> planning functions required by multiple platforms. The Air Force has identified 24 such combat capabilities, grouped into 4 tiers. These requirements have been developed in close cooperation with our Navy and Army JMPS partners. Before a platform can migrate to JMPS, its applicable combat capabilities must be built, along with the platform's unique A/W/E. Acquisition of combat capabilities will be tailored for each combat capability requirement. The JMPS architecture allows for asynchronous development of combat capabilities.</p>																																																																																																																																																									
<p>(U) <u>F. Schedule Profile</u></p> <table border="0" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:40%;"></th> <th colspan="4" style="text-align:center"><u>FY 2001</u></th> <th colspan="4" style="text-align:center"><u>FY 2002</u></th> <th colspan="4" style="text-align:center"><u>FY 2003</u></th> </tr> <tr> <th></th> <th style="text-align:center">1</th> <th style="text-align:center">2</th> <th style="text-align:center">3</th> <th style="text-align:center">4</th> <th style="text-align:center">1</th> <th style="text-align:center">2</th> <th style="text-align:center">3</th> <th style="text-align:center">4</th> <th style="text-align:center">1</th> <th style="text-align:center">2</th> <th style="text-align:center">3</th> <th style="text-align:center">4</th> </tr> </thead> <tbody> <tr> <td>(U) PFPS 3.1.1 Software OT&E</td> <td style="text-align:center">*</td> <td></td> </tr> <tr> <td>(U) PFPS 3.2 Software OT&E</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align:center">X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) PFPS 3.3 Software OT&E</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align:center">X</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) PFPS 3.4 Software OT&E</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align:center">X</td> <td></td> <td></td> </tr> <tr> <td>(U) MPS C2.2c (w/U-2) OT&E</td> <td style="text-align:center">*</td> <td></td> </tr> <tr> <td>(U) MPS C2.2d Release</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align:center">X</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) JMPS v1.0 Beta S/W Releases</td> <td></td> <td style="text-align:center">*</td> <td></td> <td style="text-align:center">*</td> <td></td> <td style="text-align:center">X</td> <td style="text-align:center">X</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) JMPS v1.0 OT&E</td> <td></td> <td style="text-align:center">X</td> </tr> <tr> <td colspan="12"> * denotes completed event X denotes planned event </td> </tr> </tbody> </table>													<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>					1	2	3	4	1	2	3	4	1	2	3	4	(U) PFPS 3.1.1 Software OT&E	*												(U) PFPS 3.2 Software OT&E						X							(U) PFPS 3.3 Software OT&E									X				(U) PFPS 3.4 Software OT&E										X			(U) MPS C2.2c (w/U-2) OT&E	*												(U) MPS C2.2d Release							X						(U) JMPS v1.0 Beta S/W Releases		*		*		X	X						(U) JMPS v1.0 OT&E												X	* denotes completed event X denotes planned event											
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Project 3858				Page 5 of 7 Pages				Exhibit R-2 (PE 0208006F)																																																																																																																																																	

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
07 - Operational System Development				0208006F Mission Planning Systems				3858			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	Primary Software Development					13,835		11,220		10,216	
(U)	Aircraft/Weapons/Electronics (A/W/E) Integration Spt.					331		344		351	
(U)	Systems Engineering					2,850		3,638		3,778	
(U)	Program Management					1,484		1,570		1,517	
(U)	Test and Evaluation					990		1,015		1,040	
(U)	Miscellaneous					99		100		100	
(U)	Total					19,589		17,887		17,002	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
	<u>Product Development Organizations</u>										
	Logicon (JMPS)	CPIF	Jun 99	TBD	TBD	12,375	11,107	4,423	1,340	Continuing	TBD
	BAE Information Dominance Systems (formerly Sanders)	CPAF	Dec 92	TBD	TBD	93,300	0	0	0	Continuing	TBD
	46TS Eglin AFB, FL	Project Order	Dec 98	TBD	TBD	3,030	25	25	25	Continuing	TBD
	A/W/E Integration Activity	Time & Mat'l	Oct 98	TBD	TBD	250	160	205	0	Continuing	TBD
	SPO Misc* (*Prior year total includes past, inactive contracts)					17,967	332	2,113	2,144	Continuing	TBD
	AFMSS Combat Capabilities* (*Parts of this effort may be rolled into the USN's Logicon contract for JMPS shown)	CPAF	Jul 01	TBD	TBD	0	1,905	4,648	7,183	Continuing	TBD
Project 3858				Page 6 of 7 Pages				Exhibit R-3 (PE 0208006F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2002		
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0208006F Mission Planning Systems				3858		
(U) <u>Performing Organizations Continued:</u>										
<u>Product Development Organizations</u>										
above. Also includes development/integration of Powerscene)										
<u>Support and Management Organizations</u>										
FFRDC			TBD	TBD	19,718	3,560	3,913	3,778	Continuing	TBD
Miscellaneous			TBD	TBD	12,894	1,510	1,545	1,492	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
46TW (Eglin AFB)	Project Order	Oct 98	TBD	TBD	1,440	990	1,015	1,040	Continuing	TBD
(U) <u>Government Furnished Property:</u>										
	<u>Contract</u>									
	<u>Method/Type</u>	<u>Award or</u>								
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>		<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>										
N/A										
<u>Support and Management Property</u>										
N/A										
<u>Test and Evaluation Property</u>										
N/A										
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					126,922	13,529	11,414	10,692	TBD	TBD
Subtotal Support and Management					32,612	5,070	5,458	5,270	TBD	TBD
Subtotal Test and Evaluation					1,440	990	1,015	1,040	TBD	TBD
Total Project					160,974	19,589	17,887	17,002	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002			
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0208021F Information Warfare Support				PROJECT 0374			
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost	
0374	Electronic Combat Spt, C3 Protection/Multi-Mission, Technology and Spt	0	1,785	7,837	7,313	7,437	7,545	8,170	Continuing	TBD	
Quantity of RDT&E Articles		0	0	0	0	0	0	0	0	0	
<p>(U) <u>A. Mission Description</u> Joint Expeditionary Force Exercise (JEFX) 2000 emphasized Agile Combat Support, but exploration also occurred in managing intelligence, surveillance, and reconnaissance assets; global mobility; and dynamic battle control. JEFX 2000 and other Air Force funding was reprogrammed from existing command and control, global power, global reach, and space Program Elements.</p> <p>The Information Warfare Planning Capability (IWPC) was reprogrammed from other Information Warfare funding. The IWPC is a full-spectrum, offensive and defensive, planning capability. IWPC operators will develop IW courses of action for the Joint Air Component Commander (JFACC) and nominate IW 'targets' for inclusion into the Master Air Attack Plan and the Joint Integrated Prioritized List (JIPL).</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$300 IWPC Software Testing (U) \$1,503 IWPC Software Development (U) \$1,803 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$4,801 IWPC Software Development (U) \$400 IWPC Software Testing (U) \$3,156 JEFX System integration (U) \$8,357 Total</p>											
Project 0374				Page 1 of 5 Pages				Exhibit R-2 (PE 0208021F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002																																																								
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0208021F Information Warfare Support			PROJECT 0374																																																								
<p>(U) <u>B. Budget Activity Justification</u> This program is in Budget Activity 7, Operational System Development, because it studies, develops and demonstrates IO prototypes to provide warning, self protection, and support to personnel and equipment against combat systems employed by enemy forces. It identifies existing military and commercial research and development efforts which can satisfy unfulfilled operational requirements as identified by the Unified Commands, and quickly bridge the gap between technology developments and meld the technology into the warfighter's operational requirements.</p>																																																															
<p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:60%;"></th> <th style="text-align: center;"><u>FY 2001</u></th> <th style="text-align: center;"><u>FY 2002</u></th> <th style="text-align: center;"><u>FY 2003</u></th> <th style="text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">3,156</td> <td></td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: center;">0</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> a. Congressional/General Reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> b. Small Business Innovative Research</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> d. Below Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> e. Rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2002 PBR</td> <td></td> <td style="text-align: center;">1,803</td> <td style="text-align: center;">5,201</td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY 2003 PBR</td> <td style="text-align: center;">0</td> <td style="text-align: center;">1,803</td> <td style="text-align: center;">8,357</td> <td style="text-align: center;">TBD</td> </tr> </tbody> </table>										<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>	(U) Previous President's Budget	0	0	3,156		(U) Appropriated Value	0				(U) Adjustments to Appropriated Value					a. Congressional/General Reductions					b. Small Business Innovative Research					c. Omnibus or Other Above Threshold Reprogram					d. Below Threshold Reprogram					e. Rescissions					(U) Adjustments to Budget Years Since FY 2002 PBR		1,803	5,201		(U) Current Budget Submit/FY 2003 PBR	0	1,803	8,357	TBD
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<p>(U) <u>Significant Program Changes:</u> Funding allocated for IWPC during FY03-07 APOM</p>																																																															
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	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>																																																						
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(U) AF RDT&E	0	0	0	0	0	0	0	Continuing	Continuing																																																						
(U) Other APPN	0	0	1,015	1,053	1,092	1,133	1,175	Continuing	Continuing																																																						
Project 0374			Page 2 of 5 Pages			Exhibit R-2 (PE 0208021F)																																																									

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0208021F Information Warfare Support	PROJECT 0374
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(U) **E. Acquisition Strategy**
 All major contracts within this Program were awarded after full and open competition. The Information Warfare Planning Capability (IWPC) acquisition strategy follows:

Electronic Systems Center (ESC), Hanscom AFB, MA will manage the acquisition and development for evolving suite of interoperable IW planning and decision support capabilities comprised of, as required, software, hardware, and communications products. ESC will identify and implement an open, scalable system architecture that will accommodate growth in functionality; allow functional modules to interact, achieve early data sharing capability with TBMCS, with the goal or interoperability as security policy permits; and be compliant with evolving GCCS and DII COE standards. An IWPC spiral will be released once a year. Requirements for the next spiral will be developed by the IWPC Spiral Development Integrated Process Team (IWPC SD IPT), chaired by ACC. Spirals within the acquisition cycle allow deficiencies to be identified and considered for future spirals as well as the next experiment or applied to current capabilities. Integration efforts will capitalize on the synergy between evolving technologies and on-going system program modifications to maximize the return on investment.

(U) **F. Schedule Profile**

	<u>FY 2001</u>			<u>FY 2002</u>			<u>FY 2003</u>					
	1	2	3	4	1	2	3	4	1	2	3	4
(U) JEFX											X	
(U) IWPC Contract Obligation		*			X				X			
(U) IWPC Software Development		*			X				X			
(U) IWPC Software Integration Testing				X					X			X
(U) IWPC Software Release						X				X		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0208021F Information Warfare Support				0374		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	Various JEFX initiatives; systems arch; integration, comms					0		0		3,136
(U)	IWPC VX.O Software Development					0		1,485		4,301
(U)	Instrumentation and Support									
(U)	Facilities									
(U)	Testing							300		400
(U)	Engineering Services							0		
(U)	Program Infrastructure									
(U)	SME									
(U)	Total					0		1,785		7,837
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
JEFX - Various	Various	Various	N/A	N/A		0	0	3,136	Continuing	TBD
Bell Aerospace & Techn	DDForm 448	Jan	2	91		0	0		0	0
GRCI	AF Form 9	Sep	2	91		0	0		0	0
Unknown	TBD	TBD	2	91		0	0		0	0
ARINC	DDForm 448	Oct	N/A	N/A		0	0		0	0
General Dynamics	AF Form 9	Nov	2	91		0	1,485	4,301	Continuing	TBD
MITRE	DDForm 448	Oct	N/A	N/A			300	400	Continuing	TBD
<u>Support and Management Organizations</u>										
DISA	DDForm 448	Jan	2	91					0	0
JIOC	DDForm 1610	Jan-Sep	2	91					0	0
Project 0374										
Page 4 of 5 Pages										
Exhibit R-3 (PE 0208021F)										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT			
07 - Operational System Development				0208021F Information Warfare Support			0374			
(U) <u>Performing Organizations Continued:</u>										
<u>Test and Evaluation Organizations</u>										
SWRI	AF Form 9	Feb	2	91				0	0	
(U) <u>Government Furnished Property:</u>										
	<u>Contract</u>									
	<u>Method/Type</u>	<u>Award or</u>								
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>		<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>										
Product Development					0	0	0		0	0
<u>Support and Management Property</u>										
<u>Test and Evaluation Property</u>										
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					0	0	1,785	7,837	TBD	TBD
Subtotal Support and Management									0	0
Subtotal Test and Evaluation									0	0
Total Project					0	0	1,785	7,837	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0208031F WRM-EQUIPMENT/SECONDARY ITEMS				PROJECT 4668		
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4668	Shelter Development	1,372	0	0	0	0	0	0	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

SAF/AQPS, HQ USAF/ILSR and HQ USAF/ILEX are in the process of consolidating three small dollar Civil Engineer (CE) readiness R&D programs (PE64617F - Agile Combat Support; PE64708F - Civil, Fire, Environmental, Shelters, and the 3600 portion of PE28031F - War Reserve Materiel) under PE 64617F. PE28031F will be merged into PE64617F effective FY02. This will meet the intent of the House action to eliminate smaller PEs and provide a more cohesive, manageable CE Readiness modernization effort.

(U) A. Mission Description

(U) A. Mission Description

1. This program supports Air Force (AF) Bare Base Mobility Equipment, also known as Harvest Falcon (HF) and Harvest Eagle (HE). Designed and sized to support the current Joint Chiefs of Staff (JCS) wartime planning scenario of two nearly simultaneous Major Theater Wars (2MTW), this equipment provides theater warfighters billeting, industrial, and air field capability to support up to 68,200 combat troops and 822 aircraft at 15 austere locations by building complete temporary bases from the ground up. Of the two systems, HF is the newest and fields the greatest capability (housekeeping plus air base infrastructures). The HF system provides capability directed in the FY90-94 Defense Planning Guidance (DPG) that initially tasked the Air Force to support United States Central Command (USCENTCOM) Rapid Deployment Forces (RDF) and save critical airlift resources through theater repositioning. Subsequent DPGs have continued this requirement. Harvest Falcon remains a top priority procurement requirement of the Commander-In-Chief/Central Command.

2. The outstanding reputation enjoyed by the AF Bare Base program, established during the Gulf War, has continued to grow in successive Military-Operations-Other-Than-War (MOOTW) throughout the world. These include Operation Southern Watch, Provide Relief, Provide Promise, Provide Comfort, Restore Hope, Sea Signal, Uphold Democracy, Joint Endeavor, Desert Focus, Desert Fox, Noble Anvil and Allied Force. Significant quantities of Harvest Falcon and Harvest Eagle assets were successfully employed during Operations Allied Force and Noble Anvil to support operational and humanitarian requirements in Kosovo, Albania, Italy, and Northern Turkey. The unparalleled success of the AF Bare Base program in providing critically needed austere basing facilities has resulted in continued demand for the equipment to support MOOTW. This high Operational Tempo (OPTEMPO) utilization continues to take its toll on system assets. As a result, the majority of HF and HE sets currently in the inventory require comprehensive repair or replacement. A majority of the equipment has been used for over

Project 4668 Page 1 of 6 Pages Exhibit R-2 (PE 0208031F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002																																																	
BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0208031F WRM-EQUIPMENT/SECONDARY ITEMS	PROJECT 4668																																																	
<p>(U) <u>A. Mission Description Continued</u> three years, well beyond its original design parameters. Equipment modernization and reconstitution funding thus remains a crucial issue.</p> <p>3. The Air Force Bare Base program has had unparalleled success meeting the demands in support of MOOTW. This has taken its toll on equipment, and as a result the majority of HF and HE equipment has been in use well beyond design parameters and requires comprehensive repair or replacement. In addition, the Expeditionary Air Force concept demands systems that are lighter leaner, more maintainable, and more deployable. Research, Development, Testing, and Evaluation (RDT&E) funds support these modernization and reconstitution requirements.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 5%;">(U)</td> <td style="width: 15%;">\$340</td> <td>Complete EMD for Bare Base Systems Cold Weather Package</td> </tr> <tr> <td>(U)</td> <td>\$830</td> <td>Complete EMD for Deployable Power Generation and Distribution System</td> </tr> <tr> <td>(U)</td> <td>\$202</td> <td>Continue other technical support</td> </tr> <tr> <td>(U)</td> <td>\$1,372</td> <td>Total</td> </tr> </table> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 5%;">(U)</td> <td style="width: 15%;">\$0</td> <td>No Activity</td> </tr> <tr> <td>(U)</td> <td>\$0</td> <td>Total</td> </tr> </table> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 5%;">(U)</td> <td style="width: 15%;">\$0</td> <td>No Activity</td> </tr> <tr> <td>(U)</td> <td>\$0</td> <td>Total</td> </tr> </table> <p>(U) <u>B. Budget Activity Justification</u> This program is in Budget Activity 7 because it supports development of operational HF/HE equipment in modernized configurations which reduce deployment 'footprints', required transport airlift sorties, and increase operational efficiencies.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width: 100%; border: none;"> <thead> <tr> <th style="width: 55%;"></th> <th style="width: 10%; text-align: center;"><u>FY 2001</u></th> <th style="width: 10%; text-align: center;"><u>FY 2002</u></th> <th style="width: 10%; text-align: center;"><u>FY 2003</u></th> <th style="width: 15%; text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: center;">1,475</td> <td style="text-align: center;">0</td> <td></td> <td style="text-align: center;">TBD</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: center;">1,475</td> <td></td> <td></td> <td style="text-align: center;">TBD</td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">a. Congressional/General Reductions</td> <td></td> <td></td> <td></td> <td style="text-align: center;">-9</td> </tr> </tbody> </table>			(U)	\$340	Complete EMD for Bare Base Systems Cold Weather Package	(U)	\$830	Complete EMD for Deployable Power Generation and Distribution System	(U)	\$202	Continue other technical support	(U)	\$1,372	Total	(U)	\$0	No Activity	(U)	\$0	Total	(U)	\$0	No Activity	(U)	\$0	Total		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>	(U) Previous President's Budget	1,475	0		TBD	(U) Appropriated Value	1,475			TBD	(U) Adjustments to Appropriated Value					a. Congressional/General Reductions				-9
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Project 4668	Page 2 of 6 Pages	Exhibit R-2 (PE 0208031F)																																																	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT	
07 - Operational System Development				0208031F WRM-EQUIPMENT/SECONDARY ITEMS				4668	
(U) C. Program Change Summary (\$ in Thousands) Continued									
				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>			<u>Total Cost</u>
	b. Small Business Innovative Research			-47					
	c. Omnibus or Other Above Threshold Reprogram			-25					
	d. Below Threshold Reprogram			-18					
	e. Rescissions			-13					-62
(U)	Adjustments to Budget Years Since FY 2002 PBR								
(U)	Current Budget Submit/FY 2003 PBR			1,372					TBD
(U) Significant Program Changes:									
FY01 funding for Deployable Waste realigned to support higher priorities in the Deployable Power Generation and Distribution System (DPGDS) program (reference Acquisition Strategy for detailed explanation). PM MEP funded DPGDS support in FY00.									
(U) D. Other Program Funding Summary (\$ in Thousands)									
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Total Cost</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	
(U)	AF RDT&E								
(U)	Other APPN								
(U)	Other Procurement, AF, Other Base Maintenance and Support Equipment:WRM-Equipment/ Secondary Items (0208031F) (WSC 845420), P-1: 108	49,671	27,421	26,809	20,148	19,348	20,500	20,700	Continuing
(U) E. Acquisition Strategy									
1. The SPO is evaluating and testing commercial solutions to determine options for militarizing commercially-available products for cold weather systems and waste management systems. In FY00 it completed and extensive Deployable Waste Management Study, which determined the on-site waste treatment equipment and investigation of emerging technologies. Power requirements were analyzed, along with operatilty factors, logistics impacts and cost drivers. Engineering analyses were performed for each candidate technology; specific operational requirements were defined and definitive waste stream data was incorporated. The SPO will also evaluate work performed by Air Force Research Laboratories, which has identified technologies with potential solution to safely, effectively and efficiently incinerate									
Project 4668				Page 3 of 6 Pages				Exhibit R-2 (PE 0208031F)	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002																																																																																																																																																																									
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<p>(U) <u>E. Acquisition Strategy Continued</u> medical and hazardous wastes. This capability may also eliminate other waste materials, such as solid wastes/garbage, and other materials placed in landfills. Transition to the SPO in FY04. Contracts will be competitive, firm fixed price.</p> <p>2. The SPO is also developing the next generation of electrical power generation and distribution equipment to support Harvest Eagle and Harvest Falcon deployable Bare Base encampments and US Army Prime Power Units. This AF-led joint effort with the DOD Program Manager for Mobile Electric Power (PM-MEP) will use state-of-the-art, commercially available equipment and parts support to acheive reduced airlift (38% achieved), reduced fuel consumption (16% achieved) and improved load performance. PM-MEP funded FY00 T&E. Due to new requirements requested by both the Air Force and agreed upon by the Army, FY01 provides funds to complete T&E.</p>																																																																																																																																																																																
<p>(U) <u>F. Schedule Profile</u></p> <table border="0" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:40%;"></th> <th colspan="3" style="text-align:center"><u>FY 2001</u></th> <th colspan="3" style="text-align:center"><u>FY 2002</u></th> <th colspan="3" style="text-align:center"><u>FY 2003</u></th> </tr> <tr> <th></th> <th style="text-align:center">1</th> <th style="text-align:center">2</th> <th style="text-align:center">3</th> <th style="text-align:center">4</th> <th style="text-align:center">1</th> <th style="text-align:center">2</th> <th style="text-align:center">3</th> <th style="text-align:center">4</th> <th style="text-align:center">1</th> <th style="text-align:center">2</th> <th style="text-align:center">3</th> <th style="text-align:center">4</th> </tr> </thead> <tbody> <tr> <td>(U) BARE BASE COLD WEATHER PKG</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) - Release RFP</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) - Contract Award</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) - Conduct Verification Testing</td> <td></td><td></td><td></td><td></td><td></td><td></td><td>*</td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) DEPLOYABLE WASTE MGT SYS</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) -Complete Waste Management Study</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) DEPLOYABLE POWER GENERATION AND DISTRIBUTION SYSTEM (DPGDS)</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) - Complete Implementation of New Requirements</td> <td></td><td></td><td></td><td></td><td></td><td></td><td>*</td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) - Complete OT&E</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td> </tr> <tr> <td>(U) - Milestone III Decision</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td> </tr> <tr> <td>(U) - Award Production Option</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>X</td> </tr> </tbody> </table>												<u>FY 2001</u>			<u>FY 2002</u>			<u>FY 2003</u>				1	2	3	4	1	2	3	4	1	2	3	4	(U) BARE BASE COLD WEATHER PKG													(U) - Release RFP													(U) - Contract Award													(U) - Conduct Verification Testing							*						(U) DEPLOYABLE WASTE MGT SYS													(U) -Complete Waste Management Study													(U) DEPLOYABLE POWER GENERATION AND DISTRIBUTION SYSTEM (DPGDS)													(U) - Complete Implementation of New Requirements							*						(U) - Complete OT&E												X	(U) - Milestone III Decision												X	(U) - Award Production Option												X
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Project 4668				Page 4 of 6 Pages				Exhibit R-2 (PE 0208031F)																																																																																																																																																																								

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
07 - Operational System Development				0208031F WRM-EQUIPMENT/SECONDARY ITEMS				4668			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	Contracts					570		0			
(U)	A&AS Support					540		0			
(U)	Other Government Agencies					50		0			
(U)	Material/Equipment					10		0			
(U)	Other Technical Support					202		0			
(U)	Total					1,372		0			
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Product Development Organizations</u>										
	Bare Base Systems Cold	C/FP	4Qtr/FY00	910	910	0	340	0		Continuing	TBD
	Weather Package										
	Deployable Waste Management System	C/FP	1Qtr/FY01	3,948	3,948	1,466	202	0		Continuing	TBD
	Deployable Power Generation and Distribution System	C/FP	3Qtr/FY98	2,238	2,238	1,690	830	0		Continuing	TBD
	<u>Support and Management Organizations</u>										
	<u>Test and Evaluation Organizations</u>										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)				DATE February 2002		
BUDGET ACTIVITY		PE NUMBER AND TITLE			PROJECT	
07 - Operational System Development		0208031F WRM-EQUIPMENT/SECONDARY ITEMS			4668	
		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
		<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>
						<u>Program</u>
<u>Subtotals</u>						
Subtotal Product Development		3,156	1,372	0		TBD
Subtotal Support and Management						
Subtotal Test and Evaluation						
Total Project		3,156	1,372	0		TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0208060F THEATER MISSILE DEFENSES	PROJECT 4478
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COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4478 Command, Control, Communications, Computers, and Intelligence Enhancements	20,415	0	0	0	0	0	0	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

Theater Missile Defense pre-EMD efforts in PE 28060F transitioning into EMD in PE 27410.

FY03-07 numbers do not reflect the DoD strategy review results.

(U) A. Mission Description

Battle Management, Command, Control, Communications, Computers, and Intelligence (BMC4I) enhancements are needed to reduce timelines required to negate Theater Missiles and Time Critical Targets (TCTs) by increasing interoperability, improving battle management tools, and providing accurate target data via datalinks for Offensive Counterair (Attack Operations) against theater missile and time critical targets. The Combat Air Force (CAF) Concept of Operations (CONOPS) for Command and Control (C2) Against Time Critical Targets and Air Superiority Mission Area Plan (MAP) provide the foundation. The BMC4I program encompasses:

- 1) Dynamic Battle Management (DBM), the CAF vision for providing flexible, centralized C2 throughout conflict spectrum to meet Joint Vision 2010 objectives. Allows the Joint Force Air Component Commander (JFACC) to tailor decentralized execution to best meet the Rule of Engagement (ROE) and span of control requirements enabling prosecution of any theater missile target and TCTs. Effort will identify technical capabilities and migration path required to support DBM environment consisting of wide area connectivity, decision support tools, and shared information.

- 2) Automated Planning Tools / Decision Aids which prototype and demonstrate advanced decision aid capabilities to upgrade the battle management tools and infrastructure to better execute the Theater Missile Defense (TMD) mission. Examples include the integration of the Time Critical Target Aid (TCTA) and Joint Defensive Planner (JDP) into Theater Battle Management Core Systems (TBMCS)/ Global Command and Control System (GCCS) architecture as well as the development and migration of the Attack Operations Decision Aid (AODA) into Theater Air Control System (TACS) platforms.

- 3) Intelligence Preparation Of Battlespace (IPB) which enables the Commander and supporting staff to visualize the full spectrum of adversary capabilities and course of actions (COAs) across all dimensions of the battlespace. Examples include the revision of the methodology for the IPB process as it supports TMD; development

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002
BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0208060F THEATER MISSILE DEFENSES PROJECT 4478	
(U) <u>A. Mission Description Continued</u>		
of an information architecture populated with linked digital products; generation of training material for use in Air Force schoolhouse and field IPB training; and development of a software Automated Assistance with IPB (A2IPB) tool for TBMCS/GCCS to assist the intelligence analyst at a Joint Intelligence Center (JIC), and the Intel/Ops Planner at an Air Operations Center (AOC).		
4) Data Link Connectivity which provides upgrades to existing Air Force platforms to better utilize existing communications systems. These include Joint Tactical Information Dissemination System (JTIDS) TMD Message Set Integration and JTIDS gateways to extend range beyond line of sight and interface with National Technical Means (NTM) to provide attack and early launch reporting to theater.		
(U) <u>FY 2001 (\$ in Thousands)</u>		
(U) \$6,165	Continued to develop Theater Missile Defense/Time Critical Targeting (TMD/TCT) decision aid prototypes for Air Operations Centers (AOCs); Automated Application of Intelligence Preparation of the Battlespace (A2IPB) and Joint Terrain Analysis Toolkit (JTAT). Combine prototype decision aids and IPB tools into an integrated set of applications and demonstrate improved automated procedures and IPB system capabilities in Operational Concept Demonstrations (OCDs), Unified Command, Commander in Chief (CINC) experiments and joint exercises. Develop a TMD/TCT contingency capability that includes IPB and design for future production.	
(U) \$5,292	Completed Attack Operations Decision Aid (AODA) Spiral 2. Continue to develop Joint Target Execution (JTE) and Time Critical Targeting Aid (TCTA) prototypes in relation to Joint Services Workstation (JSWS) development effort. Maintain TCT Testbed to improve integration into operational systems. Evaluate additional programs with TMD/TCT applicability for integration and design activities of future system as described in the TCT Capability Operational Requirements Document (ORD). Develop a TMD/TCT contingency capability that includes distributed, collaborative targeting and design for future production.	
(U) \$1,052	Continued to explore communications improvements and architecture issues that compress Theater Missile engagement timelines and demonstrate in OCDs, CINC experiments and Joint Exercises.	
(U) \$4,487	Conducted BMC4I and Attack Operations Operational Concept Demonstrations	
(U) \$3,419	Conducted Development of prototype Joint Surveillance Target Attack Radar System (JSTARS) Automatic Target Recognition (ATR) hardware and software for multisensor application in the TCTA.	
(U) \$20,415	Total	
(U) <u>FY 2002 (\$ in Thousands)</u>		
(U) \$0	No Activity	
(U) \$0	Total	
Project 4478	Page 2 of 6 Pages	Exhibit R-2 (PE 0208060F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002		
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT		
07 - Operational System Development				0208060F THEATER MISSILE DEFENSES			4478		
(U) <u>A. Mission Description Continued</u>									
(U) <u>FY 2003 (\$ in Thousands)</u>									
(U) \$0 No Activity									
(U) \$0 Total									
(U) <u>B. Budget Activity Justification</u>									
(U) <u>C. Program Change Summary (\$ in Thousands)</u>									
			<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>		<u>Total Cost</u>		
(U) Previous President's Budget									
(U) Appropriated Value									
(U) Adjustments to Appropriated Value									
a. Congressional/General Reductions									
b. Small Business Innovative Research									
c. Omnibus or Other Above Threshold Reprogram									
d. Below Threshold Reprogram									
e. Rescissions									
(U) Adjustments to Budget Years Since FY 2002 PBR									
(U) Current Budget Submit/FY 2003 PBR									
(U) <u>Significant Program Changes:</u>									
- FY2001 budget is inclusive of BMC4I initiatives and Attack Operations. The FY01-05 budget is reduced to reflect the impact due to budget constraints and funding AF higher priorities.									
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u>									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E									
(U) Other APPN									
(U) RDT&E, BMDO PMA									
	4,000	200	200	200	200	200	200		TBD
	F3261, BM/C4I								
Project 4478									
Page 3 of 6 Pages									
Exhibit R-2 (PE 0208060F)									

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE				
							February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT				
07 - Operational System Development				0208060F THEATER MISSILE DEFENSES			4478				
(U) D. Other Program Funding Summary (\$ in Thousands)											
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>		
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>			
Funding provided by the Ballistic Missile Defense Office for BMC4I interoperability evaluations and prototype development.											
(U) E. Acquisition Strategy											
<p>HQ Electronic Systems Center (ESC) provides program management for the concept exploration of C4I enhancements. Prototypes and analysis of improvements to existing C4I assets will complement the Attack Operations effort with combined participation in Operational Concept Demonstrations. These Attack Operations and C4I analyses and demonstrations are specifically targeted against operational deficiencies identified in the TMD Mission Area Plan (MAP), are traceable to the AF and the Joint Requirements Oversight Council (JROC) Mission Need Statement (MNS) and are consistent with the Air Force and Joint TMD Concept of Operations (CONOPS) in accordance with Joint Doctrine. Integration of TMD requirements and fielding of proposed material solutions will continue beyond concept exploration in the appropriate program element for a particular system. Existing contracts will be used for those systems where engineering change proposals are appropriate. Systems Engineering and Technical Analysis (SETA) contracts will be used to support the requirements definition phase of TMD improvements. In those areas where new material solutions are necessary to correct a deficiency, the source selection process will be followed.</p>											
(U) F. Schedule Profile											
				<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>			
				1	2	3	4	1	2	3	4
(U)	Establish BMC4I prototype development plan and schedule. Annual review				X						
(U)	JEFX demonstrations					X					
(U)	Demonstrate automated IPB procedures and system capabilities in Ops Concept					X					
(U)	CINC experiments and Joint Exercises.			X	X						
(U)	Evaluate use of C2 planning/decision aids. Annual Review.					X					
(U)	Continue to explore JTIDS/Link-16 Integration/Improvements. Annual Rev					X					
	* - Completed										
	X- Planned Start Date										
Project 4478			Page 4 of 6 Pages			Exhibit R-2 (PE 0208060F)					

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
07 - Operational System Development				0208060F THEATER MISSILE DEFENSES				4478			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	Dynamic Battle Management (DBM)						6,165				
(U)	Intelligence Preparation of the Battlespace						5,292				
(U)	Automated Decision Aids/Planning Tools						1,052				
(U)	JTIDS/Link-16 Integration & Beyond LOS Capability						4,487				
(U)	Operations Concept Demonstrations and CINC Exercises						3,419				
(U)	Joint STARS ATC/ATR Demonstration						20,415				
(U)	Total										
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
	<u>Product Development Organizations</u>										
	TRW (AODA)	CPFF	Oct 97	N/A	N/A	2,879	2,000			Continuing	TBD
	Boeing (DBM)	T&M	Dec 97	N/A	N/A	2,339	0				2,339
	Northrop Grumman (DBM)	T&M	Dec 97	N/A	N/A	2,415	0				2,415
	Zel Technologies (A2IPB)	T&M	May 96	N/A	N/A	3,160	2,932			Continuing	TBD
	Sparta (Intel Data Base)	T&M	May 96	N/A	N/A	1,534	1,100			Continuing	TBD
	Raytheon (JRE)	T&M	Oct 97	N/A	N/A	2,119	325			Continuing	TBD
	Motorola (TCTA)	T&M	Mar 96	N/A	N/A	1,945	3,259			Continuing	TBD
	Army TEC (Area Lim)	MIPR	June 99	N/A	N/A		1,635				1,635
	Lockheed Martin EFX	TBD	Nov 99	N/A	N/A					Continuing	TBD
	(Analyses)										
	Sandia National Labs	MIPR	Oct 99	N/A	N/A		1,125			Continuing	TBD
Project 4478											
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Exhibit R-3 (PE 0208060F)											

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)						DATE February 2002	
BUDGET ACTIVITY			PE NUMBER AND TITLE			PROJECT	
07 - Operational System Development			0208060F THEATER MISSILE DEFENSES			4478	
(U) <u>Performing Organizations Continued:</u>							
<u>Support and Management Organizations</u>							
FFRDC	N/A	N/A	2,500	985		Continuing	TBD
Non-FFRDC (ESC)	N/A	N/A	1,031	650		Continuing	TBD
Non-FFRDC (AC2ISRC)	N/A	N/A	540	525		Continuing	TBD
Non-FFRDC (AF/XORT)	N/A	N/A	500	941		Continuing	TBD
<u>Test and Evaluation Organizations</u>							
C2TIG/AFTED			182	4,938		Continuing	TBD
			<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
<u>Subtotals</u>			<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>
Subtotal Product Development			16,391	12,376			TBD
Subtotal Support and Management			4,571	3,101			TBD
Subtotal Test and Evaluation			182	4,938			TBD
Total Project			21,144	20,415			TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002			
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0208889F COUNTERDRUG USSOUTHCOM SUPPORT 5002				PROJECT			
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost	
5002	Counter Drug Demonstration	18,000	0	0	0	0	0	0	18,000	18,000	
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	
<p>This event was originally scheduled to take place in 2QFY 02. Due to the ongoing Global Hawk support of OPERATION ENDURING FREEDOM there are insufficient resources to support conducting the demo at this time. OEF, followed by the impending summer-fall hurricane season in the SOUTHCOM AOR, has necessitated slipping this event to 1QFY03.</p> <p>(U) <u>A. Mission Description</u> The Global Hawk High Altitude Endurance (HAE) UAV program consists of the Global Hawk aircraft, the ground station and its support system. Global Hawk provides continuous, all-weather, day/night, wide area surveillance and reconnaissance and includes the communications and interfaces with other theater systems required to support joint tactical warfighters at various levels of command. The Global Hawk system is an autonomous aircraft that is directly responsive to theater tasking.</p> <p>The FY01 Authorizations Conference directed Global Hawk to demonstrate an airborne surveillance mode, using non-developmental technology, in a counter-drug surveillance scenario in the SOUTHCOM AOR.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$18,000 Conduct demonstration of Global Hawk, using an airborne surveillance mode, during a counter-drug surveillance mission in the SOUTHCOM AOR. (U) \$18,000 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p>											
Project 5002				Page 1 of 4 Pages				Exhibit R-2 (PE 0208889F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002																																																																																																																							
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0208889F COUNTERDRUG USSOUTHCOM SUPPORT 5002			PROJECT																																																																																																																							
<p>(U) <u>B. Budget Activity Justification</u> This demonstration is Budget Activity 7, Operational Systems Development, because it involves Air Force R&D to field a viable system and develop additional operational capabilities.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:60%;"></th> <th style="text-align: right;"><u>FY 2001</u></th> <th style="text-align: right;"><u>FY 2002</u></th> <th style="text-align: right;"><u>FY 2003</u></th> <th style="text-align: right;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: right;">0</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: right;">18,000</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">a. Congressional/General Reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">b. Small Business Innovative Research</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">d. Below Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">e. Rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2002 PBR</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY 2003 PBR</td> <td style="text-align: right;">18,000</td> <td></td> <td></td> <td style="text-align: right;">18,000</td> </tr> <tr> <td colspan="5">(U) <u>Significant Program Changes:</u> Funding added during FY01 Authorizations Conference.</td> </tr> </tbody> </table> <p>(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;"></th> <th style="text-align: right;"><u>FY 2001</u></th> <th style="text-align: right;"><u>FY 2002</u></th> <th style="text-align: right;"><u>FY 2003</u></th> <th style="text-align: right;"><u>FY 2004</u></th> <th style="text-align: right;"><u>FY 2005</u></th> <th style="text-align: right;"><u>FY 2006</u></th> <th style="text-align: right;"><u>FY 2007</u></th> <th style="text-align: right;"><u>Cost to</u></th> <th style="text-align: right;"><u>Total Cost</u></th> </tr> <tr> <td></td> <th style="text-align: right;"><u>Actual</u></th> <th style="text-align: right;"><u>Estimate</u></th> <th style="text-align: right;"><u>Complete</u></th> <td></td> </tr> </thead> <tbody> <tr> <td>(U) AF RDT&E</td> <td style="text-align: right;">18,000</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Other APPN</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="10">(U) There are no other appropriations in this Program Element.</td> </tr> </tbody> </table> <p>(U) <u>E. Acquisition Strategy</u> This effort does not involve actual acquisition of articles. Global Hawk acquisition strategy is delineated in PE 35205F.</p> <p>(U) <u>F. Schedule Profile</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:60%;"></th> <th style="text-align: right;"><u>FY 2001</u></th> <th style="text-align: right;"><u>FY 2002</u></th> <th style="text-align: right;"><u>FY 2003</u></th> </tr> </thead> <tbody> <tr> <td>Project 5002</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>										<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>	(U) Previous President's Budget	0				(U) Appropriated Value	18,000				(U) Adjustments to Appropriated Value					a. Congressional/General Reductions					b. Small Business Innovative Research					c. Omnibus or Other Above Threshold Reprogram					d. Below Threshold Reprogram					e. Rescissions					(U) Adjustments to Budget Years Since FY 2002 PBR					(U) Current Budget Submit/FY 2003 PBR	18,000			18,000	(U) <u>Significant Program Changes:</u> Funding added during FY01 Authorizations Conference.						<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>		(U) AF RDT&E	18,000									(U) Other APPN										(U) There are no other appropriations in this Program Element.											<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	Project 5002			
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<p>(U) <u>F. Schedule Profile Continued</u></p> <table style="width:100%; border: none;"> <thead> <tr> <th style="width: 35%;"></th> <th colspan="4" style="text-align: center;"><u>FY 2001</u></th> <th colspan="4" style="text-align: center;"><u>FY 2002</u></th> <th colspan="3" style="text-align: center;"><u>FY 2003</u></th> </tr> <tr> <td></td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> </tr> </thead> <tbody> <tr> <td>(U) SOUTHCOM Demonstration</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;">X</td><td></td><td></td><td></td> </tr> <tr> <td>X - denotes planned event</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>											<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>				1	2	3	4	1	2	3	4	1	2	3	4	(U) SOUTHCOM Demonstration									X				X - denotes planned event												
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Project 5002			Page 3 of 4 Pages				Exhibit R-2 (PE 0208889F)																																																					

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)						DATE February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0208889F COUNTERDRUG USSOUTHCOM SUPPORT 5002						
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>		
(U) Counter-drug demonstration in SOUTHCOM						18,000	0	0		
(U) Total						18,000	0	0		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
<u>Support and Management Organizations</u>										
ASC/RAV	N/A	N/A	N/A	N/A	0	18,000	0	0	0	18,000
<u>Test and Evaluation Organizations</u>										
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development										
Subtotal Support and Management					0	18,000	0	0	0	18,000
Subtotal Test and Evaluation										
Total Project					0	18,000	0	0	0	18,000

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0302015F E-4B NATIONAL AIRBORNE OPERATIONS CENTER				PROJECT 4777		
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4777	E-4B Aircraft Modernization	27,275	23,126	47,867	64,094	38,534	24,246	296	Continuing	TBD
Quantity of RDT&E Articles		0	0	0	0	0	0	0	0	0
<p>Quantity of RDT&E Articles includes prototype procurements for E-4B Update Program Block 5A and Block 5B items (formerly known as the E-4B Modernization Program) as well as prototype procurements of GATM Phase II and GATM Phase III and Senior Leaders Communication System (SLCS). In FY02, \$20M was provided to the 'National Airborne Command Post' under the general category of Improved Command and Control. The E-4B weapon system (PE: 0302015F) received \$18.2M of these funds; \$7.2M R&D [GATM (\$1.2M) and SLCS (\$6.0M)], \$3.0M AP,AF for Defense Messaging System upgrades; and \$8.0M O&M (for depot work). The remaining \$1.8M was provided to the NAOC Ground Command Communications Network (PE: 0302052F). All the E-4B related DERF funds were spent in support of operation HOMELAND DEFENSE. This funding is not reflected in the FY02 program total.</p> <p>(U) <u>A. Mission Description</u></p> <p>This program encompasses modernization of National Airborne Operational Center (NAOC) essential infrastructure, mission equipment, battlestaff and conferencing facilities reconfiguration and interior noise reduction, as well as mandated Global Access, Navigation, and Safety/Global Air Traffic Management (GANS/GATM) modifications to the E-4B aircraft. The Senior Leaders Communication System (SLCS) will provide the capability for Direct Broadcast Service, Global Broadcast System, full motion point-to-point video; video teleconferencing capability, access to Defense Information System Network and Public Switch Network for voice, video and data. The NAOC supports the National Command Authority (NCA) and Joint Chiefs of Staff with a worldwide, survivable and enduring node of the National Military Command System (NMCS) for the exercise of their national security responsibilities throughout the full spectrum of conflict. These modifications funded by this project are vital in order to maintain mission effectiveness and efficiency. The upgrades: 1) replace the increasingly hard-to-support 1960s era communications and computer equipment (telecommunications switch, multiplexor, messaging systems, etc) on the aircraft with modern, reliable, digital systems that will be supportable for the planned life of the platform; 2) make the commander's console and battle staff workstations compatible with Global Command and Control System (GCCS) architecture and software; 3) provide sound dampening to eliminate the severe ambient noise problems that prevent normal communications in the briefing room, conference room, and battle staff area without using intercom headsets; and 4) provide GANS/GATM equipment, integration and testing. Commencing FY02, conduct engineering and cost trade studies pertaining to the implementation of worldwide coverage of high bandwidth data streaming capabilities to/from the E-4B aircraft. The warfighter's need date for an improved E-4B system requires that Block 5A begin in FY03. The Block 5A modification meets the user's most immediate sustainment and capability needs with an IOC of 3QFY04. The SLCS requirement will provide the NCA broadband information to perform their duties as</p>										
Project 4777		Page 1 of 7 Pages					Exhibit R-2 (PE 0302015F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002																										
BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0302015F E-4B NATIONAL AIRBORNE OPERATIONS CENTER																											
PROJECT 4777																												
<p>(U) <u>A. Mission Description Continued</u> if they were in their home office.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <p>(U) \$26,016 Block 5A and GATM Development</p> <p>(U) \$1,259 System Engineering and Program Management Support</p> <p>(U) \$27,275 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$3,862 Purchase GATM II Prototype Kit</p> <p>(U) \$17,964 System Engineering (Block 5A/GATM II)</p> <p>(U) \$1,300 System Engineering and Program Management Support</p> <p>(U) \$23,126 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$18,280 Blk 5A System Engineering, prototype kit and install</p> <p>(U) \$5,806 Blk 5B System Engineering</p> <p>(U) \$5,781 GATM II Prototype Install</p> <p>(U) \$18,000 SLCS System Engineering, prototype kit and install</p> <p>(U) \$47,867 Total</p> <p>(U) <u>B. Budget Activity Justification</u> This program is in budget activity 7 - Operational System Development, Research Category 6.6 because the program is developing modifications for current operations systems.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;"></th> <th style="text-align: right;"><u>FY 2001</u></th> <th style="text-align: right;"><u>FY 2002</u></th> <th style="text-align: right;"><u>FY 2003</u></th> <th style="text-align: right;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: right;">34,410</td> <td style="text-align: right;">23,359</td> <td style="text-align: right;">9,078</td> <td style="text-align: right;">TBD</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: right;">34,410</td> <td style="text-align: right;">23,359</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">a. Congressional/General Reductions</td> <td style="text-align: right;">-316</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Project 4777</p>					<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>	(U) Previous President's Budget	34,410	23,359	9,078	TBD	(U) Appropriated Value	34,410	23,359			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions	-316			
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>																								
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0302015F E-4B NATIONAL AIRBORNE OPERATIONS CENTER			PROJECT 4777		
(U) C. Program Change Summary (\$ in Thousands) Continued									
				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>		<u>Total Cost</u>	
	b. Small Business Innovative Research			-1,054					
	c. Omnibus or Other Above Threshold Reprogram								
	d. Below Threshold Reprogram			-5,765					
	e. Rescissions			0	-233				
(U)	Adjustments to Budget Years Since FY 2002 PBR			0		38,789			
(U)	Current Budget Submit/FY 2003 PBR			27,275	23,126	47,867		TBD	
(U)	<u>Significant Program Changes:</u>								
(U) D. Other Program Funding Summary (\$ in Thousands)									
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Total Cost</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	
(U)	AF RDT&E								
(U)	Other APPN								
(U)	Aircraft Procurement AF, Budget Activity 5, Weapon System Code E00400, PE 0302015F; Mod 4381 (Blk 5A);4381B (Blk 5B); Mod 9709 (GATM Phase II); 9709D (GATM Phase III); and 4387(SLCS)	0	0	27,246	71,322	24,974	80,841	72,180	296,388
(U) E. Acquisition Strategy									
GATM Modifications will be developed under the Engineering Support Services Contract (ESS) as a Cost Plus Award Fee (CPAF) effort. Prototype and kitproof will also be installed under the ESS contract. Procurement and installation of the production kits will be performed under the E-4B Contractor Logistics Support (CLS) contract as a Firm Fixed Price (FFP) effort. E-4B NAOC Block 5 development will be under the ESS Contract as a CPAF effort. Block 5 prototype install will be accomplished under the CLS contract. Production kit (including Kitproof) procurement and installs will be done under the CLS contract. SLCS will be developed									
Project 4777			Page 3 of 7 Pages			Exhibit R-2 (PE 0302015F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2002																																																																																																																																																																																																																																																																																																																																						
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<p>(U) <u>E. Acquisition Strategy Continued</u> with prototype and kitproof installtion accomplished under the ESS contract. Production kit procurement and installation will be done on the CLS contract.</p> <p>(U) <u>F. Schedule Profile</u></p> <table border="0"> <thead> <tr> <th></th> <th colspan="4"><u>FY 2001</u></th> <th colspan="4"><u>FY 2002</u></th> <th colspan="4"><u>FY 2003</u></th> </tr> <tr> <th></th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <td>(U) Complete Engineering Trade Studies (Blk 5) 4QFY99</td> <td></td> </tr> <tr> <td>(U) Start Study and Preliminary Design (GATM II)</td> <td>*</td> <td></td> </tr> <tr> <td>(U) Complete Study and Preliminary Design (GATM II)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Start Systems Engineering (Blk 5A) 1QFY00</td> <td></td> </tr> <tr> <td>(U) Start Systems Engineering (GATM II)</td> <td></td> <td></td> <td></td> <td></td> <td>*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Complete System Engineering (GATM II)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Complete Systems Engineering (Blk 5A)</td> <td></td> <td>X</td> </tr> <tr> <td>(U) Purchase Prototype Hardware (GATM II)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Purchase Prototype Hardware (Blk 5A)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Start Prototype Install (GATM II)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Complete Prototype Install (GATM II)</td> <td></td> <td>X</td> </tr> <tr> <td>(U) Start Prototype Install (Blk 5A)</td> <td></td> <td>X</td> </tr> <tr> <td>(U) Complete Prototype Install (Blk 5A) 3QFY04</td> <td></td> <td>X</td> </tr> <tr> <td>(U) IOC (GATM II)</td> <td></td> <td>X</td> </tr> <tr> <td>(U) IOC (Blk 5A) 3QFY04</td> <td></td> </tr> <tr> <td>(U) Purchase Blk 5B Prototype Hardware 2QFY05</td> <td></td> </tr> <tr> <td>(U) Start Prototype Blk 5B Installation 2QFY06</td> <td></td> </tr> <tr> <td>(U) Complete Prototype Blk 5B Install 2QFY07</td> <td></td> </tr> <tr> <td>(U) Purchase GATM Phase III Prototype Hardware 2QFY05</td> <td></td> </tr> <tr> <td>(U) Start GATM Phase III Prototype Installation 2QFY06</td> <td></td> </tr> <tr> <td>(U) IOC GATM Phase III 2QFY07</td> <td></td> </tr> <tr> <td>(U) IOC Blk 5B 2QFY07</td> <td></td> </tr> <tr> <td>(U) SLCS Antenna Study</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td>X</td> <td></td> </tr> </tbody> </table>													<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>					1	2	3	4	1	2	3	4	1	2	3	4	(U) Complete Engineering Trade Studies (Blk 5) 4QFY99													(U) Start Study and Preliminary Design (GATM II)	*												(U) Complete Study and Preliminary Design (GATM II)						X							(U) Start Systems Engineering (Blk 5A) 1QFY00													(U) Start Systems Engineering (GATM II)					*								(U) Complete System Engineering (GATM II)									X				(U) Complete Systems Engineering (Blk 5A)												X	(U) Purchase Prototype Hardware (GATM II)						X							(U) Purchase Prototype Hardware (Blk 5A)									X				(U) Start Prototype Install (GATM II)									X				(U) Complete Prototype Install (GATM II)												X	(U) Start Prototype Install (Blk 5A)												X	(U) Complete Prototype Install (Blk 5A) 3QFY04												X	(U) IOC (GATM II)												X	(U) IOC (Blk 5A) 3QFY04													(U) Purchase Blk 5B Prototype Hardware 2QFY05													(U) Start Prototype Blk 5B Installation 2QFY06													(U) Complete Prototype Blk 5B Install 2QFY07													(U) Purchase GATM Phase III Prototype Hardware 2QFY05													(U) Start GATM Phase III Prototype Installation 2QFY06													(U) IOC GATM Phase III 2QFY07													(U) IOC Blk 5B 2QFY07													(U) SLCS Antenna Study									X		X	
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
07 - Operational System Development					0302015F E-4B NATIONAL AIRBORNE OPERATIONS CENTER			4777		
(U) A. Project Cost Breakdown (\$ in Thousands)										
					<u>FY 2001</u>		<u>FY 2002</u>			<u>FY 2003</u>
(U)	System Engineering				26,016		17,964			22,586
(U)	Purchase GATM II Prototype Kit						3,862			
(U)	GATM II Prototype Install									5,781
(U)	SLCS System Engineering, Prototype and Install									18,000
(U)	Contractor System Engineering/ Program Management Support				1,259		1,300			1,500
(U)	Total				27,275		23,126			47,867
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government Performing Activity</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>										
Boeing	CPAF/T&M	Feb 97	TBD	TBD		26,016	21,704	46,450	Continuing	TBD
<u>Support and Management Organizations</u>										
TRW	T & M	Oct 98	N/A	N/A	0	1,009	1,000	1,000	Continuing	TBD
DISA	MIPR	Various	TBD	TBD	0	250	250	250	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
605 FT	Project Order	N/A	TBD	TBD	0	0	172	167	Continuing	TBD
(U) Government Furnished Property:										
<u>Item Description</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Delivery Date</u>		<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
Project 4777										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)				DATE					
BUDGET ACTIVITY				PROJECT					
07 - Operational System Development				0302015F E-4B NATIONAL AIRBORNE OPERATIONS CENTER					
				4777					
(U) Government Furnished Property Continued:									
<u>Item</u>	<u>Contract</u>	<u>Award or</u>		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Method/Type</u>	<u>Obligation</u>	<u>Delivery</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
	<u>or Funding</u>	<u>Date</u>	<u>Date</u>						
<u>Vehicle</u>									
<u>Product Development Property</u>									
None									
<u>Support and Management Property</u>									
None									
<u>Test and Evaluation Property</u>									
None									
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>				<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					26,016	21,704	46,450	TBD	TBD
Subtotal Support and Management				0	1,259	1,250	1,250	TBD	TBD
Subtotal Test and Evaluation				0	0	172	167	TBD	TBD
Total Project				0	27,275	23,126	47,867	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0303110F Defense Satellite Communications System				PROJECT 2638	
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
2638 Defense Satellite Communications Sys	6,799	3,856	2,046	0	0	0	0	0	621,896
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0
<p>(U) <u>A. Mission Description</u> Defense Satellite Communications System (DSCS) is the backbone of the Government's satellite communications system, providing both secure voice and high data rate transmissions in the Super High Frequency band. DSCS provides unique and vital national security communications for global command and control, crisis management, intelligence and early warning data relay, treaty monitoring and surveillance information, and diplomatic traffic. The communications relayed through DSCS support the National Command Authorities, Defense Information System Network, Diplomatic Telecommunications Service, White House Communications Agency, Air Force Satellite Control Network, and ground mobile forces of all services.</p> <p>The DSCS Service Life Enhancement Program (SLEP) includes additional modifications that increase the last four satellites capacity to tactical users by more than 200%, and implements the DoD Space Architect's recommendation.</p> <p>The last two DSCS III satellites will launch on the Evolved Expendable Launch Vehicle (EELV) and will require DSCS launch vehicle interface modifications and additional launch loads analyses.</p>									
<p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <p>(U) \$1,290 System Program Office Operations - Provided Contractor Support - Provided Mission Support</p> <p>(U) \$315 Basic DSCS Program - Conducted programmatic tradeoffs and analyses</p> <p>(U) \$5,194 Continued DSCS/EELV integration development, transitioning the last two satellites to EELV</p> <p>(U) \$6,799 Total</p>									
Project 2638			Page 1 of 5 Pages				Exhibit R-2 (PE 0303110F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002		
BUDGET ACTIVITY		PE NUMBER AND TITLE		PROJECT
07 - Operational System Development		0303110F Defense Satellite Communications System		2638
(U) <u>A. Mission Description Continued</u>				
(U) <u>FY 2002 (\$ in Thousands)</u>				
(U)	\$1,148	System Program Office Operations		
		- Provided Contractor Support		
		- Provided Mission Support		
(U)	\$265	Basic DSCS Program		
		- Conducted programmatic tradeoffs and analyses		
(U)	\$2,443	-Continued DSCS/EELV Integration development, transitioning the last two satellites to EELV		
(U)	\$3,856	Total		
(U) <u>FY 2003 (\$ in Thousands)</u>				
(U)	\$1,168	System Program Office Operations		
		- Provide Contractor Support		
		- Provide Mission Support		
(U)	\$200	Basic DSCS Program		
		- Conduct programmatic tradeoff and analyses		
(U)	\$678	- Continue DSCS/EELV integration development, transitioning the last satellite to EELV		
(U)	\$2,046	Total		
(U) <u>B. Budget Activity Justification</u>				
This program is in Budget Activity 7, Operational System Development, since DSCS is a fully operational satellite constellation with replenishment satellites awaiting launch, and associated support systems.				
(U) <u>C. Program Change Summary (\$ in Thousands)</u>				
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>
(U)	Previous President's Budget	7,261	3,895	2,051
(U)	Appropriated Value	7,328	3,895	624,878
(U)	Adjustments to Appropriated Value			
	a. Congressional/General Reductions	-51		
	b. Small Business Innovative Research			
	c. Omnibus or Other Above Threshold Reprogram			
Project 2638		Page 2 of 5 Pages	Exhibit R-2 (PE 0303110F)	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE				
							February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT				
07 - Operational System Development				0303110F Defense Satellite Communications System			2638				
(U) C. Program Change Summary (\$ in Thousands) Continued											
				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>		<u>Total Cost</u>			
	d. Below Threshold Reprogram			-462							
	e. Rescissions			-16							
(U)	Adjustments to Budget Years Since FY 2002 PBR				-39	-5					
(U)	Current Budget Submit/FY 2003 PBR			6,799	3,856	2,046		621,896			
(U)	<u>Significant Program Changes:</u>										
	None.										
(U) D. Other Program Funding Summary (\$ in Thousands)											
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Total Cost</u>		
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>			
								<u>Cost to Complete</u>			
(U)	AF RDT&E										
(U)	PE 0603854F, BPAC 644870, CCS-C, BA-04, Line R-49		9,547	17,060	18,013	41,208	20,621	14,845	0	121,294	
(U)	Other APPN										
(U)	OPAF, PE 0303600F, CCS-C		0		5,597	8,357	2,204	0	0	16,158	
(U)	MPAF, PE 0303110F, DSCS, BA-05, Line P-026		24,962	26,763	20,669	12,956	4,432	0	0	1,581,999	
(U) E. Acquisition Strategy											
All satellites have been acquired and two satellites remain to be launched. Enhancements to satellites not launched accomplished through sole source contract awards.											
(U) F. Schedule Profile											
				<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>			
				1	2	3	4	1	2	3	4
(U)	Launch DSCS B11/IABS 8			*							
(U)	Launch DSCS B6/IABS 7								X		
(U)	Launch DSCS A3/IABS 10										X
(U)	EELV Integration Completion (May 03)										X
	* = completed event; x = planned event										
Project 2638				Page 3 of 5 Pages				Exhibit R-2 (PE 0303110F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
07 - Operational System Development				0303110F Defense Satellite Communications System				2638			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	System Program Office Operations					1,290		1,148		1,168	
(U)	Basic DSCS Program					315		265		200	
(U)	Evolved Expendable Launch Vehicle Integration					5,194		2,443		678	
(U)	Total					6,799		3,856		2,046	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Performing Activity</u>	<u>or Funding Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>											
	Lockheed Martin	CPAF/AF	Oct 84/Mar 96	434,629	434,629	434,629				0	434,629
	Miscellaneous	CPAF	Various	N/A	N/A	141,888	5,509	2,708	878	0	150,983
<u>Support and Management Organizations</u>											
	Aerospace Corp	PO	Various	N/A	N/A	12,900				0	12,900
	Miscellaneous	Various	Various	N/A	N/A	19,778	1,290	1,148	1,168	0	23,384
<u>Test and Evaluation Organizations</u>											
None											
(U) Government Furnished Property:											
	<u>Item Description</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Delivery Date</u>		<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Product Development Property</u>	<u>or Funding Vehicle</u>	<u>Date</u>	<u>Date</u>							
None											
Project 2638				Page 4 of 5 Pages				Exhibit R-3 (PE 0303110F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)		DATE February 2002				
BUDGET ACTIVITY	PE NUMBER AND TITLE				PROJECT	
07 - Operational System Development	0303110F Defense Satellite Communications System				2638	
(U) <u>Government Furnished Property Continued:</u>						
<u>Support and Management Property</u>						
None						
<u>Test and Evaluation Property</u>						
None						
	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development	576,517	5,509	2,708	878	0	585,612
Subtotal Support and Management	32,678	1,290	1,148	1,168	0	36,284
Subtotal Test and Evaluation						
Total Project	609,195	6,799	3,856	2,046	0	621,896
Project 2638						
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0303112F AIR FORCE COMMUNICATIONS	PROJECT 4884
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COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4884 Public Key Infrastructure Implementation	10,871	31,274	0	0	0	0	0	0	42,145
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

(U) A. Mission Description

PUBLIC KEY INFRASTRUCTURE (PKI):

PKI encompasses the techniques and standards used to manage certificates and public and private keys in order to authenticate the validity of each party involved in an electronic transaction. Department of Defense (DoD) PKI was mandated by the Deputy Secretary of Defense on 8 Aug 97 and the Services were further directed to use the capabilities in a 6 May 99 memo. PKI supports the overall Defense-in-Depth strategy for information assurance capabilities -- user identification, non-repudiation, digital signatures and encryption for government electronic business and network transactions -- protecting/securing all network information.

Funds will be used to support initial implementation and integration of PKI user smart card , public key directory storage of the PKI certificates, PKI registration for both users and servers, and initial training on NIPRNET and SIPRNET. In particular, the RDT&E funds will be applied to the Smart Card/Common Access Card (CAC) to integrate and test with the current Defense Enrollment Reporting System (DEERS)/Real-Time Automated Personnel Identification Systems (RAPIDS) ID and registration system. Additionally, the funds will be used to prototype and test replicating the DoD Public Key directory to each Air Force base-level directory structure. Furthermore, the funds will be used to perform technology integration and testing of new hardware CAC token into the user desktop environment. Finally, a small amount of funds were allotted to the AF SPO for program support activities.

(U) FY 2001 (\$ in Thousands)

- (U) \$6,754** Provided prototyping support for Interface/Integration of registration Common Access Card tokens, peripheral readers with Air Force-wide computer and communication architectures
- (U) \$3,559** Provided testing support of Public Key Infrastructure Certificate Directories and other infrastructure components
- (U) \$558** Provided program and management control (SPO activities)
- (U) \$10,871** Total

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002		
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT		
07 - Operational System Development	0303112F AIR FORCE COMMUNICATIONS	4884		
(U) <u>A. Mission Description Continued</u>				
(U) <u>FY 2002 (\$ in Thousands)</u>				
(U) \$29,397	Initial implementation of Class 3 Public Key Infrastructure which includes the initial implementation of registration activities (estimated target of 700,000 certificates to users) and the initial rollout of Common Access Cards to AF users; support of initial reader and middleware implementation at bases that will be issued the Common Access Card; initial support of Public Key Infrastructure use of AF Directory Services for certificate status checking; evaluation of new technologies that will support increased use of PKI Class 3 and Target Class 4 on the NIPRNET and SIPRNET			
(U) \$864	Testing support of Public Key Infrastructure Certificate Directories and other infrastructure components			
(U) \$1,013	Program and management control (SPO activities)			
(U) \$31,274	Total			
(U) <u>FY 2003 (\$ in Thousands)</u>				
(U) \$0	No Activity			
(U) \$0	Total			
(U) <u>B. Budget Activity Justification</u>				
This is a budget activity 7, Operational System Development because it supports Air Force requirements to prototype, integrate, and test Public Key Infrastructure components including registration and usage hardware/software/middle-ware, Common Access Cards, and directories on Air Force computer systems and networks.				
(U) <u>C. Program Change Summary (\$ in Thousands)</u>				
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>
(U) Previous President's Budget	11,478	31,828	0	
(U) Appropriated Value	11,478	31,828		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions		-554		
b. Small Business Innovative Research	-500			
c. Omnibus or Other Above Threshold Reprogram				
d. Below Threshold Reprogram	-2			
e. Rescissions	-105			
(U) Adjustments to Budget Years Since FY 2002 PBR				
Project 4884	Page 2 of 4 Pages	Exhibit R-2 (PE 0303112F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT				
07 - Operational System Development				0303112F AIR FORCE COMMUNICATIONS			4884				
(U) C. Program Change Summary (\$ in Thousands) Continued											
				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>				
(U) Current Budget Submit/FY 2003 PBR				10,871	31,274	0	42,145				
(U) <u>Significant Program Changes:</u>											
(U) D. Other Program Funding Summary (\$ in Thousands)											
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>	
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>		
(U) AF RDT&E											
(U) Other APPN											
(U) E. Acquisition Strategy											
Electronic Systems Center (ESC) Information Assurance Product Area Directorate (PAD) manages the AF PKI Program. All major contractors within this program element have been awarded contracts after full and open competition or through existing government contracting vehicles. Contracts are executed via GSA, Standard AF contract (through the Standard Systems Group, AL), and Information Technology Services Program (ITSP) to support engineering effort and equipment for the integration of Common Access Card tokens and prototyping of AF base level directories; and initial PKI Class 3 and Target Class 4 certificate issuance, registration, and infrastructure.											
(U) F. Schedule Profile											
				<u>FY 2001</u>		<u>FY 2002</u>			<u>FY 2003</u>		
				1	2	3	4	1	2	3	4
(U) Prototyping support for PKI Interface/Integration of Tokens						*				X	
(U) Testing support of Public Key Infrastructure Certificate Directories				*				*			
(U) Initial Registration Infrastructure							*			X	
X denotes planned event											
Project 4884				Page 3 of 4 Pages				Exhibit R-2 (PE 0303112F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2002		
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0303112F AIR FORCE COMMUNICATIONS				4884		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	Prototyping support for Interface/Integration of registration Common Access Card tokens, peripheral readers with Air Force-wide computer and communication architectures					6,754		29,397		0
(U)	Testing support of PKI Certificate Directories and other infrastructure components					3,559		864		0
(U)	Program and management control (SPO activities)					558		1,013		0
(U)	Total					10,871		31,274		0
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
	Prototyping Support	PR	Dec 00	TBD	TBD	6,754	29,397			36,151
<u>Support and Management Organizations</u>										
	ESC/DIW SPO Activities	PR	Dec 00	TBD	TBD	558	864			1,422
<u>Test and Evaluation Organizations</u>										
	Test Support	PR	Dec 00	TBD	TBD	0	3,559	1,013		4,572
<u>Subtotals</u>					<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	Subtotal Product Development					6,754	29,397			36,151
	Subtotal Support and Management					558	864			1,422
	Subtotal Test and Evaluation					0	3,559	1,013		4,572
	Total Project					0	10,871	31,274		42,145

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0303131F Minimum Essential Emergency Communications Network (MEECN)					
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	19,153	5,923	2,423	2,011	49,638	40,604	38,586	Continuing	TBD
2832 VLF/LF System Improvements	2,515	1,413	1,156	1,431	1,468	1,495	1,527	Continuing	TBD
4521 DIRECT	1,146	4,129	877	290	290	306	311	Continuing	TBD
4610 Minuteman MEECN Program (MMP)	15,492	381	390	290	5,942	20,989	31,811	Continuing	TBD
5047 Ground Element MEECN System (GEMS)	0	0	0	0	41,938	17,814	4,937	Continuing	TBD
Quantity of RDT&E Articles	4	0	0	0	0	0	0	0	0

In FY 2003, Project 4610 was renamed to Minuteman MEECN Program (MMP) (formerly MEECN EHF) in order to better depict on-going efforts. This action did not change program content .

(U) **A. Mission Description**
 Minimum Essential Emergency Communications Network (MEECN) systems provide assured communications connectivity between the National Command Authorities (NCA) and the strategic deterrent forces.
 Currently these systems include:
 - Very Low Frequency/Low Frequency (VLF/LF) System Improvement, the Modified Miniature Receive Terminal (MMRT), that provides High Data Rate (HIDAR) capability for E-4B and E-6B aircraft,
 - Defense Improved Emergency Message Automated Transmission System (IEMATS) Replacement Command and Control Terminals (DIRECT),
 - Minuteman MEECN Program (MMP) - is the combination of Minuteman ICBM Launch Control Center (LCC) VLF/LF upgrade efforts with Minuteman ICBM Extremely High Frequency (EHF) band communications capability efforts.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002			
BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0303131F Minimum Essential Emergency Communications Network (MEECN)				
(U) <u>A. Mission Description Continued</u> Future capability will include Advanced EHF (AEHF) on MMP and Ground Element MEECN Systems (GEMS) which is AEHF at fixed-sites and mobile units.					
(U) <u>B. Budget Activity Justification</u> This program is in Budget Activity 07 - Operational System Development, because it supports work on currently fielded operating weapon systems.					
(U) <u>C. Program Change Summary (\$ in Thousands)</u>					
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>
(U)	Previous President's Budget	15,161	5,982	2,432	TBD
(U)	Appropriated Value	15,302	5,923		
(U)	Adjustments to Appropriated Value				
	a. Congressional/General Reductions	-107			
	b. Small Business Innovative Research				
	c. Omnibus or Other Above Threshold Reprogram				
	d. Below Threshold Reprogram	3,991			
	e. Rescissions	-33			
(U)	Adjustments to Budget Years Since FY 2002 PBR			-9	
(U)	Current Budget Submit/FY 2003 PBR	19,153	5,923	2,423	TBD
(U) <u>Significant Program Changes:</u> FY01 Below Threshold Reprogramming (BTR) funds required for an MMP cost overrun resulting from delayed Engineering Manufacturing Development (EMD) parts purchase needed to complete testing.					

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0303131F Minimum Essential Emergency Communications Network (MEECN)	PROJECT 2832
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COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
2832 VLF/LF System Improvements	2,515	1,413	1,156	1,431	1,468	1,495	1,527	Continuing	TBD

(U) A. Mission Description

This project's efforts support the design and development of the Modified Miniature Receive Terminal (MMRT) Program. The program modifies existing Miniature Receive Terminals (MRTs) to provide High Data Rate (HIDAR) - a Joint Staff directed effort to provide a fast and interoperable Minimum Essential Emergency Communications Network (MEECN) mode capability for installation on the following platforms: the E-4B, National Airborne Operations Center (NAOC); and the E-6B, Take Charge and Move Out (TACAMO). The MMRT program renders MRT Very Low Frequency/Low Frequency (VLF/LF) receivers fully interoperable satisfying both Air Force and Navy requirements via a Joint effort with the Air Force Electronics Systems Center (ESC), Hanscom AFB, MA, as the lead agency. The MMRT program also develops and tests HIDAR modifications required to ensure the E-4 and E-6 platforms are interoperable in MEECN.

This project also funds the airborne segment of the Communications Evaluation Program (CEP) for technical analysis of the currently fielded strategic Command, Control, and Communications (C3) systems. CEP is a key factor in determining Assured MEECN Interoperability (AMI). The program implements a detailed test program for emergency action message (EAM) insertion and reception. It conducts multiple evaluations on continual year-round basis. Following test data collection, analysis is performed to ensure the strategic communications systems meet JCS-directed platform connectivity requirements. The purpose of the program is to test the strategic C3 system to establish a quantitative system-wide performance baseline, conduct trend analysis, integrate new systems into the strategic C3 system, identify system deficiencies, recommend solutions and verify the effectiveness of corrective actions, recommend and develop procedures in order to improve overall system performance. Trade-off analysis is also performed to identify benefits and drawbacks of maintaining current systems. Studies are conducted to monitor communications system technology and potential integration complexities into current and future capabilities.

(U) FY 2001 (\$ in Thousands)

- (U) \$1,400** Continued MMRT Airworthiness and Nuclear Certification
- (U) \$1,115** Continued Communications Evaluation Program (CEP)/Studies and Analysis
- (U) \$2,515** Total

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0303131F Minimum Essential Emergency Communications Network (MEECN)			PROJECT 2832		
(U) <u>A. Mission Description Continued</u>									
(U) <u>FY 2002 (\$ in Thousands)</u>									
(U) \$1,413		Continue Communications Evaluation Program (CEP)/Studies and Analysis							
(U) \$1,413		Total							
(U) <u>FY 2003 (\$ in Thousands)</u>									
(U) \$1,156		Continue Communications Evaluation Program (CEP)/Studies and Analysis							
(U) \$1,156		Total							
(U) <u>B. Project Change Summary</u>									
No significant changes.									
(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u>									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) Other APPN									
(U) Aircraft Procurement - AF, (MEECN, PE 0303131F, BA-05, P-57)	19,406	7,242	4,655	0	0	0	0	0	31,303
(U) <u>D. Acquisition Strategy</u>									
Modified Miniature Receive Terminal (MMRT) Program. Contract awarded in FY96 for the E-4B, National Airborne Operations Center (NAOC); E-6B, Take Charge and Move Out (TACAMO). CEP is an annual test and evaluation of currently fielded command and control systems.									
(U) <u>E. Schedule Profile</u>									
			<u>FY 2001</u>			<u>FY 2002</u>		<u>FY 2003</u>	

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0303131F Minimum Essential Emergency Communications Network (MEECN)				2832		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	Prime Contract (MMRT)						1,300			
(U)	Program Management Administration (PMA)						100	200		200
(U)	Johns Hopkins University: CEP Studies and Analysis						1,115	1,213		956
(U)	Total						2,515	1,413		1,156
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Performing Activity</u>	<u>or Funding Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
Rockwell	SS/CPAF	Aug 92	13,500	13,500	13,500				0	13,500
Rockwell	SS/CPAF	Jul 96	49,238	49,238	48,038	1,300			0	49,338
TRW	SS/CPAF	Mar 99	16,093	16,093	16,093	0			0	16,093
JHU-APL (SPAWAR SysCen)	MIPR	Annual	N/A	N/A	3,711	1,115	1,213	956	Continuing	TBD
<u>Support and Management Organizations</u>										
SE/TA [SRC, ASEC, MCR ATT, SAFTAS]	Various	As Req'd.	2,976	2,976	2,976	0	0	0	0	2,976
MITRE	LOE	As Req'd.	131	131	131	0	0	0	0	131
PMA	Various	Annual	N/A	N/A	1,378	100	200	200	Continuing	TBD
ALCs	MIPR	As Req'd.	355	355	355				0	355
<u>Test and Evaluation Organizations</u>										
NavAir Warfare Center	MIPR	As Req'd.	5,554	5,554	5,554				0	5,554
AFOTEC	MIPR	As Req'd.	204	204	204				0	204
Project 2832				Page 6 of 17 Pages				Exhibit R-3 (PE 0303131F)		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002		
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT		
07 - Operational System Development				0303131F Minimum Essential Emergency Communications Network (MEECN)			2832		
(U) Government Furnished Property:									
<u>Item</u>	<u>Contract</u> <u>Method/Type</u> <u>or Funding</u>	<u>Award or</u> <u>Obligation</u>	<u>Delivery</u> <u>Date</u>	<u>Total Prior</u> <u>to FY 2001</u>	<u>Budget</u> <u>FY 2001</u>	<u>Budget</u> <u>FY 2002</u>	<u>Budget</u> <u>FY 2003</u>	<u>Budget to</u> <u>Complete</u>	<u>Total</u> <u>Program</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>						
<u>Product Development Property</u>									
N/A				342					342
<u>Support and Management Property</u>									
N/A									
<u>Test and Evaluation Property</u>									
N/A									
<u>Subtotals</u>				<u>Total Prior</u> <u>to FY 2001</u>	<u>Budget</u> <u>FY 2001</u>	<u>Budget</u> <u>FY 2002</u>	<u>Budget</u> <u>FY 2003</u>	<u>Budget to</u> <u>Complete</u>	<u>Total</u> <u>Program</u>
Subtotal Product Development				81,684	2,415	1,213	956	TBD	TBD
Subtotal Support and Management				4,840	100	200	200	TBD	TBD
Subtotal Test and Evaluation				5,758				0	5,758
Total Project				92,282	2,515	1,413	1,156	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0303131F Minimum Essential Emergency Communications Network (MEECN)	PROJECT 4521
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COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4521 DIRECT	1,146	4,129	877	290	290	306	311	Continuing	TBD

(U) **A. Mission Description**
 The Defense IEMATS Replacement Command and Control Terminals (DIRECT), which is the Improved Emergency Message Automated Transmission System (IEMATS) replacement program, is a Strategic Nuclear Command and Control (C2) system directly supporting the Chairman of the Joint Chiefs of Staff (CJCS) and the National Command Authorities (NCA). DIRECT will provide for all current IEMATS requirements, including the build, release, and transmission of Emergency Action Messages (EAM) to allow the CJCS and warfighters to remain responsive to NCA directives. This program will acquire system hardware for seven unified command centers and a software maintenance facility. DIRECT will be compatible with the Defense Message System (DMS) or the directed DMS alternative and interface with all current and future EAM distribution communications systems. DIRECT will also expand, through DIRECT-to-NOVA/Strategic Command and Control System (SACCS) interface, the user-base for Emergency Action Message (EAM) dissemination due to Automatic Digital Network (AUTODIN) closure.

This project also funds the operational Command and Control Terminals segment of the Communications Evaluation Program (CEP) for technical analysis of the currently fielded strategic Command, Control, and Communications (C3) systems. CEP is a key factor in determining Assured MEECN Interoperability (AMI). The program implements a detailed test program for emergency action message (EAM) insertion and reception. It conducts multiple evaluations on continual year-round basis. Following test data collection, analysis is performed to ensure the strategic communications systems meet JCS-directed platform connectivity requirements. The purpose of the program is to test the strategic C3 system to establish a quantitative system-wide performance baseline, conduct trend analysis, integrate new systems into the strategic C3 system, identify system deficiencies, recommend solutions and verify the effectiveness of corrective actions, recommend and develop procedures in order to improve overall system performance. Trade-off analysis is also performed to identify benefits and drawbacks of maintaining current systems. Studies are conducted to monitor communications system technology and potential integration complexities into current and future capabilities.

- (U) FY 2001 (\$ in Thousands)
- (U) \$977 Began EMD to develop interface between DIRECT and DMS
- (U) \$169 Continued Communications Evaluation Program (CEP) Studies and Analysis
- (U) \$1,146 Total

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0303131F Minimum Essential Emergency Communications Network (MEECN)		PROJECT 4521			
(U) <u>A. Mission Description Continued</u>									
(U) <u>FY 2002 (\$ in Thousands)</u>									
(U)	\$979	Continued EMD to develop interface between DIRECT and DMS							
(U)	\$3,000	Development of MEECN Emergency Action Message (EAM) Hybrid Solution							
(U)	\$150	Continued Communications Evaluation Program (CEP) Studies and Analysis							
(U)	\$4,129	Total							
(U) <u>FY 2003 (\$ in Thousands)</u>									
(U)	\$699	Continue EMD to develop interface between DIRECT and DMS							
(U)	\$178	Continue Communications Evaluation Program (CEP) Studies and Analysis							
(U)	\$877	Total							
(U) <u>B. Project Change Summary</u>									
No significant changes.									
(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u>									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U)	Other APPN								
(U)	Other Procurement - AF, (MEECN, PE 0303131F, BA-03, P-50)	1,494	2,064	1,072	0	0	0	0	4,630
(U) <u>D. Acquisition Strategy</u>									
DIRECT Program. A SS/CPAF contract for EMD was awarded to GTE Government Systems (now General Dynamics-Communications Systems), Needham, MA on 12 Jul 96.									
(U) <u>E. Schedule Profile</u>									
		<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
07 - Operational System Development					0303131F Minimum Essential Emergency Communications Network (MEECN)			4521		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	Prime Contract					600		3,724		569
(U)	Program Management Administration (PMA)					168		125		65
(U)	SE/TA					209		130		65
(U)	CEP/Studies and Analysis					169		150		178
(U)	Total					1,146		4,129		877
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
GTE	SS/CPAF	Jul 96	N/A	N/A	28,585	600	3,724	569	Continuing	TBD
National Security Agency (NSA)	MIPR	Annually	2,300	2,300	2,300				0	2,300
JHU-APL	LOE	Annual	N/A	N/A	180	169	150	178	Continuing	TBD
<u>Support and Management Organizations</u>										
SE/TA [ASEC, ABACUS, MCR, ATT, SAFTAS]	LOE	As Req'd.	N/A	N/A	2,733	209	130	65	Continuing	TBD
MITRE	LOE	As Req'd.	N/A	N/A	2,668	0	0	0	0	2,668
PMA	Various	Annual	N/A	N/A	1,178	168	125	65	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
Various	Various	As Req'd.	N/A	500	471	0	0	0	0	471

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)				DATE					
BUDGET ACTIVITY				PROJECT					
07 - Operational System Development				0303131F Minimum Essential Emergency Communications Network (MEECN)					
				4521					
(U) Government Furnished Property:									
<u>Item</u>	<u>Contract</u>	<u>Award or</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Method/Type</u>	<u>Obligation</u>	<u>Date</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>						
<u>Product Development Property</u>									
N/A									
<u>Support and Management Property</u>									
N/A									
<u>Test and Evaluation Property</u>									
N/A									
<u>Subtotals</u>				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
				<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				31,065	769	3,874	747	TBD	TBD
Subtotal Support and Management				6,579	377	255	130	TBD	TBD
Subtotal Test and Evaluation				471	0	0	0	0	471
Total Project				38,115	1,146	4,129	877	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0303131F Minimum Essential Emergency Communications Network (MEECN)	PROJECT 4610
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COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4610 Minuteman MEECN Program (MMP)	15,492	381	390	290	5,942	20,989	31,811	Continuing	TBD

In FY 2003, Project 4610 was renamed to Minuteman MEECN Program (MMP) (formerly MEECN EHF). This action did not change program content .

(U) A. Mission Description

This project combines Minuteman ICBM Launch Control Center (LCC) Very Low Frequency/Low Frequency (VLF/LF) efforts with Minuteman ICBM Extremely High Frequency (EHF) band communications capability efforts. This MEECN project will provide reliable, secure, and survivable communications in the Extremely High Frequency (EHF) band. Specifically, this effort is currently focused on replacing the satellite-based, ground communication links with Minuteman ICBM forces. It supplants the ICBM Super High Frequency (SHF) Satellite Terminal (ISST) receipt, providing force direction/execution, and the Ultra High Frequency (UHF) report-back links. ISST relies upon the Single Channel Transponder (SCT) package aboard the Defense Satellite Communications System (DSCS). The SCT will not be flown on the DSCS after 2003. Extending the use of SCT aboard DSCS is not practical. The UHF links depend upon the Air Force Satellite Communications (AFSATCOM) packages hosted aboard the Fleet Satellite Communications (FLTSATCOM) satellites. FLTSATCOM satellites are past their life expectancy. MEECN EHF is required to meet redundancy standards established by national security directives.

This project also funds the operational ICBM Launch Control Center (LCCs) segment of the Communications Evaluation Program (CEP) for technical analysis of the currently fielded strategic Command, Control, and Communications (C3) systems. CEP is a key factor in determining Assured MEECN Interoperability (AMI). The program implements a detailed test program for emergency action message (EAM) insertion and reception. It conducts multiple evaluations on continual year-round basis. Following test data collection, analysis is performed to ensure the strategic communications systems meet JCS-directed platform connectivity requirements. The purpose of the program is to test the strategic C3 system to establish a quantitative system-wide performance baseline, conduct trend analysis, integrate new systems into the strategic C3 system, identify system deficiencies, recommend solutions and verify the effectiveness of corrective actions, recommend and develop procedures in order to improve overall system performance. Trade-off analysis is also performed to identify benefits and drawbacks of maintaining current systems. Studies are conducted to monitor communications system technology and potential integration complexities into current and future capabilities.

Future capability will include upgrading MMP system to be compatible with Advanced EHF (AEHF).

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE February 2002																																																
BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0303131F Minimum Essential Emergency Communications Network (MEECN)	PROJECT 4610																																																
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <p>(U) \$10,570 Continued EHF and VLF/LF EMD</p> <p>(U) \$4,648 Continued Integration and Testing of the Minuteman MEECN terminals</p> <p>(U) \$274 Continued Communications Evaluation Program (CEP) Studies and Analysis</p> <p>(U) \$15,492 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$381 Continued Communications Evaluation Program (CEP) Studies and Analysis</p> <p>(U) \$381 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$390 Continue Communications Evaluation Program (CEP)/Studies and Analysis</p> <p>(U) \$390 Total</p> <p>(U) <u>B. Project Change Summary</u> MMP Milestone III was delayed due to contractor development test delays.</p> <p>(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;"></th> <th style="width: 10%; text-align: center;"><u>FY 2001</u></th> <th style="width: 10%; text-align: center;"><u>FY 2002</u></th> <th style="width: 10%; text-align: center;"><u>FY 2003</u></th> <th style="width: 10%; text-align: center;"><u>FY 2004</u></th> <th style="width: 10%; text-align: center;"><u>FY 2005</u></th> <th style="width: 10%; text-align: center;"><u>FY 2006</u></th> <th style="width: 10%; text-align: center;"><u>FY 2007</u></th> <th style="width: 10%; text-align: center;"><u>Cost to</u></th> <th style="width: 10%; text-align: center;"><u>Total Cost</u></th> </tr> <tr> <td></td> <td style="text-align: center;"><u>Actual</u></td> <td style="text-align: center;"><u>Estimate</u></td> <td style="text-align: center;"><u>Complete</u></td> <td></td> </tr> </thead> <tbody> <tr> <td>(U) Other APPN</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) MPAF, Missile Modifications (MEECN, PE 0303131F, BA 03, P-011)</td> <td style="text-align: right;">14,278</td> <td style="text-align: right;">43,640</td> <td style="text-align: right;">33,169</td> <td style="text-align: right;">0</td> <td style="text-align: right;">91,087</td> </tr> </tbody> </table> <p>(U) <u>D. Acquisition Strategy</u> The ICBM Prime Integrating Contract (through OO-ALC, Hill AFB, UT) is being used as a contracting vehicle for the Minuteman MEECN Program (MMP).</p> <p>(U) <u>E. Schedule Profile</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 20%; text-align: center;"><u>FY 2001</u></th> <th style="width: 20%; text-align: center;"><u>FY 2002</u></th> <th style="width: 20%; text-align: center;"><u>FY 2003</u></th> </tr> </thead> <tbody> <tr> <td>Project 4610</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>		(U) Other APPN										(U) MPAF, Missile Modifications (MEECN, PE 0303131F, BA 03, P-011)	14,278	43,640	33,169	0	0	0	0	0	91,087		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	Project 4610			
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>																																									
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>																																										
(U) Other APPN																																																		
(U) MPAF, Missile Modifications (MEECN, PE 0303131F, BA 03, P-011)	14,278	43,640	33,169	0	0	0	0	0	91,087																																									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>																																															
Project 4610																																																		
Project 4610	Page 14 of 17 Pages	Exhibit R-2A (PE 0303131F)																																																

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0303131F Minimum Essential Emergency Communications Network (MEECN)	PROJECT 4610
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(U) **E. Schedule Profile Continued**

	<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) CEP Study and Analysis				*								
(U) MMP Milestone III Decision						X						
* Indicates completed task												
X Indicates planned task												

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0303131F Minimum Essential Emergency Communications Network (MEECN)				4610		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	Prime Contract					14,910		0		
(U)	Program Management Administration (PMA)					100		0		
(U)	SE/TA					108		0		
(U)	MITRE					100		0		
(U)	JHU-APL					274		381		390
(U)	Total					15,492		381		390
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government Performing Activity</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>										
TRW	SS/CPAF	Mar 99	45,812	45,812	30,902	14,910			0	45,812
JHU-APL	LOE	Annual	N/A	N/A	181	274	381	390	Continuing	TBD
<u>Support and Management Organizations</u>										
SE/TA [SRC, MCR, ATT, SAFTAS]	LOE	As Req'd.	N/A	N/A	718	108				826
MITRE	LOE	As Req'd.	N/A	N/A	595	100				695
PMA	Various	Annual	N/A	N/A	747	100				847
<u>Test and Evaluation Organizations</u>										
Project 4610			Page 16 of 17 Pages				Exhibit R-3 (PE 0303131F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002		
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT		
07 - Operational System Development				0303131F Minimum Essential Emergency Communications Network (MEECN)			4610		
(U) Government Furnished Property:									
<u>Item</u>	<u>Contract</u> <u>Method/Type</u> <u>or Funding</u>	<u>Award or</u> <u>Obligation</u>	<u>Delivery</u> <u>Date</u>	<u>Total Prior</u> <u>to FY 2001</u>	<u>Budget</u> <u>FY 2001</u>	<u>Budget</u> <u>FY 2002</u>	<u>Budget</u> <u>FY 2003</u>	<u>Budget to</u> <u>Complete</u>	<u>Total</u> <u>Program</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>						
<u>Product Development Property</u>									
N/A									
<u>Support and Management Property</u>									
N/A									
<u>Test and Evaluation Property</u>									
N/A									
<u>Subtotals</u>				<u>Total Prior</u> <u>to FY 2001</u>	<u>Budget</u> <u>FY 2001</u>	<u>Budget</u> <u>FY 2002</u>	<u>Budget</u> <u>FY 2003</u>	<u>Budget to</u> <u>Complete</u>	<u>Total</u> <u>Program</u>
Subtotal Product Development				31,083	15,184	381	390	TBD	TBD
Subtotal Support and Management				2,060	308				2,368
Subtotal Test and Evaluation									
Total Project				33,143	15,492	381	390	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0303140F Information Systems Security Program					
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	28,197	20,053	9,353	9,460	9,584	9,730	9,886	Continuing	TBD
4579 Information Warfare	5,640	5,134	3,343	3,370	3,400	3,461	3,496	Continuing	TBD
4871 Information Operations Technology	982	896	989	986	984	1,002	1,020	Continuing	TBD
7820 Computer Security RDT&E: Firestarter	21,575	14,023	5,021	5,104	5,200	5,267	5,370	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	Continuing	TBD

In FY03, Information Systems Security Programs, Information Operations Technology anticipates receiving \$4.0M from the Cost of War transfer account. These funds are not included in the FY03 Air Force baseline. These funds be will be used to pursue and improve unique information operations technologies for the purpose of achieving offensive and defensive information superiority.

(U) **A. Mission Description**
 This program provides the capability to protect and defend USAF Command, Control, Communications, Computers, and Intelligence, Surveillance, and Reconnaissance (C4ISR) and Weapon Systems from Information Warfare (IW) attacks; and to recover from those attacks. Primarily, the project does research and development of information protection tools and transitions them to operational systems. The program element consists of several complimentary BPACs. The Information Warfare BPAC provides the acquisition community and operational warfighters the ability to manage their own risks relative to mission, task, threat, and vulnerability information; and to mitigate IW risks based on rank-ordered countermeasure recommendations. The Info Ops (IO) Technology BPAC concentrates on transitioning state-of-the-art IO capabilities to the warfighter through demonstrations of those technologies and rapid prototyping of warfighter tools. It also funds the IW Mission Area Team (MAT), the IW Technology Planning IPT (IW TPIPT), and the Panther Den program office. The computer security project directs the R&D of information protection technology and tools to defend C4ISR systems, with emphasis on computer and network systems security, damage assessment and recovery, and multi-level systems security. It provides access control, integrity, assured services and meets warfighter's requirements. This includes the Public Key Infrastructure (PKI) integration work which will ensure user identification, non-repudiation, digital signatures and encryption for electronic business and network transactions for all AF network users.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program
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(U) **B. Budget Activity Justification**
 This program is in budget activity 7, Operational System Development, because it addresses the development and transition of information security, protection and defensive capabilities and technologies.

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>
(U) Previous President's Budget	7,212	7,936	9,375	TBD
(U) Appropriated Value	29,503	20,053		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions				
b. Small Business Innovative Research	-903			
c. Omnibus or Other Above Threshold Reprogram				
d. Below Threshold Reprogram	-122			
e. Rescissions	-271			
(U) Adjustments to Budget Years Since FY 2002 PBR	-10		-22	
(U) Current Budget Submit/FY 2003 PBR	28,197	20,053	9,353	TBD

(U) **Significant Program Changes:**

Funding: Congressional \$2.5M add in FY02 for continued management of the Cyber Lighthouse Security Technology Program (BPAC 4579); \$9.1M FY02 add for continued development of the Coordinated Distributed Attack Detection System (CDADS). This phase renamed World Infrastructure Security Environment (WISE) (BPAC 7820); and \$1.0M FY02 add for the application of enabling technologies (biometrics, public key, signature authentication) to AF IA problems (BPAC 4579).

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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program	PROJECT 4579
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COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4579 Information Warfare	5,640	5,134	3,343	3,370	3,400	3,461	3,496	Continuing	TBD

(U) A. Mission Description

Builds information protection into all AF Command and Control (C2), Intelligence, Surveillance, and Reconnaissance (ISR), and weapons systems. The project provides the acquisition community and operational warfighters the ability to manage the IW risks to their missions and operational tasks based on system threat and vulnerability information. Provides decision makers with countermeasure recommendations, rank-ordered based on operational utility and relative cost. Looking across all assessments conducted on AF systems, the project also provides the USAF a unique system-of-systems perspective for managing shared IW risks.

Information Warfare Vulnerability Assessment and Risk Management (IW VA/RM): Development of a new capability to manage both individual and shared Information Warfare (IW) risks across all AF C2 and weapon systems. The IW VA/RM program enhances a commercially-available risk management tool so that it (1) provides risk management solutions based on mission impact and user cost; and (2) seamlessly combines Government Threat, Vulnerability and Countermeasure (TVC) data with commercial TVC data at the point of use. The IW VA/RM program also initiates the production of the Government TVC data; and the process of setting up a management infrastructure to coordinate all future TVC data production and distribution, similar to that established under AFI 10-703, Electronic Warfare Integrated Reprogramming (EWIR). Together, the tool with the data and supporting infrastructure will enable all AF System Program Offices (SPOs) to evaluate their system's IW risks and propose mission-based mitigation strategies to their users as part of a coordinated, coherent effort. To provide the overview needed to manage the shared risk across all AF systems, the IW VA/RM program establishes the means to aggregate individual SPO risk assessment results and report them based on higher-echelon mission impact. These reports will provide vital information on trends, deficiencies, and rationale for the AF Modernization Planning Process.

Information Warfare Solutions Analysis Integrated Product Team (IW SA IPT): Supports modernization planning for IW Mission Area and Solutions Analysis Processes. Continuously identifies and evaluates commercial and Government inventory of available products that can be used to meet IW mission deficiencies. Develops and coordinates technology development and acquisition plans for resolving mission area deficiencies. Information Warfare Metrics provides SPOs objective measurement of how well information warfare solutions are being incorporated into a weapon system. Information Warfare Architectures provide architectural solutions that result in systems designed with IW fundamentals. Provides Government laboratories and private industry guidance on new technologies needed for the next 10 to 25 years.

Cyber Lighthouse: The Cyber Lighthouse (a Congressional ADD) effort is a collection of research initiatives designed to address needs that are not currently being

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE February 2002
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
07 - Operational System Development	0303140F Information Systems Security Program	4579
<p>(U) <u>A. Mission Description Continued</u> addressed by other sources. In some cases, it is simply investigating the feasibility of an effort and in others, we will actually develop and prototype a system. This effort has included such initiatives as the Common Vulnerability Database and improvements to the intrusion detection capabilities of the Air Force's Intrusion Detection System (IDS).</p>		
<p>(U) <u>FY 2001 (\$ in Thousands)</u></p>		
(U) \$1,024	Continued exportable VA/RM process and toolset development	
(U) \$80	Established and supported existing infrastructure: Intelligence support, metrics, etc.	
(U) \$80	Continued initial development of libraries and databases, system-of-systems model	
(U) \$186	Continued IW TPIPT activities, analyses, database support	
(U) \$472	Continued to integrate cross program assessments and solution development	
(U) \$3,798	Managed Cyber Lighthouse Security Technology Development Program (Congressional Add)	
(U) \$5,640	Total	
<p>(U) <u>FY 2002 (\$ in Thousands)</u></p>		
(U) \$2,500	Manage Cyber Lighthouse Security Technology Development Program (Congressional Add)	
(U) \$1,000	Manage Enabling technologies for Info Assurance (IA) (Congressional Add)	
(U) \$702	Continue exportable VA/RM process and toolset development -- Phase 2 Develop next generation VA/RM prototype	
(U) \$206	Continue exportable VA/RM process and toolset development -- Phase 3 Start performing VA/RM assessments	
(U) \$25	Continue to establish and support existing infrastructure: Intelligence support, metrics/architectures	
(U) \$436	Continue IW SA IPT activities, analyses, database support	
(U) \$36	Continue to integrate cross program assessments and solution development	
(U) \$229	Initiate development of TVC database	
(U) \$5,134	Total	
Project 4579	Page 4 of 19 Pages	Exhibit R-2A (PE 0303140F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2002			
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0303140F Information Systems Security Program			PROJECT 4579			
(U) <u>A. Mission Description Continued</u>										
(U) <u>FY 2003 (\$ in Thousands)</u>										
(U)	\$804	Continue exportable VA/RM process and toolset development -- Phase 2 Develop next generation VA/RM prototype								
(U)	\$444	Continue exportable VA/RM process and toolset development -- Phase 3 Start performing VA/RM assessments								
(U)	\$312	Continue to establish and support existing infrastructure: Intelligence support, metrics/architectures								
(U)	\$776	Continue IW SA IPT activities, analyses, database support								
(U)	\$514	Continue to integrate cross program assessments and solution development								
(U)	\$493	Continue development of TVC database								
(U)	\$3,343	Total								
(U) <u>B. Project Change Summary</u>										
N/A										
(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u>										
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U)	AF RDT&E									
(U)	Other APPN									
	none									
(U) <u>D. Acquisition Strategy</u>										
All major contracts within this Program Element are awarded after full and open competition.										
(U) <u>E. Schedule Profile</u>										
				<u>FY 2001</u>			<u>FY 2002</u>			<u>FY 2003</u>
				1	2	3	4	1	2	3
(U)	Continue exportable VA/RM process & tool set development									
(U)	Established existing infrastructure						*			
(U)	Continue to support existing infrastructure							*		
(U)	Completed initial development of libraries & database, & system model							*		
Project 4579		Page 5 of 19 Pages					Exhibit R-2A (PE 0303140F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2002		
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT		
07 - Operational System Development					0303140F Information Systems Security Program					4579		
(U) <u>E. Schedule Profile Continued</u>												
		<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>		
	1	2	3	4	1	2	3	4	1	2	3	4
(U)	Continue to integrate cross program assessments & solution development											
(U)	Continue IW SA IPT activities, analysis, database support											
(U)	Manage Cyber Lighthouse Program (Congressional Add) *											
(U)	Manage Enabling technologies for IA (Congressional Add) *											
(U)	Initiate development of TVC database											
	* Denotes Completed Events											
	X Denotes Planned Events											
<p align="left">Project 4579</p> <p align="center">Page 6 of 19 Pages</p> <p align="right">Exhibit R-2A (PE 0303140F)</p>												

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program	PROJECT 4871
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COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4871 Information Operations Technology	982	896	989	986	984	1,002	1,020	Continuing	TBD

In FY03, Information Systems Security Programs, Information Operations Technology anticipates receiving \$4.0M from the Cost of War transfer account. These funds are not included in the FY03 Air Force baseline. These funds be will be used to pursue and improve unique information operations technologies for the purpose of achieving offensive and defensive information superiority.

(U) A. Mission Description

(U) This program expedites Information Operations (IO) Technology transition from laboratory, industry, and academia to operational use via studies, rapid prototyping, and demonstrations.

(U) The program office investigates and selects the highest potential IO technologies to meet specific shortfalls and deficiencies documented by major commands (MAJCOMS), unified commands, and IO agencies in Mission Area Plans (MAPs) and Mission Need Statements (MNSs). IO areas considered include: Psychological Operations (PSYOP), Electronic Warfare, Military Deception, Physical Attack, Information Attack, Information Assurance, Operational Security (OPSEC), Counterintelligence, Counter PSYOP, Electronic Protection, and Counterdeception.

(U) The program office works directly with labs, industry, users and battle labs to set priorities and find synergistic combinations of new technology, doctrine and training. Program efforts will be prioritized and guided by the Information Warfare (IW) Technical Planning Integrated Planning Team (TPIPT) in support of the Air Force IW MAP and the DoD IO Master Plan.

(U) Planned areas of study prototyping, and/or demonstration include techniquet and technologies for defending systems against sophisticated Information Warfare (IW) and computer network attacks, exploiting Integrated Air Defense Systems (IADS), Command and Control systems, and applying advanced IO applications in emerging physics, communications, directed energy, electronic sensors, and intelligence.

(U) This program also funds the Panther Den program office at Hanscom AFB, MA. The Panther Den program office provides technical, program management, and security support to the programs funded by this PE, as well as PD-classified projects funded via other PEs.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE																												
BUDGET ACTIVITY		PROJECT																												
07 - Operational System Development	0303140F Information Systems Security Program	February 2002 4871																												
<p>(U) <u>A. Mission Description Continued</u> (U) Specific program content is classified. Current and historical project information is available in the Panther Den (PD) Special Access Program (SAP) Report.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <table border="0"> <tr> <td>(U) \$347</td> <td>Directed Energy Application to IW</td> </tr> <tr> <td>(U) \$74</td> <td>Advanced IO Communication Application</td> </tr> <tr> <td>(U) \$65</td> <td>Advanced Intelligence Applications to IO</td> </tr> <tr> <td>(U) \$298</td> <td>Supported Mitre Chief Engineer</td> </tr> <tr> <td>(U) \$198</td> <td>Supported Program Office and Security Structure</td> </tr> <tr> <td>(U) \$982</td> <td>Total</td> </tr> </table> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <table border="0"> <tr> <td>(U) \$459</td> <td>The IO Technology program office will support the IW TPIPT and the IW MAT through studies, rapid prototyping, and demonstrations of state-of-the-art IO technologies to meet the warfighters' IO requirements</td> </tr> <tr> <td>(U) \$269</td> <td>Mitre Chief Engineer Support</td> </tr> <tr> <td>(U) \$168</td> <td>Program Office and Security Structure Support</td> </tr> <tr> <td>(U) \$896</td> <td>Total</td> </tr> </table> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <table border="0"> <tr> <td>(U) \$489</td> <td>The IO Technology program office will support the IW TPIPT and the IW MAT through studies, rapid prototyping, and demonstrations of state-of-the-art IO technologies to meet the warfighters' IO requirements</td> </tr> <tr> <td>(U) \$300</td> <td>Mitre Chief Engineer Support</td> </tr> <tr> <td>(U) \$200</td> <td>Program Office and Security Structure Support</td> </tr> <tr> <td>(U) \$989</td> <td>Total</td> </tr> </table> <p>(U) <u>B. Project Change Summary</u></p>			(U) \$347	Directed Energy Application to IW	(U) \$74	Advanced IO Communication Application	(U) \$65	Advanced Intelligence Applications to IO	(U) \$298	Supported Mitre Chief Engineer	(U) \$198	Supported Program Office and Security Structure	(U) \$982	Total	(U) \$459	The IO Technology program office will support the IW TPIPT and the IW MAT through studies, rapid prototyping, and demonstrations of state-of-the-art IO technologies to meet the warfighters' IO requirements	(U) \$269	Mitre Chief Engineer Support	(U) \$168	Program Office and Security Structure Support	(U) \$896	Total	(U) \$489	The IO Technology program office will support the IW TPIPT and the IW MAT through studies, rapid prototyping, and demonstrations of state-of-the-art IO technologies to meet the warfighters' IO requirements	(U) \$300	Mitre Chief Engineer Support	(U) \$200	Program Office and Security Structure Support	(U) \$989	Total
(U) \$347	Directed Energy Application to IW																													
(U) \$74	Advanced IO Communication Application																													
(U) \$65	Advanced Intelligence Applications to IO																													
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(U) \$200	Program Office and Security Structure Support																													
(U) \$989	Total																													
Project 4871	Page 9 of 19 Pages	Exhibit R-2A (PE 0303140F)																												

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE		
							February 2002		
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT	
07 - Operational System Development				0303140F Information Systems Security Program				4871	
(U) C. Other Program Funding Summary (\$ in Thousands)									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E									0
(U) Other APPN									0
PE 0303140F studies will leverage current DoD lab efforts. Studies will be deconflicted with and will complement PE 0208021F, Information Warfare Support. Some aspects of this program will be protected under the PANTHER DEN Special Access Program. Data available upon request.									
(U) D. Acquisition Strategy									
All major contracts within this Program Element are awarded after full and open competition unless other than full and open is justified to the Designated Acquisition Commander (DAC).									
(U) E. Schedule Profile									
		<u>FY 2001</u>			<u>FY 2002</u>			<u>FY 2003</u>	
		1	2	3	4	1	2	3	4
(U) Directed Energy Application to IW					*				
(U) Advanced IO Communication Application					*				
(U) Advanced Intelligence Applications to IO					*				
(U) IO Technology Study/Prototype/Demo						X		X	X
(U) Mitre Chief Support					*			X	X
(U) Program Office and Security Structure Supported					*			X	X
X - Denotes planned event									
* - Denotes completed event									

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)		DATE				
BUDGET ACTIVITY		PE NUMBER AND TITLE				PROJECT
07 - Operational System Development		0303140F Information Systems Security Program				4871
		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
		<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>
<u>Subtotals</u>						<u>Total</u>
Subtotal Product Development			485	459	489	TBD
Subtotal Support and Management			497	437	500	TBD
Subtotal Test and Evaluation						TBD
Total Project			982	896	989	TBD

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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program	PROJECT 7820
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COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
7820 Computer Security RDT&E: Firestarter	21,575	14,023	5,021	5,104	5,200	5,267	5,370	Continuing	TBD

(U) A. Mission Description

This program directs the Research & Development (R&D) of Information Protect technology/tools to provide the capability to defend USAF Command, Control, Communications, Computer, and Intelligence (C4I) Systems from Information Warfare (IW) Cyber attacks; and to ensure the systems' recovery from these attacks. As the USAF single manager for Information Protect (R&D), this program directs C4I system Information Protect R&D with emphasis on information/computer/network systems security, damage assessment and recovery, and dynamic security policy enforcement. The advent of the asymmetrical threat of cyber terrorism has the potential to affect the battlefield commander's ability to fight and win because of his dependence upon the availability, timeliness, and integrity of the information flow/processing capability. The requirement for global presence and global power has demanded increasing reliance on the advanced information systems and global accessibility. The susceptibilities inherent in such reliance and accessibility has heightened the awareness that the National Information Infrastructure (NII), the Defense Information Infrastructure (DII), and the future global Info Grid (GIG) must be protected against attack in order to provide Global Information Exchange (GIE).

Emphasis is therefore placed on R&D areas that provide deterrence of attack through cyberspace surveillance, Tactical Indications & Warning (I&W), intrusion detection, characterization of attack, decision support, recovery, and active response. Since adversaries may gain access to critical AF Force information systems through a variety of means, this technology will provide the capability of collecting, integrating, and displaying threat, vulnerability, and system data indicating an attack is about to take place and/or is taking place. Current Air Force systems such as the Combat Information Transport Systems (CITS), Theater Deployable Communications (TDC) leverage the technology from this project to meet their info protect needs/requirements. Additionally, this project utilizes info assurance technology investments by DARPA as a jump-start for providing a solution to Air Force requirements and cooperates with DISA and other Services/Agencies to ensure GIE info protect requirements are being met.

Public Key Infrastructure (PKI): A Department of Defense (DoD) PKI was mandated by the Deputy Secretary of Defense on 8 Aug 97 and the Services were further directed to use the capabilities in a 6 May 99 memo. PKI, supports the overall Defense-in-Depth Strategy for information assurance capabilities -- user identification, non-repudiation, digital signatures and encryption for government electronic business and network transactions -- protecting/securing all network information.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE February 2002																																
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT																																
07 - Operational System Development	0303140F Information Systems Security Program	7820																																
<p>(U) <u>A. Mission Description Continued</u></p> <p>Funds will be used to support initial implementation and integration of PKI user smart card, PKI registration for both users, devices, servers, and initial training. In particular, the RDT&E funds will be applied to PKI's integration and testing efforts with the Smart Card/Common Access Card (CAC). Current Defense Enrollment Reporting System (DEERS)/Real-Time Automated Personnel Identification Systems (RAPIDS) will be used to issue CACs to all AF military and civilian personnel. Furthermore, we will perform technology integration and testing of a new hardware CAC token into the user desktop environment. Finally, we allotted a small amount for AF SPO program support activities.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <table border="0"> <tr> <td>(U) \$1,135</td> <td>Continued development of technology for self-healing network systems (to include automated system recovery)</td> </tr> <tr> <td>(U) \$627</td> <td>Continued development of information attack correlation methodologies</td> </tr> <tr> <td>(U) \$2,536</td> <td>Continued development of methodologies for commercial software evaluation and steganography detection (\$2.0M Congressional add)</td> </tr> <tr> <td>(U) \$746</td> <td>Continued development of extensible prototype framework for Enterprise Defense to support protection of warfighter mission critical information flows</td> </tr> <tr> <td>(U) \$346</td> <td>Continued effort to transition secure wrapper technologies into Air Force systems</td> </tr> <tr> <td>(U) \$638</td> <td>Continued effort to transition DARPA information assurance technology into AF Information Protect architecture</td> </tr> <tr> <td>(U) \$287</td> <td>Began effort to develop metrics for reliable information assurance measurement & testing</td> </tr> <tr> <td>(U) \$9,881</td> <td>Managed development of secure interoperable agent computing (\$10M Congressional Add)</td> </tr> <tr> <td>(U) \$5,379</td> <td>Expedited the PKI program--specifically, the prototyping PKI support for Interface/Integration of Registration with Common Access Cards with peripheral readers AF-wide (\$5.5M Congressional Add)</td> </tr> <tr> <td>(U) \$21,575</td> <td>Total</td> </tr> </table> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <table border="0"> <tr> <td>(U) \$834</td> <td>Continue development of technology for self-healing network systems (to include automated system recovery)</td> </tr> <tr> <td>(U) \$526</td> <td>Continue development of information attack correlation methodologies</td> </tr> <tr> <td>(U) \$694</td> <td>Continue development of methodologies for commercial software evaluation and steganography detection</td> </tr> <tr> <td>(U) \$876</td> <td>Continue development of secure agent frameworks for Enterprise Defense to support protection of the warfighter C4ISR systems</td> </tr> <tr> <td>(U) \$324</td> <td>Continue effort to transition secure wrapper technologies into Air Force systems</td> </tr> <tr> <td>(U) \$425</td> <td>Continue effort to transition DARPA information assurance (IA) technology into AF Information Protection, Detection, & Response architecture</td> </tr> </table>			(U) \$1,135	Continued development of technology for self-healing network systems (to include automated system recovery)	(U) \$627	Continued development of information attack correlation methodologies	(U) \$2,536	Continued development of methodologies for commercial software evaluation and steganography detection (\$2.0M Congressional add)	(U) \$746	Continued development of extensible prototype framework for Enterprise Defense to support protection of warfighter mission critical information flows	(U) \$346	Continued effort to transition secure wrapper technologies into Air Force systems	(U) \$638	Continued effort to transition DARPA information assurance technology into AF Information Protect architecture	(U) \$287	Began effort to develop metrics for reliable information assurance measurement & testing	(U) \$9,881	Managed development of secure interoperable agent computing (\$10M Congressional Add)	(U) \$5,379	Expedited the PKI program--specifically, the prototyping PKI support for Interface/Integration of Registration with Common Access Cards with peripheral readers AF-wide (\$5.5M Congressional Add)	(U) \$21,575	Total	(U) \$834	Continue development of technology for self-healing network systems (to include automated system recovery)	(U) \$526	Continue development of information attack correlation methodologies	(U) \$694	Continue development of methodologies for commercial software evaluation and steganography detection	(U) \$876	Continue development of secure agent frameworks for Enterprise Defense to support protection of the warfighter C4ISR systems	(U) \$324	Continue effort to transition secure wrapper technologies into Air Force systems	(U) \$425	Continue effort to transition DARPA information assurance (IA) technology into AF Information Protection, Detection, & Response architecture
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(U) \$638	Continued effort to transition DARPA information assurance technology into AF Information Protect architecture																																	
(U) \$287	Began effort to develop metrics for reliable information assurance measurement & testing																																	
(U) \$9,881	Managed development of secure interoperable agent computing (\$10M Congressional Add)																																	
(U) \$5,379	Expedited the PKI program--specifically, the prototyping PKI support for Interface/Integration of Registration with Common Access Cards with peripheral readers AF-wide (\$5.5M Congressional Add)																																	
(U) \$21,575	Total																																	
(U) \$834	Continue development of technology for self-healing network systems (to include automated system recovery)																																	
(U) \$526	Continue development of information attack correlation methodologies																																	
(U) \$694	Continue development of methodologies for commercial software evaluation and steganography detection																																	
(U) \$876	Continue development of secure agent frameworks for Enterprise Defense to support protection of the warfighter C4ISR systems																																	
(U) \$324	Continue effort to transition secure wrapper technologies into Air Force systems																																	
(U) \$425	Continue effort to transition DARPA information assurance (IA) technology into AF Information Protection, Detection, & Response architecture																																	
Project 7820	Page 14 of 19 Pages	Exhibit R-2A (PE 0303140F)																																

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0303140F Information Systems Security Program				PROJECT 7820	
(U) C. Other Program Funding Summary (\$ in Thousands)									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E	22,610	5,048	5,133	5,235	5,344	5,422	5,538		54,330
(U) Other APPN APPN 3600/PE 33112F/ PE Title AF Communca- tions/BPAC 674884/ Title PKI									
(U) D. Acquisition Strategy									
All major contracts within this Program Element are awarded after full and open competition.									
<p>PKI: Electronic Systems Center (ESC) Information Assurance Product Area Directorate (PAD) manages the AF PKI Program. All major contracts within this program element are scheduled to be awarded after full and open competition or through existing government contracting vehicles. The options under review include: GSA, Standard AF contract (through the Standard Systems Group, AL), and Information Technology Services Program (ITSP) to support engineering effort and equipment for the integration of Common Access Card tokens. Current PKI program strategy is to use the ITSP contract.</p>									
(U) E. Schedule Profile									
				<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
			1	2	3	4	1	2	3
(U) Requirements Review Boards				*				X	
(U) Transition secure wrapper tech development to AF systems								X	
(U) Development of self healing network systems						*			X
(U) DARPA information assurance transition			*			*		X	
(U) Devel technology for tracing intrusions								X	
(U) Information attack correlation technology development					*			X	
(U) Develop & demo extensible prototype framework for Enterprise Defense				*		*		X	X
(U) Develop metrics for reliable IA measurement & testing				*				X	
Project 7820	Page 16 of 19 Pages				Exhibit R-2A (PE 0303140F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2002				
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT				
07 - Operational System Development					0303140F Information Systems Security Program					7820				
(U) <u>E. Schedule Profile Continued</u>														
		<u>FY 2001</u>					<u>FY 2002</u>					<u>FY 2003</u>		
	1	2	3	4	1	2	3	4	1	2	3	4		
(U) Develop automated info damage assessment and recovery	*				*				X					
(U) Begin effort to evaluate biometric systems						X		X				X		
(U) Begin development of cyber forensic tools & methodologies						X						X		
(U) Completed prototyping support for PKI interface/integration of tokens				*										
(U) Secure interoperable distributed agent computing (Congressional add)	*							X						
KEY: * Denotes Completed Events; X Denotes Planned Events.														

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0303140F Information Systems Security Program				7820		
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>										
					<u>FY 2001</u>		<u>FY 2002</u>			<u>FY 2003</u>
(U)	DARPA technology insertion/transition				638		425			473
(U)	Secure distributed computing/collaborative planning				9,881		9,371			417
(U)	Self-healing network system (to include automated system recovery)				1,135		834			511
(U)	Wrappers to secure commercial-off-the-shelf (COTS)				2,536		324			0
(U)	Methodologies for commercial software evaluation and steganography detection				346		694			298
(U)	Information attack data correlation				627		526			603
(U)	Extensible framework for Enterprise Defense				746		876			926
(U)	Reliable information assurance measurement & testing				287		414			536
(U)	PKI				5,379		0			0
(U)	Active response & cyber forensic tools				0		362			458
(U)	Biometric systems (wired & wireless networks)				0		197			184
(U)	Active response/dynamic policy enforcements to attacks				0		0			48
(U)	Dynamic, cost effective risk mitigation tools				0		0			567
(U)	Total				21,575		14,023			5,021
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>										
(U) <u>Performing Organizations:</u>										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
FFRDC (MITRE)	MIPR	On-Going	N/A	N/A	652	6,094	4,108	1,108	Continuing	TBD
Multiple Contractors	CPFF	On-Going	N/A	N/A	2,277	13,090	6,523	3,522	Continuing	TBD
Universities	CPFF	On-Going	N/A	N/A	368	2,391	3,392	391	Continuing	TBD
<u>Support and Management Organizations</u>										
<u>Test and Evaluation Organizations</u>										
Project 7820				Page 18 of 19 Pages				Exhibit R-3 (PE 0303140F)		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE February 2002	
BUDGET ACTIVITY		PE NUMBER AND TITLE			PROJECT	
07 - Operational System Development		0303140F Information Systems Security Program			7820	
		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
		<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>
						<u>Total</u>
	<u>Subtotals</u>					<u>Program</u>
	Subtotal Product Development	3,297	21,575	14,023	5,021	TBD
	Subtotal Support and Management					TBD
	Subtotal Test and Evaluation					TBD
	Total Project	3,297	21,575	14,023	5,021	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0303141F Global Combat Support System (GCSS)					
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	46,036	52,299	29,168	19,227	19,574	19,455	17,640	Continuing	TBD
4655 Integrated Logistics System - Supply (ILS-S)	46,036	10,043	0	0	0	0	0	Continuing	TBD
4904 Logistics Integration	0	7,237	0	0	0	0	0	Continuing	TBD
4905 GCSS - AF Architecture Development	0	18,427	0	0	0	0	0	Continuing	TBD
4906 GCSS - AF Domain Integration	0	6,722	0	0	0	0	0	Continuing	TBD
4907 Financial Information Resource System (FIRST)	0	8,673	0	0	0	0	0	Continuing	TBD
4928 Electronic Business/Electronic Commerce	0	1,197	1,306	1,403	1,400	1,399	1,397	Continuing	TBD
5046 Systems Engineering & Integration	0	0	27,862	17,824	18,174	18,056	16,243	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0
<p>The GCSS-AF budget for FY02-07 was broken out into separate projects. This realignment was done to provide greater visibility into the program. Neither program requirements nor program management were impacted by this breakout.</p> <p>In FY 2003, Project Number 4655, Integrated Logistics System - Supply (ILS-S), efforts transferred to PE 0708611F, Support Systems Development, Project Number 5044, Log Application Integrated Logistics System - Supply (LAILS-S), in order to provide logical program grouping and to enhance program oversight.</p> <p>In FY 2003, Project Number 4904, Logistics Integration, efforts transferred to PE 0708611F, Support Systems Development, Project Number 5042, Log Application</p>									

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 2002

BUDGET ACTIVITY

07 - Operational System Development

PE NUMBER AND TITLE

0303141F Global Combat Support System (GCSS)

Logistics Integration (LALI), in order to provide logical program grouping and to enhance program.

In FY 2003, Project Number 4905, GCSS-AF Architecture Development, and Project Number 4906, GCSS-AF Domain Integration, efforts were combined into Project Number 5045, Systems Engineering and Integration, to provide logical grouping and allow for more effective oversight of these funds.

In FY 2003, Project Number 4907, Financial Information Resource System (FIRST), efforts transferred to PE 0901538, FIRST, Project Number 5036, Financial Information Resource System (FIRST), in order to provide logical program grouping and allow for more effective oversight of this project.

These are accounting changes only and neither program requirements nor program management were impacted by this restructure.

(U) **A. Mission Description**

GCSS-AF will provide the warfighter and supporting elements with timely, accurate, and trusted Agile Combat Support (ACS) information, with the appropriate level of security, needed for the Expeditionary Aerospace Force to execute the Air Force mission throughout the full spectrum of military operations.

The primary responsibility of GCSS-AF is to provide a secure flow of timely, accurate, and trusted combat support information to any authorized process or user. It will consolidate and integrate automated information systems to achieve cost avoidance, remove business processing inefficiencies, enable reduced deployment footprint, and improve the speed with which information flows.

The GCSS-AF program modernizes, consolidates, develops, and integrates Air Force and Department of Defense (DoD) combat support information systems. The modernized systems are being developed in compliance with and hosted on the Defense Information Infrastructure (DII) Common Operating Environment (COE). The modernized systems will be implemented and sustained worldwide and support both wartime and peacetime requirements using hardware, software, and communications capabilities available from standard open systems government contracts and communications infrastructure programs.

(U) **B. Budget Activity Justification**

This program is in Budget Activity 7, Operational System Development, because the program modernizes Automated Information Systems (AISs).

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002		
BUDGET ACTIVITY	PE NUMBER AND TITLE			
07 - Operational System Development	0303141F Global Combat Support System (GCSS)			
(U) <u>C. Program Change Summary (\$ in Thousands)</u>				
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>
(U) Previous President's Budget	46,369	48,911	47,285	TBD
(U) Appropriated Value	46,369	53,011		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-426	-712		
b. Small Business Innovative Research	-1,182			
c. Omnibus or Other Above Threshold Reprogram	-2,940			
d. Below Threshold Reprogram	4,215			
e. Rescissions				
(U) Adjustments to Budget Years Since FY 2002 PBR			-18,117	TBD
(U) Current Budget Submit/FY 2003 PBR	46,036	52,299	29,168	TBD
(U) <u>Significant Program Changes:</u>				
<ul style="list-style-type: none"> - Funding for Electronic Business/Electronic Commerce was transferred to this PE for FY02-07. - The GCSS-AF budget for FY02-07 was broken out into separate funding lines. This realignment was done to provide greater visibility into the components of the program. Neither program requirements nor program management were impacted by this breakout. - For FY03, ILS-S, Logistics Integration and FIRST moved out of Global Combat Support System program (PE 0303141). Architecture Development and Domain Integration were combined to become Systems Engineering & Integration. These were accounting changes only: neither program requirements nor program management were impacted. 				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002			
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0303141F Global Combat Support System (GCSS)				PROJECT 4655			
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost	
4655	Integrated Logistics System - Supply (ILS-S)	46,036	10,043	0	0	0	0	0	Continuing	TBD	
<p>In FY 2003, 4655, Integrated Logistics System - Supply (ILS-S) efforts transferred to PE 0708611, Support Systems Development, 5044, Log Application Integrated Logistics System - Supply (LAILS-S) in order to align functional application development efforts into separate functional PE's. This realignment was done to provide greater visibility into the pieces of the program. Neither program requirements nor program management were impacted by this breakout.</p> <p>(U) <u>A. Mission Description</u> The primary focus of the Integrated Logistics System - Supply (ILS-S) is the modernization of the Standard Base Supply System (SBSS) to seamlessly integrate with other logistics systems--provides total asset visibility, facilitates regionalization, and enables the war fighter to control, order, receive, and exploit materiel in a cheaper and more efficient manner.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <p>(U) \$5,607 SBSS Tech Refresh Development (Increment 1)</p> <p>(U) \$2,399 Componentization Development (Increment 2)</p> <p>(U) \$882 Logistics Business Area Integration</p> <p>(U) \$768 Logistics Requirements Analysis</p> <p>(U) \$1,869 SPO Operations (Labor, Management Support)</p> <p>(U) \$849 Program Management Office (PMO) Support</p> <p>(U) \$1,179 PMO Task</p> <p>(U) \$485 Base Support</p> <p>(U) \$516 Support Contractors</p> <p>(U) \$4,119 Integration Task Contracts</p> <p>(U) \$2,106 Initial CONUS fielding of GCSS-AF architecture (Beta site)</p> <p>(U) \$1,303 Integration Framework/Architecture Development</p> <p>(U) \$1,250 ESC/IO Engineering</p> <p>(U) \$550 ESC/IO Program Management and Operations</p> <p>(U) \$475 SSG/DII Engineering</p> <p>(U) \$408 SSG/DII Program Management and Operations</p>											
Project 4655				Page 4 of 36 Pages				Exhibit R-2A (PE 0303141F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE
		February 2002
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
07 - Operational System Development	0303141F Global Combat Support System (GCSS)	4655
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2001 (\$ in Thousands) Continued</u>		
(U) \$5,717	GCSS-AF Applications Integration	
(U) \$65	ESC/IO Engineering	
(U) \$1,859	ESC/IO Program Management and Operations	
(U) \$2,033	SSG/DII Engineering	
(U) \$147	SSG/DII Program Management and Operations	
(U) \$2,868	Financial and GCSS-AF Integration requirements analysis and Integrated Master Plan	
(U) \$6,435	Application Development for Acquire Accounting	
(U) \$2,147	Application Development for Budget Formulation	
(U) \$46,036	Total	
(U) <u>FY 2002 (\$ in Thousands)</u>		
(U) \$4,585	Supply Modernization (SBSS Tech Refresh Development)	
(U) \$3,241	Componentization (Development)	
(U) \$1,100	Logistics Business Area Integration	
(U) \$676	Logistics Requirements Analysis	
(U) \$441	SPO Operations (Labor, Management Support)	
(U) \$10,043	Total	
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$0	No Activity	
(U) \$0	Total	
(U) <u>B. Project Change Summary</u>		
-In FY 2001 all GCSS-AF funds were in this project. In FY 2002 the funds were realigned to separate projects to provide greater visibility into the pieces of the program.		
-Interface complexities delayed schedule for Release 2.		
-In FY03, ILS-S was moved to PE 0708611F.		
Project 4655	Page 5 of 36 Pages	Exhibit R-2A (PE 0303141F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002	
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT	
07 - Operational System Development				0303141F Global Combat Support System (GCSS)				4655	
(U) C. Other Program Funding Summary (\$ in Thousands)									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E									
(U) Operation & Maintenance, AF; PE 0303141F	2,920	0	0	0	0	0	0	Continuing	Continuing
Funds for FY02-07 are listed in the GCSS-AF Architecture Development (BPAC 4905) Exhibit									
(U) D. Acquisition Strategy									
All major contracts awarded after full and open competition.									
(U) E. Schedule Profile									
				<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
			1	2	3	4	1	2	3
(U) INTEGRATED LOGISTICS SYSTEM - SUPPLY (ILS-S)									
(U) Supply Modernization									
(U) Release 1									
(U) Release 2							X		
(U) Release 3								X	
(U) Component Development									
(U) LOGISTICS INTEGRATION									
(U) Warlink Spiral I									
(U) Data Architecture			*						
(U) Enterprise Data Warehouse			*						
(U) Knowledge Center Prototype			*						
(U) Legacy v2.0 Connector				*					
(U) Business Object Document Development				*					
(U) Metadata Repository					*				
(U) GCSS-AF ARCHITECTURE DEVELOPMENT									
(U) Delivery of the GCSS-AF Integration Framework v1.2 prototype									

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2002				
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT				
07 - Operational System Development					0303141F Global Combat Support System (GCSS)					4655				
(U) <u>E. Schedule Profile Continued</u>														
		<u>FY 2001</u>					<u>FY 2002</u>					<u>FY 2003</u>		
		1	2	3	4	1	2	3	4	1	2	3	4	
(U)	Delivery of JEFX FY00 Experiment													
(U)	Delivery of GCSS-AF Integration Framework v2.0	*												
(U)	Delivery of IF update v2.1		*											
(U)	Initial CONUS Fielding of IF (prototype)		*											
(U)	Delivery of IF update v2.2			*										
(U)	GCSS-AF DOMAIN INTEGRATION													
(U)	Integration of Enterprise Web Presentations Service (Proto v1.1)			*										
(U)	FINANCIAL INFORMATION RESOURCE SYSTEM (FIRST)													
(U)	Award FIRST Application Development Contract													
(U)	Begin Development of Acquire Accounting													
(U)	Complete FIRST Req. Analysis and Integrated Master Plan									*				
(U)	Begin Budget Formulation Increment									*				
	* - Completed Event													
	X - Planned Event													

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)		DATE February 2002		
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT		
07 - Operational System Development	0303141F Global Combat Support System (GCSS)	4655		
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>				
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>
(U) INTEGRATED LOGISTICS SYSTEM - SUPPLY (ILS-S)				
(U) Supply Modernization (SBSS Tech Refresh Development)		5,607	4,585	0
(U) Logistics Business Area Integration		882	1,100	0
(U) Logistics Requirements Analysis		768	676	0
(U) SPO Operations (Labor, Management Support)		1,869	441	0
(U) Componentization (Development)		2,399	3,241	0
(U) LOGISTICS INTEGRATION				0
(U) Program Management Office (PMO) Support		849	0	0
(U) PMO Task		1,179	0	
(U) Base Support		485	0	0
(U) Support Contractors		516	0	0
(U) Integration Task Contracts		4,119	0	0
(U) GCSS-AF ARCHITECTURE DEVELOPMENT				0
(U) Integration Framework/Architecture Development		1,303	0	
(U) SSG/DII Engineering		475	0	0
(U) JEFX FY00 Experiment		0	0	0
(U) Initial CONUS fielding of GCSS-AF architecture)Beta site)		2,106	0	0
(U) ESC/IO Engineering		1,250	0	0
(U) ESC/IO Program Management and Operations		550	0	0
(U) SSG/DII Program Management and Operations		408	0	0
(U) GCSS-AF DOMAIN INTEGRATION				
(U) GCSS-AF Applications Integration		5,717	0	0
(U) ESC/IO Engineering		65	0	0
(U) ESC/IO Program Management and Operations		1,859	0	0
(U) SSG/DII Engineering		2,033	0	0
(U) SSG/DII Program Management and Operations		147	0	0
(U) FINANCIAL INFORMATION RESOURCE SYSTEM (FIRST)				0
Project 4655	Page 8 of 36 Pages	Exhibit R-3 (PE 0303141F)		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0303141F Global Combat Support System (GCSS)				4655		
(U) A. Project Cost Breakdown (\$ in Thousands) Continued										
					<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	Financial and GCSS-AF Integration requirements analysis and Integrated Master Plan				2,868		0		0	
(U)	Application Development for Acquire Accounting				6,435		0		0	
(U)	Application Development for Budget Formulation				2,147		0		0	
(U)	Total				46,036		10,043		0	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
ILS-S										
	Lockheed Martin	IDIQ	15 Aug 95	N/A	N/A	26,824	882	1,100	Continuing	TBD
	SSG/SW (Software	SLA	1 Oct	N/A	N/A	0	5,607	4,585	Continuing	TBD
	Factory)									
	Keane Federal System	IDIQ	3 Aug 01	N/A	N/A	0	2,399	3,116	Continuing	TBD
LOGISTICS INT										
	LMFS	CPAF	Varies	N/A	N/A	14,106	701	0	Continuing	TBD
	Oracle	Varies	Varies	N/A	N/A	0	519	0	Continuing	TBD
	SSG Software Factory	N/A	N/A	N/A	N/A	100	144	0	Continuing	TBD
	MITRE	Varies	Varies	N/A	N/A	20	1,575	0	Continuing	TBD
	REMIS MSG	N/A	N/A	N/A	N/A	0	0	0	Continuing	TBD
	DISA	N/A	N/A	N/A	N/A	0	0	0	Continuing	TBD
	Task Contractors	Varies	Varies	N/A	N/A	2,920	1,149	0	Continuing	TBD
	PMO Tasks	N/A	N/A	N/A	N/A	1,760	1,084	0	Continuing	TBD
GCSS-AF ARCHITECTURE										
Project 4655				Page 9 of 36 Pages				Exhibit R-3 (PE 0303141F)		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2002	
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT	
07 - Operational System Development				0303141F Global Combat Support System (GCSS)				4655	
(U) <u>Performing Organizations Continued:</u>									
<u>Product Development Organizations</u>									
DEV									
Various	IDIQ	15 Aug 95	N/A	N/A	0	2,106	0	0	2,106
LMFS	CPAF	28 May 99	N/A	N/A	4,603	1,303	0	Continuing	TBD
SSG/DII Engineering	N/A	N/A	N/A	N/A	0	475	0	Continuing	TBD
SSG/DII Mgmt & Ops	N/A	N/A	N/A	N/A	0	408	0	Continuing	TBD
GCSS-AF DOMAIN INT									
LMFS	CPAF	28 May 99	N/A	N/A	0	5,717	0	Continuing	TBD
SSG/DII Engineering	N/A	N/A	N/A	N/A	0	2,033	0	Continuing	TBD
SSG/DII Mgmt & Ops	N/A	N/A	N/A	N/A	0	147	0	Continuing	TBD
FIRST									
ACCENTURE	CPAF	2 Apr 01	40,854	40,854	0	11,450	0	Continuing	TBD
<u>Support and Management Organizations</u>									
ILS-S									
Support Contractors	Various	Various	N/A	N/A	120	768	801	Continuing	TBD
SPO Operations	N/A	N/A	N/A	N/A	55	1,869	441	Continuing	TBD
LOGISTICS INT									
PMO Support	N/A	N/A	N/A	N/A	2,894	849	0	Continuing	TBD
Base Support	Varies	Varies	N/A	N/A	1,447	485	0	Continuing	TBD
Support Contractors	Varies	Varies	N/A	N/A	1,173	516	0	Continuing	TBD
GCSS-AF ARCHITECTURE									
DEV									
MITRE	Varies	Varies	N/A	N/A	0	1,250	0	Continuing	TBD
ESC/IO Mgmt & Ops	N/A	N/A	N/A	N/A	0	550	0	Continuing	TBD
GCSS-AF DOMAIN INT									
MITRE	Varies	Varies	N/A	N/A	0	65	0	Continuing	TBD
ESC/IO Mgmt & Ops	N/A	N/A	N/A	N/A	0	1,859	0	Continuing	TBD

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
07 - Operational System Development					0303141F Global Combat Support System (GCSS)			4655		
(U) <u>Performing Organizations Continued:</u>										
<u>Test and Evaluation Organizations</u>										
LOGISTICS INT										
PMO Tasks	N/A	N/A	N/A	N/A	337	95	0		Continuing	TBD
SSG Software Factory	N/A	N/A	N/A	N/A	120	31	0		Continuing	TBD
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Subtotals</u>										
Subtotal Product Development					50,333	37,699	8,801		TBD	TBD
Subtotal Support and Management					5,689	8,211	1,242		TBD	TBD
Subtotal Test and Evaluation					457	126	0		TBD	TBD
Total Project					56,479	46,036	10,043		TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0303141F Global Combat Support System (GCSS)				PROJECT 4904	
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4904 Logistics Integration	0	7,237	0	0	0	0	0	Continuing	TBD
<p>FY 2003, 4904, Logistics Integration efforts transferred to PE 0708611F, Support Systems Development (SSD), 5042, Log Application Logistics Integration (LALI), in order to align functional application development efforts into separate functional PE's. This realignment was done to provide logical program groupings and allow for more effective oversight of these programs. Neither program requirements nor program management were impacted by this restructure.</p> <p>(U) <u>A. Mission Description</u> Logistics Integration is the effort to migrate existing IL legacy systems to the common GCSS-AF Integration Framework. The target is a suite of software components that are continuously updated or refined to embrace emerging best practices and commercial information technology innovations. The strategic plan is the creation of a logistics enterprise system using common software and hardware products requiring a smaller number of interfacing transactions.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$955 Program Management Office (PMO) Support (U) \$660 PMO Task (U) \$651 Base Support (U) \$1,358 Support Contractors (U) \$3,613 Integration Task Contracts (U) \$7,237 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>B. Project Change Summary</u> N/A</p>									
Project 4904	Page 12 of 36 Pages				Exhibit R-2A (PE 0303141F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0303141F Global Combat Support System (GCSS)				PROJECT 4904	
(U) C. Other Program Funding Summary (\$ in Thousands)									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E									
(U) Other APPN									
(U) D. Acquisition Strategy									
All major contracts awarded after full and open competition.									
(U) E. Schedule Profile									
		<u>FY 2001</u>				<u>FY 2002</u>			<u>FY 2003</u>
		1	2	3	4	1	2	3	4
(U) IL Portal Components									X
(U) Business Object Document Development									X
(U) Metadata Repository							X		
(U) Consolidated Remedy Database								X	
(U) Program Hand Books							X		
* - Completed Event									
X - Planned Event									

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)						DATE February 2002					
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT				
07 - Operational System Development				0303141F Global Combat Support System (GCSS)			4904				
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	Program Management Office (PMO) Support					0		955		0	
(U)	PMO Tasks					0		660		0	
(U)	Base Support					0		651		0	
(U)	Support Contractors					0		1,358		0	
(U)	Integration Task Contacts					0		3,613		0	
(U)	Total					0		7,237		0	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or</u>	<u>Contract</u>									
	<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
	<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	
										<u>Total</u>	
										<u>Program</u>	
<u>Product Development Organizations</u>											
	LMSI	CPAF	Varies	N/A	N/A	0	0	803		Continuing	TBD
	Oracle	BPA	Varies	N/A	N/A	0	0	770		Continuing	TBD
	SSG Software Factory	SLA Annex	1 Oct.	N/A	N/A	0	0	131		Continuing	TBD
	MITRE	FFRDC	1 Oct	N/A	N/A	0	0	89		Continuing	TBD
	Sytel	BPA	Varies	N/A	N/A	0	0	1,142		Continuing	TBD
	Task Contractors	Varies	Varies	N/A	N/A	0	0	633		Continuing	TBD
	PMO Tasks	N/A	N/A	N/A	N/A	0	0	361		Continuing	TBD
<u>Support and Management Organizations</u>											
	PMO Support	N/A	N/A	N/A	N/A	0	0	955		Continuing	TBD
	Base Support	Varies	Varies	N/A	N/A	0	0	651		Continuing	TBD
	MITRE	FFRDC	1 Oct.	N/A	N/A	0	0	88		Continuing	TBD
	Support Contractors	Varies	Varies	N/A	N/A	0	0	1,358		Continuing	TBD

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002		
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT	
07 - Operational System Development				0303141F Global Combat Support System (GCSS)				4904	
(U) <u>Performing Organizations Continued:</u>									
<u>Test and Evaluation Organizations</u>									
PMO Tasks	N/A	N/A	N/A	N/A	0	0	100	Continuing	TBD
Software Factory	SLA Annex	1 Oct.	N/A	N/A	0	0	68	Continuing	TBD
MITRE	FFRDC	1 Oct.	N/A	N/A	0	0	88	Continuing	TBD
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>
<u>Subtotals</u>									<u>Total</u>
Subtotal Product Development					0	0	3,929	TBD	TBD
Subtotal Support and Management					0	0	3,052	TBD	TBD
Subtotal Test and Evaluation					0	0	256	TBD	TBD
Total Project					0	0	7,237	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0303141F Global Combat Support System (GCSS)
	PROJECT 4905

COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4905 GCSS - AF Architecture Development	0	18,427	0	0	0	0	0	Continuing	TBD

The GCSS-AF budget for FY02-07 was broken out into separate Budget Program Activity Codes (BPACs). This realignment was done to provide greater visibility into the components of the program. Neither program requirements nor program management were impacted by this breakout. GCSS-AF Architecture Development was previously funded under Project Number 4655.

In FY 2003, Project Number 4905, GCSS-AF Architectural Development, efforts transferred to PE 0303141F, GCSS-AF, Project Number 5046, System Engineering and Integration (SE&I), in order to provide logical program grouping and allow for more effective oversight of this project.

(U) A. Mission Description

Global Combat Support System - Air Force (GCSS-AF) is an umbrella program to develop a modern integrated system that provides for Agile Combat Support (ACS) for the Air Force. This information is necessary to train, equip, deploy, employ, sustain and redeploy Expeditionary Air Forces (EAFs) world-wide during peace and war, and support the warfighting CINCs. The GCSS-AF architecture is an integrated set of system products that orchestrate the passing of combat support data between applications and software objects, and provides the warfighter real-time access to accurate, current information and decision support tools. It is based on open standard technologies. GCSS-AF Architecture Development will incrementally develop, prototype, and field a knowledge centric open system architecture. Included are those efforts required to implement the GCSS-AF architecture, and include such things as hardware and software engineering; modeling & simulation; design optimization; hardware and software COTS analysis; architecture design; architecture and integration framework interface definitions, standards, and descriptions; systems engineering; software and hardware integration; testing; and other special studies as required. In addition, this program develops and/or acquires the necessary hardware and software required to initially field this architecture.

This program also has received funds to continue the development of the Enterprise Data Warehouse (EDW) in support of the AF maintenance data collection program.

- (U) FY 2001 (\$ in Thousands)
- (U) \$0 No Activity
- (U) \$0 Total

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2002			
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0303141F Global Combat Support System (GCSS)			PROJECT 4905			
(U) <u>A. Mission Description Continued</u>										
(U) <u>FY 2002 (\$ in Thousands)</u>										
(U)	\$11,000	Integration Framework/Architecture Development								
(U)	\$4,100	Enterprise Data Warehouse								
(U)	\$2,000	SSG/DII Engineering								
(U)	\$1,000	SSG/DII Program Management and Operations								
(U)	\$200	Test and Evaluation								
(U)	\$127	ESC/DIS Program Management and Operations								
(U)	\$18,427	Total								
(U) <u>FY 2003 (\$ in Thousands)</u>										
(U)	\$0	No Activity								
(U)	\$0	Total								
(U) <u>B. Project Change Summary</u>										
-GCSS-AF Architecture Development received an additional \$10.4M in RDT&E funding in the FY02 budget.										
-GCSS-AF Architecture Development was combined with Domain Integration to become Systems Engineering & Integration in FY03-07.										
(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u>										
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>	
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>		
(U)	AF RDT&E									
(U)	Operation & Maintenance, AF; PE 0303141F	0	9,349	0	0	0	0	0	Continuing	Continuing
(U)	Other Procurement, AF; BP83	0	4,756	0	0	0	0	0	Continuing	Continuing
(U) <u>D. Acquisition Strategy</u>										
All major contracts awarded after full and open competition.										
(U) <u>E. Schedule Profile</u>										
				<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2002		
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT		
07 - Operational System Development					0303141F Global Combat Support System (GCSS)					4905		
(U) <u>E. Schedule Profile Continued</u>												
		<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>		
	1	2	3	4	1	2	3	4	1	2	3	4
(U)	Delivery of IF v2.3 (early delivery)											
				*								
(U)	Delivery of IF v2.4											
							X					
(U)	Analysis of Alternatives (AoA)											
							X					
	* - Completed Event											
	X - Planned Event											
Project 4905			Page 18 of 36 Pages					Exhibit R-2A (PE 0303141F)				

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
07 - Operational System Development				0303141F Global Combat Support System (GCSS)				4905			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	Integration Framework/Architecture Development					0		11,000		0	
(U)	Enterprise Data Warehouse					0		4,100		0	
(U)	SSG/DII Engineering					0		2,000		0	
(U)	SSG/DII Program Management and Operations					0		1,000		0	
(U)	ESC/DIS Program Management and Operations					0		127		0	
(U)	Test and Evaluation					0		200		0	
(U)	Total					0		18,427		0	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
	<u>Product Development Organizations</u>										
	Lockheed Martin Systems	CPAF	28 May 99	N/A	N/A	0	0	11,000	0	Continuing	TBD
	Integration										
	SSG/DII Engineering	Service Level Agreement (FFP)	1 Oct 01	N/A	N/A	0	0	2,000	0	Continuing	TBD
	MSG/AE	Various	Multiple	N/A	N/A	0	0	4,100	0	Continuing	TBD
	<u>Support and Management Organizations</u>										
	ESC/DIS Program Management and Operations	Time & Material	Multiple	N/A	N/A	0	0	127	0	Continuing	TBD
	SSG/DII Program Management and Operations	Service Level Agreement (FFP)	N/A	N/A	N/A	0	0	1,000	0	Continuing	TBD
Project 4905											
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Exhibit R-3 (PE 0303141F)											

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2002		
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0303141F Global Combat Support System (GCSS)				4905		
(U) <u>Performing Organizations Continued:</u>										
<u>Test and Evaluation Organizations</u>										
46 TS/OGE	Statement of Capability	N/A	N/A	N/A	0	0	200	0	Continuing	TBD
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Subtotals</u>										
Subtotal Product Development					0	0	17,100	0	TBD	TBD
Subtotal Support and Management					0	0	1,127	0	TBD	TBD
Subtotal Test and Evaluation					0	0	200	0	TBD	TBD
Total Project					0	0	18,427	0	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0303141F Global Combat Support System (GCSS)				PROJECT 4906		
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4906	GCSS - AF Domain Integration	0	6,722	0	0	0	0	0	Continuing	TBD
<p>The GCSS-AF budget for FY02-07 was broken out into separate Budget Program Activity Codes (BPACs). This realignment was done to provide greater visibility into the pieces of the program. Neither program requirements nor program management were impacted by this breakout. GCSS-AF Architecture Development was previously funded under BPAC 674655.</p> <p>For FY 2003, Project Number 4906, GCSS-AF Domain Integration, efforts transferred to PE 0303141F, GCSS-AF, Project Number 5046, System Engineering and Integration (SE&I), in order to provide logical program grouping and allow for more effective oversight of this project.</p> <p>(U) A. Mission Description Global Combat Support System - Air Force (GCSS-AF) is an umbrella program to develop a modern integrated system that provides for Agile Combat Support (ACS) for the Air Force. This information is necessary to train, equip, deploy, employ, sustain and redeploy Expeditionary Air Forces (EAFs) world-wide during peace and war, and support the warfighting CINCs. Applications and decision support tools that directly support the warfighter's data needs are integrated onto the GCSS-AF architecture and made interoperable. GCSS-AF Domain Integration provides these capabilities to the warfighter by integrating automated information systems (AIS) applications and necessary hardware onto the GCSS-AF Architecture. Included are those efforts required to successfully enable application and cross-application capabilities, and include such things as requirements analysis, interface analysis, modeling & simulation, developing guidelines for application developers, technical support to application developers, technical integration, prototyping, application interface testing, architecture testing of applications and common services, support for business process re-engineering, and developing common services for application utilization.</p> <p>(U) FY 2001 (\$ in Thousands) (U) \$0 No Activity (U) \$0 Total</p> <p>(U) FY 2002 (\$ in Thousands) (U) \$2,720 GCSS-AF Applications Integration (U) \$1,000 Integration Support (U) \$150 Test and Evaluation (U) \$1,650 ESC/DIS Engineering (U) \$1,102 ESC/DIS Program Management and Operations</p>										
Project 4906				Page 21 of 36 Pages				Exhibit R-2A (PE 0303141F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2002			
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0303141F Global Combat Support System (GCSS)				PROJECT 4906		
(U) <u>A. Mission Description Continued</u>										
(U) <u>FY 2002 (\$ in Thousands) Continued</u>										
(U) \$100 SSG/DII Program Management and Operations										
(U) \$6,722 Total										
(U) <u>FY 2003 (\$ in Thousands)</u>										
(U) \$0 No Activity										
(U) \$0 Total										
(U) <u>B. Project Change Summary</u>										
-GCSS-AF Domain Integration was merged with GCSS-AF Architecture Development to become Systems Engineering & Integration in FY03-07. This was an accounting change only.										
(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u>										
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>	
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>		
(U) AF RDT&E										
(U) Other APPN										
(U) <u>D. Acquisition Strategy</u>										
All major contracts awarded after full and open competition.										
(U) <u>E. Schedule Profile</u>										
			<u>FY 2001</u>			<u>FY 2002</u>			<u>FY 2003</u>	
			1 2 3 4			1 2 3 4			1 2 3 4	
(U) Completion of Enterprise Migration Master Plan						X				
(U) Analysis of Alternatives							X			
* - Completed Event										
X - Planned Event										
Project 4906			Page 22 of 36 Pages				Exhibit R-2A (PE 0303141F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
07 - Operational System Development				0303141F Global Combat Support System (GCSS)				4906			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	GCSS-AF Applications Integration					0		2,720		0	
(U)	Integration Support					0		1,000		0	
(U)	Test and Evaluation							150			
(U)	ESC/DIS Engineering					0		1,650		0	
(U)	ESC/DIS Program Management and Operations					0		1,102		0	
(U)	SSG/DII Program Management and Operations					0		100		0	
(U)	Total					0		6,722		0	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
	<u>Product Development Organizations</u>										
	Lockheed Martin Federal Systems	CPAF	28 May 99	N/A	N/A	0	0	2,720	0	Continuing	TBD
	<u>Support and Management Organizations</u>										
	Various Integration Support Activities	Various	Multiple	N/A	N/A	0	0	1,000	0	Continuing	TBD
	ESC/DIS Engineering Support	N/A	N/A	N/A	N/A	0	0	1,650	0	Continuing	TBD
	ESC/DIS Program Management and Operations	N/A	N/A	N/A	N/A	0	0	1,102	0	Continuing	TBD
	SSG/DII Program Management and Operations	Service Level Agreement	N/A	N/A	N/A	0	0	100	0	Continuing	TBD
Project 4906											
Page 23 of 36 Pages											
Exhibit R-3 (PE 0303141F)											

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2002			
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT	
07 - Operational System Development					0303141F Global Combat Support System (GCSS)					4906	
(U) <u>Performing Organizations Continued:</u>											
<u>Test and Evaluation Organizations</u>											
46 TS/OGE	Statement of Capability	N/A	N/A	N/A	0	0	150	0	Continuing	TBD	
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>	
<u>Subtotals</u>											
Subtotal Product Development					0	0	2,720	0	TBD	TBD	
Subtotal Support and Management					0	0	3,852	0	TBD	TBD	
Subtotal Test and Evaluation					0	0	150	0	TBD	TBD	
Total Project					0	0	6,722	0	TBD	TBD	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0303141F Global Combat Support System (GCSS)				PROJECT 4907	
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4907 Financial Information Resource System (FIRST)	0	8,673	0	0	0	0	0	Continuing	TBD
<p>The GCSS-AF budget for FY02-07 was broken out into separate Budget Program Activity Codes (BPACs). This realignment was done to provide greater visibility into the pieces of the program. Neither program requirements nor program management were impacted by this breakout. Financial Information Resource SysTem (FIRST) was previously funded under BPAC 674655.</p> <p>The FIRST budget for FY03-07 has been realigned to PE 0901538F. This was an accounting change only.</p> <p>(U) <u>A. Mission Description</u> FIRST is a software development effort aimed at providing an integrated, modern, seamless financial management system that enables authorized users (from Air Staff to base level) to plan, program, and execute their budgets. FIRST is ultimately envisioned to be the foundation for the Air Force's Planning, Programming, and Budgeting System (PPBS). FIRST will be compliant with the Joint Technical Architecture (JTA) and incorporate Public Key Infrastructure initiatives (such as electronic signature capability). FIRST will be built using the GCSS-AF architecture.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$6,573 Application Development for Acquire Accounting (U) \$600 Application Development for Budget Formulation (U) \$1,500 GCSS-AF Integration (U) \$8,673 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>B. Project Change Summary</u> FIRST was realigned to PE 0901538 in FY03-07. This was an accounting change only.</p>									
Project 4907			Page 25 of 36 Pages				Exhibit R-2A (PE 0303141F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0303141F Global Combat Support System (GCSS)				PROJECT 4907	
(U) C. Other Program Funding Summary (\$ in Thousands)									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E									
(U) Operations & Maintenance, AF; PE38601F	2,500	2,900	0	0	0	0	0	Continuing	
(U) D. Acquisition Strategy									
All major contracts awarded after full and open competition.									
(U) E. Schedule Profile									
			<u>FY 2001</u>			<u>FY 2002</u>		<u>FY 2003</u>	
			1	2	3	4	1	2	3
(U) Begin Acquire Accounting Developmental Test									X
(U) Complete Acquire Accounting Spiral 1						X			
(U) Complete Acquire Accounting Spiral 2								X	
* - Completed Event									
X - Planned Event									

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
07 - Operational System Development				0303141F Global Combat Support System (GCSS)				4907			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	FIRST GCSS-AF Integration					0		1,500		0	
(U)	Application Development for Acquire Accounting					0		6,573		0	
(U)	Application Development for Budget Formulation					0		600		0	
(U)	Total					0		8,673		0	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Performing Activity</u>	<u>or Funding Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>											
	Accenture	Cost Plus Award Fee	2 Apr 01	37,500	37,500	0	0	7,173	0	Continuing	TBD
	Lockheed Martin SI	CPAF	28 May 99	TBD	N/A	0	0	1,500	0	Continuing	TBD
<u>Support and Management Organizations</u>											
<u>Test and Evaluation Organizations</u>											
(U) Government Furnished Property:											
	<u>Item Description</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Delivery Date</u>		<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
		<u>or Funding Vehicle</u>	<u>Date</u>	<u>Date</u>							
<u>Product Development Property</u>											
<u>Support and Management Property</u>											
<u>Test and Evaluation Property</u>											

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)				DATE February 2002		
BUDGET ACTIVITY		PE NUMBER AND TITLE			PROJECT	
07 - Operational System Development		0303141F Global Combat Support System (GCSS)			4907	
		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
		<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>
						<u>Program</u>
<u>Subtotals</u>						
Subtotal Product Development		0	0	8,673	0	TBD
Subtotal Support and Management						
Subtotal Test and Evaluation						
Total Project		0	0	8,673	0	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)	DATE February 2002
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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0303141F Global Combat Support System (GCSS)	PROJECT 4928
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COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4928 Electronic Business/Electronic Commerce	0	1,197	1,306	1,403	1,400	1,399	1,397	Continuing	TBD

Funds transfered from PE 38610 (3400 funds) to PE 33141 (3600 funds) starting in FY02.

(U) A. Mission Description

Supports DOD mandates to maximize the use of Electronic Business/Electronic Commerce (EB/EC) by maintaining a core team to stimulate AF EC Growth. Provides the USAF with the capability to conduct EB/EC with other military and commercial entities using standards-based communications.

The Chief Information Officer's Business Transformation Division provides, through strategic alignment with functional customers, "surge" capacity and assistance in business process transformation and improvement, and rapid implementation of E-enabling technologies. Oversees and establishes architecture policy, guidance, standards, and the development of Air Force (AF) wide architecture products in addition to orchestrating all Air Force architectural actions and recommendations. Using an enterprise model framework, the task force will provide support to an EC gateway and other EB/EC initiatives. In addition, the office provides EB/EC consulting and strategic visioning with reach back capability, advocates for and assists functional customers in vetting EB/EC initiatives through DOD's Business Initiative Council, and supports prototyping and testing services to jump start promising applications prior to full scale funding, implementation and fielding by functional communities of interest.

(U) FY 2001 (\$ in Thousands)

(U) \$0 No Activity
(U) \$0 Total

(U) FY 2002 (\$ in Thousands)

(U) \$720 Core Support
(U) \$275 Enterprise Model & EC Gateway Support
(U) \$101 Electronic Business/Electronic Commerce Reengineering Initiatives
(U) \$101 Electronic Business/Electronic Commerce Advanced Technology Prototypes
(U) \$1,197 Total

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2002			
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0303141F Global Combat Support System (GCSS)				PROJECT 4928		
(U) <u>A. Mission Description Continued</u>										
(U) <u>FY 2003 (\$ in Thousands)</u>										
(U) \$822 Core Support										
(U) \$282 Enterprise Model & EC Gateway Support										
(U) \$101 Electronic Business/Electronic Commerce Reengineering Initiatives										
(U) \$101 Electronic Business/Electronic Commerce Advanced Technology Prototypes										
(U) \$1,306 Total										
(U) <u>B. Project Change Summary</u>										
Funds transferred from PE 0308610F (3400 funds) to PE 0303141F (3600 funds) starting in FY02.										
(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u>										
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>	
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>		
(U) AF RDT&E										
(U) Other APPN										
(U) Operation & Maintenance, AF; PE 38610F	1,200	0	0	0	0	0	0	Continuing	Continuing	
(U) <u>D. Acquisition Strategy</u>										
All major contracts awarded after full and open competition.										
(U) <u>E. Schedule Profile</u>										
			<u>FY 2001</u>			<u>FY 2002</u>			<u>FY 2003</u>	
			1	2	3	4	1	2	3	4
(U) Begin Enterprise Model and EC Gateway							X			
(U) Update Enterprise Model and EC Gateway								X		
* = Completed Event										
X = Planned Event										
Project 4928			Page 30 of 36 Pages				Exhibit R-2A (PE 0303141F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development				0303141F Global Combat Support System (GCSS)				4928		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	Core Support					0		720		822
(U)	Enterprise Model & EC Gateway Support					0		275		282
(U)	Electronic Business/Electronic Commerce Reengineering Initiatives					0		101		101
(U)	EB/EC Advanced Technology Prototypes					0		101		101
(U)	Total					0		1,197		1,306
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
Various	Various	Various	N/A	N/A	0	0	477	484	Continuing	TBD
<u>Support and Management Organizations</u>										
TBD Contract	CPAF	1QFY02	Continuing	Continuing			720	822	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
<u>Subtotals</u>					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
	Subtotal Product Development				0	0	477	484	TBD	TBD
	Subtotal Support and Management						720	822	TBD	TBD
	Subtotal Test and Evaluation									
	Total Project				0	0	1,197	1,306	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2002	
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0303141F Global Combat Support System (GCSS)				PROJECT 5046	
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
5046 Systems Engineering & Integration	0	0	27,862	17,824	18,174	18,056	16,243	Continuing	TBD
<p>In FY 2003, project 4905, GCSS-AF Architecture Development and project 4906, GCSS-AF Domain Integration, were transferred and combined into project number 5046, System Engineering and Development (SE&I).</p> <p>(U) <u>A. Mission Description</u> Global Combat Support System - Air Force (GCSS-AF) is an umbrella program to develop a modern integrated system that provides for Agile Combat Support (ACS) for the Air Force. This information is necessary to train, equip, deploy, employ, sustain and redeploy Expeditionary Air Forces (EAFs) world wide during peace and war and support the warfighting CINCs. The GCSS-AF architecture is an integrated set of system products that orchestrate the passing of combat support data between applications and software objects, and provides the warfighter real-time access to accurate, current information and decision support tools. It is based on open standard technologies. Included are efforts such as hardware and software engineering; modeling and simulation; design optimization; hardware and software COTS analysis; architecture design; architecture and integration framework interface definitions, standards and descriptions; system engineering; software and hardware integration; testing; and other special studies as required. Other efforts included are those required to successfully enable application and cross-application capabilities, and include such things as requirements analysis, interface analysis, modeling and simulation, developing guidelines for application developers, technical support to application developers, technical integration, prototyping, application interface testing, architecture testing of applications and common services, support for business process reengineering, and developing common services for application utilization.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p>									
Project 5046			Page 32 of 36 Pages				Exhibit R-2A (PE 0303141F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2002			
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0303141F Global Combat Support System (GCSS)				PROJECT 5046		
(U) <u>A. Mission Description Continued</u>										
(U) <u>FY 2003 (\$ in Thousands)</u>										
(U)	\$9,000	Presentation Services (Air Force Portal)								
(U)	\$6,500	Integration Framework/Architecture Development								
(U)	\$3,212	GCSS-AF Application Integration								
(U)	\$2,300	SSG/DII Engineering								
(U)	\$1,200	SSG/DII Program Management and Operations								
(U)	\$500	Test and Evaluation								
(U)	\$1,800	ESC/DIS Engineering								
(U)	\$1,250	ESC/DIS Program Management and Operations								
(U)	\$2,100	Integrated Requirements Support System (IRSS) Integration								
(U)	\$27,862	Total								
(U) <u>B. Project Change Summary</u>										
GCSS-AF Systems Engineering and Integration received an additional \$12M in RDT&E funding in the FY03 budget.										
(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u>										
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>	
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>		
(U)	AF RDT&E									
(U)	Other APPN									
(U)	Operation & Maintenance, AF; PE 33141F		1,604	2,166	2,469	4,035	4,286	Continuing	TBD	
(U)	Other Procurement, AF; PE 33141F		9,821	15,663	30,938	33,718	36,365	Continuing	TBD	
(U) <u>D. Acquisition Strategy</u>										
All major contracts awarded after full and open competition.										
(U) <u>E. Schedule Profile</u>										
			<u>FY 2001</u>			<u>FY 2002</u>		<u>FY 2003</u>		
Project 5046			Page 33 of 36 Pages				Exhibit R-2A (PE 0303141F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2002					
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT				
07 - Operational System Development				0303141F Global Combat Support System (GCSS)				5046				
(U) <u>E. Schedule Profile Continued</u>												
		<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>		
	1	2	3	4	1	2	3	4	1	2	3	4
(U)	Test and Evaluation Master Plan (TEMP)								X			
(U)	Milestone B									X		
(U)	Initial IRSS Integration											X
	* = Completed Event											
	X = Planned Event											

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
07 - Operational System Development				0303141F Global Combat Support System (GCSS)				5046			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	Presentation Services (Air Force Portal)					0		0		9,000	
(U)	Integration Framework/Architecture Development					0		0		6,500	
(U)	GCSS-AF Application Integration					0		0		3,212	
(U)	ESC/DIS Engineering					0		0		1,800	
(U)	ESC/DIS Program Management and Operations					0		0		1,250	
(U)	SSG/DII Engineering					0		0		2,300	
(U)	SSG/DII Program Management and Operations					0		0		1,200	
(U)	Test and Evaluation					0		0		500	
(U)	Integrated Requirements Support System (IRSS) Integration					0		0		2,100	
(U)	Total					0		0		27,862	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Performing Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>											
	Presentation Services (Air Force Portal)	Multiple	Multiple	N/A	N/A	0	0	0	9,000	Continuing	TBD
	Lockheed Martin Systems Integration	CPAF	28 May 99	N/A	N/A	0	0	0	9,712	Continuing	TBD
	SSG/DII Engineering	Service Level Agreement (FFP)	1 Oct 01	N/A	N/A	0	0	0	2,300	Continuing	TBD
	MSG/MM	SLA	1 Oct 02	N/A	N/A	0	0	0	2,100	Continuing	TBD
Project 5046				Page 35 of 36 Pages				Exhibit R-3 (PE 0303141F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE February 2002	
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT	
07 - Operational System Development					0303141F Global Combat Support System (GCSS)					5046	
(U) Performing Organizations Continued:											
<u>Support and Management Organizations</u>											
ESC/DIS Program	Time & Management and Operations	Multiple	N/A	N/A	0	0	0	1,250	Continuing	TBD	
SSG/DII Program	Material Service level	N/A	N/A	N/A	0	0	0	1,200	Continuing	TBD	
Management and Operations	Agreemet (SLA)										
ESC/DIS Engineering	N/A	N/A	N/A	N/A	0	0	0	1,800	Continuing	TBD	
<u>Test and Evaluation Organizations</u>											
Test and Evaluation	N/A	N/A	N/A	N/A	0	0	0	500	Continuing	TBD	
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
<u>Subtotals</u>					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>	
Subtotal Product Development					0	0	0	23,112	TBD	TBD	
Subtotal Support and Management					0	0	0	4,250	TBD	TBD	
Subtotal Test and Evaluation					0	0	0	500	TBD	TBD	
Total Project					0	0	0	27,862	TBD	TBD	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0303150F WWMCCS/GLOBAL COMMAND & CONTROL SYSTEM				PROJECT 4667		
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4667	Global Command and Control System - AF	3,535	3,166	3,565	3,618	3,686	3,734	3,812	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0
<p>Note 1: In FY 2001, funding for Deliberate and Crisis Action Planning and Execution Segments (DCAPES) was executed as a separate project (674802) under PE 0207438F, Theater Battle Management (TBM) C4I.</p> <p>(U) <u>A. Mission Description</u> The Global Command and Control System (GCCS) is the designated Command and Control migration system for the DoD. It is an integrated Command, Control, Communications, Computer, and Intelligence (C4I) system capable of supporting all echelons of the US military command structure. GCCS solves C4I interoperability problems between Service components by establishing a Defense Infrastructure (DII) Common Operating Environment (COE), and has an end objective to eliminate stovepiped systems. The Global Command and Control System-Air Force program provides C2, intelligence, surveillance, reconnaissance and operational information for the JFACC and the AOC for planning and execution, air space deconfliction, targeting, weaponeering, and many other applications supporting air operational command and control, and fully supports the Air Expeditionary Force concept. The Air Force is responsible for developing four of the modules that will make up the COE, and integration of Air Force unique applications with the COE. Integration efforts will be directed towards future aerospace C2 concepts supporting requirements for the Air Operations Center (AOC), including intelligence, surveillance, and reconnaissance and and intended to automate operational systems with an end objective for saving manpower and reducing costs. GCCS-AF will add integrated applications satisfying requirements for the Common Operational Picture (COP), Single Integrated Air Picture (SIAP), Family of Interoperable Operational Pictures (FIOP), Joint Defensive Planner (JDP), Joint Targeting Toolbox (JTT), and Deliberate Crisis Action Planning and Execution Segment (DCAPES). The COP will integrate data to provide the SIAP and the FIOP.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <p>(U) \$821 Integration and Development of Future Aerospace C2 Concepts, Crisis Action Planning Evolution</p> <p>(U) \$2,014 Definition and Integration of Air Force Capabilities into GCCS (COP, SIAP, FIOP, DCAPES, ATO Reader, Joint Defensive Planner (JDP)), Prototype Software Development, GCCS Migration Support</p> <p>(U) \$700 DII COE Development and Distribution</p> <p>(U) \$3,535 Total</p>										
Project 4667			Page 1 of 6 Pages				Exhibit R-2 (PE 0303150F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2002																																									
BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0303150F WWMCCS/GLOBAL COMMAND & CONTROL SYSTEM		PROJECT 4667																																								
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$700 Integration and Development of Future Aerospace C2 Concepts, Crisis Action Planning Evolution</p> <p>(U) \$1,966 Integration of Air Force Capabilities into GCCS (COP, SIAP, FIOP, DCAPEs, ATO Reader, Joint Defensive Planner (JDP), Joint Targeting Toolbox (JTT)), Prototype Software Development, GCCS Migration Support</p> <p>(U) \$500 DII COE Development and Distribution</p> <p>(U) \$3,166 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$915 Integration and Development of Future Aerospace C2 Concepts, Crisis Action Planning Evolution</p> <p>(U) \$2,100 Integration of Air Force Capabilities into GCCS (COP, SIAP, FIOP, DCAPEs, ATO Reader, Joint Defensive Planner (JDP), Joint Targeting Toolbox (JTT)), Prototype Software Development, GCCS Migration Support</p> <p>(U) \$550 DII COE Development and Distribution</p> <p>(U) \$3,565 Total</p> <p>(U) <u>B. Budget Activity Justification</u></p> <p>This effort is Budget Activity 7, Operational System Development, because the program develops and implements software, and engineers and implements communications for an integrated operational communications and computer network that will eventually evolve to the Global Grid, Global Information Grid, and Global Battlespace Infosphere (JBI).</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:60%;"></th> <th style="width:10%; text-align: center;"><u>FY 2001</u></th> <th style="width:10%; text-align: center;"><u>FY 2002</u></th> <th style="width:10%; text-align: center;"><u>FY 2003</u></th> <th style="width:10%; text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: center;">3,743</td> <td style="text-align: center;">3,521</td> <td style="text-align: center;">3,616</td> <td style="text-align: center;">TBD</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: center;">3,743</td> <td style="text-align: center;">3,521</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> a. Congressional/General Reductions</td> <td style="text-align: center;">-123</td> <td style="text-align: center;">-355</td> <td></td> <td></td> </tr> <tr> <td> b. Small Business Innovative Research</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> d. Below Threshold Reprogram</td> <td style="text-align: center;">-59</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>					<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>	(U) Previous President's Budget	3,743	3,521	3,616	TBD	(U) Appropriated Value	3,743	3,521			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions	-123	-355			b. Small Business Innovative Research					c. Omnibus or Other Above Threshold Reprogram					d. Below Threshold Reprogram	-59			
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>																																							
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2002										
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT										
07 - Operational System Development					0303150F WWMCCS/GLOBAL COMMAND & CONTROL SYSTEM					4667										
(U) C. Program Change Summary (\$ in Thousands) Continued																				
					<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>		<u>Total Cost</u>									
e. Rescissions					-26				-51											
(U) Adjustments to Budget Years Since FY 2002 PBR									-51											
(U) Current Budget Submit/FY 2003 PBR					3,535		3,166		3,565		TBD									
(U) <u>Significant Program Changes:</u> N/A																				
(U) D. Other Program Funding Summary (\$ in Thousands)																				
		<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>		<u>FY 2005</u>		<u>FY 2006</u>		<u>FY 2007</u>		<u>Cost to</u>		<u>Total Cost</u>		
		<u>Actual</u>		<u>Estimate</u>		<u>Estimate</u>		<u>Estimate</u>		<u>Estimate</u>		<u>Estimate</u>		<u>Estimate</u>		<u>Complete</u>				
(U) AF RDT&E																Continuing		TBD		
(U) Other APPN		15,092		15,046		28,182		27,314		22,492		22,290		22,733		Continuing		TBD		
(U) E. Acquisition Strategy																				
Electronics Systems Center (ESC), Hanscom AFB, MA will manage the overall AF GCCS Program (Designated Systems Integration, Integration and Development of Future Aerospace C2 Concepts, Crisis Action Planning Evolution, and plan to the directed DII COE. DII COE compliance is performed by ESC to support AF contributions to the Joint Services GCCS program and to support AF mission applications that are required to operate in the COE.																				
(U) F. Schedule Profile																				
					<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>							
					1	2	3	4	1	2	3	4	1	2	3	4				
(U) Integration and Development of Future Aerospace Command C2 Concepts									*											
(U) Crisis Action Planning Evolution					*			*	X	X										
(U) Definition and Integration of Air Force Capabilities into GCCS													*							
(U) COP													*							
(U) DCAPES Application Integration					*	*	*			X	X									
(U) ATO Reader													X							
Project 4667					Page 3 of 6 Pages					Exhibit R-2 (PE 0303150F)										

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BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT			
07 - Operational System Development					0303150F WWMCCS/GLOBAL COMMAND & CONTROL SYSTEM					4667			
(U) F. Schedule Profile Continued													
		<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>			
	1	2	3	4	1	2	3	4	1	2	3	4	
(U)	Joint Defensive Planner (JDP)					X							
(U)	Prototype Software Development									X			
(U)	GCCS Migration Support					X							
(U)	COE Development and Distribution												
(U)	Software Development & Integration					X							
(U)	Integration Testing & Evaluation					X							
(U)	System Testing					X							
	* Denotes Completed Event												
	X Denotes Planned Event												
Project 4667													
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Exhibit R-2 (PE 0303150F)													

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
07 - Operational System Development					0303150F WWMCCS/GLOBAL COMMAND & CONTROL SYSTEM			4667		
(U) A. Project Cost Breakdown (\$ in Thousands)										
					<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	Integration and Development of Future Aerospace Command C2 Concepts, Crisis Action Planning Evolution				821		700		915	
(U)	Definition and Integration of Air Force Capabilities into GCCS, Prototype Software Development, GCCS Migration Support				2,014		1,966		2,100	
(U)	DII COE Development and Distribution				700		500		550	
(U)	Total				3,535		3,166		3,565	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government Performing Activity</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>										
Rome Lab	FFP/FCA	Jun 95			250				Continuing	TBD
Material Systems Group	various	various			1,400				Continuing	TBD
Miscellaneous	various	various			85				Continuing	TBD
ESC	TBD	TBD							Continuing	TBD
DCAPES	FFP/LHAF	Jul 98			1,700				Continuing	TBD
*In FY 00 DCAPES funding is transferred to PE 27438										
<u>Support and Management Organizations</u>										
Information Technology Services Program (ITSP)					5,819	550	1,800	1,865	Continuing	TBD
MITRE					6,774	2,740	1,200	1,500	Continuing	TBD
Miscellaneous					15	245	166	200	Continuing	TBD
<u>Test and Evaluation Organizations</u>										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)				DATE					
BUDGET ACTIVITY				PROJECT					
07 - Operational System Development				0303150F WWMCCS/GLOBAL COMMAND & CONTROL SYSTEM					
				4667					
(U) Government Furnished Property:									
<u>Item</u>	<u>Contract</u>	<u>Award or</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Method/Type</u>	<u>Obligation</u>	<u>Date</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
	<u>or Funding</u>	<u>Date</u>	<u>Date</u>						
<u>Vehicle</u>									
<u>Product Development Property</u>									
<u>Support and Management Property</u>									
<u>Test and Evaluation Property</u>									
<u>Subtotals</u>				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
				<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				3,435				TBD	TBD
Subtotal Support and Management				12,608	3,535	3,166	3,565	TBD	TBD
Subtotal Test and Evaluation									
Total Project				16,043	3,535	3,166	3,565	TBD	TBD