

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1999
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BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 0605712F Initial Operational Test & Eval	PROJECT 0191
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COST (\$ In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
0191 Initial Operational Test & Eval	27,388	27,294	23,819	28,689	29,513	30,028	30,653	31,292	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description: Initial Operational Test and Evaluation (IOT&E) is conducted to determine the operational effectiveness and suitability of systems undergoing research and development (R&D) efforts. It is an evaluation of a system's performance when the complete system is tested and evaluated against operational criteria by personnel with the same qualifications as those who will operate, maintain and support the system when deployed. In general, IOT&E is performed on new systems in development, major modifications and other systems as directed. This PE funds Congressionally mandated IOT&E to support major weapon system acquisition decisions beyond low-rate initial production (LRIP), Milestone III, fielding, and declaration of initial operational capability (IOC). For major systems designated for use in combat, the law requires IOT&E be completed under realistic field conditions before proceeding beyond low rate initial production. This PE funds operational test and evaluation (OT&E)-related activities such as Operational Utility Evaluations (OUE), Early Operational Assessments (EOA) and Operational Assessments (OA), and independent IOT&E which support major milestones and decision points prior to Milestone III, fielding, or declaration of IOC. IOT&E programs are identified in five categories: Aircraft/Support; Space; Missile/Munitions; Command, Control, Communications, Computers, and Intelligence (C4I); and General. This PE funds the costs of the test (e.g., planning, evaluation, reporting, etc.). Air Force Operational Test and Evaluation Center (AFOTEC) obtains general support services from contracts awarded after employing full and open competition contracting strategies.

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<p>(U) <u>FY 1998 (\$ in Thousands):</u></p> <p>(U) \$ 9,679 <u>(U) Category: Aircraft/Support.</u> Conducted IOT&E on the F-22; Joint Strike Fighter (JSF); F-15 Tactical Electronic Warfare System (TEWS); B-1B Conventional Mission Upgrade Program (CMUP) BLK D; B-1B CMUP BLK E; B-1B CMUP BLK F; CV-22; Airborne Laser (ABL) and other numerous systems.</p> <ul style="list-style-type: none"> - F-22: Implemented OA plan and reporting results to LRIP. Finalized Roll-up Methodology Model and F-15C Comparison Test Plan and coordinated required range and aircraft requirements. - JSF: Developed, coordinated with USN/USMC, and gained approval of EOA Plan. Prepared resource requirement plan and initiated resource acquisition. - F-15 TEWS: Conducted suitability assessment and Type 1 training - B-1B CMUP Block D: Conducted IOT&E testing. - B-1B CMUP Block E: Conducted advance planning, contractor support, Modeling and Simulation (M&S). - B-1B CMUP Block F: Conducted advance planning, contractor support, fuze model development, Joint Modeling and Simulation System (JMASS), and end-game interface work. - CV-22: Conducted operational testing (OT) with Navy and Marines. - ABL: Conducted advanced planning for combined Developmental Test/Operational Test (DT/OT), prepared DT/OT M&S plan, incorporated major Operational Requirements Document (ORD) update changes into test documentation (e.g., Test and Evaluation Master Plan) and test plans, and developed test target requirements. <p>– (U) \$ 5,708 <u>(U) Category: Space.</u> Conducted IOT&E on Cheyenne Mountain Upgrade (CMU); ICBM-Minuteman III Guidance Program (ICBM-MMIII GRP); MILSTAR; Evolved Expendable Launch Vehicle (EELV); National Missile Defense (NMD); Space Based Infrared System-High (SBIRS-High); Space Based Infrared System-LOW (SBIRS-LEO); Theater Missile Defense (TMD) and other numerous systems.</p> <ul style="list-style-type: none"> - CMU: Finished air mission testing, and Cheyenne Mountain testing. - ICBM GRP: Conducted M&S, range support, and guidance replacement testing. - MILSTAR: Participated in combined DT/OT. - EELV: Conducted OA, IOT&E pre-test planning, M&S - NMD: Observed and participated in DT/OT flight and ground tests in preparation for the FY00 Deployment Readiness Review. - SBIRS-High: M&S, Validation Verification and Accreditation (VV&A) Effectiveness models, ground and space segment survivability analysis, operational assessment of ground consolidation, hardware/software integration, and planning for FY99 IOT&E. - SBIRS-LEO: OT&E Program Readiness Assessment, M&S, Test and Evaluation Planning; and pre-test planning. - TMD: Supported and participated in Patriot Advanced Capability-3 (PAC-3) IOT&E Family of Systems, Hardware-in-the-Loop M&S event, and System Integration Testing. 		
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– (U) \$ 3,207	<p><u>(U) Category: Missile/Munitions.</u> Conducted IOT&E on Joint Direct Attack Munitions (JDAM); Joint Standoff Weapon (JSOW); AIM-9X; and Joint Air-to Surface Stand-OFF Missile (JASSM).</p> <ul style="list-style-type: none"> - JDAM: Conducted IOT&E testing, contractor support, and range support. - JSOW: IOT&E testing, phase II test planning and contract support. - AIM-9X: Data Reduction, DMAP production and M&S. - JASSM: Completed OT&E Test Plan; developed and provided program introduction document to test ranges; completed and briefed Milestone II OA; finalized combined DT/OT plan with the Joint Program Office (JPO) and contractors, range costs including simulator initial checkout and simulator deployments. 	
– (U) \$ 3,332	<p><u>(U) Category: Command, Control, Communications, Computers, and Intelligence (C4I).</u> Conducted IOT&E on Region/Sector Air Operations Center (R/SAOC); Global Air Traffic Management (GATM); Global Transportation Network (GTN); Joint Simulation System (JSIMS); National Air Space Model (NASM) and Joint Precision Approach and Landing System (JPALS); Theater Battle Management Core Systems (TBM-CS) and other numerous systems.</p> <ul style="list-style-type: none"> - R/SAOC (formerly R/SOCC): Concept development and test plan developments. - GTN: Conducted two Operational Field Tests on incremental software releases. - JPALS: Conducted OT, contractor support, data analysis, data reduction, and range support. - TBM-CS: Planned and conducted OT on Version 1 including combined DT/OT with developer and government DT and operational field testing. - JSIMS: Participated in Build 1-Technical Demonstration of Core Capability, contractor support, and develop assessment plans for FY00. - NASM: Conducted limited OT for Build 2 and planned for full OT during Build 3, contractor support, and developed IOT&E plan for FY01. 	
– (U) \$ 5,462	<p><u>(U) Category: General.</u> Conducted IOT&E on Wind Corrected Munitions Dispenser (WCMD) and other numerous systems.</p> <ul style="list-style-type: none"> - WCMD: IOT&E test continues at Eglin AFB FL, and Utah Test and Training Range. Dedicated IOT&E will employ inert munitions to evaluate multiple-weapon deliveries and to measure Circular Error Probable (CEP) to an 80% confidence level. 	
– (U) \$27,388	Total	

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(U) FY 1999 (\$ in Thousands):		
<ul style="list-style-type: none"> - (U) \$ 9,207 - (U) \$ 5,429 - (U) \$ 5,029 - (U) \$ 2,813 - (U) \$ 4,816 - (U) \$27,294 	<ul style="list-style-type: none"> <u>(U) Category: Aircraft/Support.</u> Conduct IOT&E on the F-22; Joint Strike Fighter (JSF); F-15C/E Tactical Electronic Warfare System (TEWS); B-1 Conventional Mission Upgrade Program (CMUP) BLK E; B-1B CMUP BLK F; CV-22 and other numerous systems. - F-22 : Conduct F-15C Comparison Test open-air Testing; Conduct OA to Support Certification Ready for IOT&E. - JSF: Conduct EOA. - F-15 TEWS: Conduct IOT&E testing. - B-1B CMUP Block E: Advance planning, contractor support, and M&S. - B-1B CMUP Block F: Advance Planning, contractor support, and fuze model development. - CV-22: Contractor support for operational evaluation (OPEVAL) <u>(U) Category: Space.</u> Conduct IOT&E on Cheyenne Mountain Upgrade (CMU); MILSTAR; Evolved Expendable Launch Vehicle (EELV) and other numerous systems. - CMU: Complete Cheyenne Mountain Testing. - MILSTAR: Participate in combined DT/OT. - EELV: Conduct OA #2. <u>(U) Category: Missile/Munitions.</u> Conduct IOT&E for Joint Standoff Weapon (JSOW); AIM-9X and Joint Air-to Surface Stand-OFF Missile (JASSM) and other numerous programs - JSOW: Conduct IOT&E testing, phase II testing planning, and contractor support. - AIM-9X: Conduct data reduction, DMAP Production, and M&S. - JASSM: Participate and accomplish combined DT/OT; prepare for IOT&E (planned start Feb). Provide manpower and equipment, and range cost including possible simulator deployment and early combined DT/OT testing. <u>(U) Category: Command, Control, Communications, Computers, and Intelligence (C4I).</u> Conduct IOT&E on Region/Sector Air Operation Center (R/SAOC) and other numerous systems. - R/SAOC (formerly R/SOCC): Conduct IOT&E testing <u>(U) Category: General.</u> Conduct IOT&E on Casualty Care Systems; Base Intrusion Security Systems (BISS); Chemical Warfare Defense, Next Generation Generators and External Control Unit and other numerous systems. - CCS: Test all newly developed flyaway transportable medical care systems. - BISS: Conduct on-going tests of various commercial off-the-shelf and other personnel and asset protection techniques. - CWD: AF focus of chemical protection programs. - Next Generation Generator and External Control Units: Support the Airbase Operability Concept. Total 	
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(U) <u>FY 2000 (\$ in Thousands):</u>		
- (U) \$12,196	<u>(U) Category: Aircraft/Support.</u> Conduct IOT&E on F-22; Airborne Laser (ABL); CV-22; B-1B Conventional Mission Upgrade Program (CMUP) BLK E; B-1B CMUP BLK F and numerous other systems. - F-22: Continue with F-15C comparison test using open-air and full mission simulator, and conducting OA. - ABL: Conduct advanced planning for combined DT/OT and dedicated IOT&E, prepare for EOA-2, begin incorporating OT requirements into M&S code per the combined DT/OT M&S plan, and continue test target requirements. - CV-22: Participate in Navy Operational Test and Evaluation Force (OPTEVFOR)-led MV-22 OPEVAL. - B-1B CMUP BLK E: Completing OA, write report and start IOT&E. - B-1B CMUP BLK F: Completing OA and write report.	
- (U) \$3,105	<u>(U) Category: Space.</u> Conduct IOT&E on Theater Missile Defense (TMD); National Missile Defense (NMD); Space Based Infrared System-High (SBIRS-High); Space Based Infrared System-Low (SBIRS-LEO) and numerous other systems -TMD: Continue support in Patriot Advanced Capability-3 (PAC-3) IOT&E, participate in hardware-in-the-Loop M&S Testing and planning with Commander, Operational Test and Evaluation Force (COMPOPTEVFOR) for TMD IOT&E and, if necessary, execution. - NMD: Continue to observe and participate in DT/OT fight and ground tests and conduct EOA to support Deployment Review. - SBIRS-High: Performing operational utility evaluations (OUEs) to support upgrade acceptance of ground systems. - SBIRS-LEO: Performing OA to support downselect decision at Milestone II.	
- (U) \$3,533	<u>(U) Category: Missile/Munitions.</u> Conduct IOT&E on Joint Standoff Weapon (JSOW); AIM-9X; Joint Air-to-Surface Stand-off Missile (JASSM) and numerous other programs. - JSOW: Complete IOT&E and published final report. - AIM-9X: Prepare for and assist DT in performing combined DT/OT. - JASSM: Continue combined DT/OT testing and preparation for IOT&E.	
- (U) \$1,356	<u>(U) Category: Command, Control, Communications, Computers, and Intelligence (C4I).</u> Conduct IOT& E on Global Transportation Network (GTN); Joint Simulation System (JSIMS); National Air Space Model (NASM); Theater Battle Management Core Systems (TBM-CS) and numerous other systems. - GTN: Conduct three operational field tests (OFT) on incremental software releases. - JSIMS: Conduct limited OT during Build 2, conduct full OT during Build 3 and develop IOT&E Plan for FY01. - NASM: Conduct limited OT during Build 2, conduct full OT Build 3 and develop IOT&E Plan for FY01. - TBM-CS: Plan and conduct OT on Version 2 including combined DT/OT with developer and government and operational field testing.	

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<p>– (U) \$3,629 <u>(U) Category: General.</u> Conduct IOT&E on Joint Helmet Mounted Cueing System (JHMCS); Hard Target Smart Fuse (HTSF); Common Low Observable Verification System (CLOVers) and numerous other systems.</p> <ul style="list-style-type: none"> - JHMCS: Conduct IOT&E in preparation for a Milestone III decision. - HTSF: Prepare for and conduct OT for a fielding decision. - CLOVers: Performing development verification testing (DVT) and preparing for combined DT/OT starting in FY01. <p>– (U) \$23,819 Total</p> <p>(U) <u>FY 2001 (\$ in Thousands):</u></p> <p>– (U) \$13,991 <u>(U) Category: Aircraft/Support.</u> Conduct IOT&E on the F-22; Airborne Laser (ABL); CV-22; B-1B Conventional Mission Upgrade Program (CMUP) BLK E; B-1B CMUP BLK F and numerous other systems.</p> <ul style="list-style-type: none"> - F-22: Continuing F-15C comparison testing using open-air and full mission simulator, conducting OA, and planning for IOT&E. - ABL: Conduct advanced planning for combined DT/OT and dedicated IOT&E, conduct EOA-2, continue incorporating OT requirements into M&S code per combined DT/OT M&S plan, refine OT measures, and continue to test target requirements. - CV-22: Combined DT/OT will start with the Navy at Edwards AFB. - B-1B CMUP BLK E: Continuing conducting and completing IOT&E and writing final test report - B-1B CMUP BLK F: Prepare for and conduct IOT&E. <p>– (U) \$3,658 <u>(U) Category: Space.</u> Conduct IOT&E on the Theater Missile Defense (TMD); National Missile Defense (NMD); Space Based Infrared System-High (SBIRS-High) and numerous other systems.</p> <ul style="list-style-type: none"> - TMD: Participate and perform analysis on Navy Area Theater Ballistic Missile Defense (TBMD) OT&E, planning for System Integration Test (SIT 02), and plan and participate, if necessary in ABL IOT&E. - NMD: Continue to observe and participate in DT/OT and prepare to conduct OAs. - SBIRS-High: Continue to perform OUEs to support ground system upgrades. <p>– (U) \$7,623 <u>(U) Category: Missile/Munitions.</u> Conduct IOT&E for the AIM-9X; Joint Air-to-Surface Stand-off Missile (JASSM); Small Smart Bomb, and numerous other programs.</p> <ul style="list-style-type: none"> - AIM-9X: Perform IOT&E including live firing of 22 missiles. - JASSM: Complete IOT&E and publish final test report. - Small Smart Bomb: Observation and planning for future IOT&E. 		
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<ul style="list-style-type: none"> - (U) \$1,233 <u>(U) Category: Command, Control, Communications, Computers, and Intelligence (C4I).</u> Conduct IOT&E on the Global Transportation Network (GTN); Joint Simulation System (JSIMS); National Air Space Model (NASM) and numerous other systems. <ul style="list-style-type: none"> - GTN: Continue operational field tests (OFTs) on incremental software releases. - JSIMS: Conduct OA , contractor and remote site support, and advanced planning and execution for combined DT/OT and dedicated IOT&E. - NASM: Conduct OA , contractor and remote site support, and advanced planning and execution for combined DT/OT and dedicated IOT&E. - (U) \$2,184 <u>(U) Category: General.</u> Conduct IOT&E on Common Low Observable Verification System (CLOVers); Joint Chemical Agent Detector (JCAD); Joint Service Lightweight Stand-off Chemical Agent Detector (JSLSCAD) and numerous other systems. <ul style="list-style-type: none"> - CLOVers: Conducting combined DT/OT and preparing for and starting dedicated IOT&E which will be completed in FY02. - JCAD: Prepare and conduct IOT&E using C-130 Aircraft as a test bed. - JSLSCAD: Prepare and conduct IOT&E and write final report for a fielding determination. - (U) \$28,689 Total 		
<p>(U) B. Budget Activity Justification: This program element is in Budget Activity 6, RDT&E Management Support, because it funds weapon system IOT&E tests conducted to evaluate a system's operational effectiveness and suitability and to identify any operational deficiencies or need for modifications in support of the acquisition process.</p>		
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(U) C. Program Change Summary (\$ in Thousands):					
	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Total Cost</u>
(U) Previous President's Budget (FY 1999 PB)	27,153	24,541	28,244	29,228	Cont
(U) Appropriated Value	28,319	29,541			
(U) Adjustments to Appropriated Value					
a. Congressional/General Reductions	-1,166	-2,247			
b. SBIR					
c. Omnibus or Other Above Threshold Reprogramming	-180				
d. Below Threshold Reprogramming	415				
(U) Adjustment to Budget Years Since FY 1999 PB			-4,425	-539	
(U) Current Budget Submit/FY 2000 PB	27,388	27,294	23,819	28,689	Cont
(U) Significant Program Changes:					
- FY98: omnibus reprogramming reduction of \$180; below threshold reprogramming of \$415 for Precision Landing System Receiver (PLSR) IOT&E.					
- FY00 Adjustment of \$4.0M due to higher priority Air Force requirements.					
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<p>(U) D. <u>Other Program Funding Summary (\$ in Thousands):</u> N/A.</p> <p>(U) E. <u>Acquisition Strategy:</u> N/A</p> <p>(U) F. <u>Schedule Profile:</u> IOT&E is not an acquisition program. There are dozens of IOT&E programs in any one fiscal year. The AFOTEC automated test resource plan database does not provide quarterly IOT&E test schedules. However, specific IOT&E schedules can be made available on a case-by-case basis through the appropriate AFOTEC test resource management office.</p>		
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