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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force										Date: February 2018		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support					R-1 Program Element (Number/Name) PE 0605712F I Initial Operational Test & Evaluation							
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	-	13.829	15.523	18.043	0.000	18.043	13.793	13.997	14.254	14.513	Continuing	Continuing
660191: Initial Operational Test and Eval	-	13.829	15.523	18.043	0.000	18.043	13.793	13.997	14.254	14.513	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

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

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

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B. Program Change Summary (\$ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	
Previous President's Budget	11.529	15.523	13.178	0.000	13.178	
Current President's Budget	13.829	15.523	18.043	0.000	18.043	
Total Adjustments	2.300	0.000	4.865	0.000	4.865	
• Congressional General Reductions	0.000	0.000				
• Congressional Directed Reductions	0.000	0.000				
• Congressional Rescissions	0.000	0.000				
• Congressional Adds	0.000	0.000				
• Congressional Directed Transfers	0.000	0.000				
• Reprogrammings	2.300	0.000				
• SBIR/STTR Transfer	0.000	0.000				
• Other Adjustments	0.000	0.000	4.865	0.000	4.865	
Change Summary Explanation						
FY17 reprogramming was to cover additional OT requirements above original TOA. Funds were used for range, cyber and other testing requirements for the test portfolio.						
FY19 funding increase: \$4.865 million increase to fund cyber activities. For FY19 the funding is being distributed to PEs instead of being centrally managed. The initiative ends in FY19.						
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2017	FY 2018	FY 2019
Title: Air Systems OT&E				6.242	5.415	5.047
Description: Plan, execute and report OT&E for Air Systems						
FY 2018 Plans:						
-Advanced Pilot Training (APT T-X): Plan for OA						
-Airborne Warning and Control System (AWACS) Block 40/45: Plan for FOT&E						
-B-2 Flex Strike P6.2 Block Upgrade: Conduct IOT&E						
-B-52 Radar Modernization Program (B-52 RMP): Conduct early influence						
-C-130J Block Upgrade 8.1: Conduct IOT&E						
-Combat Rescue Helicopter (CRH): Conduct OA 2						
-(Diminishing Manufacturing Sources) Replacement of Avionics for Global Operations and Navigation (E-3 DRAGON): Plan for IOT&E						
-F-15 Eagle Passive and Active Warning and Survivability System (F-15 EPAWSS): Plan for OA						
-F-15 Infrared Search and Track System (F-15 IRST): Plan for OA						

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019
<ul style="list-style-type: none"> -F-22A 3.2B: Complete IOT&E -Global Hawk Ground Segment Modernization Program GH GSMP): Plan for OA -JSTARS Recapitalization: Plan for OA -KC-46A: Plan for IOT&E -MQ-9 Reaper Hunter-Killer Block 50 Ground Control Station (MQ-9 Block 50 GCS): Plan for OA -Presidential Aircraft Recapitalization (PAR): Conduct OA 1 -RQ-4B Global Hawk Block 30 Multi-Spectral Intelligence (MSI): Conduct OUE -UH-1N Replacement: Conduct early influence -Conduct other planning and operational testing for new air system programs as the requirement becomes known to AFOTEC <p>FY 2019 Plans:</p> <ul style="list-style-type: none"> -Advanced Pilot Training (APT T-X): Conduct OA -Airborne Warning and Control System (AWACS) Block 40/45: Conduct FOT&E -B-52 Radar Modernization Program (B-52 RMP): Conduct early influence -C-130J Block Upgrade 8.1: Complete IOT&E -Combat Rescue Helicopter (CRH): Conduct OA 2 -(Diminishing Manufacturing Sources) Replacement of Avionics for Global Operations and Navigation (E-3 DRAGON): Conduct IOT&E -F-15 Eagle Passive and Active Warning and Survivability System (F-15 EPAWSS): Conduct OA -F-15 Infrared Search and Track System (F-15 IRST): Conduct OA -Global Hawk Ground Segment Modernization Program GH GSMP): Conduct OA -JSTARS Recapitalization: Conduct OA -KC-46A: Conduct IOT&E -MQ-9 Reaper Hunter-Killer Block 50 Ground Control Station (MQ-9 Block 50 GCS): Conduct OA -Presidential Aircraft Recapitalization (PAR): Plan for OA2 -RQ-4B Global Hawk Block 30 Multi-Spectral Intelligence (MSI): Plan for IOT&E -UH-1N Replacement: Plan for OA -Conduct other planning and operational testing for new air system programs as the requirement becomes known to AFOTEC <p>FY 2018 to FY 2019 Increase/Decrease Statement: Projected test requirements based on available Program Office test schedules are currently less than FY18.</p>				
Title: Space Systems OT&E		2.447	3.090	1.470
Description: Plan, execute and report OT&E for Space Systems				

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019
FY 2018 Plans: -Advanced Extremely High Frequency Satellite Communications (Advanced EHF): Conduct early influence -Airborne Launch Control System Replacement (ALCS-R): Conduct early influence -Enhanced Polar System (EPS): Conduct MOT&E -Evolved Strategic SATCOM (ESS): Conduct early influence -Global Broadcast Service (GBS): Conduct early influence -Global Positioning System Block III (GPS III): Plan for OUE -Military GPS User Equipment (GPS MGUE): Plan for OA -Global Positioning System III Contingency Operations (GPS III COps): Plan for OUE -Global Positioning System Military-Code Early Use (GPS MCEU): Conduct early influence -GPS Next Generation Control Segment (GPS OCX): Conduct early involvement -Inter-Continental Ballistic Missile Fuze (ICBM FUZE): Plan for OA -Integrated Strategic Planning and Analysis Network Increment 4 (ISPAN Inc 4): Conduct IOT&E -Integrated Strategic Planning and Analysis Network Increment 5 (ISPAN Inc 5): Conduct early involvement -Joint Space Operations Center (JSpOC) Mission System (JMS): Conduct OUE and IOT&E -Long-Range Discrimination Radar (LRDR): Conduct early influence -Protected Tactical Enterprise Services (PTES): Conduct early influence -Protected Tactical SATCOM (PTS): Conduct early influence -Space Based Infrared System (SBIRS): Plan for IOT&E -Space Based Infrared System Follow-On (SBIRS FO): Conduct early influence -Space Based Space Surveillance Follow-On (SBSS FO): Conduct EOA -Space Fence: Plan for IOT&E -Weather System Follow-On Microwave (WSF-M): Plan for EOA -Conduct other planning and operational testing for new space system programs as the requirement becomes known to AFOTEC FY 2019 Plans: -Advanced Extremely High Frequency Satellite Communications (Advanced EHF): Conduct early influence -Airborne Launch Control System Replacement (ALCS-R): Plan for EOA -Evolved Strategic SATCOM (ESS): Conduct early influence -Global Broadcast Service (GBS): Plan for FOT&E -Global Positioning System Block III (GPS III): Plan for OUE -Military GPS User Equipment (GPS MGUE): Complete OA -Global Positioning System III Contingency Operations (GPS III COps): Conduct OUE -Global Positioning System Military-Code Early Use (GPS MCEU): Plan for OUE				

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019
-GPS Next Generation Control Segment (GPS OCX): Plan for OA -Inter-Continental Ballistic Missile Fuze (ICBM FUZE): Conduct OA -Integrated Strategic Planning and Analysis Network Increment 5 (ISPAN Inc 5): Conduct early influence -Long-Range Discrimination Radar (LRDR): Plan for OA -Protected Tactical Enterprise Services (PTES): Plan for EOA -Protected Tactical SATCOM (PTS): Conduct early influence -Space Based Infrared System (SBIRS): Conduct IOT&E -Space Based Infrared System Follow-On (SBIRS FO): Conduct early influence -Space Based Space Surveillance Follow-On (SBSS FO): Conduct OA -Space Fence: Conduct IOT&E -Weather System Follow-On Microwave (WSF-M): Conduct EOA -Conduct other planning and operational testing for new space system programs as the requirement becomes known to AFOTEC				
FY 2018 to FY 2019 Increase/Decrease Statement: Projected test requirements based on available Program Office test schedules are currently less than FY18.				
Title: Weapons Systems OT&E Description: Plan, execute and report OT&E for Weapons Systems FY 2018 Plans: -AIM-120C Advanced Electronic Protection Improvement Program (AIM-120C Advanced EPIP): Conduct MOT&E 2 -AIM-120D System Improvement Program 3 (AIM-120D SIP3): Conduct early influence -AIM-9X Block II 9.4xx (AIM-9X Blk II 9.4xx): Plan for FOT&E -B-61 Life Extension Program (B-61 LEP): Conduct OA -Electronic Bomb Fuze FMU-139D/B (FMU-139D/B): Plan for OUE -Offensive Anti-Surface Warfare/Increment I (OASuW Inc I): Complete OUE -Small Diameter Bomb II (SDB II): Conduct MOT&E -Conduct other planning and operational testing for new weapons system programs as the requirement becomes known to AFOTEC FY 2019 Plans: -AIM-120D System Improvement Program 3 (AIM-120D SIP3): Conduct early influence -AIM-9X Block II 9.4xx (AIM-9X Blk II 9.4xx): Plan for FOT&E -B-61 Life Extension Program (B-61 LEP): Conduct IOT&E -Electronic Bomb Fuze FMU-139D/B (FMU-139D/B): Conduct OUE		2.709	5.531	3.237

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019
-Small Diameter Bomb II (SDB II): Complete MOT&E -Conduct other planning and operational testing for new weapons system programs as the requirement becomes known to AFOTEC FY 2018 to FY 2019 Increase/Decrease Statement: Projected test requirements based on available Program Office test schedules are currently less than FY18.				
Title: C4ISR Systems OT&E Description: Plan, execute and report OT&E for C4ISR Systems FY 2018 Plans: -Air Force Integrated Personnel and Pay System (AF-IPPS): Conduct early influence -B-2 EHF Satcom: Conduct early influence -Command and Control Air Operations Suite/Command and Control Information Services (C2AOS-C2IS): Plan for OA & MOT&E -Distributed Common Ground System (DCGS): Conduct OUE 1, 2 & 3 -Enclave Control Node (ECN): Conduct OUE 1 -Family of Advanced Beyond Line Of Sight Terminals (FAB T): Plan for IOT&E -Nuclear Planning and Execution System Recapitalization (NPES): Conduct early influence -Presidential and National Voice Conferencing (PNVC): Conduct EOA -RQ-4 Global Hawk Block 30/Airborne Signals Intelligence Payload (ASIP): Plan for FOT&E -Three Dimensional Expeditionary Long Range Radar (3DELRR): Conduct early influence -Wide Area Surveillance (WAS): Conduct IOT&E -Conduct other planning and operational testing for new C4ISR programs as the requirement becomes known to AFOTEC FY 2019 Plans: -Air Force Integrated Personnel and Pay System (AF-IPPS): Plan for IOT&E -B-2 EHF Satcom: Plan for OA -Command and Control Air Operations Suite/Command and Control Information Services (C2AOS-C2IS): Conduct OA & MOT&E -Distributed Common Ground System (DCGS): Conduct OUE 4 -Enclave Control Node (ECN): Conduct OUE 2 -Family of Advanced Beyond Line Of Sight Terminals (FAB T): Conduct IOT&E -Nuclear Planning and Execution System Recapitalization (NPES): Plan for OUE -Presidential and National Voice Conferencing (PNVC): Plan for MOT&E -RQ-4 Global Hawk Block 30/Airborne Signals Intelligence Payload (ASIP): Conduct FOT&E -Three Dimensional Expeditionary Long Range Radar (3DELRR): Plan for OA		1.864	1.042	3.254

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019
-Wide Area Surveillance (WAS): Conduct FOT&E -Conduct other planning and operational testing for new C4ISR programs as the requirement becomes known to AFOTEC FY 2018 to FY 2019 Increase/Decrease Statement: Projected test requirements based on available Program Office test schedules are currently more than FY18.				
Title: Combat Support OT&E Description: Plan, execute and report OT&E for Combat Support OT&E FY 2018 Plans: -Deliberate and Crisis Action Planning and Execution Segments Increment 2B (DCAPES Inc 2B): Conduct OUE 1 -Integrated Aircrew Ensemble (IAE): Conduct IOT&E -Joint Mission Planning System B-2 (JMPS B-2): Conduct IOT&E -Joint Mission Planning System RQ-4 Mission Planning Element (JMPS RQ-4 MPE): Conduct IOT&E -Maintenance, Repair, and Overhaul Initiative (MROi): Conduct early influence -Mission Planning System Increment 5 (MPS Inc 5): Complete IOT&E 1, 2 & 3 -Modular Handgun System (MHS): Conduct MOT&E 2 -Conduct other planning and operational testing for new combat support programs as the requirement becomes known to AFOTEC FY 2019 Plans: -Deliberate and Crisis Action Planning and Execution Segments Increment 2B (DCAPES Inc 2B): Conduct OUE 2 -Integrated Aircrew Ensemble (IAE): Complete IOT&E -Maintenance, Repair, and Overhaul Initiative (MROi): Plan for IOT&E -Conduct other planning and operational testing for new combat support programs as the requirement becomes known to AFOTEC FY 2018 to FY 2019 Increase/Decrease Statement: Projected test requirements based on available Program Office test schedules are currently less than FY18.		0.567	0.445	0.035
Title: NDAA 1647 Cyber Testing Description: Plan and execute Congressional, DoD and Air Force mandated cyber security testing on AFOTEC programs for NDAA 1647 effort. FY 2018 Plans:		0.000	0.000	5.000

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019
Not applicable for FY18. Funds being applied in FY19				
FY 2019 Plans: Execute cyber testing as referenced in NDAA 1647 initiative.				
FY 2018 to FY 2019 Increase/Decrease Statement: Funding is being added for FY19 only.				
Accomplishments/Planned Programs Subtotals		13.829	15.523	18.043
D. Other Program Funding Summary (\$ in Millions) N/A				
Remarks				
E. Acquisition Strategy N/A				
F. Performance Metrics Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.				