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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Air Force										Date: May 2017		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 0207573F I National Technical Nuclear Forensics							
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	-	0.000	0.000	2.307	0.000	2.307	1.801	1.801	0.400	0.000	0.000	6.309
674881: Prompt Diagnostics	-	0.000	0.000	2.307	0.000	2.307	1.801	1.801	0.400	0.000	0.000	6.309
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Note In FY 2018, PE 0604257F, BPAC 644818 , Advanced Technology and Sensors, Project Imaging and Targeting Support, Nuclear Forensics - Prompt Diagnostics efforts were transferred to PE 0207573F, BPAC 674881 National Technical Nuclear Forensics, Project Prompt Diagnostics. This is not a new start.												
A. Mission Description and Budget Item Justification National Technical Nuclear Forensics (NTNF) is the collection, analysis and evaluation of pre- and post-detonation radiological and nuclear materials, devices, and debris as well as the immediate effects created by a nuclear detonation. NTNF will develop prompt diagnostic detection systems to record signals emitted immediately following a nuclear detonation. This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.												
B. Program Change Summary (\$ in Millions)				FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total				
Previous President's Budget				0.000	0.000	0.000	0.000	0.000				
Current President's Budget				0.000	0.000	2.307	0.000	2.307				
Total Adjustments				0.000	0.000	2.307	0.000	2.307				
• Congressional General Reductions				0.000	0.000							
• Congressional Directed Reductions				0.000	0.000							
• Congressional Rescissions				0.000	0.000							
• Congressional Adds				0.000	0.000							
• Congressional Directed Transfers				0.000	0.000							
• Reprogrammings				0.000	0.000							
• SBIR/STTR Transfer				0.000	0.000							
• Other Adjustments				0.000	0.000	2.307	0.000	2.307				
Change Summary Explanation In FY18, NTNF efforts under PE0604257F, BPAC 644818 will transfer to this PE.												
C. Accomplishments/Planned Programs (\$ in Millions)										FY 2016	FY 2017	FY 2018
Title: Nuclear Forensics - Prompt Diagnostics										0.000	0.000	2.307

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C. Accomplishments/Planned Programs (\$ in Millions)										FY 2016	FY 2017	FY 2018
Description: Develop diagnostic detection systems to immediately record signals resulting from a nuclear detonation. FY 2016 Accomplishments: FY 2016 efforts were funded and reported under OSD program 0603161D8Z, Nuclear and Conventional Physical Security Equipment. FY 2017 Plans: FY 2017 efforts are funded and reported under Air Force program 0604257F, Advanced Technology and Sensor. FY 2018 Plans: Will continue to develop Prompt Diagnostics detection system. Focused areas include but are not limited to prompt output signal detection and nuclear debris collection analysis and evaluation.												
Accomplishments/Planned Programs Subtotals										0.000	0.000	2.307
D. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost	
• APAF:BA03:Line Item # 834320: National Technical Nuclear Forensics	0.000	0.000	5.711	0.000	5.711	6.053	5.854	7.144	7.273	Continuing	Continuing	
Remarks												
E. Acquisition Strategy												
Will continue development of Prompt Diagnostics detection systems. Focus areas include but are not limited to prompt output signal detection and nuclear debris collection analysis, evaluation, technical data package, documentation, revalidate documented design with representative articles, logistics product data, and product support analysis. Using a four phase approach with a single integrator to incrementally deliver technical data and logistics product data by funding various nuclear related government organizations/FFRDC's throughout the nation. Phase 1 and 2 are focused on documenting and delivering technical data packages.												
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.												