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

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

A. Mission Description and Budget Item Justification

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

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

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY22 $0 was expended for civilian pay expenses in this program element, and in FY23 $0 is forecasted for civilian pay expenses in this program element

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	1.971	2.039	2.044	0.000	2.044
Current President's Budget	1.971	2.039	2.049	0.000	2.049
Total Adjustments	0.000	0.000	0.005	0.000	0.005
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.005	0.000	0.005

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

D. Other Program Funding Summary ($ in Millions)

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

Remarks

E. Acquisition Strategy

TBD

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

Product Development ($ in Millions)

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

Remarks

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

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

Remarks

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

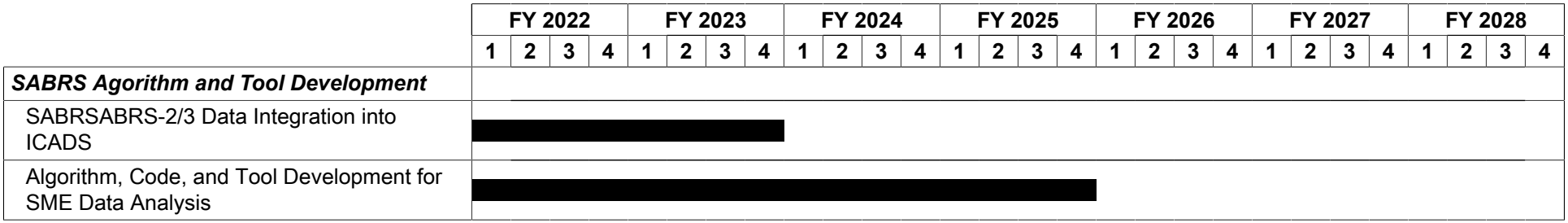

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0207573F / *National Technical Nuclear Forensics*	**Project (Number/Name)** 674881 / *Prompt Diagnostics*

Schedule Details

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