Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force											Date: March 2024	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604222F / *Nuclear Weapons Support*							
COST ($ in Millions)	**Prior Years**	**FY 2023**	**FY 2024**	**FY 2025 Base**	**FY 2025 OCO**	**FY 2025 Total**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**	**Cost To Complete**	**Total Cost**
Total Program Element	-	61.736	45.884	70.823	0.000	70.823	60.847	46.261	47.914	48.862	Continuing	Continuing
654236: *Engineering Analysis*	-	0.994	4.519	2.515	0.000	2.515	2.723	2.779	2.879	2.936	Continuing	Continuing
654807: *Nuclear Weapon System Technology and Integration*	-	59.266	39.298	66.307	0.000	66.307	55.956	41.269	42.741	43.586	Continuing	Continuing
655708: *Nuclear Weapons Support*	-	1.476	2.067	2.001	0.000	2.001	2.168	2.213	2.294	2.340	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Air Force Nuclear Weapons Center (AFNWC), Kirtland AFB, NM, is the primary executing agency for this program. The AFNWC is tasked with supporting and supplying technical expertise on all Air Force (AF) nuclear weapons and weapon systems. This program provides resources for technical and programmatic activities, which include research, development, test, and evaluation of all nuclear- equipment/systems, as well as performing independent analyses on all AF nuclear weapon systems and activities; to include weapon/system development, sustainment, interoperability, compatibility, safety, security, reliability; to include nuclear stockpile certification management for all AF nuclear weapon systems.

The FY 2025 funding request was reduced by $2.664 million to account for the availability of prior year execution balances.

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 FY23 $0M was expended for civilian pay expenses in this program element, and in FY24 $0M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full rate production.

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force					Date: March 2024
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0604222F / *Nuclear Weapons Support*		
B. Program Change Summary ($ in Millions)	**FY 2023**	**FY 2024**	**FY 2025 Base**	**FY 2025 OCO**	**FY 2025 Total**
Previous President's Budget	63.906	45.884	40.775	0.000	40.775
Current President's Budget	61.736	45.884	70.823	0.000	70.823
Total Adjustments	-2.170	0.000	30.048	0.000	30.048
• 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	-2.170	0.000			
• Other Adjustments	0.000	0.000	30.048	0.000	30.048

Change Summary Explanation

FY 2025 funding increase is predominantly due to an increase of 27.695 million for nuclear certification management (project 654807) and inflation adjustments.

The FY 2025 funding request was reduced by $2.664 million to account for the availability of prior year execution balances.

Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force			Date: March 2024
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604222F / *Nuclear Weapons Support*	Project (Number/Name) 654236 / *Engineering Analysis*	

COST ($ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
654236: *Engineering Analysis*	-	0.994	4.519	2.515	0.000	2.515	2.723	2.779	2.879	2.936	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The AFNWC is the executing agency for the Engineering Analysis (EA) program that supplies and maintains technical expertise on all AF nuclear weapons, weapon systems, by ensuring cybersecurity integration into systems engineering processes, through the application of modular designs/approaches using digital systems engineering methodologies. Develops a cyber-savvy workforce; increases assurance for fielded systems in a cost-effective and efficient manner; increases the integration of cyber-intelligence; enables cyber operation flights and cyber protection teams.

The EA program supplies resources for technical and programmatic activities which include performing independent analyses on all stages of AF nuclear weapon systems lifecycles including weapons development, sustainment, interoperability, compatibility, training, safety, security, reliability, and AF legacy nuclear stockpile management/retirement. The Data Management and Information Technology modernization efforts will increase quality and flexibility of our design, development, and fielding of nuclear capabilities to the warfighter. The AFNWC partners with external agencies to achieve cross-cutting solutions to mitigate cyber vulnerabilities. The Zero Trust Implementation activity supplies a roles-based way to ensure only the people with the authority to author and/or consume data can do so. The implementation of Digital Engineering efforts, and development of Model Based System Engineering (MBSE) efforts, will facilitate the testing, analysis and timely delivery of nuclear weapon systems. The EA Digital Engineering efforts also include cloud-based implementation and sustainment technologies, ensuring all data analysis and visualizations reach-back to a single source of truth. The Cloud Implementation Sustainment effort enables the management of centralized licensing of cloud-based technologies across the AFNWC portfolio.

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 FY23 0M was expended for civilian pay expenses in this program element, and in FY24 0M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Engineering Analysis	0.994	4.519	2.515	-	2.515
Description: Provide the technical oversight of all AF nuclear weapons, delivery systems, and support systems. Provide the engineering and technical management expertise required in critical areas of nuclear weapons safety, security, reliability, operations, modernization, testing, and counterproliferation.					
FY 2024 Plans: Digital Systems Engineering - Implement Digital Data Standardization.					

Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604222F / *Nuclear Weapons Support*	**Project (Number/Name)** 654236 / *Engineering Analysis*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Digital Engineering Orchestration - Develop and provide common data models within the Teamcenter digital environment. Digital Engineering Pilot Project - Research and report on various approaches to enterprise licensing and management of MBSE applications and digital tools. Zero Trust Implementation - Analyze multiple applications of Zero Trust Data Fabric implementation for future implementation in the AFNWC. Cloud Implementation Sustainment - Move MBSE, resource management and analysis processes into cloud structures, assuring single source of truth data pull and near real-time visualization.					
FY 2025 Base Plans: Continue to implement digital data standardization for digital systems engineering efforts; develop and provide common data models within the team-center digital environment for Digital Engineering Orchestration efforts. Continue to research and report on various approaches to enterprise licensing and management of MBSE applications and digital tools for the Digital Engineering Pilot Project efforts. Continue to analyze multiple applications of Zero Trust Data Fabric implementation for future implementation in the AFNWC for Zero Trust Implementation efforts. Continue to move MBSE, resource management and analysis processes into cloud structures assuring single source of truth data pull and near real-time visualization for Cloud Implementation Sustainment efforts. Digital Systems Engineering - Continue to implement Digital Data Standardization. Digital Engineering Orchestration - Continue to develop and provide common data models within the Teamcenter digital environment. Digital Engineering Pilot Project - Continue to research and report on various approaches to enterprise licensing and management of MBSE applications and digital tools. Zero Trust Implementation - Continue to analyze multiple applications of Zero Trust Data Fabric implementation for future implementation in the AFNWC. Cloud Implementation Sustainment - Continue to move MBSE, resource management, and analytic processes into cloud structures, assuring a single source of truth data pull and near real-time visualization.					
FY 2024 to FY 2025 Increase/Decrease Statement:					

Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604222F / *Nuclear Weapons Support*	**Project (Number/Name)** 654236 / *Engineering Analysis*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Funding decrease in FY25 due to the maturation and transfer to sustainment of the MBSE effort by the end of FY 2024. These specific costs were related to physical asset implementation and human capital training.					
Accomplishments/Planned Programs Subtotals	0.994	4.519	2.515	-	2.515

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The most appropriate acquisition strategy will be evaluated and chosen for each effort. Contracting strategies include but are not limited to: Cost Plus types, Firm Fixed Price, Delivery Orders, and other types of execution such as Micro-purchases, and Military Interdepartmental Purchase Request (MIPR). These will be used to obtain technical analyses and technical support for safety, operations, and counter-proliferation assessments. Supporting activities are contracted separately using contracting strategies deemed most appropriate to the effort. All contracts will be openly competed.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force			Date: March 2024
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604222F / *Nuclear Weapons Support*	Project (Number/Name) 654236 / *Engineering Analysis*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Federally Funded Research and Development Center (FFRDC) Cybersecurity Vulnerability Analysis	MIPR	AEROSPACE : Kirtland AFB, NM	-	0.020	Nov 2022	0.655	Nov 2023	0.355	Nov 2024	-		0.355	Continuing	Continuing	-
		Subtotal	-	0.020		0.655		0.355		-		0.355	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Mission Support	MIPR	AEROSPACE : Kirtland AFB, NM	-	0.114	Apr 2023	1.068	Apr 2024	0.820	Nov 2024	-		0.820	Continuing	Continuing	-
Digital Systems Engineering	MIPR	Various : Kirtland AFB, NM	-	0.860	Jun 2023	-		-		-		-	0.000	0.860	-
Digital Engineering Orchestration	MIPR	Various : Kirtland AFB, NM	-	-		0.600	Apr 2024	0.225	Apr 2025	-		0.225	Continuing	Continuing	-
Digital Engineering Pilot Project	MIPR	Various : Kirtland AFB, NM	-	-		0.500	Apr 2024	0.225	Apr 2025	-		0.225	Continuing	Continuing	-
Zero Trust Implementation	MIPR	Various : Kirtland AFB, NM	-	-		0.500	Apr 2024	0.225	Apr 2025	-		0.225	Continuing	Continuing	-
Cloud Implementation Sustainment	MIPR	Various : Kirtland AFB, NM	-	-		0.571	Apr 2024	0.235	Apr 2025	-		0.235	Continuing	Continuing	-
		Subtotal	-	0.974		3.239		1.730		-		1.730	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Support A&AS	Various	Various : Kirtland AFB, NM	-	-		0.468	Apr 2024	0.265	Apr 2025	-		0.265	Continuing	Continuing	-
Program Management Support (PSC)	Various	Various : Kirtland AFB, NM	-	-		0.157	Apr 2024	0.165	Apr 2025	-		0.165	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force			Date: March 2024
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604222F / *Nuclear Weapons Support*	Project (Number/Name) 654236 / *Engineering Analysis*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		0.625		0.430		-		0.430	Continuing	Continuing	N/A

	Prior Years	FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	0.994		4.519		2.515		-		2.515	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604222F / *Nuclear Weapons Support*	**Project (Number/Name)** 654236 / *Engineering Analysis*

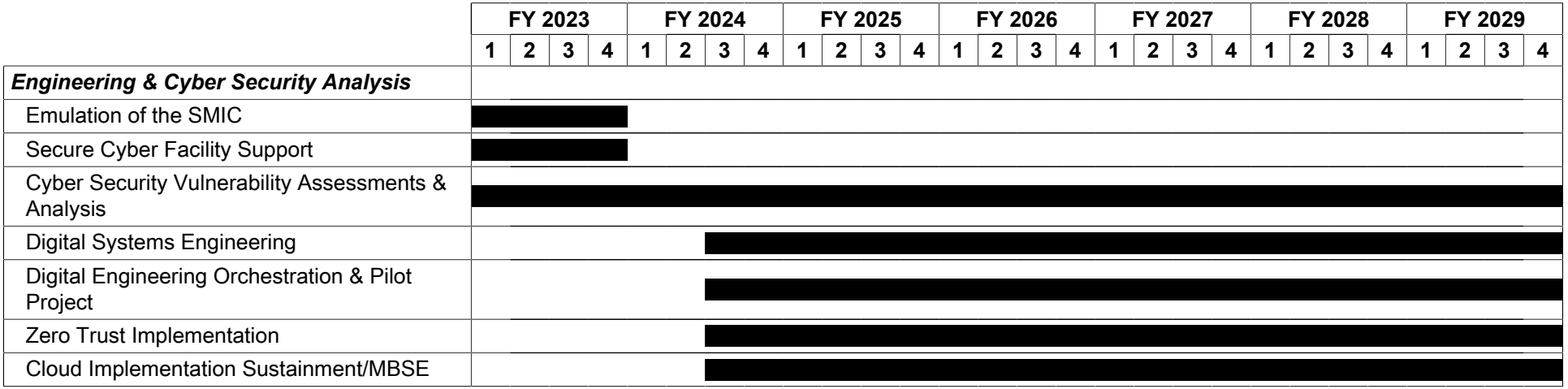

Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604222F / *Nuclear Weapons Support*	**Project (Number/Name)** 654236 / *Engineering Analysis*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Engineering & Cyber Security Analysis				
Emulation of the SMIC	1	2023	4	2023
Secure Cyber Facility Support	1	2023	4	2023
Cyber Security Vulnerability Assessments & Analysis	1	2023	4	2029
Digital Systems Engineering	3	2024	4	2029
Digital Engineering Orchestration & Pilot Project	3	2024	4	2029
Zero Trust Implementation	3	2024	4	2029
Cloud Implementation Sustainment/MBSE	3	2024	4	2029

Note

Last funding for SMIC and Secure Cyber Facility Support was in FY22. Activities ended in FY23.

Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force			Date: March 2024
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604222F / *Nuclear Weapons Support*	Project (Number/Name) 654807 / *Nuclear Weapon System Technology and Integration*	

COST ($ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
654807: *Nuclear Weapon System Technology and Integration*	-	59.266	39.298	66.307	0.000	66.307	55.956	41.269	42.741	43.586	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The AFNWC is the executing agency for the Nuclear Weapon System Technology and Integration (NWST&I) program that ensures the safety, survivability, security, and effectiveness of AF nuclear weapon systems in direct support to the military warfighters and force providers. Emphasis is placed on ensuring nuclear weapon system compatibility, validating nuclear safety designs, generating weapon system safety rules, developing flight profiles for safe and effective nuclear weapons delivery, exposing vulnerabilities which could compromise the authorized use of nuclear weapons, and developing mitigations to any nuclear weapon system safety, security, or effectiveness shortfalls (to include future concept development). These requirements are met through in-depth technical, operational, and intelligence evaluations, demonstrations, modeling and simulation (M&S), test and evaluation (T&E), trade studies, requirements analysis, and recommendations to planning, policy, and doctrine. Additionally, the program conducts DoD-required certification for legacy, modernized, and new nuclear weapon systems.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program's funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23, 0M was expended for civilian pay expenses in this program element, and in FY24, 0M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Weapons Effects	6.827	6.638	7.049	0.000	7.049
Description: Ensures survivable and effective AF systems through evaluation, test, and analyses of nuclear environments and their impact to AF platforms. Develops and maintains the sole AF analytical capability to assess nuclear effects on weapon systems, their inherent hardness and mission degradation within a nuclear environment. These efforts shape and support requirements for new acquisitions, fielded systems, as well as providing critical expertise for exercises and operational planning.					
FY 2024 Plans: Develop, modernize, verify and validate M&S tools and testing methods, in order to characterize nuclear effects on modernized and newly acquired AF systems. Develop rigorous methods and tools for predictive responses to nuclear effects. Analyze hardness requirements within the weapon system specification for current					

Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604222F / *Nuclear Weapons Support*	**Project (Number/Name)** 654807 / *Nuclear Weapon System Technology and Integration*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
and future delivery aircraft, support aircraft, weapon systems, ICBMs, and Nuclear Command, Control, and Communications (NC3) assets. Develop methods and tools to assure weapon effectiveness in operationally relevant environments. Support AFGSC through oversight and standardization of AF aircraft threat-level electromagnetic pulse (EMP) test execution. ***FY 2025 Base Plans:*** Continue development, modernization, verification, and validation of M&S tools (to include integration with other DoD M&S tools.) Continue to develop rigorous methods and tools for testing and predictive response to nuclear effects as they relate to the expected operational environments. Continue analysis to establish hardness requirements within the weapon system specification for current and future delivery aircraft, support aircraft, weapon systems, ICBMs, and NC3 assets. Continue to expand development of methods and tools used to assure weapon effectiveness in operationally relevant environments. Continue to support AFGSC through oversight and standardization of AF EMP threat-level test strategy and execution. The team will also provide Conventional-Nuclear Integration (CNI) analysis to support the CSAF CNI Capstone Implementation Plan and path forward. ***FY 2025 OCO Plans:*** N/A ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Funding increase is due to expanded testing requirements and activities.					
Title: Air Force Nuclear Red Team (AFNRT) ***Description:*** The AFNRT independently evaluates vulnerabilities of current and future strategic systems across their lifecycle vs the full complement of current and emerging threats. These strategic systems capability assessments include focused intelligence analysis, nuclear weapon system fragility analysis, vulnerability modes & effects analysis, M&S, and effects testing. As part of the effort to assess the vulnerabilities, data is used from various tests and M&S efforts to develop mitigation strategies and develop potential future system concepts for consideration by program offices and the Combatant Commands. This analysis of various threats to AF nuclear weapon systems is used to inform the warfighter's concept of operations (CONOPS), modernization activities, and new acquisitions. ***FY 2024 Plans:*** Conduct threat evaluations and analyses of strategic system vulnerabilities to current and future threats. These threats include, but are not limited to, kinetic, electronic warfare, cyber, and supply chain exploitation. Analyze	14.710	14.323	13.226	0.000	13.226

Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604222F / *Nuclear Weapons Support*	**Project (Number/Name)** 654807 / *Nuclear Weapon System Technology and Integration*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
threats during maintenance and logistics operations and the potential to exploit personnel as part of the attack vector. Assessments include focused intelligence analysis, nuclear weapon system fragility analysis, vulnerability modes, and effects analysis, M&S and combined environment testing. Data from these efforts will be used in the development of requirements, future system concepts, CONOPS, and tactics, techniques, and procedures (TTPs) as well as used to support the CSAF CNI Capstone Roadmap development and path forward. ***FY 2025 Base Plans:*** Continue to improve assessments of strategic system capabilities/vulnerabilities relative to Air-Delivered (AD) and ground-based nuclear weapon systems, and Nuclear Command, Control & Communications (NC3). Continue evaluations and analyses to address current and future threats that include, but are not limited to, kinetic, electronic warfare, cyber, and supply chain exploitation. Assessments will include focused intelligence analysis, nuclear weapon system fragility analysis, vulnerability modes and effects analysis, nuclear hardness qualification testing, M&S, and combined environment testing. Data from these evaluations will be used in the development of requirements, future system concepts, CONOPS, and TTPs as well as support the CSAF CNI Capstone Implementation Plan and path forward. ***FY 2025 OCO Plans:*** N/A ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Funding decreased due to reduction of threat analysis and simulation support.					
Title: Nuclear Certification Management ***Description:*** This effort conducts nuclear certification activities that were previously contained in this program element, under project 654236, Engineering Analysis, prior to FY23. This funding is for statutory and regulatory (DoD and AF) nuclear enterprise-wide nuclear certification activities by AFNWC. It is distinct from, but complemented by, the funding identified by specific nuclear weapons programs (e.g., B-21, LGM-35A Sentinel, F-35A, F-15E, etc.) for their roles, responsibilities, and authorities in nuclear certification, as segregated and directed by the same regulations (DODM 5210.41M and AFI 63-125). By DoD mandate, AFNWC provides an external (independent of program office) review of a weapon system's nuclear safety and surety features, eventually certifying the weapon system and its operational employment procedures. Nuclear certification activities include independent AF technical reviews, evaluations, and analyses for nuclear safety themes, employment procedures, delivery systems (warhead and/or carrier platforms, subsystems, or components), support equipment, software, and facilities that handle, maintain, or operate nuclear weapons or nuclear weapon systems to ensure compliance with national, DoD, and AF guidance. AFNWC's scope includes overall	37.729	18.337	46.032	0.000	46.032

Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604222F / *Nuclear Weapons Support*	**Project (Number/Name)** 654807 / *Nuclear Weapon System Technology and Integration*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
management of the entire nuclear certification process for the AF, as well as the execution of testing and evaluations to achieve compatibility certification, nuclear safety design, weapon system safety rules, and validated technical orders & functions (e.g., security) involving personnel and organizations assigned to perform nuclear missions. The objective of this project is focused on new nuclear weapon system acquisition programs, as well as fielded system sustainment, modifications, and upgrades. This project will manage the flow of nuclear certification activities and provide certification data to all stakeholders via the Nuclear Certification Analysis Tool (NCAT). Examples include certification requirements plans, Aircraft Monitor and Control (AMAC) certification, consequence analyses, qualitative and quantitative hazard evaluations, and technical design analysis. ***FY 2024 Plans:*** Develop capabilities to optimize nuclear certification activities within the digital environment. This includes the use of advanced computational approaches (e.g., artificial intelligence), and automated toolsets/algorithms to assist certifiers in assessing nuclear weapon system compliance with the four DoD surety standards and ensure DoD system compatibility with DOE systems. Invest in capabilities to test and assess delivery platforms compatibility with nuclear weapon systems. Invest in and improve nuclear certification-specific data analysis capabilities (tools) to match growing weapon system complexity. Conduct independent technical analyses to execute time-certain certification-required activities for F-35A, B-21, LRSO missile, Sentinel, B-52H, modernized ICBM Fuze, and seven Weapon Generation Facilities. Support DoD-requested capability growth for the NCAT analysis tool to optimize resource loading, program deconfliction, and to provide senior leader insight into nuclear certification status. ***FY 2025 Base Plans:*** Continue to develop capabilities to optimize nuclear certification activities within the digital environment. This includes the use of advanced computational approaches (e.g., artificial intelligence), and automated toolsets/algorithms to assist certifiers in assessing nuclear weapon system compliance with the four DoD surety standards and ensure DoD system compatibility with DOE systems. Continue to invest in capabilities to test and assess delivery platforms compatibility with nuclear weapon systems. Continue to invest in and improve nuclear certification-specific data analysis capabilities (tools) to match growing weapon system complexity. Continue to conduct independent technical analyses to execute on-time certification activities for F-35A, B-21, LRSO missile, Sentinel, B-52H, modernized ICBM Fuze, and seven Weapon Generation Facilities. Continue to support DoD-requested capability growth for the NCAT analysis tool to optimize resource loading, program deconfliction and to provide senior leader insight into nuclear certification status. ***FY 2025 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604222F / *Nuclear Weapons Support*	**Project (Number/Name)** 654807 / *Nuclear Weapon System Technology and Integration*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
N/A ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Funding increased to account for escalation in certification activity required to maintain schedule for all nuclear modernization programs that require nuclear certification.					
Accomplishments/Planned Programs Subtotals	59.266	39.298	66.307	0.000	66.307

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

All sub-projects are continuous support/testing to all nuclear weapon systems.
Follow-on contracts are for Modeling and Simulation and engineering, program and testing support efforts.

D. Acquisition Strategy

The objective of the NWST&I program strategy is to provide independent technical engineering, and scientific analyses, assessments and information in support of AF nuclear weapons systems while developing, and mentoring and shaping the next generation of AF resources. Multiple Cost Plus Fixed Fee (CPFF) and/or Time and Material (T&M) and Military Interdepartmental Purchase Requests (MIPR) are/will be used to execute testing and evaluations, technical analyses, and/or provide focused support unique to the nuclear enterprise, for the technology and integration processes. All contracts will be openly competed.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604222F / *Nuclear Weapons Support*	**Project (Number/Name)** 654807 / *Nuclear Weapon System Technology and Integration*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Testers Engineering and Development	C/CPFF	Booz Allen Hamilton : Kirtland AFB, NM	-	11.069	Dec 2022	7.540	Dec 2023	11.732	Dec 2024	-		11.732	0.000	30.341	-
		Subtotal	-	11.069		7.540		11.732		-		11.732	0.000	30.341	N/A

Remarks

Fluctuations in funding level for Family of Testers Engineering Development between FY23 and FY25 corresponds to reduction in funds for nuclear certification in FY24. Increase in FY25 due to escalation in certification activities.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Modeling & Simulation	C/CPFF	Peerless Technology Corp : Kirtland AFB, NM	-	2.653	Jan 2023	3.000	Dec 2023	4.000	Dec 2024	-		4.000	Continuing	Continuing	-
FFRDC Engineering & Technical Support	MIPR	Aerospace Corp(SMC) : El Segundo, CA	-	4.971	Dec 2022	3.430	Nov 2023	5.206	Nov 2024	-		5.206	Continuing	Continuing	-
Security Support	MIPR	Other : Kirtland AFB, NM	-	0.000	Nov 2022	0.896	Jan 2024	0.923	Jan 2025	-		0.923	Continuing	Continuing	-
Research and Analysis Support	C/CPFF	Booz Allen Hamilton : Kirtland AFB, NM	-	3.780	Dec 2022	4.013	Dec 2023	4.153	Dec 2024	-		4.153	Continuing	Continuing	-
Nuclear Certification Engineering Support	C/CPFF	Booz Allen Hamilton : Kirtland AFB, NM	-	10.777	Dec 2022	6.305	Dec 2023	14.378	Dec 2024	-		14.378	Continuing	Continuing	-
Equipment	Various	Various : Kirtland AFB, NM	-	0.336	Sep 2023	0.083	Mar 2024	0.100	Mar 2025	-		0.100	Continuing	Continuing	-
Threat Analysis and Simulation Support	MIPR	MSIC : Various	-	0.250	Sep 2023	1.300	Feb 2024	0.500	Feb 2025	-		0.500	Continuing	Continuing	-
		Subtotal	-	22.767		19.027		29.260		-		29.260	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604222F / *Nuclear Weapons Support*	**Project (Number/Name)** 654807 / *Nuclear Weapon System Technology and Integration*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Fluctuations in funding level for Nuclear Certification Engineering Support between FY23 and FY25 corresponds to reduction in funds for nuclear certification in FY24. Increase in FY25 due to escalation in certification activities.

Changes from FY24 budget doc:
Removed NNWST&I from budget lines;
Changed Program Support to Research and Analysis Support;
Changed NWST&I to Threat Analysis and Simulation Support;

FY23 Equipment includes Shredder, IT Hardware refresh, and furniture upgrades.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Evaluation	C/CPAF	John Hopkins : Laurel, MD	-	0.000		1.250	Mar 2024	-		-		-	0.000	1.250	-
Weapons Effects Uncertainty Testing	MIPR	National Labs : Kirtland AFB, NM	-	0.800	Feb 2023	0.900	Dec 2023	1.000	Dec 2024	-		1.000	Continuing	Continuing	-
AFNRT Assessments	Various	Various : Various	-	11.501	Nov 2022	5.570	Dec 2023	5.500	Dec 2024	-		5.500	Continuing	Continuing	-
Modeling, Simulation and Analysis	C/CPFF	Booz Allen Hamilton : Kirtland AFB, NM	-	0.500	Apr 2023	0.900	Dec 2023	1.000	Dec 2024	-		1.000	Continuing	Continuing	-
Capability Assessments	C/FP	CMU-SEI : Pittsburgh, PA	-	0.250	Jan 2023	-		-		-		-	0.000	0.250	-
AMAC Testing	C/CPAF	Booz Allen Hamilton : Kirtland AFB, NM	-	10.894	Dec 2022	2.619	Dec 2023	16.123	Dec 2024	-		16.123	Continuing	Continuing	-
		Subtotal	-	23.945		11.239		23.623		-		23.623	Continuing	Continuing	N/A

Remarks

Fluctuations in funding level for AMAC Testing between FY23 and FY25 corresponds to reduction in funds for nuclear certification in FY24. Increase in FY25 due to escalation in certification activities.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force			Date: March 2024
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604222F / *Nuclear Weapons Support*	Project (Number/Name) 654807 / *Nuclear Weapon System Technology and Integration*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Changes from FY24 budget doc: Removed NWST&I from line items; Changed NWST&I AFNRT Assessment 2 to Modeling, Simulation and Analysis; Removed Testing line.															

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NWST&I Program Support Cost (PSC)	Various	Various : Kirtland AFB, NM	-	1.485	Nov 2022	1.492	Nov 2023	1.692	Nov 2024	-		1.692	Continuing	Continuing	-
		Subtotal	-	1.485		1.492		1.692		-		1.692	Continuing	Continuing	N/A

Remarks

PSC includes travel, training, supply/equipment, freight, JWICS contractor support, and communications support (ARC & JWICS Phones).

	Prior Years	FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	59.266		39.298		66.307		-		66.307	Continuing	Continuing	N/A

Remarks

All sub-projects are continuous support/testing to all nuclear weapon systems.
Follow-on contracts for Modeling and Simulation and engineering, program and testing support efforts.

Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604222F / *Nuclear Weapons Support*	**Project (Number/Name)** 654807 / *Nuclear Weapon System Technology and Integration*

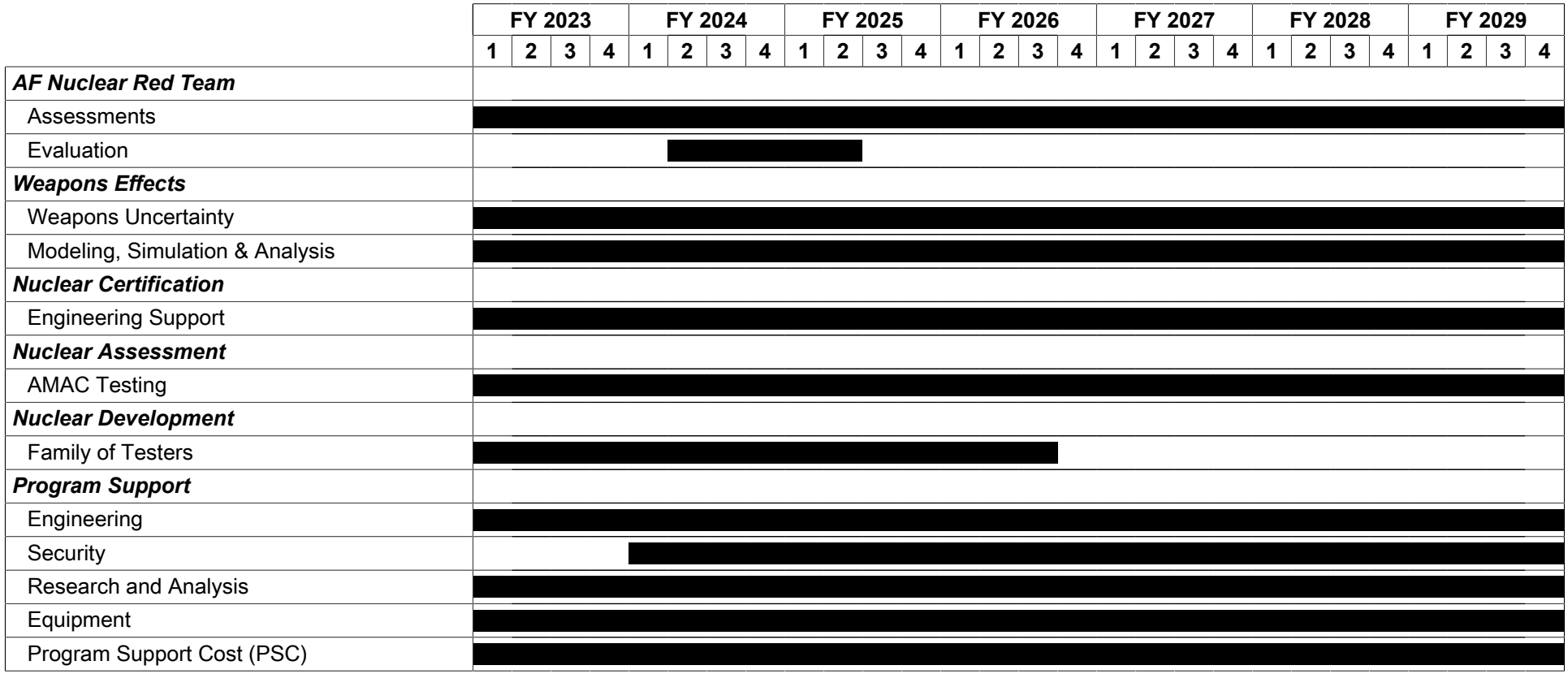

Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604222F / *Nuclear Weapons Support*	**Project (Number/Name)** 654807 / *Nuclear Weapon System Technology and Integration*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
AF Nuclear Red Team				
Assessments	1	2023	4	2029
Evaluation	2	2024	2	2025
Weapons Effects				
Weapons Uncertainty	1	2023	4	2029
Modeling, Simulation & Analysis	1	2023	4	2029
Nuclear Certification				
Engineering Support	1	2023	4	2029
Nuclear Assessment				
AMAC Testing	1	2023	4	2029
Nuclear Development				
Family of Testers	1	2023	3	2026
Program Support				
Engineering	1	2023	4	2029
Security	1	2024	4	2029
Research and Analysis	1	2023	4	2029
Equipment	1	2023	4	2029
Program Support Cost (PSC)	1	2023	4	2029

Note

All sub-projects are continuous support/testing to all nuclear weapon systems.
Follow-on contracts for Modeling and Simulation and engineering, program and testing support efforts.

Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force			Date: March 2024
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604222F / *Nuclear Weapons Support*	Project (Number/Name) 655708 / *Nuclear Weapons Support*	

COST ($ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
655708: *Nuclear Weapons Support*	-	1.476	2.067	2.001	0.000	2.001	2.168	2.213	2.294	2.340	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The modernization of legacy nuclear systems, development of new nuclear-capable aircraft and munitions and the creation of the new Weapon Generation Facilities (WGFs) within Air Force Global Strike Command (AFGSC) may require new support equipment capabilities to meet system and mission requirements. Additionally, the WGF introduces a new concept of operations by integrating maintenance and storage activities into one facility. To support mission generation requirements, support equipment and capabilities related to the nuclear enterprise must be studied, modified, or in extreme cases, re-developed in order to maintain operational readiness. Examples of equipment under review include, but are not limited to, power generation, heating, ventilation, and air conditioning (HVAC), munition trailers/accessories, munition lifts/accessories, tow vehicles, and munition test/maintenance stands. Any identified capability gaps may result in the design of new systems. The analysis and potential modification of existing equipment ensures mission generation remains executable.

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 FY24 0M was expended for civilian pay expenses in this program element, and in FY25 0M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Nuclear Enterprise Support Equipment	1.476	2.067	2.001	-	2.001
Description: Nuclear Enterprise Support Equipment Review and Design					
FY 2024 Plans: Studies and analyses from previous efforts in this program are being leveraged to develop the next generation of munitions handling equipment, stabilized power, HVAC, munitions stands and trailers, and aerospace ground equipment used to support the nuclear enterprise. Funding supports engineering associated with requirements definition, technology maturation, and risk reduction needed to develop solutions to deliver prototypes which meet the evolving requirements of AFGSC for next-generation Common Aviation Support Equipment (CAvSE). Some examples include, but are not limited to the Small Agile Lift Truck (SALT), Electric Manually Operated Lift Truck (EMOLT), Large Nuclear Munitions Trailer (MHU-TSX/M), and the Multi-Capable Trailer (MCT).					
FY 2025 Base Plans: Continue to utilize studies and analyses from previous efforts to develop the next generation of munitions handling equipment, as well as Developmental Testing (DT) and Operational Testing (OT), nuclear certification					

Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604222F / *Nuclear Weapons Support*	**Project (Number/Name)** 655708 / *Nuclear Weapons Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
of mature demonstrators, stabilized power, HVAC, munitions stands and trailers, and other aerospace ground support equipment needed to support the nuclear enterprise. Continue engineering and testing associated with requirements definition, technology maturation, and risk-reduction needed to develop solutions to deliver prototypes which meet the evolving requirements of AFGSC for next-generation CAvSE. Some examples include, but are not limited to the SALT, EMOLT, Large Nuclear Munitions Trailer (MHU-TSX/M), Munitions Capable Trailer (MCT) and Next Gen 3/7-K Jammer. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Negligible decrease.					
Accomplishments/Planned Programs Subtotals	1.476	2.067	2.001	-	2.001

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

1. The acquisition strategy for the SALT is for MilTech, via a Partnership Intermediary Agreement (PIA), to continue to engage and support industry partners, Manufacturing Extension Partnerships (MEP), and Subject Matter Experts (SMEs) on the development, delivery, and testing of a SALT demonstration prototype, along with a potential Next Gen solution for the 7K munition loader.

2. The acquisition strategy for the EMOLT is for MilTech, via a PIA, to continue to engage and support industry partners, MEP, and SMEs on the development and delivery of six LP-EMOLT demonstration prototypes, in support of the Limited Operational User Evaluation, EMI, DT & OT testing.

3. The acquisition strategy for the MHU-TSX/M is for AFGSC to continue working with Square One Corporation to design, fabricate, and test an advanced robotic munitions loader for large aircraft.

4. The acquisition strategy for the MCT is for the Air Force Research Laboratory to work with industry partners to design, fabricate, and test a prototype. The MCT is a power-assisted and manually capable approach to handling munitions and stores on combat aircraft and munition handling equipment. Next generation equipment is planned to replace MHU-226, MHU-110, and MHU-141 trailers with nuclear certified equipment.

5. The acquisition strategy for the Next Gen Jammer is to work with industry partners to design, fabricate, and test a prototype jammer with a footprint of a nuclear certified 3K-class jammer with a the ability to handle the workload of a 7K-class jammer.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force			Date: March 2024
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604222F / *Nuclear Weapons Support*	Project (Number/Name) 655708 / *Nuclear Weapons Support*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contract Award - Aerial Stores Lift Truck (Sm/Med Class) (SALT & EMOLT)	RO	AFRL/MilTech : Bozeman, MT	-	0.800	Mar 2023	0.500	Mar 2024	-		-		-	0.000	1.300	-
Contract Award - Aerial Stores Lift Truck (Large Class) (MHU-TSX/M)	RO	Square One Corp. : Jackson Hole, WY	-	-		-		0.445	Oct 2024	-		0.445	0.000	0.445	-
Contract Award - Munitions Handling Trailers (MCT)	RO	AFRL/MilTech : Bozeman, MT	-	-		0.452	Nov 2023	0.445	Oct 2024	-		0.445	Continuing	Continuing	-
Contract Award - Next Gen Jammer 3/7K Class	TBD	TBD : TBD	-	-		-		0.611	Oct 2024	-		0.611	Continuing	Continuing	-
		Subtotal	-	0.800		0.952		1.501		-		1.501	Continuing	Continuing	N/A

Remarks

Aerial Stores Lift Truck (Large Class) (MHU-TSX/M) was funded in FY22. Activities continued through FY23-24; however, funding not needed in FY23-24. Further funding required in FY25.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Support	PO	PE Systems, Inc. : TBD	-	0.676	Mar 2023	1.115	Mar 2024	0.500	Mar 2025	-		0.500	Continuing	Continuing	-
		Subtotal	-	0.676		1.115		0.500		-		0.500	Continuing	Continuing	N/A

	Prior Years	FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	1.476		2.067		2.001		-		2.001	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604222F / *Nuclear Weapons Support*	**Project (Number/Name)** 655708 / *Nuclear Weapons Support*

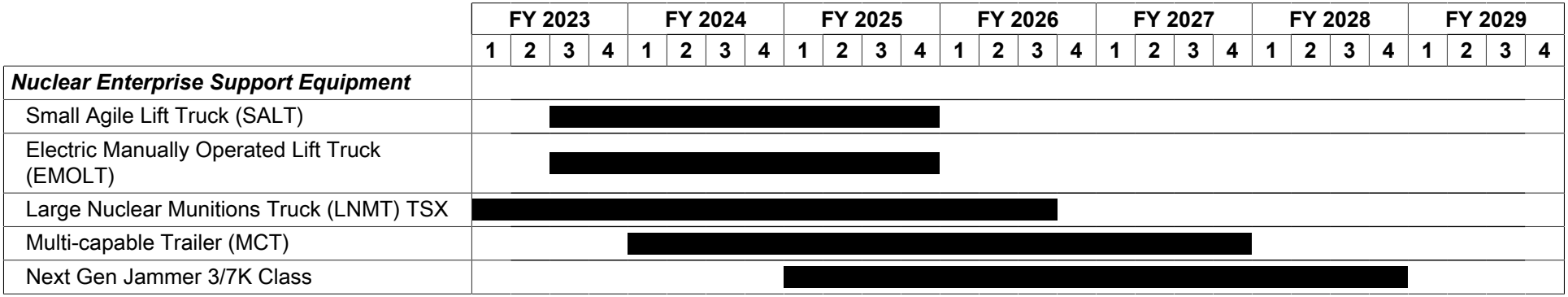

Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604222F / *Nuclear Weapons Support*	**Project (Number/Name)** 655708 / *Nuclear Weapons Support*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Nuclear Enterprise Support Equipment				
Small Agile Lift Truck (SALT)	3	2023	4	2025
Electric Manually Operated Lift Truck (EMOLT)	3	2023	4	2025
Large Nuclear Munitions Truck (LNMT) TSX	1	2023	3	2026
Multi-capable Trailer (MCT)	1	2024	4	2027
Next Gen Jammer 3/7K Class	1	2025	4	2028

Note

Aerial Stores Lift Truck (Large Class) (MHU-TSX/M) was funded in FY22. Activities continued through FY23-24; however, funding not needed in FY23-24. Further funding required in FY25.

The projects within the Weapons Generation Facility program target workflow and operation of current and future nuclear-certified systems.