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 0604336F / *Hard and Deeply Buried Target Defeat System (HDBTDS) Prototyping*

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	-	0.000	0.000	39.079	0.000	39.079	57.114	91.187	71.147	94.187	0.000	352.714
653360: *Prototyping*	-	0.000	0.000	39.079	0.000	39.079	57.114	91.187	71.147	94.187	0.000	352.714
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This program, BA 5, PE 0604336F, project 653360, Air-delivered Nuclear Delivery System (NDS-A), is a new start.

A. Mission Description and Budget Item Justification

The Air-delivered Nuclear Delivery System (NDS-A) is a new start project to address a capability gap identified in the 2022 Nuclear Posture Review (NPR). A congressionally directed study based on the NPR led to endorsement of the Deputy's Management Action Group (DMAG) and initiation of this project. The Air Force will work with the Department of Energy's (DOE) National Nuclear Security Administration (NNSA) and its National Laboratories to develop a prototype NDS-A system to demonstrate the capability to close this gap in the near term. Development of the prototype will include contractors outside the traditional NNSA production agencies to produce developmental hardware and avoid impacting nuclear warhead programs of record (POR). The project will require close USAF/DOE interagency coordination to produce a prototype that will enable rapid transition to a fielded system.

Early development will include Model and Simulation (M&S) analysis of several nuclear explosive package (NEP) options to refine the proposed NEP. The NDS-A system must meet nuclear weapon environmental standards from storage to weapon detonation, while meeting reliability and target defeat requirements. The USAF will provide test resources to include ground test facilities, F-15E test aircraft, and B-2 test aircraft, and will work with the aircraft Program Offices to identify aircraft integration requirements including any potential Operational Flight Program (OFP) software and hardware changes. USAF will procure and provide NNSA with components necessary to produce Environmental Test Units (ETUs) to capture the basic environments the NEP will be exposed to, as well as Joint Test Assets (JTAs) for high fidelity ground and air tests. Ground tests may include wind tunnel, static ejection, vibration and thermal, cable pull-down, and sled tests. Flight tests will be performed by USAF F-15E developmental flight test aircraft, with final prototype demonstrations flown on B-2 aircraft. Considerations in the development of the prototype will include nuclear surety, maintenance and logistics, refinement of requirements (military characteristics), and producibility.

After successful flight test demonstration of the prototype, the program will mature developmental hardware to nuclear system "diamond stamp" quality, ensure nuclear surety standards are met, and mature aircraft interfaces including Aircraft Monitor and Control (AMAC) functions.

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 0604336F / *Hard and Deeply Buried Target Defeat System (HDBTDS) Prototyping*

B. Program Change Summary ($ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	39.079	0.000	39.079
Total Adjustments	0.000	0.000	39.079	0.000	39.079
• 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	39.079	0.000	39.079

C. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Title: Air-delivered Nuclear Delivery System (NDS-A)	-	-	39.079
Description: Develop and demonstrate prototype air-delivered nuclear system to meet 2022 Nuclear Posture Review Objective 4 capability. Interagency project with USAF and DOE/NNSA/National Laboratories. ***FY 2025 Plans:*** Conduct Modeling and Simulation (M&S) analysis of several nuclear explosive package options to refine proposed design. Design and procure components to build environmental test units and initiate ground tests. Design and procure components for joint test assemblies, to prepare for assembly in FY 2026. Initiate aircraft integration required to begin flight testing in FY 2026. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** This effort is a new start			
Accomplishments/Planned Programs Subtotals	-	-	39.079

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

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 0604336F / *Hard and Deeply Buried Target Defeat System (HDBTDS) Prototyping*	**Project (Number/Name)** 653360 / *Prototyping*	

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
Exterior Components	C/CPFF	AFLCMC/EB Eglin : TBD	-	-		-		4.600	Apr 2025	-		4.600	Continuing	Continuing	-
Design & Build Environmental Test Units	MIPR	NNSA/SNL/LANL : TBD	-	-		-		3.500	Apr 2025	-		3.500	Continuing	Continuing	-
Design and Build Joint Test Assemblies	MIPR	NNSA/SNL/LANL : TBD	-	-		-		7.079	Apr 2025	-		7.079	Continuing	Continuing	-
Aircraft Interface (Logical, Electrical and Mechanical)	Various	Various : TBD	-	-		-		4.000	Apr 2025	-		4.000	Continuing	Continuing	-
Fuze development	Various	Various : TBD	-	-		-		2.000	Apr 2025	-		2.000	Continuing	Continuing	-
		Subtotal	-	-		-		21.179		-		21.179	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
Requirements Definition	Various	AFNWC, KAFB : TBD	-	-		-		0.200		-		0.200	Continuing	Continuing	-
Interface Control Documentation	Various	AFNWC, KAFB : TBD	-	-		-		0.200		-		0.200	Continuing	Continuing	-
		Subtotal	-	-		-		0.400		-		0.400	Continuing	Continuing	N/A

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
Static Ejection Testing	Various	Various, Eglin AFB : TBD	-	-		-		2.000		-		2.000	Continuing	Continuing	-
Mechanical Bench Tests	MIPR	NNSA/SNL/LANL : TBD	-	-		-		3.000		-		3.000	Continuing	Continuing	-
Electrical Bench Tests	MIPR	NNSA/SNL/LANL : TBD	-	-		-		3.000		-		3.000	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 0604336F / *Hard and Deeply Buried Target Defeat System (HDBTDS) Prototyping*	**Project (Number/Name)** 653360 / *Prototyping*	

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
Cable Pull-Down Tests	MIPR	NNSA/SNL/LANL : TBD	-	-		-		-		-		-	Continuing	Continuing	-
Sled Tests	Various	Various : TBD	-	-		-		-		-		-	Continuing	Continuing	-
Flight Tests	Various	Various : TBD	-	-		-		-		-		-	Continuing	Continuing	-
		Subtotal	-	-		-		8.000		-		8.000	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
Model Based Systems Eng	C/CPFF	Various : TBD	-	-		-		3.500	Apr 2025	-		3.500	Continuing	Continuing	-
PM/financial/scheduling	C/CPFF	AFRL / KAFB : TBD	-	-		-		2.300	Apr 2025	-		2.300	Continuing	Continuing	-
Configuration Management	MIPR	NNSA / SNL : TBD	-	-		-		1.800	Apr 2025	-		1.800	Continuing	Continuing	-
Requirements Management	MIPR	AFNWC / KAFB : TBD	-	-		-		1.900	Apr 2025	-		1.900	Continuing	Continuing	-
		Subtotal	-	-		-		9.500		-		9.500	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	-	-		-		39.079		-		39.079	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 0604336F / *Hard and Deeply Buried Target Defeat System (HDBTDS) Prototyping*	**Project (Number/Name)** 653360 / *Prototyping*

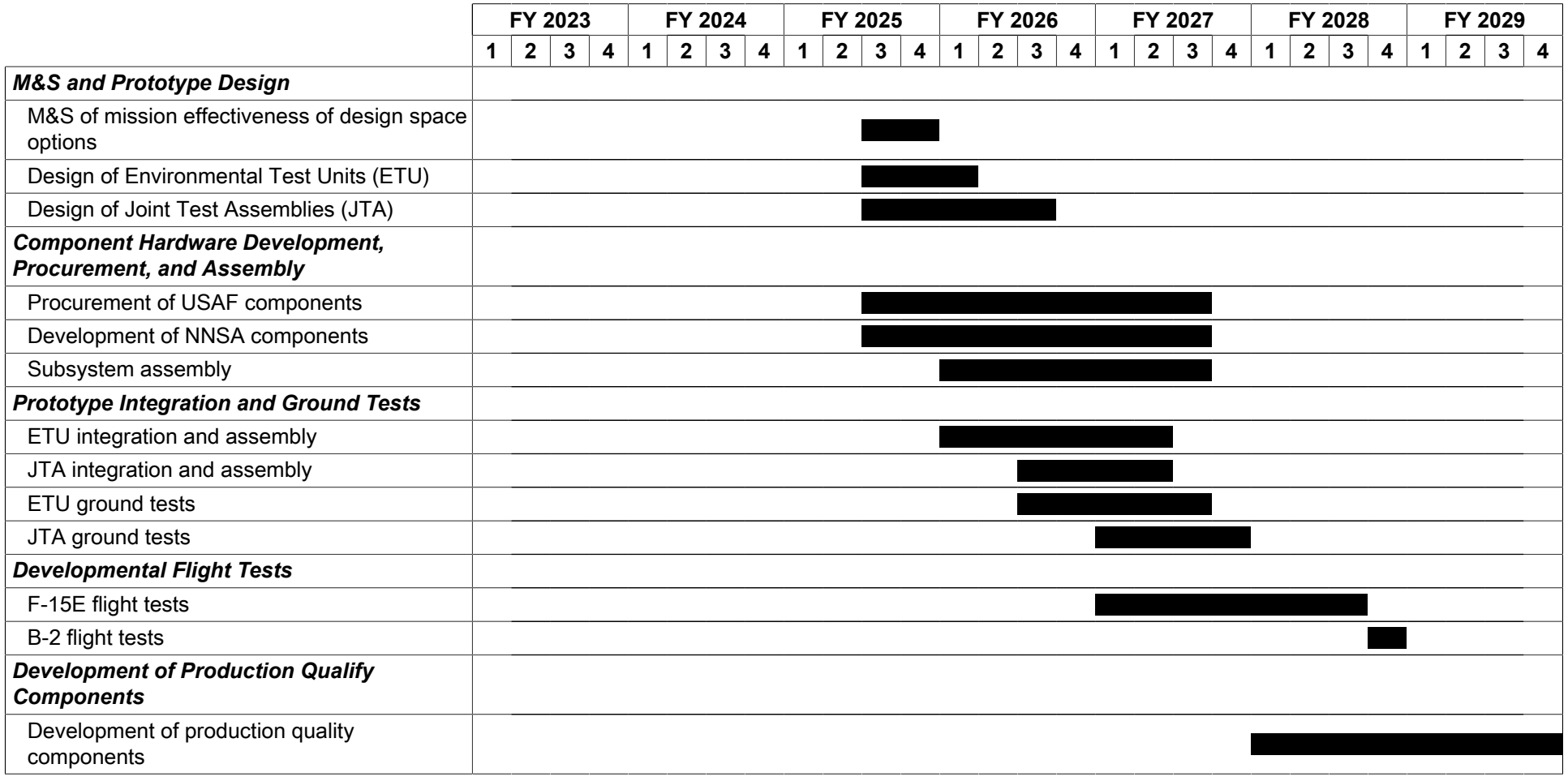

Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 5	**R-1 Program Element (Number/Name)** PE 0604336F / *Hard and Deeply Buried Target Defeat System (HDBTDS) Prototyping*	**Project (Number/Name)** 653360 / *Prototyping*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
M&S and Prototype Design				
M&S of mission effectiveness of design space options	3	2025	4	2025
Design of Environmental Test Units (ETU)	3	2025	1	2026
Design of Joint Test Assemblies (JTA)	3	2025	3	2026
Component Hardware Development, Procurement, and Assembly				
Procurement of USAF components	3	2025	3	2027
Development of NNSA components	3	2025	3	2027
Subsystem assembly	1	2026	3	2027
Prototype Integration and Ground Tests				
ETU integration and assembly	1	2026	2	2027
JTA integration and assembly	3	2026	2	2027
ETU ground tests	3	2026	3	2027
JTA ground tests	1	2027	4	2027
Developmental Flight Tests				
F-15E flight tests	1	2027	3	2028
B-2 flight tests	4	2028	4	2028
Development of Production Qualify Components				
Development of production quality components	1	2028	4	2029