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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0205601N / <i>ANTI-RADIATION MISSILE IMPROVEMENT</i>
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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	1,425.848	89.167	59.555	28.682	-	28.682	32.621	20.309	18.025	18.398	Continuing	Continuing
1780: <i>ARM Improvement</i>	81.799	7.005	6.718	5.321	-	5.321	8.353	8.119	7.548	7.703	Continuing	Continuing
2185: <i>AARGM</i>	775.017	1.021	1.030	1.019	-	1.019	1.020	1.006	1.025	1.047	Continuing	Continuing
2189: <i>AARGM ER</i>	550.803	76.314	51.807	22.342	-	22.342	23.248	11.184	9.452	9.648	Continuing	Continuing
9999: <i>Congressional Adds</i>	18.229	4.827	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	23.056

Program MDAP/MAIS Code:
Project MDAP/MAIS Code(s): 607

A. Mission Description and Budget Item Justification

Research, Development, Test and Evaluation funding for the Joint Service Anti-Radiation Missile (ARM) program, which will include near and far term performance improvements, cost reduction, and studies that establish future development requirements.

JUSTIFICATION FOR BUDGET ACTIVITY: These projects are funded under Operational Systems Development because they include development efforts to upgrade systems that have been fielded or have received approval for full-rate production and anticipate funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	89.479	59.555	34.681	-	34.681
Current President's Budget	89.167	59.555	28.682	-	28.682
Total Adjustments	-0.312	0.000	-5.999	-	-5.999
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.312	0.000			
• Program Adjustments	0.000	0.000	-5.944	-	-5.944
• Rate/Misc Adjustments	0.000	0.000	-0.055	-	-0.055

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

FY 2023	FY 2024

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Appropriation/Budget Activity 1319: <i>Research, Development, Test & Evaluation, Navy / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0205601N / <i>ANTI-RADIATION MISSILE IMPROVEMENT</i>
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Congressional Add Details (\$ in Millions, and Includes General Reductions)	FY 2023	FY 2024
Congressional Add: <i>AARGM improvements</i>	4.827	0.000
Congressional Add Subtotals for Project: 9999	4.827	0.000
Congressional Add Totals for all Projects	4.827	0.000

Change Summary Explanation

Project Unit 1780 Schedule Changes since the previous President's Budget submission:

- FY 2025 control has been reduced from \$7.268M by \$1.947M to \$5.321M due to decreased hardware procurements and algorithm development.

Project Unit 2185 Schedule Changes since the previous President's Budget submission:

- NGNMPS start date moved from 1 QTR FY 2024 to 1 QTR FY 2025 and end date moved from 4 QTR FY 2028 to 4 QTR FY 2029.
- FRP-9 delivery start date has been moved from 3 QTR FY 2023 to 3 QTR FY 2024 and end date has been moved from 2 QTR FY 2024 to 2 QTR FY 2025.
- FRP-10 delivery start date has been moved from 3 QTR FY 2023 to 2 QTR FY 2025 and end date has been moved from 3 QTR FY 2024 to 4 QTR FY 2025.
- FY 2025 control has been reduced from \$1.032M by \$0.013M to \$1.019 due to reduced development test and evaluation efforts.

Project Unit 2189 Schedule Changes since the previous President's Budget submission:

- Initial Operational Capability date has moved from 2 QTR FY 2024 to 4 QTR FY2024.
- Engineering & Manufacturing Development end date has moved from 2 QTR FY 2024 to 4 QTR FY 2024 to reflect completion of EMD.
- Test Asset deliveries end date has moved from 2 QTR FY 2024 to 3 QTR FY 2024.
- NGNMPS end date has been moved from 4 QTR FY 2028 to 4 QTR FY 2029.
- Development Test end date has moved from 2 QTR FY 2023 to 4 QTR FY 2023.
- Development Test & Evaluation for Stations 2 and 10 Aircraft Integration start date has moved from 4 QTR FY 2023 to 4 QTR FY 2024 and the end date has moved from 2 QTR FY 2025 to 2 QTR FY 2026.
- Operational Test end date has moved from 2 QTR FY 2024 to 1 QTR FY 2025.
- Correction of Deficiencies (CoD) start date has moved from 1 QTR FY 2025 to 3 QTR FY 2025.
- FOT&E start date has moved from 2 QTR FY 2024 to 2 QTR FY 2025.
- Contract award and delivery date changes reflect updated plan.
- FY 2025 control has been reduced from \$26.381M by \$4.039M to \$22.342M due to account for the completion of the EMD contract in FY24.

Project Unit 9999 Schedule Changes since the previous President's Budget submission:

- Integration on long endurance platforms start date has been moved from 4 QTR FY 2022 to 2 QTR FY 2023 to reflect actual contract award. End date has been moved from 3 QTR FY 2023 to 1 QTR FY 2024.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy										Date: March 2024		
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT				Project (Number/Name) 1780 / ARM Improvement			
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
1780: ARM Improvement	81.799	7.005	6.718	5.321	-	5.321	8.353	8.119	7.548	7.703	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Anti-Radiation Missile (ARM) Improvement is a combination of the Navy-led High Speed Anti-Radiation Missile (HARM) program, the Advanced Anti-Radiation Guide Missile (AARGM) program and the Advanced Anti-Radiation Guided Missile Extended Range (AARGM-ER). HARM is a Navy led joint service program with the United States Air Force. AARGM is a program derived from a Small Business Innovative Research (SBIR) program that developed a dual mode guidance section, incorporating Millimeter Wave (MMW) radar with an advanced anti-radiation homing seeker. Additional AARGM capabilities include Global Positioning System (GPS) enabled point-to-point weapon engagement and missile impact avoidance/missile impact zones, MMW terminal guidance, and a Weapon Impact Assessment (WIA) transmitter to provide Battle Damage Assessment (BDA) cueing. AARGM-ER is a derivative of the AARGM program that repackages the seeker electronics and all of weapon engagement capabilities from AARGM into a new missile shape with a new rocket motor to achieve greater speed, range and survivability.

AGM-88 ARM weapon systems require periodic updates to the user database to remain relevant based on changing threat parameters, enhanced air defense engagement tactics and modern complex emerging systems. These funds provide the means to conduct ground and flight testing against actual and surrogate threat systems. Procurement deliverables include surrogate threat system MMW radar shapes and surrogate complex emitter systems. Foreign Material Assessment (FMA) evaluates AGM-88 ARM performance against threat systems to develop alternative Concept of Operations (CONOPs) against emerging threat capabilities. FMA testing also includes assessment of special project efforts to support advanced kill-chain capability development against threat systems.

FMA deliverables include analytical reports on findings, critical updates to fleet tactics manuals, curriculum changes to the Suppression of Enemy Air Defenses / Destruction of Enemy Air Defenses lead Air Combat Training Curriculum course work and weapon school tactics/training and procedure briefs. FMA focuses on air defense weapon system exploitation, analysis and subsequent integration and response to ensure that the AGM-88 ARM weapon systems family remains relevant in the planned operational environment.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: ARM Foreign Material Assessment (FMA)	7.005	6.718	5.321	0.000	5.321
Articles:	-	-	-	-	-
FY 2024 Plans:					
FMA continues to maximize AGM-88 ARM weapon effectiveness against threat air defense systems through laboratory, ground-based, captive and live-fire flight test events, data analysis, and systems engineering to improve weapon employment lethality.					

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT	Project (Number/Name) 1780 / ARM Improvement

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>FMA testing via laboratory, ground and flight events will evaluate AARGM and AARGM-ER digital Anti-Radiation Homing (ARH) seeker and Millimeter Wave (MMW) terminal seeker capabilities against threat systems to evaluate lethality improvement options. FMA assessments will remain focused on emerging modern complex threat systems as well as theater/country-specific systems of interest. Expect continued testing and evaluation on advanced Surface-to-Air weapons and related IADS, jammers, and ARM countermeasures.</p> <p>FMA HW procurements are an important element to enable threat system evaluations. Threat system HW procurement priorities are coordinated through the Fleet ARM Steering Committee.</p> <p>Fleet engagement will also continue as a key element of testing, engineering, and analytical efforts, which includes funding for threat assessment, algorithm update recommendations, operational updates, and integration efforts. Fleet testing priorities include characterizing emerging complex threat systems in the field, so FMA assessments can directly populate missile threat data libraries with updated attributes to enhance lethality for AGM-88 ARM weapons.</p> <p>FMA will also assess special project efforts to support over the horizon (OTH)/advanced kill-chain capability development against threat systems.</p> <p>FY 2025 Base Plans: FMA will continue to maximize AGM-88 ARM weapon effectiveness against threat air defense systems through laboratory, ground-based, captive and live-fire flight test events, data analysis, and systems engineering to improve weapon employment lethality.</p> <p>FMA testing via laboratory, ground and flight events will evaluate AARGM and AARGM-ER digital Anti-Radiation Homing (ARH) seeker and Millimeter Wave (MMW) terminal seeker capabilities against threat systems to evaluate lethality improvement options. FMA assessments will remain focused on emerging modern complex threat systems as well as theater/country-specific systems of interest. Expect continued testing and evaluation on advanced Surface-to-Air weapons and related IADS, jammers, and ARM countermeasures.</p> <p>FMA HW procurements are an important element to enable threat system evaluations. Threat system HW procurement priorities are coordinated with Fleet input via the ARM Steering Committee which meets annually to prioritize efforts across ARM weapons tactics development.</p>					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
<p>Fleet engagement will also continue as a key element of testing, engineering, and analytical efforts, which includes funding for threat assessment, algorithm update recommendations, operational updates, and integration efforts. Fleet testing priorities include characterizing emerging complex threat systems in the field, so FMA assessments can directly populate missile threat data libraries with updated attributes to enhance lethality for AGM-88 ARM weapons.</p> <p>FMA will also assess special project efforts to support over the horizon (OTH)/advanced kill-chain capability development against threat systems.</p> <p>FY 2025 OCO Plans: N/A</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: FY 2024 to FY 2025 decreased due to the hardware procurement and algorithm development efforts decreasing in support of development against new threats.</p>					
Accomplishments/Planned Programs Subtotals	7.005	6.718	5.321	0.000	5.321

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

ARM system updates are provided through the System Support Activity (SSA) at Naval Air Warfare Center - Weapons Division (NAWCWD), China Lake, CA. ARM fleet priorities are set by the Fleet ARM Steering Committee. FMA procurement of surrogate threat system hardware components are executed through supplier contracts and deliver to the Government team for integration into complete surrogate threat systems. Hardware components expense upon the delivery of end items, which normally take 12 months to deliver.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT	Project (Number/Name) 1780 / ARM Improvement
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	NAWCWD : China Lake, CA	17.901	3.796	Nov 2022	1.971	Nov 2023	2.376	Nov 2024	-		2.376	Continuing	Continuing	Continuing
Systems Engineering	Various	Various : Various	1.302	0.008	Jul 2023	0.320	Jul 2024	0.326	Jul 2025	-		0.326	Continuing	Continuing	Continuing
Hardware Procurement	C/IDIQ	DTIC : FT Belvoir, VA	7.269	2.222	Jan 2023	2.376	Nov 2023	0.000		-		0.000	0.000	11.867	11.867
Hardware Procurement	TBD	TBD : TBD	0.000	0.000		0.000		1.108	Nov 2024	-		1.108	Continuing	Continuing	Continuing
Algorithm Development	C/IDIQ	Northrop Grumman Defense Systems : Northridge, CA	0.000	0.000	Sep 2023	0.619	Nov 2023	0.000		-		0.000	0.000	0.619	0.619
Prior Year Prod Dev no longer funded in FYDP	Various	Various : Various	24.732	0.000		0.000		0.000		-		0.000	0.000	24.732	-
STX-6X Vector Network Analyzer Upgrade	WR	DOE : Washington, DC	0.000	0.317	Aug 2023	0.000		0.000		-		0.000	0.000	0.317	-
Subtotal			51.204	6.343		5.286		3.810		-		3.810	Continuing	Continuing	N/A

Remarks
 FY 2025 funding supports hardware procurement as well as manpower, system engineering, analysis and software development updates resulting from the evaluation of foreign material assessment data. Vendor software updates are required when threat library or user data file updates are unable to provide critical missile improvements. Fleet engagement will continue as a key element of testing, engineering, and analytical efforts, which includes funding for threat assessment, operational updates, and integration efforts. Hardware procurement will include signal generation equipment and/or transmitters that will be used in lab/field testing.

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation (DT&E)	WR	NAWCWD : China Lake, CA	10.417	0.495	Nov 2022	1.155	Nov 2023	1.178	Nov 2024	-		1.178	Continuing	Continuing	Continuing
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	Various	Various : Various	18.701	0.000		0.000		0.000		-		0.000	0.000	18.701	-
Subtotal			29.118	0.495		1.155		1.178		-		1.178	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT	Project (Number/Name) 1780 / ARM Improvement
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Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
FY 2025 funding supports laboratory, ground, and flight testing that leverages previous investments in ARM laboratory capabilities.

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	WR	NAWCAD : Patuxent River, MD	1.008	0.127	Nov 2022	0.262	Nov 2023	0.283	Nov 2024	-		0.283	Continuing	Continuing	Continuing
Travel	WR	Various : Various	0.469	0.040	Nov 2022	0.015	Dec 2023	0.050	Dec 2024	-		0.050	Continuing	Continuing	Continuing
Subtotal			1.477	0.167		0.277		0.333		-		0.333	Continuing	Continuing	N/A

Remarks
Contract Type for Travel is Travel Order (TO).

	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	81.799	7.005	6.718	5.321	-	5.321	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT	Project (Number/Name) 1780 / ARM Improvement
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PU-1780 Funding	FY23								FY24								FY25								FY26								FY27								FY28								FY29																																																																																															
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept																																																												
Product Development	FY21 HW Deliv																FY22 HW Deliveries																FY23 HW Deliveries																FY24 HW Deliveries																FY25 HW Deliveries																FY26 HW Deliveries																FY27 HW Deliveries																FY28 HW Deliveries																FY29 HW Deliveries															
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Developmental Test & Evaluation	■																■																■																■																■																■																■																																															
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Systems Engineering Deliverables	■																■																■																■																■																■																■																																															
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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT	Project (Number/Name) 1780 / ARM Improvement

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
ARM IMPROVEMENT				
Product Development: Shape and Transmitter procurements: Contract award FY 2023	2	2023	2	2023
Product Development: Shape and Transmitter procurements: Contract award FY 2024	1	2024	1	2024
Product Development: Shape and Transmitter procurements: Contract award FY 2025	1	2025	1	2025
Product Development: Shape and Transmitter procurements: Contract award FY 2026	1	2026	1	2026
Product Development: Shape and Transmitter procurements: Contract award FY 2027	1	2027	1	2027
Product Development: Shape and Transmitter procurements: Contract award FY 2028	1	2028	1	2028
Product Development: Shape and Transmitter procurements: Contract award FY 2029	1	2029	1	2029
Product Development: Shape and Transmitter procurements: Hardware deliveries FY 2021	1	2023	1	2023
Product Development: Shape and Transmitter procurements: Hardware deliveries FY 2022	1	2023	3	2023
Product Development: Shape and Transmitter procurements: Hardware deliveries FY 2023	4	2023	3	2024
Product Development: Shape and Transmitter procurements: Hardware deliveries FY 2024	4	2024	3	2025
Product Development: Shape and Transmitter procurements: Hardware deliveries FY 2025	4	2025	3	2026
Product Development: Shape and Transmitter procurements: Hardware deliveries FY 2026	4	2026	3	2027
Product Development: Shape and Transmitter procurements: Hardware deliveries FY 2027	4	2027	3	2028
Product Development: Shape and Transmitter procurements: Hardware deliveries FY 2028	4	2028	3	2029

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Navy **Date:** March 2024

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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Test & Evaluation: FMA Flight Testing: FMA Flight Testing	1	2023	4	2029
Test & Evaluation: FMA Lab & Ground Testing: FMA Lab & Ground Testing	1	2023	4	2029
Systems Engineering Deliveries: Threat Data Library Update: Threat Data Library Update FY 2023	4	2023	4	2023
Systems Engineering Deliveries: Threat Data Library Update: Threat Data Library Update FY 2024	4	2024	4	2024
Systems Engineering Deliveries: Threat Data Library Update: Threat Data Library Update FY 2025	4	2025	4	2025
Systems Engineering Deliveries: Threat Data Library Update: Threat Data Library Update FY 2026	4	2026	4	2026
Systems Engineering Deliveries: Threat Data Library Update: Threat Data Library Update FY 2027	4	2027	4	2027
Systems Engineering Deliveries: Threat Data Library Update: Threat Data Library Update FY 2028	4	2028	4	2028
Systems Engineering Deliveries: Threat Data Library Update: Threat Data Library Update FY 2029	4	2029	4	2029

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Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT				Project (Number/Name) 2185 / AARGM			
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
2185: AARGM	775.017	1.021	1.030	1.019	-	1.019	1.020	1.006	1.025	1.047	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Advanced Anti-Radiation Guided Missile (AARGM) transitioned a Phase III Small Business Innovation Research (SBIR) program to develop and demonstrate a multi-mode guidance section on a High Speed Anti-Radiation Missile (HARM) airframe to System Development and Demonstration (SD&D) in FY 2003. The AARGM SD&D program was designed to integrate multi-mode guidance (passive Anti-Radiation Homing (ARH)/active Millimeter Wave (MMW) Radar/Global Positioning System (GPS)/Inertial Navigation System) on the HARM Air-to-Ground Missile (AGM)-88. Planned AARGM weapon system capabilities include: active MMW terminal guidance to counter shutdown, expanded threat coverage, enhanced ARH, Weapon Impact Assessment (WIA) transmitted prior to detonation, GPS/point-to-point weapon navigation, enhanced navigational performance in denied environments and weapon employment with impact avoidance zone/missile impact zones.

Milestone C was achieved 4Q FY 2008, followed by a combined FY 2008/FY 2009 Low-Rate Initial Production (LRIP) contract award in 1Q FY 2009. Full-Rate Production (FRP) decision was received 4Q FY 2012, with FRP deliveries beginning in 2Q FY 2014. The AARGM Block 1 Upgrade program began in FY 2012 for a software only upgrade with follow-on Operational Test and Evaluation/Integrated Test (FOT&E/IT) of the Block 1 Upgrade completed Q4 FY 2017.

FY 2025 funding continues to support AARGM ELINT file upgrades, lab ground and flight tests, commencement of AARGM integration into the new mission planning tool, and technology infusion for obsolescence mitigations.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: Threat Data Library / System Updates	0.417	0.419	0.421	0.000	0.421
Articles:	-	-	-	-	-
FY 2024 Plans: FY 2024 activities include continuation of AARGM ELINT file upgrades as well as lab ground and flight tests.					
FY 2025 Base Plans: FY 2025 activities include continuation of AARGM ELINT file upgrades as well as ground and flight test verification.					
FY 2025 OCO Plans: N/A					
FY 2024 to FY 2025 Increase/Decrease Statement:					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
FY 2024 to FY 2025 increased due to inflation.					
Title: Follow-on Test and Evaluation and Correction of Deficiencies Articles: FY 2024 Plans: FY 2024 activities include continuation of software and hardware anomaly and technology infusion assessment for obsolescence mitigation. FY 2025 Base Plans: FY 2025 activities will include software correction of deficiencies identified through fleet engagements and from obsolescence mitigation efforts. FY 2025 OCO Plans: N/A FY 2024 to FY 2025 Increase/Decrease Statement: FY 2024 to FY 2025 decreased due to reduced developmental test and evaluation efforts.	0.604 -	0.611 -	0.378 -	0.000 -	0.378 -
Title: Next Generation Naval Mission Planning System Integration (NGNMPS) Articles: FY 2024 Plans: N/A FY 2025 Base Plans: FY 2025 activities include mission planning architecture development of the AARGM weapon component for integration into the Next Generation Naval Mission Planning System. FY 2025 OCO Plans: N/A FY 2024 to FY 2025 Increase/Decrease Statement: FY 2024 to FY 2025 increased due to development of NGNMPS capability for the AARGM program.	0.000 -	0.000 -	0.220 -	0.000 -	0.220 -
Accomplishments/Planned Programs Subtotals	1.021	1.030	1.019	0.000	1.019

C. Other Program Funding Summary (\$ in Millions) N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / <i>ANTI-RADIATION MISSILE IMPROVEMENT</i>	Project (Number/Name) 2185 / <i>AARGM</i>

C. Other Program Funding Summary (\$ in Millions)

Remarks

D. Acquisition Strategy

The AARGM program started as a Phase I Small Business Innovative Research (SBIR) Advanced Technology Program and evolved into a Phase III SBIR program that transitioned into a System Development and Demonstration (SD&D) Acquisition Category 1C program in 3Q FY 2003. The AARGM SD&D met most U.S. Navy operational requirements. AARGM Block 1 fulfills the rest of the operational requirements. Block 1 Fleet Release was approved in 4Q FY 2017. The AARGM program added GPS M-code in FY 2018 - FY 2021. For FY 2022 and out, the program will continue follow-on development efforts, ELINT file upgrades, and obsolescence mitigation for the AARGM missile. Next Generation Naval Mission Planning System integration starts in FY 2025.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT	Project (Number/Name) 2185 / AARGM
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Mission Planning	WR	Various : Various	1.133	0.087	Nov 2022	0.088	Nov 2023	0.000		-		0.000	0.000	1.308	1.308
Next Generation Naval Mission Planning (NGNMPS)	WR	Various : Various	0.000	0.000		0.000		0.220	Nov 2024	-		0.220	Continuing	Continuing	Continuing
Prior year Prod Dev no longer funded in the FYDP	Various	Various : Various	674.374	0.000		0.000		0.000		-		0.000	0.000	674.374	-
Subtotal			675.507	0.087		0.088		0.220		-		0.220	Continuing	Continuing	N/A

Remarks
 New cost category for Next Generation Naval Mission Planning (NGNMPS) was added in FY 2025 and beyond. NGNMPS is a program that transitions all USN/USMC platforms from the Joint Mission Planning System (JMPS) to the NGNMPS due to obsolescence.

 The following lines have been moved to Prior year no longer funded: Advanced Threats Development, Systems Engineering, and Software Efforts & Advanced Development.

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Prior year Support no longer funded in the FYDP	Various	Various : Various	7.147	0.000		0.000		0.000		-		0.000	0.000	7.147	-
Subtotal			7.147	0.000		0.000		0.000		-		0.000	0.000	7.147	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation (DT&E)	WR	NAWCWD : China Lake, CA	27.102	0.548	Dec 2022	0.610	Dec 2023	0.378	Dec 2024	-		0.378	Continuing	Continuing	Continuing
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	Various	Various : Various	40.210	0.000		0.000		0.000		-		0.000	0.000	40.210	-
Subtotal			67.312	0.548		0.610		0.378		-		0.378	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT	Project (Number/Name) 2185 / AARGM
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Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
Development Test & Evaluation funding in FY 2025 is to support ELINT and User Data File updates and flight testing required to verify and validate updates to the weapon. Funding decreased in FY 2025 due to reduced Developmental Test & Evaluation efforts to only address correction of deficiencies.

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	Various	Various : Various	7.850	0.140	Feb 2023	0.150	Feb 2024	0.160	Feb 2025	-		0.160	Continuing	Continuing	Continuing
Travel	WR	NAVAIR HQ : Patuxent River, MD	1.803	0.011	Oct 2022	0.011	Oct 2023	0.012	Oct 2024	-		0.012	Continuing	Continuing	Continuing
Government Engineering Support	WR	NAWCAD : Patuxent River, MD	3.948	0.235	Nov 2022	0.171	Nov 2023	0.249	Nov 2024	-		0.249	Continuing	Continuing	Continuing
Prior year Mgmt no longer funded in the FYDP	Various	Various : Various	11.450	0.000		0.000		0.000		-		0.000	0.000	11.450	11.450
Subtotal			25.051	0.386		0.332		0.421		-		0.421	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		775.017	1.021	1.030	1.019	1.019	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT	Project (Number/Name) 2185 / AARGM
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Fiscal Year	2023				2024				2025				2026				2027				2028				2029									
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q						
Systems Development	New Mission Planning Tool Integration																																	
	Threat Data Library Updates																																	
	UDF Release				◇	UDF Release				◇	UDF Release				◇	UDF Release				◇	UDF Release				◇	UDF Release				◇	UDF Release			
Test and Evaluation	M-Code ECP				◇																													
	UDF CC					UDF CC					UDF CC					UDF CC					UDF CC					UDF CC					UDF CC			
Contract Deliveries																																		
	FRP 9																																	
FRP 10																																		
<div style="display: flex; justify-content: flex-end; gap: 10px;"> ■ = Production Lead Time ■ = Deliveries ■ = Development Effort ■ = Test & Evaluation Event </div>																																		

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT	Project (Number/Name) 2185 / AARGM
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
AARGM				
M-Code: M-Code ECP	3	2023	3	2023
Systems Development: New Mission Planning Tool Integration	1	2025	4	2029
Test & Evaluation: Threat Data Captive Flight Test FY 2023	3	2023	4	2023
Test & Evaluation: Threat Data Captive Flight Test FY 2024	3	2024	4	2024
Test & Evaluation: Threat Data Captive Flight Test FY 2025	3	2025	4	2025
Test & Evaluation: Threat Data Captive Flight Test FY 2026	3	2026	4	2026
Test & Evaluation: Threat Data Captive Flight Test FY 2027	3	2027	4	2027
Test & Evaluation: Threat Data Captive Flight Test FY 2028	3	2028	4	2028
Test & Evaluation: Threat Data Captive Flight Test FY 2029	3	2029	4	2029
Threat Data Library Updates: Threat Data Library Updates	1	2023	4	2029
Threat Data Library Updates: Threat Data File Release FY 2023	4	2023	4	2023
Threat Data Library Updates: Threat Data File Release FY 2024	4	2024	4	2024
Threat Data Library Updates: Threat Data File Release FY 2025	4	2025	4	2025
Threat Data Library Updates: Threat Data File Release FY 2026	4	2026	4	2026
Threat Data Library Updates: Threat Data File Release FY 2027	4	2027	4	2027
Threat Data Library Updates: Threat Data File Release FY 2028	4	2028	4	2028
Threat Data Library Updates: Threat Data File Release FY 2029	4	2029	4	2029
Full-Rate Production Deliveries: Full-Rate Production Deliveries - Lot 9 (WPN)	3	2024	2	2025
Full-Rate Production Deliveries: Full-Rate Production Deliveries - Lot 10 (WPN)	2	2025	4	2025

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy										Date: March 2024		
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT				Project (Number/Name) 2189 / AARGM ER			
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
2189: AARGM ER	550.803	76.314	51.807	22.342	-	22.342	23.248	11.184	9.452	9.648	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
Project MDAP/MAIS Code: 607												

A. Mission Description and Budget Item Justification

The Air-to-Ground (AGM)-88G AARGM-ER Upgrade was a new start in FY 2016. The purpose of this effort is to develop hardware and software modifications to improve the Advanced Anti-Radiation Guided Missile (AARGM)'s operational capabilities, including extended range, survivability and effectiveness against complex, new, and emerging threats. This budget line item funds a new rocket motor design, system development and integration, test asset procurement, testing, correction of deficiencies, and associated software updates for the AARGM-ER to ensure these capabilities perform in accordance with established requirements. AARGM-ER retains the same guidance and sensor capabilities of the AARGM.

The AARGM-ER program is part of the Navy's approach to address advanced threat capabilities in the Anti-Access/Area-Denial (A2/AD) environment. Solutions enable individual system capabilities to be leveraged across an effects chain, placing the full spectrum of tactical capability in the hands of the warfighter. Solutions that push engagement distances beyond the launch platform's radar horizon and allows the U.S. Navy to operate in, and control, contested battle space in littoral waters and A2/AD environments are increasingly critical as more scenarios require compressed and coordinated fire control timelines.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Title: AARGM ER Development	76.314	37.294	12.545	0.000	12.545
Articles:	-	-	-	-	-
FY 2024 Plans: FY 2024 activities include conclusion of the Engineering and Manufacturing Development contract, system-level operational testing of production-representative missiles, and integration and test of the Guidance Processor redesign. Activities also include expansion of the F/A-18 employment envelope onto stations 2 and 10 through follow-on test and evaluation, and completion of insensitive munition testing for shipboard certification. Testing conducted by the government will assess system-level performance and substantiate readiness for Initial Operational Capability (IOC). Results from an IOC Supportability Review (IOCSR) will inform the IOC event.					
FY 2025 Base Plans: FY 2025 activities include expansion of the F/A-18 employment envelope onto stations 2 and 10, completion of the system verification review leading to the Full Rate Production Decision Review, finalization of efforts to reach					

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT	Project (Number/Name) 2189 / AARGM ER

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
a Full Rate Production Decision Review, and correction of operational test deficiencies to include follow on test and evaluation. FY 2025 OCO Plans: N/A FY 2024 to FY 2025 Increase/Decrease Statement: FY 2024 to FY 2025 decreases due to completion of the AARGM-ER EMD development contract.					
Title: Virtual Store Articles:	0.000 -	9.113 -	5.997 -	0.000 -	5.997 -
FY 2024 Plans: FY 2024 activities include development of an AARGM-ER Virtual Store capability to provide the F/A-18E/F and EA-18G with improved Anti-Surface/Strike Warfare training capability. It will provide the fleet with a training capability when CATMs and/or Command Launch Computer (CLC) are unavailable or cannot be carried during training due to incompatible stores configuration or lack of CLC. This capability will be further developed to include Live-Virtual-Constructive (LVC) surface threats for a more realistic training environment. FY 2025 Base Plans: FY 2025 activities will include continuation of the Virtual Stores capability development after aircraft software integration testing has finalized and technical training manuals have been updated. FY 2025 OCO Plans: N/A FY 2024 to FY 2025 Increase/Decrease Statement: FY 2024 to FY 2025 decreases due to the reduced development efforts of the Virtual Stores capability.					
Title: Next Generation Naval Mission Planning System (NGNMPS) Articles:	0.000 -	5.400 -	3.800 -	0.000 -	3.800 -
FY 2024 Plans: FY 2024 activities include commencement of development and integration of an AARGM-ER NGNMPS capability to ensure mission planning for AARGM-ER on the F/A-18E/F and EA-18G. NGNMPS transitions all USN/USMC platforms from Joint Mission Planning System (JMPS) to NGNMPS due to obsolescence. FY 2025 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT	Project (Number/Name) 2189 / AARGM ER

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
FY 2025 activities will include continuation of the integration of the AARGM-ER component into the Next Generation Naval Mission Planning System.					
<i>FY 2025 OCO Plans:</i> N/A					
<i>FY 2024 to FY 2025 Increase/Decrease Statement:</i> FY 2024 to FY 2025 decreases due to reduced efforts compared to the commencement year for Next Generation Naval Mission Planning System (NGNMPS).					
Accomplishments/Planned Programs Subtotals	76.314	51.807	22.342	0.000	22.342

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025 Base</u>	<u>FY 2025 OCO</u>	<u>FY 2025 Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• WPN/2327: AARGM	181.275	162.429	247.261	-	247.261	259.375	274.809	265.341	270.345	2,200.126	4,014.814

Remarks
Additional AARGM-ER funding is also contained in USAF PE 0207328F.

D. Acquisition Strategy
The AARGM-ER Program will provide hardware and software modifications to improve the AARGM's operational capabilities, including extended range, survivability, and effectiveness against complex, new, and emerging threats. The program's objective requirement for Initial Operational Capability is FY 2024. The AARGM-ER program will develop a virtual store training capability in FY 2024 - FY 2026 and will integrate AARGM-ER into the new mission planning tool beginning in FY 2024. Follow-on development activities also include correction of deficiencies resulting from operational testing, which may include software updates and follow-on testing to ensure corrections meet required capability.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT	Project (Number/Name) 2189 / AARGM ER
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Engineering & Manufacturing Development	SS/CPIF	Northrop Grumman Defense Systems : Northridge, CA	257.259	26.895	Jan 2023	10.899	Nov 2023	0.000		-		0.000	0.000	295.053	295.053
Aircraft Integration	WR	NAWCWD : China Lake, CA	17.555	3.464	Nov 2022	0.000		0.000		-		0.000	0.000	21.019	-
Aircraft Integration	Various	Various : Various	0.783	0.000		0.000		0.000		-		0.000	0.000	0.783	-
Aircraft Integration	SS/CPIF	Boeing : St. Louis, MO	15.741	0.388	Dec 2022	2.072	Dec 2023	0.000		-		0.000	0.000	18.201	18.201
Systems Engineering	WR	NAWCWD : China Lake, CA	52.361	8.837	Nov 2022	3.877	Nov 2023	1.688	Nov 2024	-		1.688	Continuing	Continuing	Continuing
Systems Engineering	WR	NAWCAD : Patuxent River, MD	18.791	4.371	Nov 2022	1.815	Nov 2023	0.479	Nov 2024	-		0.479	Continuing	Continuing	Continuing
Systems Engineering	WR	Various : Various	0.155	0.092	Nov 2022	0.000		0.000		-		0.000	0.000	0.247	-
AUR Containers	WR	NSWC : Indian Head, MD	1.867	0.559	Nov 2022	0.000		0.000		-		0.000	0.000	2.426	-
M-Code/GP Redesign	SS/CPFF	Northrop Grumman Defense Systems : Northridge, CA	4.281	11.054	Nov 2022	0.000		0.000		-		0.000	0.000	15.335	15.335
Virtual Store	WR	NAWCWD : China Lake, CA	0.000	0.000		5.663	Nov 2023	4.740	Nov 2024	-		4.740	Continuing	Continuing	Continuing
Virtual Store	C/CPIF	Boeing : St. Louis, MO	0.000	0.000		3.032	Dec 2023	0.932	Dec 2024	-		0.932	Continuing	Continuing	Continuing
Mission Planning (NGNMPS)	WR	NAWCWD : China Lake, CA	0.000	0.000		4.957	Nov 2023	3.313	Nov 2024	-		3.313	Continuing	Continuing	Continuing
Correction of Deficiencies	SS/IDIQ	Northrop Grumman Defense Systems : Northridge, CA	0.000	0.000		0.000		1.366	May 2025	-		1.366	4.007	5.373	-
Prior year Prod Dev no longer funded in the FYDP	Various	Various : Various	80.770	0.000		0.000		0.000		-		0.000	0.000	80.770	-
Subtotal			449.563	55.660		32.315		12.518		-		12.518	Continuing	Continuing	N/A

Remarks
The Engineering and Manufacturing Development (EMD) funding decrease in FY 2025 is due to completion of EMD in Q4 FY 2024.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT	Project (Number/Name) 2189 / AARGM ER
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Systems Engineering (NAWCWD and NAWCAD) will decrease in FY 2025 due to completion of EMD and system-level testing of production representative missiles.

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Studies & Analysis	Various	Various : Various	6.371	0.000		0.000		0.000		-		0.000	0.000	6.371	-
Subtotal			6.371	0.000		0.000		0.000		-		0.000	0.000	6.371	N/A

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Test & Evaluation (DT&E)	WR	NAWCAD : Patuxent River, MD	18.727	0.521	Nov 2022	12.516	Nov 2023	2.577	Nov 2024	-		2.577	4.526	38.867	-
Developmental Test & Evaluation (DT&E)	WR	NAWCWD : China Lake, CA	20.010	8.044	Nov 2022	0.623	Nov 2023	0.636	Dec 2024	-		0.636	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	Various : Various	1.186	1.920	Nov 2022	0.000		0.000		-		0.000	0.000	3.106	-
Developmental Test & Evaluation (DT&E)	WR	COTF : Norfolk, VA	0.673	0.219	Nov 2022	0.176	Nov 2023	0.000		-		0.000	0.000	1.068	-
Operational Test & Evaluation (OT&E)	WR	NAWCWD : China Lake, CA	0.717	7.747	Dec 2022	0.448	Dec 2023	5.088	Dec 2024	-		5.088	0.000	14.000	-
Operational Test & Evaluation (OT&E)	WR	WSMR : White Sands Missile Range, NM	0.000	0.487	Dec 2022	4.160	Dec 2023	0.000		-		0.000	0.000	4.647	-
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	Various	Various : Various	39.821	0.000		0.000		0.000		-		0.000	0.000	39.821	-
Subtotal			81.134	18.938		17.923		8.301		-		8.301	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT	Project (Number/Name) 2189 / AARGM ER
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Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
 Developmental Test and Evaluation (NAWCAD) will decrease in FY 2025 due to decreased support with the F/A-18 employment expansion and integration on stations 2 and 10.
 Operational Test and Evaluation will increase in FY 2025 due to Integrated Test delays into late FY 2024.
 The following line has been moved into Prior year no longer funded: Developmental Test & Evaluation, Northrop Grumman (\$35.263M).

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	Various	Various : Various	7.731	0.772	Nov 2022	0.363	Nov 2023	0.370	Nov 2024	-		0.370	0.000	9.236	-
Program Management Support	WR	NAWCAD : Patuxent River, MD	5.475	0.598	Nov 2022	0.309	Nov 2023	0.315	Nov 2024	-		0.315	0.000	6.697	-
Program Management Support Follow-on Development	Various	Various : Various	0.000	0.000		0.861	Nov 2023	0.812	Nov 2024	-		0.812	Continuing	Continuing	Continuing
Government Engineering & Information Technology Support	WR	NSWC : Dahlgren, VA	0.306	0.281	Oct 2022	0.011	Oct 2023	0.000		-		0.000	0.000	0.598	-
Travel	WR	NAVAIR HQ : Patuxent River, MD	0.223	0.065	Nov 2022	0.025	Nov 2023	0.026	Nov 2024	-		0.026	0.000	0.339	-
Subtotal			13.735	1.716		1.569		1.523		-		1.523	Continuing	Continuing	N/A

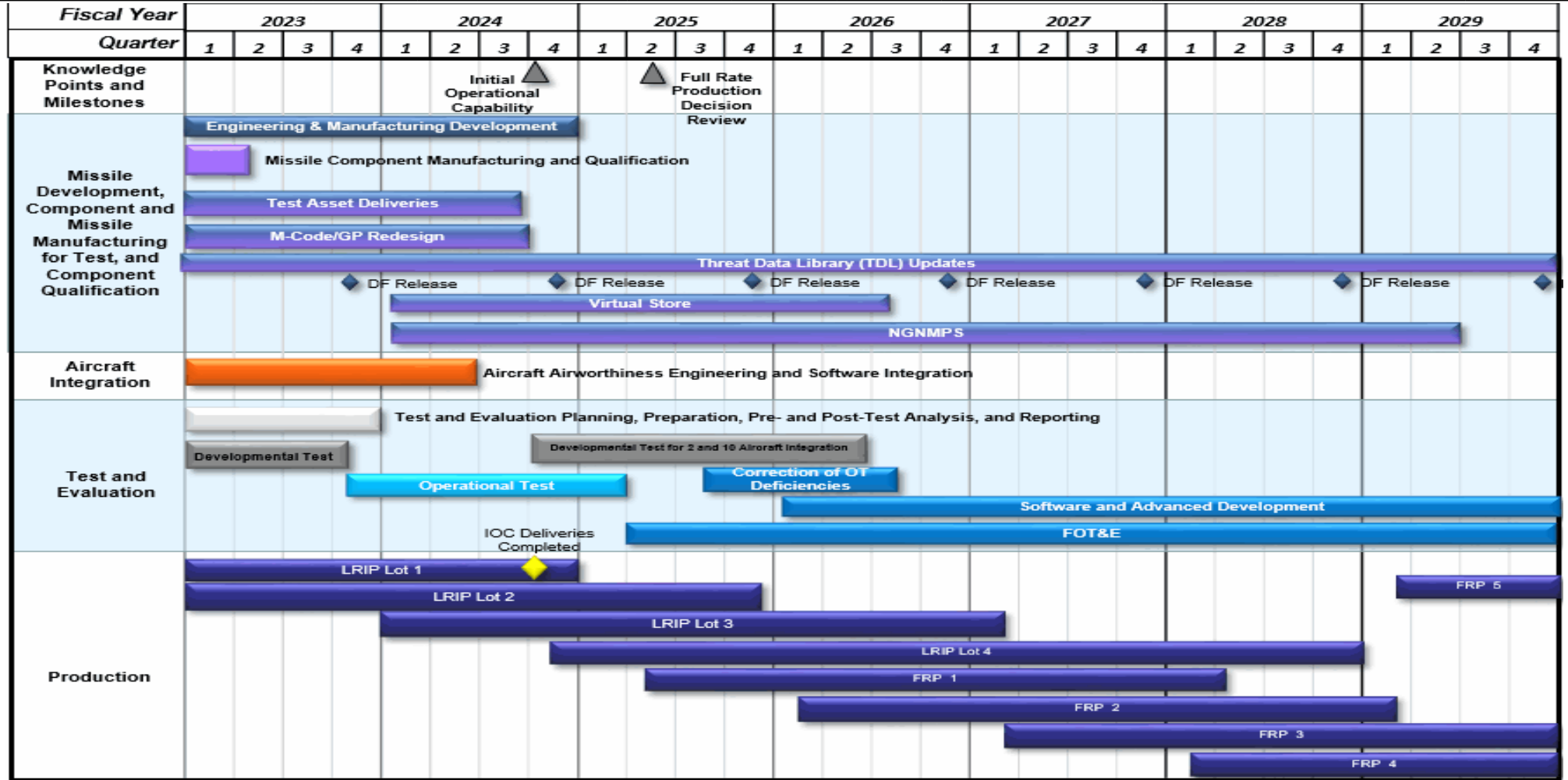
Remarks
 FY 2025 Management Services cost categories increased due to inflation.

	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	550.803	76.314	51.807	22.342	-	22.342	Continuing	Continuing	N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Navy Date: March 2024

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT	Project (Number/Name) 2189 / AARGM ER
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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT	Project (Number/Name) 2189 / AARGM ER

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
AARGM ER				
Acquisition Milestones: Milestones: IOC	4	2024	4	2024
Acquisition Milestones: Milestones: FRP Decision Review	2	2025	2	2025
Systems Development: Engineering & Manufacturing Development: Engineering & Manufacturing Development	1	2023	4	2024
Systems Development: M-Code/GP Redesign: M-Code/GP Redesign	3	2023	3	2024
Systems Development: Threat Data Library: Threat Data Library (TDL) Updates	1	2023	4	2029
Systems Development: Virtual Store: Virtual Store	1	2024	3	2026
Systems Development: Mission Planning (NGNMPS): Mission Planning (NGNMPS)	1	2024	2	2029
Test & Evaluation: Aircraft Integration: Aircraft Integration	1	2023	2	2024
Test & Evaluation: Technical Evaluation: Developmental Test & Evaluation (DT&E)	1	2023	4	2023
Test & Evaluation: Technical Evaluation: Developmental Test & Evaluation (DT&E) for Stations 2 and 10 Aircraft Integration	4	2024	2	2026
Test & Evaluation: Operational Evaluation: Operational Test & Evaluation (OT&E)	4	2023	1	2025
Test & Evaluation: Follow on Test & Evaluation: Follow on Test & Evaluation (FOT&E)	2	2025	4	2029
Production Milestones: Contract Awards: LRIP 3 WPN	1	2024	1	2024
Production Milestones: Contract Awards: LRIP 4 WPN	4	2024	4	2024
Production Milestones: Contract Awards: FRP 1 WPN	2	2025	2	2025
Production Milestones: Contract Awards: FRP 2 WPN	1	2026	1	2026
Production Milestones: Contract Awards: FRP 3 WPN	1	2027	1	2027
Production Milestones: Contract Awards: FRP 4 WPN	1	2028	1	2028
Production Milestones: Contract Awards: FRP 5 WPN	1	2029	1	2029
Deliveries: Test Assets	1	2023	3	2024

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT	Project (Number/Name) 2189 / AARGM ER
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Deliveries: LRIP 1 WPN	3	2024	4	2024
Deliveries: LRIP 2 WPN	1	2025	4	2025
Deliveries: LRIP 3 WPN	2	2026	1	2027
Deliveries: LRIP 4 WPN	1	2028	4	2028
Deliveries: FRP 1 WPN	2	2027	2	2028
Deliveries: FRP 2 WPN	1	2028	1	2029
Deliveries: FRP 3 WPN	1	2029	4	2029

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT	Project (Number/Name) 9999 / Congressional Adds
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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
9999: <i>Congressional Adds</i>	18.229	4.827	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	23.056
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Advanced Anti-Radiation Guided Missile Extended Range (AARGM-ER) integrates hardware and software upgrades to the AARGM missile guidance and control sections, a new rocket motor, and Control Actuation System (CAS) into a new outer mold line able to be launched from tactical aircraft. AARGM-ER's capabilities will add extended range, increased survivability, and improve effectiveness against complex, new, and emerging threats.

The FY 2023 program increase funds research and study activities related to incorporating Solid Fuel Ramjet into the AARGM-ER, which would enable flight at supersonic speeds and leverage existing manufacturing processes and affordable materials, helping to increase capabilities while keeping costs low relative to comparable engines.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2023	FY 2024
Congressional Add: AARGM improvements	4.827	0.000
FY 2023 Accomplishments: Fund research and study activities related to incorporating Solid Fuel Ramjet into the AARGM-ER, which would enable flight at supersonic speeds and leverage existing manufacturing processes and affordable materials, helping to increase capabilities while keeping costs low relative to comparable engines.		
FY 2024 Plans: N/A		
Congressional Adds Subtotals	4.827	0.000

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

These efforts will leverage the AARGM-ER program of record to research and study activities to make AARGM-ER more lethal against advancing threats.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT	Project (Number/Name) 9999 / Congressional Adds
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Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Control Design Analysis	SS/CPFF	Northrop Grumman Defense Systems : Northridge, CA	7.824	0.000		0.000		0.000		-		0.000	0.000	7.824	7.824
Surface Launch Demonstration	SS/CPFF	Northrop Grumman Defense Systems : Northridge, CA	5.012	0.000		0.000		0.000		-		0.000	0.000	5.012	5.012
Systems Engineering	WR	NAWCWD : China Lake, CA	0.738	0.435	Aug 2023	0.000		0.000		-		0.000	0.000	1.173	-
Systems Engineering	WR	NAWCAD : Patuxent River, MD	0.405	0.065	Aug 2023	0.000		0.000		-		0.000	0.000	0.470	-
AARGM/AARGMER Integration Efforts	SS/CPFF	Northrop Grumman Defense Systems : Northridge, CA	4.000	0.000		0.000		0.000		-		0.000	0.000	4.000	4.000
AARGM/AARGMER Ramjet Efforts	SS/CPFF	Northrop Grumman Defense Systems : Northridge, CA	0.000	4.327	Jan 2024	0.000		0.000		-		0.000	0.000	4.327	4.327
Subtotal			17.979	4.827		0.000		0.000		-		0.000	0.000	22.806	N/A

Remarks
 FY 2023 funding for research and study activities to incorporate Solid Fuel Ramjet into the AARGM-ER, which would enable flight at supersonic speeds and leverage existing manufacturing processes and affordable materials, helping to increase capabilities while keeping costs low relative to comparable engines. FY 2023 changes are due to \$0.173M SBIR reduction.

Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	WR	NAWCAD : Patuxent River, MD	0.250	0.000		0.000		0.000		-		0.000	0.000	0.250	-
Subtotal			0.250	0.000		0.000		0.000		-		0.000	0.000	0.250	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Navy								Date: March 2024			
Appropriation/Budget Activity 1319 / 7			R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT				Project (Number/Name) 9999 / Congressional Adds				
	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	18.229	4.827	0.000		0.000	-		0.000	0.000	23.056	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Navy **Date:** March 2024

Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT	Project (Number/Name) 9999 / Congressional Adds
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Congressional Adds	FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029							
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
AARGM & AARGM-ER FY22 Add																																
AARGM & AARGM-ER FY23 Add																																
<i>2025DON - 0205601N - 9999</i>																																

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Navy		Date: March 2024
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / ANTI-RADIATION MISSILE IMPROVEMENT	Project (Number/Name) 9999 / Congressional Adds

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Congressional Adds				
AARGM and AARGM ER FY 2022 Add: Integration on long endurance platforms	2	2023	1	2024
AARGM and AARGM ER FY 2023 Add: Incorporating Solid Fuel Ramjet into AARGM-ER	4	2023	4	2024