

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2024 Navy **Date:** March 2023

<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604522N / <i>Air &amp; Missile Defense Radar (AMDR) System</i>
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	666.676	84.526	87.341	90.307	-	90.307	104.858	89.927	79.533	75.126	Continuing	Continuing
3186: <i>Air and Missile Defense Radar</i>	666.676	84.526	87.341	90.307	-	90.307	104.858	89.927	79.533	75.126	Continuing	Continuing

**Program MDAP/MAIS Code:**  
**Project MDAP/MAIS Code(s):** P384

**A. Mission Description and Budget Item Justification**

The Air and Missile Defense Radar (AMDR) program consists of the AN/SPY-6(V) Family Of Radars (FoR):

- AN/SPY-6(V)1 (DDG 51 Arleigh Burke class Flight III guided missile destroyer)
- AN/SPY-6(V)2 (Nimitz class Carriers, America class LHA, and San Antonio class LPD)
- AN/SPY-6(V)3 (Ford class CVN, Constellation class FFG)
- AN/SPY-6(V)4 (DDG 51 Arleigh Burke class Flight IIA guided missile destroyer backfit)

AN/SPY-6(V)1 will provide multi-mission capabilities, simultaneously supporting both long range, exoatmospheric detection, tracking and discrimination of ballistic missiles, as well as Area and Self Defense against air and surface threats. For the Ballistic Missile Defense (BMD) capability, increased radar sensitivity and bandwidth over current radar systems are needed to detect, track and support engagements of advanced ballistic missile threats at the required ranges, concurrent with Area and Self Defense against Air and Surface threats. For the Area Air Defense and Self Defense capability, increased sensitivity and clutter capabilities are needed to detect, react to, and engage stressing Very Low Observable/Very Low Flyer (VLO/VLF) threats in the presence of heavy land, sea, and rain clutter. This effort provides for the development of an active phased array radar with the required capabilities to address the evolving threat. The AN/SPY-6(V) FoR will obtain performance and technology enhancements throughout their service life based upon an approach that includes modularity of hardware and software, a scalable design and Open Architecture (OA).

AN/SPY-6(V)2 and (V)3 (Enterprise Air Surveillance Radar (EASR) will provide multi-mission capabilities, simultaneously supporting Air Traffic Control (ATC), situational awareness, and ship self-defense against Air and Surface threats. For these missions, increased clutter capability, short-range detection and tracking, and special weather waveforms are needed. AN/SPY-6(V)3 is the primary air surveillance radar supporting ship self-defense, situational awareness and Air Traffic Control (ATC) for Ford class Carriers. For other ship classes, AN/SPY-6(V)2 is the primary radar for self-defense and situational awareness with the ancillary role of supporting ATC by resolving SPN-50 mast blockage for ATC.

AN/SPY-6(V)4 will provide Active Electronically-Steered Array (AESA) and digital beamforming technology for backfit to Flight IIA DDG. Backfit of SPY-6 technology on DDG 51 FLT IIA commences with non-recurring engineering efforts to scale the radar hardware and software; perform modeling and simulation to update the Continuity of Operations (CONOPS), and; enable SPY-6 IAMD performance capabilities on FLT IIA DDGs.

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<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604522N / <i>Air &amp; Missile Defense Radar (AMDR) System</i>
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Advanced Distributed Radar (ADR) includes software enhancements that will enable multi-ship cooperative radar operations in order to support Distributed Maritime Operations (DMO) for the SPY-6 FoR. ADR transitions Receive Only Cooperative Radar (ROCR), Networked Cooperative Radar (NCR), and EMPIRE software capabilities from Office of Naval Research (ONR) to tactical development, implementation and testing. ADR software enhancements will increase radar detection performance for Integrated Air and Missile Defense capabilities and enable operations with radars in receive-only mode in cooperation with other AN/SPY-6(V) radars. Agnostic Signal Processing for Increased Radar Efficiency (ASPIRE) effort will transition from ONR to address hardware options for more flexible digital beamforming, advanced signal processing, signal synthesizer architecture, and smaller digital receiver-exciter systems, resulting in efficiencies in radar size, weight, and power requirements as a key enabler to further enhance radar capabilities.

The FY24 funding request supports the following efforts:

SPY-6(V)1 integration efforts and associated development to support AEGIS Baseline 10 integration, advanced radar capability testing at the Advanced Radar Development Evaluation Laboratory (ARDEL), and integration with the AEGIS Virtual Test Environment (VTE). Integration efforts and associated development for AN/SPY-6(V)2 and (V)3 (Enterprise Air Surveillance Radar (EASR)) to integrate with Ship Self Defense System (SSDS) Baseline 12 and meet the performance requirements contained in the Battlespace Awareness ICD. This includes continued testing at the Land Based Test Site and integration efforts with the SYY-1 Air Traffic Control System and Cooperative Engagement Capability. AN/SPY-6(V)4 FLT IIA backfit efforts will continue with ship integration planning, system-level requirements development, modeling and simulation in support of requirements development, and software development to modify S-Band product line code for (V)4. ADR efforts will continue combat system integration and commence software development including systems engineering in support of software development, modeling and simulation activities in support of software development and support technology transition activities.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
Previous President's Budget	87.364	87.459	97.064	-	97.064
Current President's Budget	84.526	87.341	90.307	-	90.307
Total Adjustments	-2.838	-0.118	-6.757	-	-6.757
• Congressional General Reductions	-	-0.118			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.838	0.000			
• Program Adjustments	0.000	0.000	-7.433	-	-7.433
• Rate/Misc Adjustments	0.000	0.000	0.676	-	0.676

**Change Summary Explanation**

FY 2023: Decrease of \$.118M is due to Title VIII FFRDC reduction.

FY 2024: Net decrease of \$6.757M is primarily due to Rate/Misc Adjustments (under-execution) realignments; total reduction was partially offset by funding added associated with ASPIRE, which is a new effort starting in FY24.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2024 Navy **Date:** March 2023

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604522N / Air & Missile Defense Radar (AMDR) System	<b>Project (Number/Name)</b> 3186 / Air and Missile Defense Radar
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
3186: Air and Missile Defense Radar	666.676	84.526	87.341	90.307	-	90.307	104.858	89.927	79.533	75.126	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

**Project MDAP/MAIS Code:** P384

**A. Mission Description and Budget Item Justification**

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Advanced Distributed Radar (ADR) includes software enhancements that will enable multi-ship cooperative radar operations in order to support Distributed Maritime Operations (DMO) for the SPY-6 FoR. ADR transitions Receive Only Cooperative Radar (ROCR), Networked Cooperative Radar (NCR), and EMPIRE software

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<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604522N / <i>Air &amp; Missile Defense Radar (AMDR) System</i>	<b>Project (Number/Name)</b> 3186 / <i>Air and Missile Defense Radar</i>

capabilities from Office of Naval Research (ONR) to tactical development, implementation and testing. ADR software enhancements will increase radar detection performance for Integrated Air and Missile Defense capabilities and enable operations with radars in receive-only mode in cooperation with other AN/SPY-6(V) radars. Agnostic Signal Processing for Increased Radar Efficiency (ASPIRE) effort will transition from ONR to address hardware options for more flexible digital beamforming, advanced signal processing, signal synthesizer architecture, and smaller digital receiver-exciter systems, resulting in efficiencies in radar size, weight, and power requirements as a key enabler to further enhance radar capabilities.

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

	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
<b>Title:</b> AN/SPY-6(V)1 DESIGN, SUPPORT, INTEGRATION, TEST AND EVALUATION (CONTRACTOR)	30.108	27.023	20.555	0.000	20.555
<b>Articles:</b>	-	-	-	-	-
<b>FY 2023 Plans:</b>					
- Continue to provide system engineering and Software (SW) support for combat system integration efforts					
- Continue risk reduction testing at Advanced Radar Development Evaluation Laboratory (ARDEL), including refinement of radar operation functions (calibration, fault detection/fault isolation, environmental adaptation), improving electronic protection capabilities, and continue data collection on ballistic missile defense targets of opportunity					
- Support execution and data analysis of the OA at ARDEL					
- Support Developmental Test (DT)/Operational Test (OT) planning					
<b>FY 2024 Base Plans:</b>					
- Continue to provide system engineering and Software (SW) support for combat system integration efforts					
- Continue risk reduction testing at Advanced Radar Development Evaluation Laboratory (ARDEL), including refinement of radar operation functions (calibration, fault detection/fault isolation, environmental adaptation), improving electronic protection capabilities, and continue data collection on ballistic missile defense targets of opportunity					
- Support execution and data analysis of DT/OT events					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Navy				<b>Date:</b> March 2023	
<b>Appropriation/Budget Activity</b> 1319 / 5		<b>R-1 Program Element (Number/Name)</b> PE 0604522N / Air & Missile Defense Radar (AMDR) System		<b>Project (Number/Name)</b> 3186 / Air and Missile Defense Radar	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>					
- Support Objective Quality Evidence (OQE) collection and documentation for Initial Operational Capability (IOC)					
<b>FY 2024 OCO Plans:</b> N/A					
<b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Decrease aligns with planned transition from core radar development to focusing on ship and combat system integration.					
<b>Title:</b> AN/SPY-6(V)1 DESIGN, SUPPORT, INTEGRATION, TEST AND EVALUATION (GOVERNMENT)					
<b>Articles:</b>					
	4.594	5.193	4.059	0.000	4.059
	-	-	-	-	-
<b>FY 2023 Plans:</b>					
- Continue to direct and lead independent technical assessments					
- Continue support for combat system integration and DDG Flt III integration efforts					
- Continue risk reduction testing at ARDEL on remaining mission area requirements					
- Coordinate the OA at ARDEL and coordinate plans for combined AMDR/DDG Flt III DT/OT					
<b>FY 2024 Base Plans:</b>					
- Continue to direct and lead independent technical assessments					
- Continue support for combat system integration and DDG Flt III integration efforts					
- Continue risk reduction testing at ARDEL on remaining mission area requirements					
- Coordinate combined AMDR/DDG Flt III DT/OT events and generate documentation for IOC					
<b>FY 2024 OCO Plans:</b> N/A					
<b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Decrease aligns with planned transition from core radar development to focusing on ship and combat system integration.					
<b>Title:</b> AN/SPY-6(V)1 TEST AND EVALUATION ASSETS AND FACILITIES					
<b>Articles:</b>					
	3.265	4.366	3.449	0.000	3.449
	-	-	-	-	-
<b>FY 2023 Plans:</b>					
- Continue refresh/replace of infrastructure at PMRF test site, including facility power architecture					
- Continue to maintain PMRF test site					
- Continue to provide PMRF range services in support of risk reduction testing at ARDEL					

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>					
	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
<p>- Continue to provide engineering services in support of risk reduction testing at ARDEL</p> <p><b>FY 2024 Base Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue refresh/replacement of infrastructure at PMRF test site, including facility power architecture</li> <li>- Continue to maintain PMRF test site</li> <li>- Continue to provide PMRF range services in support of risk reduction testing at ARDEL</li> <li>- Continue to provide engineering services in support of risk reduction testing at ARDEL</li> </ul> <p><b>FY 2024 OCO Plans:</b> N/A</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Decrease is due to leveraging test assets being provided by Combat System and Ship programs.</p>					
<b>Title:</b> ENGINEERING CHANGES/CAPABILITY ENHANCEMENTS AND BACK FIT	15.008	21.550	38.315	0.000	38.315
<b>Articles:</b>	-	-	-	-	-
<p><b>FY 2023 Plans:</b> ADR Efforts:</p> <ul style="list-style-type: none"> <li>- Continue system-level requirements development</li> <li>- Continue modeling and simulation activities in support of requirements development</li> <li>- Manage risks and associated mitigation plans</li> <li>- Continue to support technology transition activities</li> </ul> <p>AN/SPY-6(V)4 Backfit:</p> <ul style="list-style-type: none"> <li>- Commence software development (scale (V)1 capabilities for DDG Mod)</li> <li>- Commence system engineering in support of software development</li> <li>- Continue modeling and simulation activities in support of software development</li> <li>- Continue Technical Data Package (TDP) maintenance</li> <li>- Manage risks and associated mitigation plans</li> <li>- Conduct In Process Review (IPR) 1</li> <li>- Conduct In Process Review (IPR) 2</li> <li>- Commence support for transition to production activities for production readiness</li> </ul> <p><b>FY 2024 Base Plans:</b> ADR Efforts:</p>					

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
<ul style="list-style-type: none"> <li>- Continue system-level requirements development</li> <li>- Continue modeling and simulation activities in support of requirements development</li> <li>- Conduct In Process Review (IPR) 1</li> <li>- Commence systems engineering in support of software development</li> <li>- Commence combat system integration requirements generation</li> <li>- Manage risks and associated mitigation plans</li> <li>- Continue to support technology transition activities</li> </ul> <p>AN/SPY-6(V)4 Backfit:</p> <ul style="list-style-type: none"> <li>- Continue software development (scale (V)1 capabilities for DDG Mod)</li> <li>- Continue system engineering in support of software development</li> <li>- Continue modeling and simulation activities in support of software development</li> <li>- Manage risks and associated mitigation plans</li> <li>- Commence ship integration planning</li> <li>- Generate test plan</li> <li>- Conduct In Process Review (IPR) 3</li> </ul> <p><b>FY 2024 OCO Plans:</b> N/A</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Increase is due to ramp up of ADR (software development and LM Combat System planning) and Backfit (software development and test planning) efforts.</p>					
<p><b>Title:</b> PROGRAM MANAGEMENT</p> <p align="right"><b>Articles:</b></p> <p><b>FY 2023 Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue to assist in cost, schedule, and performance management, contract management and oversight, earned value assessment and risk identification and mitigation</li> <li>- Continue to provide support to Integrated Product Teams (IPTs) and Working Groups (WGs) required to support Integration &amp; Production Support (I&amp;PS) contract</li> <li>- Continue to provide support to combat system integration efforts</li> <li>- Continue support to IPTs and WGs required to support Hardware Production &amp; Sustainment (HP&amp;S) contract</li> </ul> <p><b>FY 2024 Base Plans:</b></p>	1.600	2.928	2.815	0.000	2.815
	-	-	-	-	-

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
<ul style="list-style-type: none"> <li>- Continue to assist in cost, schedule, and performance management, contract management and oversight, earned value assessment and risk identification and mitigation</li> <li>- Continue to provide support to IPTs and WGs required to support for Design Agent activities (I&amp;PS contract and follow-on)</li> <li>- Continue to provide support to combat system integration efforts</li> <li>- Continue support to IPTs and WGs required to support HP&amp;S contract</li> </ul> <p><b>FY 2024 OCO Plans:</b> N/A</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Decrease aligns with planned development efforts.</p>					
<p><b>Title:</b> AN/SPY-6(V)2 and (V)3 DESIGN, SUPPORT, INTEGRATION, TEST AND EVALUATION (CONTRACTOR)</p> <p align="right"><b>Articles:</b></p> <p><b>FY 2023 Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue radar system engineering support to design Cross Product Teams (CPTs) for trade studies, requirements generation and trace, and modeling and simulation for Combat System (CS) integration efforts with Ship Self Defense System (SSDS) combat system</li> <li>- Continue radar software development for CS integration efforts with SSDS combat system</li> <li>- Continue testing at Wallops Island and in-plant, including refinement of Air Traffic Control support, radar operation functions, improving air warfare and electronic protection capabilities, combat system land based test events, and carrier power risk reduction testing</li> <li>- Complete implementation of corrective actions for hardware defects for co-site interference</li> <li>- Continue to support operation of radar emulator at Combat System Engineering Agent (CSEA) lab in Moorestown, NJ, including combat system integration test support</li> </ul> <p><b>FY 2024 Base Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue radar system engineering support to design Cross Product Teams (CPTs) for trade requirements generation and trace, and modeling and simulation for Combat System (CS) integration efforts with Ship Self Defense System (SSDS) combat system</li> <li>- Continue radar software development for CS integration efforts with SSDS combat system</li> </ul>	27.633	23.561	18.858	0.000	18.858
	-	-	-	-	-

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
<ul style="list-style-type: none"> <li>- Continue testing at Wallops Island and in-plant, including refinement of Air Traffic Control support, radar operation functions, improving air warfare and electronic protection capabilities, combat system land-based test events, and carrier power risk reduction testing</li> <li>- Continue to support operation of radar emulator at Combat System Engineering Agent (CSEA) lab in Moorestown, NJ, including combat system integration test support</li> </ul> <p><b>FY 2024 OCO Plans:</b> N/A</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Decrease due to resolving Co-site interference issue and ramp down of core software and systems engineering efforts.</p>					
<p><b>Title:</b> AN/SPY-6(V)2 and (V)3 DESIGN, SUPPORT, INTEGRATION, TEST AND EVALUATION (GOVERNMENT)</p> <p align="right"><b>Articles:</b></p> <p><b>FY 2023 Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue to provide oversight of system engineering and software support for initial radar integration efforts with SSDS combat system</li> <li>- Continue to coordinate testing at Wallops Island and in-plant, including refinement of Air Traffic Control support, radar operation functions, improving air warfare and electronic protection capabilities, combat system land based test events, and carrier power risk reduction testing</li> <li>- Continue to operate radar EDM at Wallops Island</li> <li>- Continue to analyze test results for requirements verification and validation</li> <li>- Complete monitoring and approve corrective action for hardware defects for co-site interference</li> </ul> <p><b>FY 2024 Base Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue to provide oversight of system engineering and software support for initial radar integration efforts with SSDS combat system</li> <li>- Continue to coordinate testing at Wallops Island and in-plant, including refinement of Air Traffic Control support, radar operation functions, improving air warfare and electronic protection capabilities, combat system land based test events, and carrier power risk reduction testing</li> <li>- Continue to operate radar EDM at Wallops Island</li> </ul>	2.318	2.720	2.256	0.000	2.256
	-	-	-	-	-

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
- Continue to analyze test results for requirements verification and validation					
<b>FY 2024 OCO Plans:</b> N/A					
<b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Decrease is due to resolving Co-site interference issue and ramp down of core software and systems engineering efforts.					
<b>Accomplishments/Planned Programs Subtotals</b>	84.526	87.341	90.307	0.000	90.307

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

<b>Line Item</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• SCN/2122: DDG51	3,841.740	7,870.766	4,709.131	-	4,709.131	4,524.569	4,321.240	4,351.256	4,767.817	4,927.728	137,974.806
• 0204228N/2980:	3.723	5.368	33.967	-	33.967	40.090	41.261	41.932	42.762	Continuing	Continuing
<i>Items Less Than \$5M</i>											
• SCN/2128: FFG(X)	1,090.900	1,135.224	2,173.698	-	2,173.698	1,037.042	1,932.900	1,041.357	2,057.744	8,612.597	21,421.762
• SCN/2001: Carrier Replacement Program	1,353.205	1,927.580	1,739.896	-	1,739.896	2,416.717	1,159.211	1,842.376	2,119.562	12,203.511	56,154.063
• SCN/2086: CVN Refueling Overhauls	2,840.578	674.081	860.068	-	860.068	2,298.082	2,199.888	259.075	552.634	5,487.069	42,619.730
• SCN/3041: LHA	68.637	1,393.770	1,830.149	-	1,830.149	150.218	367.400	3,479.047	0.000	0.000	18,405.554
• SCN/3036: LPD	53.682	17.739	16.520	-	16.520	0.000	0.000	0.000	0.000	0.000	21,413.011
• O&MN/1C1C/0702228N: O&MN AMDR	29.023	36.175	44.658	-	44.658	64.498	60.925	62.207	63.109	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**

The AN/SPY-6(V) Advanced Radars Acquisition Strategy (AS) supports current and future variants to reflect a Family of Radars (FoR) nomenclature AN/SPY-6(V). This includes new construction DDG 51 Flight (FLT) III units beyond FY 2020, backfit to the modernization effort for DDG 51 FLT IIA units, and Enterprise Air Surveillance Radar (EASR) for the new construction and modernization of aircraft carriers and large deck amphibious ships. Given the software and hardware commonality between the AN/SPY-6(V) FoR, Program Executive Office (PEO) Integrated Warfare Systems (IWS) 2.0 will leverage AN/SPY-6(V) FoR contracts to achieve economies of scale in both production and sustainment efforts. This AS lays out strategies for the Production and Deployment phases and beyond. The AN/SPY-6(V) Hardware Production

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2024 Navy	<b>Date:</b> March 2023
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<b>Appropriation/Budget Activity</b>	<b>R-1 Program Element (Number/Name)</b>	<b>Project (Number/Name)</b>
1319 / 5	PE 0604522N / <i>Air &amp; Missile Defense Radar (AMDR) System</i>	3186 / <i>Air and Missile Defense Radar</i>

& Sustainment (HP&S) contract for production units FY2021-FY2025 includes AN/SPY-6(V)1, AN/SPY-6(V)2, AN/SPY-6(V)3, and AN/SPY-6(V)4 and was awarded in FY2022 after a full and open competition leveraging the Technical Data Package (TDP) and data rights obtained through the AMDR EMD/LRIP 1 and EASR EMD/LRIP contracts. The AN/SPY-6(V) Design Agent (DA) Integration and Production Support (I&PS) contract will provide DA support for continued combat system integration and test, sustaining engineering, training, software maintenance, interim depot maintenance support, and field engineering services on a sole source basis from the current system integrator, Raytheon IDS. A follow-on AN/SPY-6(V) DA contract will be competed under full and open competition.

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2024 Navy</b>											<b>Date:</b> March 2023				
<b>Appropriation/Budget Activity</b> 1319 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0604522N / Air & Missile Defense Radar (AMDR) System					<b>Project (Number/Name)</b> 3186 / Air and Missile Defense Radar				

<b>Product Development (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
Engineering and Manufacturing Development/Engineering Services	C/CPIF	Raytheon : Marlborough, MA	340.119	10.541	Dec 2021	0.000		0.000		-		0.000	0.000	350.660	-
Integration and Production Support	SS/CPFF	Raytheon : Marlborough, MA	72.961	54.021	Nov 2021	62.902	Nov 2022	62.839	Oct 2023	-		62.839	Continuing	Continuing	Continuing
Technology Development	C/FPIF	Lockheed Martin : Moorestown, NJ	0.024	0.000		0.000		0.000		-		0.000	0.000	0.024	-
Systems Engineering	C/CPIF	Lockheed Martin : Moorestown, NJ	0.000	0.000		1.000	Mar 2023	3.334	Jan 2024	-		3.334	Continuing	Continuing	Continuing
<b>Subtotal</b>			413.104	64.562		63.902		66.173		-		66.173	Continuing	Continuing	N/A

**Remarks**  
 1) FY23 to FY24 increase due to ramp up of ADR (software development and LM Combat System planning) and Backfit (software development and test planning) efforts.  
 2) Since the FY23 budget request, FY23 funding increased primarily due to additional In-Plant Testing, Software Development, and Combat System Integration efforts.

<b>Support (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
Systems Engineering	MIPR	GTRI : Atlanta, GA	1.054	0.000		0.000		0.000		-		0.000	0.000	1.054	-
Systems Engineering	SS/CPFF	JHU/APL : Laurel, MD	24.962	5.645	Dec 2021	5.267	Nov 2022	4.607	Nov 2023	-		4.607	Continuing	Continuing	Continuing
Systems Engineering	MIPR	MIT : Cambridge, MD	4.721	0.955	Nov 2021	2.372	Nov 2022	1.865	Nov 2023	-		1.865	Continuing	Continuing	Continuing
Systems Engineering	WR	NRL : Washington, DC	3.445	0.578	Nov 2021	0.364	Nov 2022	0.159	Nov 2023	-		0.159	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC/CR : Crane, IN	4.776	0.947	Nov 2021	0.261	Oct 2022	0.217	Nov 2023	-		0.217	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC/DD : Dahlgren, VA	13.266	3.592	Oct 2021	2.586	Oct 2022	4.299	Nov 2023	-		4.299	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy** **Date:** March 2023

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604522N / Air & Missile Defense Radar (AMDR) System	<b>Project (Number/Name)</b> 3186 / Air and Missile Defense Radar
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<b>Support (\$ in Millions)</b>				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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	WR	NSWC/PHD : Port Hueneme, CA	3.238	0.081	Oct 2021	0.492	Oct 2022	1.272	Nov 2023	-		1.272	Continuing	Continuing	Continuing
Systems Engineering	C/CPIF	SPA (Bridge) : Washington, DC	6.147	0.000		0.000		0.000		-		0.000	0.000	6.147	-
Systems Engineering	MIPR	ARL : Adelphi, MD	0.883	0.000		0.000		0.000		-		0.000	0.000	0.883	-
Systems Engineering	WR	NSWC/CD : Carderock, MD	0.281	0.027	Oct 2021	0.000		0.000		-		0.000	0.000	0.308	-
Systems Engineering	WR	NSWC/Corona : Corona, CA	0.486	0.000		0.000		0.000		-		0.000	0.000	0.486	-
Systems Engineering	Allot	DISA : Scott AFB, Illinois	0.032	0.017	Nov 2021	0.025	Oct 2022	0.026	Nov 2023	-		0.026	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC IH : Indian Head, MD	0.668	0.000		0.000		0.000		-		0.000	0.000	0.668	-
Systems Engineering	SS/FFP	Northrop Grumman : Baltimore, MD	0.391	0.000		0.000		0.000		-		0.000	0.000	0.391	-
Systems Engineering	C/FFP	DRS Power & Control Technologies, Inc. : Milwaukee, WI	0.214	0.000		0.000		0.000		-		0.000	0.000	0.214	-
Systems Engineering	C/CPIF	SPA : Washington, DC	2.724	0.799	Nov 2021	1.142	Nov 2022	1.029	Nov 2023	-		1.029	Continuing	Continuing	Continuing
Systems Engineering	WR	NSMA : Washington, DC	1.123	0.383	Nov 2021	0.580	Apr 2023	0.441	Nov 2023	-		0.441	Continuing	Continuing	Continuing
Systems Engineering	C/CPIF	BAH : Washington, DC	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
<b>Subtotal</b>			68.411	13.024		13.089		13.915		-		13.915	Continuing	Continuing	N/A

**Remarks**  
 1) FY23 to FY24 increase primarily due to increased ADR and Backfit efforts at NSWC DD and NSWC PHD.  
 2) Since the FY23 budget request, FY23 funding decreased due to removing funding associated with Non-Recurring Engineering for stand up of Software Support activity at NSWC Dahlgren.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy												Date: March 2023			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
1319 / 5				PE 0604522N / Air & Missile Defense Radar (AMDR) System				3186 / Air and Missile Defense Radar							
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	WR	COMOPTEVFOR : Norfolk, VA	1.232	0.000		0.000		0.000		-		0.000	0.000	1.232	-
Developmental Test & Evaluation (DT&E)	MIPR	GTRI : Atlanta, GA	0.668	0.082	Jan 2022	0.000		0.000		-		0.000	0.000	0.750	-
Developmental Test & Evaluation (DT&E)	SS/CPFF	JHU/APL : Laurel, MD	19.011	0.062	Dec 2021	0.079	Nov 2022	0.062	Nov 2023	-		0.062	Continuing	Continuing	Continuing
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	MIPR	MIT : Cambridge, MD	0.311	0.000		0.000		0.000		-		0.000	0.000	0.311	-
Developmental Test & Evaluation (DT&E)	WR	NAWC PM : Pt. Mugu, CA	6.879	0.042	Aug 2022	0.104	Jan 2023	0.082	Nov 2023	-		0.082	0.000	7.107	-
Developmental Test & Evaluation (DT&E)	WR	NRL : Washington, DC	5.477	0.514	Nov 2021	0.691	Oct 2022	0.546	Nov 2023	-		0.546	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	NSWC/DD : Dahlgren, VA	6.037	0.280	Oct 2021	0.953	Oct 2022	1.112	Nov 2023	-		1.112	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	NSWC/PHD : Port Hueneme, CA	8.237	0.313	Oct 2021	0.696	Nov 2022	0.550	Nov 2023	-		0.550	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	PMRF : Kekaha, HI	13.234	2.478	Nov 2021	3.481	Oct 2022	3.923	Nov 2023	-		3.923	Continuing	Continuing	Continuing
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	C/CPIF	SPA (Bridge) : Washington, DC	3.043	0.000		0.000		0.000		-		0.000	0.000	3.043	-
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	WR	NSWC/PHD WS : Port Hueneme, CA	92.377	0.000		0.000		0.000		-		0.000	0.000	92.377	-
Developmental Test & Evaluation (DT&E)	WR	NSWC Corona : Corona, CA	5.786	0.302	Oct 2021	0.000		0.000		-		0.000	0.000	6.088	-
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	WR	CNA-ONR : Arlington, VA	0.157	0.000		0.000		0.000		-		0.000	0.000	0.157	-

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy** **Date:** March 2023

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604522N / Air & Missile Defense Radar (AMDR) System	<b>Project (Number/Name)</b> 3186 / Air and Missile Defense Radar
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<b>Test and Evaluation (\$ in Millions)</b>				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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 Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	C/BA	MDA : Redstone Arsenal, AL	1.663	0.000		0.000		0.000		-		0.000	0.000	1.663	-
Developmental Test & Evaluation (DT&E)	C/CPIF	SAIC : Andover, MA	0.639	0.167	Dec 2021	0.000		0.000		-		0.000	0.000	0.806	-
Developmental Test & Evaluation (DT&E)	MIPR	DOI : Boise, ID	3.620	0.463	May 2022	0.000		0.000		-		0.000	0.000	4.083	-
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	WR	NSWC Crane : Crane, IN	0.686	0.000		0.000		0.000		-		0.000	0.000	0.686	-
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	MIPR	AFSEO : Eglin AFB, FL	0.011	0.000		0.000		0.000		-		0.000	0.000	0.011	-
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	WR	FRCE - PMA 226 : Cherry Point, NC	0.005	0.000		0.000		0.000		-		0.000	0.000	0.005	-
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	WR	NUWC KP : Keyport, WA	0.367	0.000		0.000		0.000		-		0.000	0.000	0.367	-
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	WR	COMNAVAIRPAC : San Diego, CA	0.244	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	NSWC CD : Carderock, MD	1.051	0.000		0.035	Feb 2023	0.029	Nov 2023	-		0.029	0.000	1.115	-
Developmental Test & Evaluation (DT&E)	MIPR	AFRL : Kirtland AFB, NM	0.341	0.004	Feb 2022	0.000		0.000		-		0.000	0.000	0.345	-
Developmental Test & Evaluation (DT&E)	C/CPIF	SPA : Washington, DC	2.427	0.649	Dec 2021	0.648	Nov 2022	0.493	Nov 2023	-		0.493	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	MIPR	Civil Air Patrol : Montgomery, AL	0.024	0.015	Jan 2022	0.021	Dec 2022	0.016	Nov 2023	-		0.016	Continuing	Continuing	Continuing
Developmental Test & Evaluation (DT&E)	WR	SCSC Wallops : Wallops Island, VA	0.330	0.056	Jun 2022	0.650	Oct 2022	0.540	Nov 2023	-		0.540	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy** **Date:** March 2023

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604522N / Air & Missile Defense Radar (AMDR) System	<b>Project (Number/Name)</b> 3186 / Air and Missile Defense Radar
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<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
Prior Year Developmental Test & Evaluation Not Funded FYDP (PYDT&E)	WR	NAWCCL : Clear Lake, CA	0.432	0.000		0.000		0.000		-		0.000	0.000	0.432	-
Developmental Test & Evaluation (DT&E)	C/CPFF	Global PCCI (GPC) : Irvine, CA	0.000	0.018	Mar 2022	0.000		0.000		-		0.000	0.000	0.018	-
Developmental Test & Evaluation (DT&E)	MIPR	HPCMP : Vicksburg, MS	0.000	0.000		0.064	Nov 2022	0.051	Mar 2024	-		0.051	0.000	0.115	-
<b>Subtotal</b>			174.289	5.445		7.422		7.404		-		7.404	Continuing	Continuing	N/A

**Remarks**  
1) Since the FY23 budget request, FY23 funding decreased primarily due to lower than estimated Land Based Test costs (NSWC PHD and SCSC for EASR / DOI and NSWC Corona for AMDR).

<b>Management Services (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
Support Management Services	C/CPIF	SPA (Bridge) : Washington, DC	5.119	0.000		0.000		0.000		-		0.000	0.000	5.119	-
Travel	Sub Allot	PEOISWS2 : Washington, DC	0.693	0.092	Jan 2022	0.094	Mar 2023	0.097	Jan 2024	-		0.097	Continuing	Continuing	Continuing
Support Management Services	WR	NSWC/DD : Dahlgren, VA	2.531	0.078	Oct 2021	0.633	Oct 2022	0.645	Nov 2023	-		0.645	Continuing	Continuing	Continuing
Support Management Services	C/CPFF	TMB-PSS : Washington, DC	0.435	0.076	Feb 2022	0.109	Mar 2023	0.083	Nov 2023	-		0.083	Continuing	Continuing	Continuing
Support Management Services	C/CPFF	CACI-PSS : Washington, DC	0.925	0.000		0.000		0.000		-		0.000	0.000	0.925	-
Support Management Services	C/CPFF	STRATEGIC INSIGHT : Arlington, VA	0.204	0.028	Dec 2021	0.049	Dec 2022	0.050	Dec 2023	-		0.050	Continuing	Continuing	Continuing
Support Management Services	C/CPIF	UNC : Chapel Hill, NC	0.106	0.000		0.000		0.000		-		0.000	0.000	0.106	-

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy** **Date:** March 2023

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604522N / Air & Missile Defense Radar (AMDR) System	<b>Project (Number/Name)</b> 3186 / Air and Missile Defense Radar
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<b>Management Services (\$ in Millions)</b>				<b>FY 2022</b>		<b>FY 2023</b>		<b>FY 2024 Base</b>		<b>FY 2024 OCO</b>		<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>			
Support Management Services	WR	NSWC/CD : Carderock, MD	0.076	0.000		0.000		0.000		-		0.000	0.000	0.076	-
Support Management Services	C/CPIF	SPA : Washington, DC	0.783	0.951	Nov 2021	1.860	Nov 2022	1.794	Nov 2023	-		1.794	Continuing	Continuing	Continuing
Support Management Services	C/CPFF	BAH-PSS : Washington, DC	0.000	0.270	Dec 2021	0.183	Mar 2023	0.146	Dec 2023	-		0.146	Continuing	Continuing	Continuing
<b>Subtotal</b>			10.872	1.495		2.928		2.815		-		2.815	Continuing	Continuing	N/A

**Remarks**  
1) Since the FY23 budget request, FY23 funding increased primarily due to additional cost estimating, contract management, program management, and technical oversight efforts.

	<b>Prior Years</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>	666.676	84.526	87.341	90.307	-	90.307	Continuing	Continuing	N/A

**Remarks**

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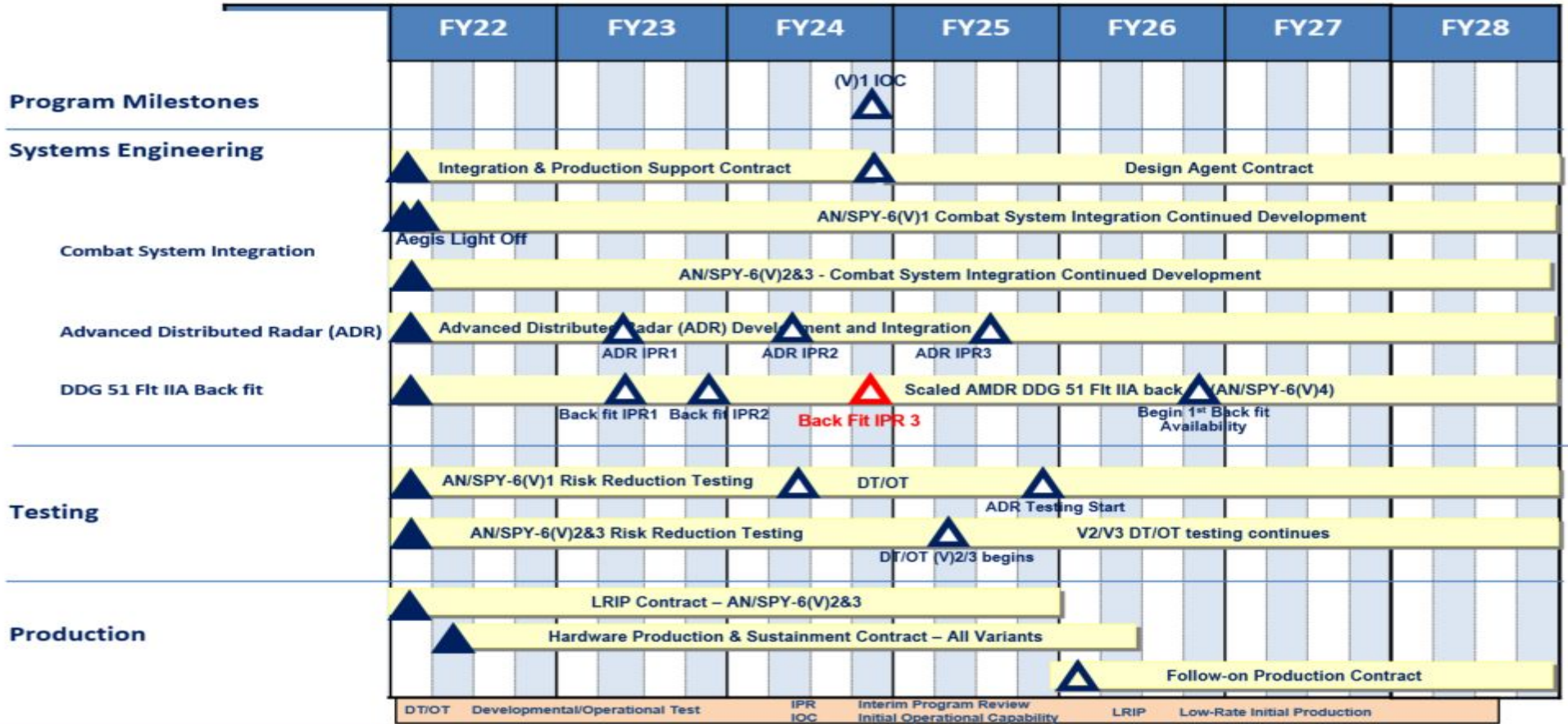
Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy

Date: March 2023

Appropriation/Budget Activity  
1319 / 5

R-1 Program Element (Number/Name)  
PE 0604522N / Air & Missile Defense Radar (AMDR) System

Project (Number/Name)  
3186 / Air and Missile Defense Radar



Changes:  
- Added Back Fit IPR 3

NOTE: Production contract timelines reflect when options are exercised; actual production may extend beyond the end of each bar.

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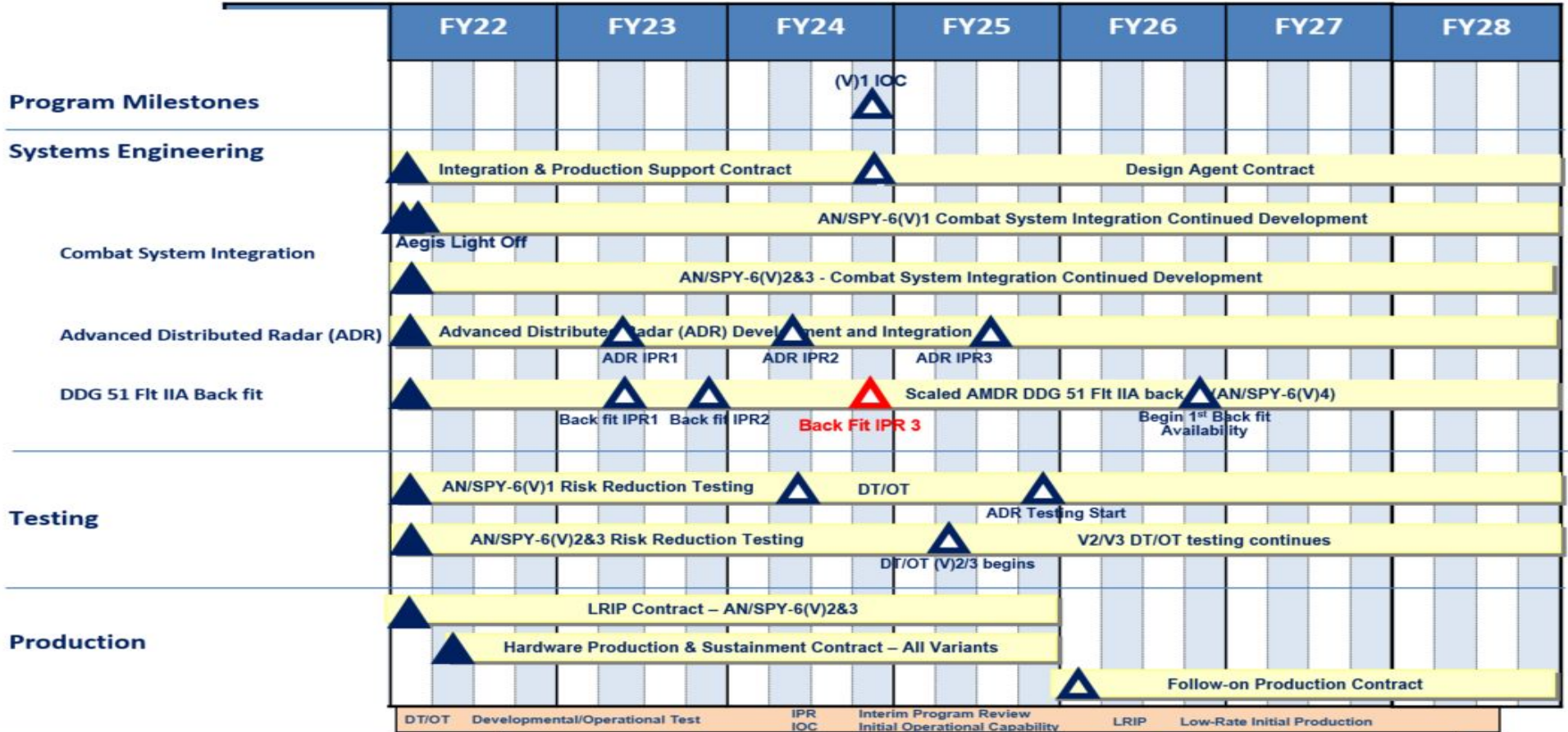
Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy

Date: March 2023

Appropriation/Budget Activity  
1319 / 5

R-1 Program Element (Number/Name)  
PE 0604522N / Air & Missile Defense Radar (AMDR) System

Project (Number/Name)  
3186 / Air and Missile Defense Radar



NOTE: Production contract timelines reflect when options are exercised; actual production may extend beyond the end of each bar.

Changes:  
- Added Back Fit IPR 3

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2024 Navy		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604522N / Air & Missile Defense Radar (AMDR) System	<b>Project (Number/Name)</b> 3186 / Air and Missile Defense Radar

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 3186</b>				
Integration and Production Support Contract	1	2022	4	2024
AN/SPY-6(V)1 Combat System Integration Continued Development	1	2022	4	2028
DDG125 Aegis Light Off	1	2022	1	2022
AN/SPY-6(V) 2&3 Combat System Integration Continued Development	1	2022	4	2028
Advanced Distributed Radar (ADR) Development and Integration	1	2022	4	2028
Scaled AMDR DDG51 FLT IIA Backfit (AN/SPY-6(V)4)	1	2022	4	2028
AN/SPY-6(V)1 Risk Reduction Testing	1	2022	2	2024
AN/SPY-6(V)2&3 Risk Reduction Testing	1	2022	4	2028
LRIP Contract - AN/SPY-6(V)2&3	1	2022	4	2025
Hardware Production and Sustainment Contract	2	2022	4	2025
ADR IPR 1	2	2023	2	2023
Back Fit IPR 1	2	2023	2	2023
Back Fit IPR 2	4	2023	4	2023
ADR IPR 2	2	2024	2	2024
AN/SPY-6(V)1 DT/OT	2	2024	4	2028
V1 IOC	4	2024	4	2024
Design Agent Contract	4	2024	4	2028
Back Fit IPR 3	4	2024	4	2024
DT/OT V2/V3	2	2025	4	2028
ADR IPR 3	3	2025	3	2025
ADR Testing Starts	4	2025	4	2028

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**Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy** **Date:** March 2023

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604522N / <i>Air &amp; Missile Defense Radar (AMDR) System</i>	<b>Project (Number/Name)</b> 3186 / <i>Air and Missile Defense Radar</i>
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<b>Events by Sub Project</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
Follow-on Production Contract	1	2026	4	2028
Begin 1st Back Fit Installation	4	2026	4	2028