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

<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 7: Operational Systems Development</i>	<b>R-1 Program Element (Number/Name)</b> PE 1202140F / <i>Service Support to SPACECOM Activities</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	-	13.418	9.778	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
672486: <i>JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES</i>	-	6.616	8.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
67A011: <i>Space Analysis and Application Development</i>	-	6.802	1.742	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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

The Space Analysis and Application Development program integrates space based effects into Department's 'Model of Record' for joint campaign analysis. Current modeling and simulation [M&S] models are inadequate to represent the contribution that U.S space capabilities make to the air, sea, and land fight and do not accurately portray current and future space threats. This line of effort integrates effects of space capabilities into mission and campaign-level M&S tools. Enhanced space M&S will enable the DoD to make informed decisions regarding the direction of U.S. Space Doctrine, Tactics, Techniques, Procedures, and Resource Decisions. The DoD requires the ability to conduct campaign-level analysis to quantify the holistic operational impacts of adversary space actions on military campaigns and U.S. global operations.

Navigation Warfare [NAVWAR] is deliberate defensive and offensive action to assure and prevent positioning, navigation, and timing [PNT] information through coordinated employment of space, cyberspace, and electronic warfare [EW] operations. Funds are used to create and maintain NAVWAR knowledge and ensure NAVWAR superiority across the DoD. IAW the most recent Unified Command Plan, USSPACECOM is responsible for [a] [U] Advocating for requirements and capabilities supporting NAVWAR operations and joint resilient PNT for the DoD, and [b] [U] Providing contingency and operations support to CCMDs for NAVWAR and joint resilient PNT planning. USSPACECOM will research, develop, test, assess and evaluate NAVWAR options IOT advocate across Services and the other CCMDs to achieve PNT overmatch. Funds are used to create and maintain NAVWAR knowledge. NAVWAR expertise is developed in part by execution of PNT Operational Field Assessments [POFAs] that assess Red and Blue PNT-related capabilities, limitations, and vulnerabilities. GYPSY POFA's are linked to Commander USSPACECOM's Joint Exercise Program [JEP] and nested within the Chairman's Exercise Program [CEP]and Combatant Commander's [CCMD] Tier 1 exercises [PACIFIC SENTRY AND AUSTERE CHALLENGE are examples] and provide operationally realistic threat-representative, PNT-contested environments for analytical assessment of air, ground, maritime, space & cyberspace mission capability. FORTUNE POFAs are PNT capability and vulnerability assessments associate with a Service exercise or mission event. PRISM POFAs encompass all other Operations, Actions, and Activities [OAAs] and other assessments to include evaluation of rapid innovative NAVWAR capabilities and/or solutions. Assessments inform materiel and non-materiel solutions, service acquisition decisions, capability gaps, intelligence gaps and tactics, techniques and procedures [TTP] development and implementation to mitigate effects on warfighter operations in the anticipated theater NAVWAR threat environments. JNWC assesses department wide PNT posture through the PNT Biennial assessment IAW DoDI 4650.08.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver Space Analysis and Application Development capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F,

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2025 Air Force	<b>Date:</b> March 2024
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<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 7: Operational Systems Development</i>	<b>R-1 Program Element (Number/Name)</b> PE 1202140F / <i>Service Support to SPACECOM Activities</i>
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0605833F, 0605898F, 0606398F. In FY2023 \$0 was expended in this program element and in FY2024 \$0 is forecasted for civilian pay expenses in this program element.

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

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
Previous President's Budget	13.418	9.778	15.644	0.000	15.644
Current President's Budget	13.418	9.778	0.000	0.000	0.000
Total Adjustments	0.000	0.000	-15.644	0.000	-15.644
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-15.644	0.000	-15.644

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Air Force										<b>Date:</b> March 2024		
<b>Appropriation/Budget Activity</b> 3600 / 7					<b>R-1 Program Element (Number/Name)</b> PE 1202140F / <i>Service Support to SPACE COM Activities</i>				<b>Project (Number/Name)</b> 672486 / <i>JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
672486: <i>JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES</i>	-	6.616	8.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

Navigation Warfare [NAVWAR] is deliberate defensive and offensive action to assure and prevent positioning, navigation, and timing [PNT] information through coordinated employment of space, cyberspace, and electronic warfare [EW] operations. Funds are used to create and maintain NAVWAR knowledge and ensure NAVWAR superiority across the DoD. IAW the most recent Unified Command Plan, USSPACECOM is responsible for [a] [U] Advocating for requirements and capabilities supporting NAVWAR operations and joint resilient PNT for the DoD, and [b] [U] Providing contingency and operations support to CCMDs for NAVWAR and joint resilient PNT planning. USSPACECOM will research, develop, test, assess and evaluate NAVWAR options IOT advocate across Services and the other CCMDs to achieve PNT overmatch. Funds are used to create and maintain NAVWAR knowledge. NAVWAR expertise is developed in part by execution of PNT Operational Field Assessments [POFAs] that assess Red and Blue PNT-related capabilities, limitations, and vulnerabilities. GYPSY POFA's are linked to Commander USSPACECOM's Joint Exercise Program [JEP] and nested within the Chairman's Exercise Program [CEP]and Combatant Commander's [CCMD] Tier 1 exercises [PACIFIC SENTRY AND AUSTERE CHALLENGE are examples] and provide operationally realistic threat-representative, PNT-contested environments for analytical assessment of air, ground, maritime, space & cyberspace mission capability. FORTUNE POFAs are PNT capability and vulnerability assessments associate with a Service exercise or mission event. PRISM POFAs encompass all other Operations, Actions, and Activities [OAAs] and other assessments to include evaluation of rapid innovative NAVWAR Capabilities and/or solutions. Assessments inform materiel and non-materiel solutions, service acquisition decisions, capability gaps, intelligence gaps and tactics, techniques and procedures [TTP] development and implementation to mitigate effects on warfighter operations in the anticipated theater NAVWAR threat environments. JNWC assesses department wide PNT posture through the PNT Biennial assessment IAW DoDI 4650.08.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In 2023 \$0 was expended for civilian pay expenses in the program element and in FY2024 \$0 is forecasted for civilian pay expenses in this program element.

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

	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<b>Title:</b> PNT Operational Assessments	6.616	8.036	-
<b>Description:</b> The JNWC will investigate, operationally assess, and simulate current, emerging, and potential threats and mitigation strategies for denial of blue force PNT capabilities as well as preventing the hostile use of PNT information. Major Performers - Best value to the government selected contractors, universities, government facilities, federally funded research and development centers, laboratories, or other organizations.			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Air Force		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 1202140F / <i>Service Support to SPACE COM Activities</i>	<b>Project (Number/Name)</b> 672486 / <i>JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<p><b><i>FY 2024 Plans:</i></b> Execution of operational assessments in live open-air, laboratory hardware in the loop, simulation, and anechoic chamber environments to assess advanced and potential PNT threats and assist in development of tactics, techniques and procedures [TTP] to mitigate these threats.</p> <p>Continued evaluation of innovative technologies to prevent the hostile use of PNT information and rapidly develop and present NAVWAR playbook options for the joint force; including modeling and simulation tools to enable NAVWAR operations.</p> <p><b><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i></b> Funding decreased due to decrease in requirements</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	6.616	8.036	-

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

N/A

**Remarks**

**D. Acquisition Strategy**

New contracts will be awarded using competitive procedures to the maximum extent possible.

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

<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 1202140F / Service Support to SPACECOM Activities	<b>Project (Number/Name)</b> 672486 / JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES
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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			
Product Development	C/Various	Not specified. : TBD	-	-		-		-		-		-	Continuing	Continuing	-
Position Navigation and Timing Operational Field Assessments	Various	Multiple, Kirtland AFB NM : Kirtland, NM	-	6.616	Oct 2022	8.036	Oct 2023	-		-		-	Continuing	Continuing	-
<b>Subtotal</b>			-	6.616		8.036		-		-		-	Continuing	Continuing	N/A

**Remarks**  
Prior to the FY20 PB cycle, The Joint Navigation and Warfare Center (JNWC) was reported under PE 1201921F, WSC 672486. Beginning in FY20, the program will be reported under the newly created PE 1202140F, Service Support to U.S. SPACECOM Activities

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	-	6.616	8.036	-	-	-	Continuing	Continuing	N/A

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2025 Air Force		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 1202140F / <i>Service Support to SPACE COM Activities</i>	<b>Project (Number/Name)</b> 672486 / <i>JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES</i>

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<b>Navigation Warfare (NAVWAR)</b>	
NAVWAR Operational Field Assessments - Continuing	
Create / Maintain NAVWAR Knowledge - Continuing	
NAVWAR Operational and CONOPS Events - Continuing	

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2025 Air Force		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 1202140F / <i>Service Support to SPACE COM Activities</i>	<b>Project (Number/Name)</b> 672486 / <i>JOINT NAVWAR CENTER (JNWC) SPACE ACTIVITIES</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Navigation Warfare (NAVWAR)</i></b>				
NAVWAR Operational Field Assessments - Continuing	1	2023	4	2028
Create / Maintain NAVWAR Knowledge - Continuing	1	2023	4	2028
NAVWAR Operational and CONOPS Events - Continuing	1	2023	4	2028

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Air Force										<b>Date:</b> March 2024		
<b>Appropriation/Budget Activity</b> 3600 / 7					<b>R-1 Program Element (Number/Name)</b> PE 1202140F / Service Support to SPACE COM Activities				<b>Project (Number/Name)</b> 67A011 / Space Analysis and Application Development			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>FY 2028</b>	<b>FY 2029</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
67A011: <i>Space Analysis and Application Development</i>	-	6.802	1.742	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

The Space Analysis and Application Development program integrates space based effects into Department's 'Model of Record' for joint campaign analysis. Current modeling and simulation [M&S] models are inadequate to represent the contribution that U.S space capabilities make to the air, sea, and land fight and do not accurately portray current and future space threats. This line of effort integrates effects of space capabilities into mission and campaign-level M&S tools. Enhanced space M&S will enable the DoD to make informed decisions regarding the direction of U.S. Space Doctrine, Tactics, Techniques, Procedures, and Resource Decisions. The DoD requires the ability to conduct campaign-level analysis to quantify the holistic operational impacts of adversary space actions on military campaigns and U.S. global operations.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY2023 \$0 was expended for civilian pay expenses in the program element and in FY2024 \$0 is forecasted for civilian pay expenses in this program element.

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

	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<b>Title:</b> Space Campaign Modeling and Simulation, Development/Modification/Verification/Validation	6.802	1.742	-
<b>Description:</b> Developed, modifies, verifies, and validates new models for Space mission areas and modifies existing models to portray new capabilities			
<b>FY 2024 Plans:</b> Continue priority integration of 22 Joint Mission Threads, space-based capabilities, and counter-space effects on the Warfighter in STORM			
- Continue to develop change request proposals and submit to STORM Configuration Control Board [CCB] to improve instantiation of potential future and denied/degraded space-based capabilities and their effects on the Warfighter in STORM			
- In coordination with HAF A/9 [HQ Air Force Studies, Analysis, and Assessments], develop schedule to identify requirements toward implementation of approved change requests and instantiation of space and contested space capabilities in STORM			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Air Force		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 1202140F / <i>Service Support to SPACE COM Activities</i>	<b>Project (Number/Name)</b> 67A011 / <i>Space Analysis and Application Development</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<ul style="list-style-type: none"> <li>- Develop and modify user-friendly, front-end campaign-level M&amp;S software and tools supporting sufficiently accurate and very timely exploratory analytics to optimize more costly campaign-level STORM M&amp;S, operational planning, gaming, and concept development</li> <li>- Continue development of software and tools to model Red on Blue contested space [one versus one, many versus many, and space campaign-level] and analyze/assess results to determine impact/effects on U.S. military campaigns and global operations</li> <li>- Coordinate and update current and future Blue space order of battle data, Red counter-space order of battle data, Red counter-space CONOPS, future Blue and Red CONOPs to support integration of contested space into mission and campaign-level M&amp;S</li> <li>- Continue updates to software, tools, models, and data at the mission- and campaign-level to inform senior leaders evolving inquiries and decisions on space investments, requirements, acquisition, operational COAs, operational risk, and future planning</li> <li>- Continue to assess and integrate enterprise-level model data for SATCOM capabilities into campaign-level modeling</li> <li>- In coordination with European Command, Indo-Pacific Command, other combatant commands, and respective USSPACECOM Integrated Planning Elements; explore improved integrated risk analysis with new campaign-level M&amp;S capabilities</li> </ul> <p><b><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i></b> Funding decreased due to decrease in requirements.</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	6.802	1.742	-

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

N/A

**Remarks**

**D. Acquisition Strategy**

Any new projects funded in this program will be awarded using competitive procedures to the maximum extent possible.

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

<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 1202140F / <i>Service Support to SPACE COM Activities</i>	<b>Project (Number/Name)</b> 67A011 / <i>Space Analysis and Application Development</i>
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<b>Product Development (\$ in Millions)</b>				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			
Product Development	C/CPAF	Not specified. : TBD	-	-		-		-		-		-	Continuing	Continuing	-
Model Space effects for two mission tasks and integrate into STORM for joint campaign analysis	C/CPAF	TBD : TBD	-	6.802	Oct 2022	1.742	Oct 2023	-		-		-	Continuing	Continuing	-
<b>Subtotal</b>			-	6.802		1.742		-		-		-	Continuing	Continuing	N/A

**Remarks**  
 Prior to the FY20 PB cycle, The Space Analysis and Application Development Program was reported under PE 1201921F, WSC 67A011. Beginning in FY20, the program will be reported under the newly created PE 1202140F, USSPACECOM

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	-	6.802	1.742	-	-	-	Continuing	Continuing	N/A

**Remarks**



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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2025 Air Force		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 1202140F / <i>Service Support to SPACE COM Activities</i>	<b>Project (Number/Name)</b> 67A011 / <i>Space Analysis and Application Development</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Space Analysis Modeling and Simulation</i></b>				
Run improved STORM model and update integrated risk analysis with Combatant Commands	1	2023	4	2023
Develop software and tools to model Red on Blue contested space environment. Develop space playbook to define Red counter-space threat	1	2024	4	2024
Update mission and campaign level M&S to inform senior leaders evolving inquiries and decisions on innovation, space investments, rapid acquisition, operational COAs, risk, and planning	1	2025	4	2028