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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2023 Air Force **Date:** April 2022

<b>Appropriation/Budget Activity</b> 3600: Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support	<b>R-1 Program Element (Number/Name)</b> PE 0303255F I Command, Control, Communication, and Computers (C4) - STRATCOM
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	-	21.525	35.340	15.559	0.000	15.559	20.869	19.566	19.873	20.211	Continuing	Continuing
664620: NC3 Enterprise Center	-	21.525	35.340	15.559	0.000	15.559	20.869	19.566	19.873	20.211	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**  
 The FY 2022 President's Budget submittal did not reflect FY 2023 through FY 2026 funding due to a database error. Therefore, an explanation of the change between the two budget positions for FY 2023 cannot be made in a relevant manner. Funding for FY 2023 through FY 2027 has always been programmed through the FYDP; this is NOT a New Start.

FY 2022 10.0M Congressional add to establish and maintain a collaborative network capability in support of the NC3 Enterprise Center (NEC) Research Engineering and Architecture Collaboration Hub (REACH).

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

Secretary of Defense tasked USSTRATCOM Nuclear Command, Control and Communications (NC3) Enterprise Center (NEC) to oversee and monitor operations and security of the enterprise and develops tools to assist in monitoring the readiness of the NC3 architecture and capture the operational risks as adversaries develop the ability to disrupt our capabilities from multiple threat vectors. This effort will fund systems engineering and assessment activities previously accomplished by DISA in support of the NC3 Enterprise. The NEC will capture and integrate process and system data to assess operational risk, characterize multi-domain threats, and explore operational trade space associated with next generation NC3 architectures. The NEC will work with the Services to explore new technologies and develop innovative solutions in a virtual environment, and capture metrics that identify system problems and readiness issues before they impact operations. The NEC will also develop digital engineering capabilities to help support governance responsibilities of NC3.

The USSTRATCOM Mission Assurance Defense Critical Infrastructure Program (DCIP) is a risk management program that seeks to ensure the availability of networked assets critical to USSTRATCOM and other DoD missions. Critical infrastructure assets can include installations, facilities, antennas, vehicles, computing systems, and communications links. DCIP is directed by the Office of the Assistant Secretary of Defense (Homeland Defense & Americas' Security Affairs) [OASD (HD&ASA)]. DCIP manages the identification, prioritization, assessment, and assurance of critical infrastructure as a comprehensive program that includes the development of adaptive plans and procedures to mitigate risk, restore capability in the event of loss or degradation, support incident management, and protect defense critical infrastructure.

This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.

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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023 Base</b>	<b>FY 2023 OCO</b>	<b>FY 2023 Total</b>
Previous President's Budget	21.525	25.340	0.000	0.000	0.000
Current President's Budget	21.525	35.340	15.559	0.000	15.559
Total Adjustments	0.000	10.000	15.559	0.000	15.559
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	10.000			
• 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	15.559	0.000	15.559

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

**Project:** 664620: *NC3 Enterprise Center*

Congressional Add: *NC3 Enterprise Center REACH*

Congressional Add Subtotals for Project: 664620

Congressional Add Totals for all Projects

	<b>FY 2021</b>	<b>FY 2022</b>
	-	10.000
	-	10.000
	-	10.000

**Change Summary Explanation**

FY 2022 10.0M Congressional add to establish and maintain a collaborative network capability in support of the NC3 Enterprise Center (NEC) Research Engineering and Architecture Collaboration Hub (REACH), enable federated connectivity between REACH and mission partners, and to create a secure environment for technology evaluation, assessment, demonstration, experimentation, and development.

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

	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<b>Title:</b> NC3 Systems Engineering and Assessments	9.133	12.252	14.526
<b>Description:</b> Maintain NC3 Systems Engineering and Assessment Capability			
<b>FY 2022 Plans:</b>			
- Continue oversight and configuration control of the National Leadership Command and Control (NLCC) functional baseline to include NC3			
- Continue to identify NLCC capability gaps			
- Develop engineering courses of action to close those gaps			

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<ul style="list-style-type: none"> <li>- Continue to recommend plans for future NLCC capabilities</li> <li>- Perform end-to-end testing of fielded capabilities</li> <li>- Perform operational assessments of current capabilities to provide quantitative measures of ongoing system performance and operational efficiency</li> <li>- Continue to develop the NLCC Reference Architecture, its associated NLCC Roadmap, and the technical architecture patterns that will guide future solution architecture development</li> <li>- Demonstrate ability to capture the communication flows in the NC3 system and allow data engineers the ability to identify and work through ideas to improve the reliability and availability of NC3</li> </ul> <p><b>FY 2023 Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue oversight and configuration control of the NLCC functional baseline to include NC3</li> <li>- Continue to identify NLCC capability gaps</li> <li>- Develop engineering courses of action to close those gaps</li> <li>- Continue to recommend plans for future NLCC capabilities</li> <li>- Perform end-to-end testing of fielded capabilities</li> <li>- Perform operational assessments of current capabilities to provide quantitative measures of ongoing system performance and operational efficiency</li> <li>- Continue to develop the NLCC Reference Architecture, its associated NLCC Roadmap, and the technical architecture patterns that will guide future solution architecture development</li> <li>- Demonstrate ability to capture the communication flows in the NC3 system and allow data engineers the ability to identify and work through ideas to improve the reliability and availability of NC3</li> <li>- Interoperability development to support trade space analysis and mission engineering support for the NC3 Enterprise Center</li> <li>- Develop NC3 Enterprise Ontology data source to support data interoperability and interface to support data exchange between the NC3 Enterprise Center and its mission partners</li> <li>- Continue to improve and enhance previous model development, with subsequent delivery to the cloud-based digital engineering environment.</li> </ul> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> FY22 to FY23 increase is to implement enterprise engineering capabilities to expedite NC3 operational, programmatic, and engineering trade-space decisions.</p>				
<b>Title:</b> Modeling and Simulation and Enterprise Data Environment Development		12.392	12.098	0.000
<b>Description:</b> Develop or modify modeling and simulation capability and field the NC3 Enterprise Data Environment				
<b>FY 2022 Plans:</b>				

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>
<ul style="list-style-type: none"> <li>- Continue to purchase hardware and software to establish the Enterprise Data Environment</li> <li>- Continue to work with the services to modify or develop models or simulations that allow the ability to evaluate NC3 elements' performance, especially with respect to threats</li> <li>- Continue to work with the services to configure and connect models and simulations to allow a seamless environment within which the data analysts will work to clean the data, manage it, and provide visualizations</li> <li>- Further demonstrate and refine the initial mission thread and force direction messages between the airborne command nodes and the submarines</li> <li>- Further expand Global Data Integration exposure to Missile Warning and Missile Defense Programs of Record providing an improved operational picture to address SECDEF taskings</li> <li>- Work with services to add models/simulations that demonstrate a sensor-to-shooter analytical capability</li> </ul> <p><b>FY 2023 Plans:</b> N/A; STRATCOM has no funding in FY23 for this requirement.</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> FY22 is the last year STRATCOM received funding for this requirement.</p>				
<p><b>Title:</b> Mission Assurance Defense Critical Infrastructure Program (DCIP)</p> <p><b>Description:</b> Supports 1) systems engineering analysis for the decomposition of mission systems and assets, and supporting networks and infrastructure that execute USSTRATCOM missions, 2) research, studies, analysis, and operational assessment of mission system capabilities, methodologies, and tactics to identify critical assets and dependency relationships, and 3) evaluation of mission risk through research, studies, analysis and assessment of threats and hazards paired with exploitable vulnerabilities.</p> <p><b>FY 2022 Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue to provide analysis, studies and research of critical infrastructure assets and dependencies supporting all USSTRATCOM assigned missions, to include focusing efforts of future critical infrastructure vulnerability assessments and researching the various sources to perform threats and hazard assessments.</li> <li>- Develop link-node display of systems connecting tasked missions and operational plans to mission essential tasks and critical infrastructure assets.</li> <li>- Identify vulnerabilities, and participate in risk management process for remediation and mitigation.</li> </ul> <p><b>FY 2023 Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue to provide analysis, studies and research of critical infrastructure assets and dependencies supporting all USSTRATCOM assigned missions, to include focusing efforts of future critical infrastructure vulnerability assessments and researching the various sources to perform threats and hazard assessments.</li> </ul>		0.000	0.990	1.033

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	FY 2021	FY 2022	FY 2023
- Develop link-node display of systems connecting tasked missions and operational plans to mission essential tasks and critical infrastructure assets. - Identify vulnerabilities, and participate in risk management process for remediation and mitigation.  <b>FY 2022 to FY 2023 Increase/Decrease Statement:</b> FY22 to FY23 increase due to inflation adjustments.			
<b>Accomplishments/Planned Programs Subtotals</b>	21.525	25.340	15.559

	FY 2021	FY 2022
<b>Congressional Add:</b> NC3 Enterprise Center REACH  <b>FY 2022 Plans:</b> - Establish and maintain a collaborative network capability in support of the NC3 Enterprise Center (NEC) Research Engineering and Architecture Collaboration Hub (REACH). - Enable federated connectivity between REACH and mission partners. - Create a secure environment for technology evaluation, assessment, demonstration, experimentation, and development.	-	10.000
<b>Congressional Adds Subtotals</b>	-	10.000

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

<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u> <u>Base</u>	<u>FY 2023</u> <u>OCO</u>	<u>FY 2023</u> <u>Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPAF 03 0303255F: <i>NC3 Enterprise Center</i>	4.337	4.226	4.282	-	4.282	4.442	4.783	4.914	5.010	Continuing	Continuing

**Remarks**

**E. Acquisition Strategy**  
 The Digital Engineering effort is led by the NC3 Enterprise Center (NEC) under USSTRATCOM and will utilize existing contracts to purchase equipment and software, in particular, requesting and funding additional capability development from on-going Service software efforts to model NC3 activities.

Projects funded through DCIP will be awarded using competitive contracts to the maximum extent possible.