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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604001F / NC3 Advanced Concepts
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	-	0.000	0.000	6.900	0.000	6.900	-	-	-	-	-	-
646020: <i>NC3 Advanced Concepts</i>	-	0.000	0.000	6.900	0.000	6.900	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note
This program, BA 4, PE 0604001F, project 646020, NC3 Advanced Concepts, is a new start.

NC3 Advanced Concepts previously executed from PE 33131F /BPAC 672832, MEECN System Improvements (MSI), funded in FY19 only.

A. Mission Description and Budget Item Justification

Nuclear Command, Control, and Communications (NC3) Advanced Concepts is required for development and prototyping of next generation NC3 systems and sub-systems. This program ensures a responsive design and development engineering infrastructure to address evolving Nuclear Deterrence Operations (NDO) mission requirements, emerging issues and technology insertion/technology application on the NC3 Weapon System (WS), future strategic systems/capability, and other common strategic areas where appropriate, and develop enhanced multi-use capabilities. The NC3 Advanced Concepts Program will provide technology maturation and risk reduction activities to support the AF NC3 Weapon System (AN/USQ-225). Activity will reduce life cycle costs, inform technology maturation & risk reduction efforts, improve system performance, mitigate evolving threats, and ensure both viability and durability of the AF NC3 Weapon System.

This program element may include necessary emergent or unanticipated civilian pay expenses required to manage, execute, and deliver NC3 Advanced Concepts for emergent or unanticipated weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605831F.

This effort is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P), because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

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B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	6.900	0.000	6.900
Total Adjustments	0.000	0.000	6.900	0.000	6.900
• 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	6.900	0.000	6.900

Change Summary Explanation

FY22 BA 4, PE 0604001F, project 646020, NC3 Advanced Concepts, is a new start.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
Title: NC3 Advanced Concepts	0.000	0.000	6.900
Description: NC3 Advanced Concepts activities will include but not limited to; conducting studies, analysis, and prototyping; test bed activities; exercise participation; developing modeling and simulation of identified NC3 WS architecture; integrated NC3 WS testing, validation, and certification; and direct mission support contracts in support of next generation NC3 systems and sub-systems. NC3 Advanced Concepts ensures a responsive design and development engineering infrastructure to address evolving NDO.			
FY 2021 Plans: None			
FY 2022 Plans: NC3 Advanced Concepts will be conducting studies, analysis, and prototyping; test bed activities; exercise participation; developing modeling and simulation of identified NC3 WS architecture; integrated NC3 WS testing, validation, and certification; and direct mission support contracts in support of next generation NC3 systems and sub-systems			
FY 2021 to FY 2022 Increase/Decrease Statement: N/A			
Accomplishments/Planned Programs Subtotals	0.000	0.000	6.900

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

N/A

Remarks

E. Acquisition Strategy

To conduct NC3 Advanced Concepts essential activities a combination of competitively awarded contracts, as well as sole source contracts and other transaction authority, may be used to augment AF organic capabilities with technical skill sets from FFRDCs, research laboratories, UARCs, and industry Advisory and Assistance Services (A&AS) providers. All NC3 Advanced Concepts activities will be evaluated for promising technologies and considered for tech transition into the AF NC3 WS.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604001F / NC3 Advanced Concepts	Project (Number/Name) 646020 / NC3 Advanced Concepts
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Product Development (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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			
NC3 Advanced Concepts	TBD	TBD : TBD	-	-		-		6.900	Feb 2022	-		6.900	-	-	-
Subtotal			-	-		-		6.900		-		6.900	-	-	N/A
Project Cost Totals			-	-		0.000		6.900		-		6.900	-	-	N/A

Remarks
NC3 Advanced Concepts

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Air Force **Date:** May 2021

Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604001F / <i>NC3 Advanced Concepts</i>	Project (Number/Name) 646020 / <i>NC3 Advanced Concepts</i>
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	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	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

<i>NC3 Advanced Concepts</i>	
NC3 Advanced Concepts (Level of Effort)	[REDACTED]

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604001F / <i>NC3 Advanced Concepts</i>	Project (Number/Name) 646020 / <i>NC3 Advanced Concepts</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>NC3 Advanced Concepts</i>				
NC3 Advanced Concepts (Level of Effort)	1	2022	4	2023

Note
NC3 Advanced Concepts (Level of Effort)