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

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 030112F / <i>Nuclear Planning and Execution System (NPES)</i>
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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	0.000	31.576	15.120	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
673768: <i>Nuclear Planning and Execution System (NPES)</i>	0.000	28.613	14.062	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
674212: <i>NLCC Decision Support System</i>	0.000	2.963	1.058	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.021

A. Mission Description and Budget Item Justification

Nuclear Planning and Execution System (NPES): NPES develops and delivers a software system to conduct nuclear command and control (NC2) adaptive planning and execution at fixed and mobile sites in real time. NPES an automated information system that supports all phases of nuclear conflict and provides for various levels of support of all command and control software engineering (C2SES) projects. NPES Legacy encompassed cyber related investments necessary for a successful operational application/system delivery, for fixed command centers, distributive sites and mobile platforms. NPES Recapitalization (Recap) succeeded NPES Legacy and provides communication interfaces with software development, data management, software re-engineering and operations to include requirements validation and training. NPES Recap modernizes decision support, knowledge management, information visualization, an integrated-fused depiction of global battle space, and common missile event picture.

Decision Support System (DSS): DSS will develop and deliver software that directly supports POTUS. DSS will improve situational awareness, aggregate strategic-level information, and provide a common visual display that is resilient and mobile.

This is a Section 804 Alpha Phase rapid software prototyping effort. This effort includes decomposing system, functional and non-functional requirements in order to design, build, and field a new NPES application software baseline via agile, development operations (DevOps), and user-centered design principles. Further, the effort includes developing written artifacts to document system / software engineering elements appropriate for an Agile/DevOps software development effort.

No FY23 funding is requested. FY23 project efforts are detailed in PE 0608158F BA-08, Strategic Mission Planning and Execution System (SMPES).

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

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.

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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0301112F / <i>Nuclear Planning and Execution System (NPES)</i>
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B. Program Change Summary (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	32.699	0.000	0.000	0.000	0.000
Current President's Budget	31.576	15.120	0.000	0.000	0.000
Total Adjustments	-1.123	15.120	0.000	0.000	0.000
• 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	15.120			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-1.123	0.000			
• Other Adjustments	0.000	0.000	0.000	0.000	0.000

Change Summary Explanation

FY21 reduction due to SBIR transfer.

FY22 funding was returned from PE 0608158F after entrance into BA-08 Pilot program was denied.

The FY 2022 President's Budget submittal did not reflect FY 2023 through FY 2026 funding. Therefore, an explanation of the change between the two budget positions for FY2023 cannot be made in a relevant manner.

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force										Date: April 2022		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0301112F / <i>Nuclear Planning and Execution System (NPES)</i>			Project (Number/Name) 673768 / <i>Nuclear Planning and Execution System (NPES)</i>				
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
673768: <i>Nuclear Planning and Execution System (NPES)</i>	0.000	28.613	14.062	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

Nuclear Planning and Execution System: NPES develops and delivers a software system to conduct nuclear command and control (NC2) adaptive planning and execution at fixed and mobile sites in real time. NPES an automated information system that supports all phases of nuclear conflict and provides for various levels of support of all command and control software engineering (C2SES) projects.

NPES Legacy encompassed cyber related investments necessary for a successful operational application/system delivery, for fixed command centers, distributive sites and mobile platforms. NPES Recapitalization (Recap) succeeded NPES Legacy and provides communication interfaces with software development, data management, software re-engineering and operations to include requirements validation and training. NPES Recap modernizes decision support, knowledge management, information visualization, an integrated-fused depiction of global battle space, and common missile event picture.

This is a Section 804 Alpha Phase rapid software prototyping effort. This effort includes decomposing system, functional and non-functional requirements in order to design, build, and field a new NPES application software baseline via agile, development operations (DevOps), and user-centered design principles. Further, the effort includes developing written artifacts to document system / software engineering elements appropriate for an Agile/DevOps software development effort.

No FY 2023 funding requested; FY 2023 project efforts are detailed in PE 0608158F BA-08, Strategic Mission Planning and Execution System (SMPES).

This program element may include necessary civilian pay expenses required to manage, execute, and deliver NPES weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F, 0605833F, 0605832F, and 0605898F.

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

	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: Nuclear Planning and Execution System (NPES) Modernization	28.613	14.062	0.000	-	0.000
Description: - The NPES program will use proven and mature software engineering, technologies, and design tenets to provide a modern, secure, interoperable and reliable Nuclear Command and Control (NC2) capability for USSTRATCOM and other users as appropriate. - It will update and/or replace existing system software and improve reliability and sustainability.					

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0301112F / <i>Nuclear Planning and Execution System (NPES)</i>	Project (Number/Name) 673768 / <i>Nuclear Planning and Execution System (NPES)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
- It will also seek to reduce total ownership cost.					
<p><i>FY 2022 Plans:</i> -FY22 the NPES Recap developer will produce sufficient new software capability to enable the user representatives to conduct operational testing & evaluation. -FY22 will be the fourth year of SW development with plans to reduce the NPES Recap SW developer teams. -FY22 NPES Recap will fund AFLCMC/HBC in house software development resources to promote competition, a secure developmental environment, and enable developers to build and integrate software at the Top Secret level as part of the agile software development effort.</p> <p>No OCO requested.</p> <p><i>FY 2023 Base Plans:</i> No Budget Year FY23 funds requested.</p> <p><i>FY 2022 to FY 2023 Increase/Decrease Statement:</i> Funding was returned from PE 0608158F after entrance into BA-08 Pilot program was denied.</p>					
Accomplishments/Planned Programs Subtotals	28.613	14.062	0.000	-	0.000

C. Other Program Funding Summary (\$ in Millions)											
Line Item	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
• OPAF 03 Line Item 833140: <i>Strategic Command and Control</i>	2.358	2.401	2.443	-	2.443	2.487	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy
 NPES will develop, test, and field a renewed Nuclear Command and Control (NC2) capability for combatant commanders using an evolutionary acquisition approach with development contracts that are negotiated and awarded in a competitive environment. Additionally, select government agencies will be used to conduct relevant analyses and provide other required support. NPES will exploit AFLCMC/HBC agile software development economies of scale to enable developers to build and integrate software at the Top Secret level vice paying to build duplicate capabilities at other government or contractor facilities.

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0301112F / <i>Nuclear Planning and Execution System (NPES)</i>	Project (Number/Name) 673768 / <i>Nuclear Planning and Execution System (NPES)</i>
<p>This is a Section 804 Alpha Phase rapid software prototyping effort. This effort includes decomposing system, functional and non-functional requirements in order to design, build, and field a new NPES application software baseline via agile, development operations (DevOps), and user-centered design principles. Further, the effort includes developing written artifacts to document system / software engineering elements appropriate for an Agile/DevOps software development effort.</p> <p>Funds agile software development activities and a secure software development environment. Software development environment will meet classification/security regulations/criteria, which will promote competition.</p> <p>The Air Force Life Cycle Management Center at Hanscom AFB, (AFLCMC/HB) and the 55th CONS at Offutt AFB will be the contracting authorities for NPES and provide necessary program management, contracts, legal, and financial management support.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Air Force												Date: April 2022				
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)								
3600 / 7				PE 0301112F / Nuclear Planning and Execution System (NPES)				673768 / Nuclear Planning and Execution System (NPES)								
Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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	
Primary Development	Various	NG : Offutt AFB, NE	0.000	24.673	Nov 2020	14.062	Nov 2021	-		-		-	Continuing	Continuing	-	
Development Suites & Infrastructure	C/TBD	NG : Offutt AFB, NE	0.000	-		-		-		-		-	Continuing	Continuing	-	
Subtotal			0.000	24.673		14.062		-		-		-	Continuing	Continuing	N/A	
Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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	
DevOps Support	Various	Various : Offutt AFB, NE	0.000	1.791	Feb 2021	-		-		-		-	Continuing	Continuing	-	
Technical Engineering Services	Various	Various : Offutt AFB, NE	0.000	1.701	Nov 2020	-		-		-		-	Continuing	Continuing	-	
Subtotal			0.000	3.492		-		-		-		-	Continuing	Continuing	N/A	
Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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	
T&E	Various	Various : Offutt AFB, NE	0.000	0.448	Feb 2021	-		-		-		-	Continuing	Continuing	-	
Subtotal			0.000	0.448		-		-		-		-	Continuing	Continuing	N/A	
Project Cost Totals			0.000	28.613		14.062		-		-		-	Continuing	Continuing	N/A	
Remarks																

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0301112F / <i>Nuclear Planning and Execution System (NPES)</i>	Project (Number/Name) 673768 / <i>Nuclear Planning and Execution System (NPES)</i>

	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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

NPES																												
Alpha Phase - Rapid Prototyping																												
Beta Phase Rapid Fielding																												
Delta Phase - Continuous Product Improvement																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0301112F / <i>Nuclear Planning and Execution System (NPES)</i>	Project (Number/Name) 673768 / <i>Nuclear Planning and Execution System (NPES)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
NPES				
Alpha Phase - Rapid Prototyping	1	2021	2	2021
Beta Phase Rapid Fielding	2	2021	4	2022
Delta Phase - Continuous Product Improvement	4	2022	4	2026

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force										Date: April 2022		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 030112F / Nuclear Planning and Execution System (NPES)			Project (Number/Name) 674212 / NLCC Decision Support System				
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
674212: NLCC Decision Support System	0.000	2.963	1.058	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.021
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Decision Support System (DSS): DSS will develop and deliver software that directly supports POTUS. DSS will improve situational awareness, aggregate strategic-level information, and provide a common visual display that is resilient and mobile.

No FY 2023 funding requested; FY 2023 project efforts are detailed in PE 0608158F BA-08, Strategic Mission Planning and Execution System (SMPES).

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

	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: DSS Development	2.963	1.058	0.000	0.000	0.000
Description: Product Development					
FY 2022 Plans:					
- Complete development of prototype					
- Begin rapid fielding					
- Continue development updates IAW Agile developmental principles					
- Continue Back-end development and data integration					
- Continue integration with required IT infrastructure					
- Refine and Implement cybersecurity requirements IAW cybersecurity plan					
No OCO requested.					
FY 2023 Base Plans:					
No Budget Year FY23 funds requested.					
FY 2023 OCO Plans:					
No OCO requested					
FY 2022 to FY 2023 Increase/Decrease Statement:					
Funding was returned from PE 0608158F due to BA-08 Pilot Program denial.					
Accomplishments/Planned Programs Subtotals	2.963	1.058	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0301112F / Nuclear Planning and Execution System (NPES)	Project (Number/Name) 674212 / NLCC Decision Support System

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

N/A

Remarks

D. Acquisition Strategy

DSS will develop, test, and field a decision support system capability for use from the combatant commander and above. DSS will use agile development to rapidly prototype, develop software, and field the solutions. DSS will use existing government contract vehicles when advantageous or create development contracts that are negotiated and awarded in a competitive environment. Funds agile software development activities and a secure software development environment, located in existing space at Offutt AFB. Software development environment will meet classification/security regulations/criteria, which will promote competition. This program will be using the Section 804 acquisitions process to accelerate delivery of a finished product. Section 804 outlines authority granted to DoD in the FY2016 National Defense Acquisitions Act to rapidly prototype/field capabilities distinct from the traditional DoD 5000 acquisition system.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Air Force **Date:** April 2022

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0301112F / Nuclear Planning and Execution System (NPES)	Project (Number/Name) 674212 / NLCC Decision Support System
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Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Prototype Development	C/T&M	NG : Offutt AFB, NE	0.000	1.555	Mar 2021	-		-		-		-	0.000	1.555	-
Visualization Development	C/Various	Various : Offutt AFB, NE	0.000	0.706	Oct 2021	0.097	Apr 2022	-		-		-	0.000	0.803	-
Subtotal			0.000	2.261		0.097		-		-		-	0.000	2.358	N/A

Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
DevOps Support	Various	TBD : Offutt AFB, NE	0.000	0.235	Feb 2021	0.309	Feb 2022	-		-		-	0.000	0.544	-
Engineering/Test Support	C/CPAF	KBR Wyle : Offutt AFB, NE	0.000	0.152	May 2021	0.309	May 2022	-		-		-	0.000	0.461	-
Engineering Support	SS/ Various	MITRE : Offutt AFB, NE	0.000	0.315	Nov 2020	0.295	Nov 2021	-		-		-	0.000	0.610	-
Subtotal			0.000	0.702		0.913		-		-		-	0.000	1.615	N/A

Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Management Services	C/TBD	TBD : Offutt AFB, NE	0.000	-		0.048	Apr 2022	-		-		-	0.000	0.048	-
Subtotal			0.000	-		0.048		-		-		-	0.000	0.048	N/A

			Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	2.963	1.058	-	-	-	0.000	4.021	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0301112F / <i>Nuclear Planning and Execution System (NPES)</i>	Project (Number/Name) 674212 / <i>NLCC Decision Support System</i>

FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
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

DSS Development	
DSS Strategic Study	██████████
Senior Leader Visualization (SLV) Prototype Evaluation	████
Prototype Development	██████████
Disconnected Intermittent Low-Bandwidth (DIL) prototype evaluation	██████████
DSS IT Infrastructure and Cybersecurity	██
Data Integration	██
Minimal Viable Product Delivery 1	████
Minimal Viable Product Delivery 2	████
Minimal Viable Product Delivery 3	████
Prototype Continuous Software Delivery	██████████
Limited Operational Capability (LOC)	████
Rapid Fielding	██
Rapid Fielding Continuous Software Delivery	██
IOC	████

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0301112F / <i>Nuclear Planning and Execution System (NPES)</i>	Project (Number/Name) 674212 / <i>NLCC Decision Support System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>DSS Development</i>				
DSS Strategic Study	3	2021	1	2022
Senior Leader Visualization (SLV) Prototype Evaluation	3	2021	3	2021
Prototype Development	4	2021	1	2022
Disconnected Intermittent Low-Bandwidth (DIL) prototype evaluation	3	2021	1	2022
DSS IT Infrastructure and Cybersecurity	2	2021	4	2022
Data Integration	4	2021	4	2022
Minimal Viable Product Delivery 1	1	2021	1	2021
Minimal Viable Product Delivery 2	3	2021	3	2021
Minimal Viable Product Delivery 3	4	2021	4	2021
Prototype Continuous Software Delivery	4	2021	1	2022
Limited Operational Capability (LOC)	1	2022	1	2022
Rapid Fielding	2	2022	4	2024
Rapid Fielding Continuous Software Delivery	2	2022	4	2024
IOC	4	2024	4	2024