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

Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605144A / <i>Next Generation Load Device - Medium</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	-	24.094	36.970	2.931	-	2.931	2.345	2.370	2.397	2.420	0.000	73.527
BY6: <i>Key Management Infrastructure Development</i>	-	24.094	36.970	2.931	-	2.931	2.345	2.370	2.397	2.420	0.000	73.527

A. Mission Description and Budget Item Justification

This Program Element (PE) is a critical enabler of the Army Modernization Priorities in support of Army 2030/2040 and Communication Security (COMSEC).

This PE funds the development and test of the Next Generation Load Device - Medium (NGLD-M) to conduct the Army's key fill mission by issuing, filling, and managing Cryptographic keys to both legacy and future Key Management Infrastructure (KMI) aware End-Cryptographic Units (ECUs). This effort is an Acquisition Category III (ACAT III) Program of Record (POR). COMSEC is governed by the Chairman of the Joint Chiefs of Staff Instruction (CJCSA) 6510. In order to ensure Warfighters continue to have secured communications (i.e., encrypted data and voice), Army communications systems are required to support modern cryptographic capabilities by implementing modern algorithms. These efforts are consistent with Strategic Planning Guidance (SPG).

FY2025 funding supports the development of the NGLD-M program which replaces the legacy Simple Key Loader (SKL). NGLD-M adds capability of cryptographic re-programmability, over the network keying, and is compliant with NSA's Cryptographic Modernization 2 (CM2) algorithms. Funding supports the NGLD-M developmental effort for two vendors to develop and test their hardware and software solutions.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	22.439	36.970	1.609	-	1.609
Current President's Budget	24.094	36.970	2.931	-	2.931
Total Adjustments	1.655	0.000	1.322	-	1.322
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.655	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	1.322	-	1.322

Change Summary Explanation

Increase in FY 2025 is due to NGLD-M Development Test and Evaluation support.

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Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605144A / Next Generation Load Device - Medium				Project (Number/Name) BY6 / Key Management Infrastructure Development			
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
BY6: Key Management Infrastructure Development	-	24.094	36.970	2.931	-	2.931	2.345	2.370	2.397	2.420	0.000	73.527
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

As part of the Army's Key Management Infrastructure (KMI) implementation, the Next Generation Load Device - Medium (NGLD-M) is an Acquisition Category III (ACAT III) Program of Record (POR) and modernized load device that will replace legacy AN/PYQ-10A and AN/PYQ-10A(C) (Army), which is commonly referred to as the Simple Key Loader (SKL). The NGLD-M will receive, store, manage, and transfer electronic key through the network to be loaded into communication devices such as radios and satellites to secure the network. The NGLD-M requires RDT&E investment to develop and test the hardware and software solutions. Without this technology Warfighters are required to manually receive their cryptographic products by traveling to COMSEC account locations (which may not be co-located) and manually filling their devices.

FY2025 funding supports the NGLD-M developmental effort for two vendors to establish a developmental baseline and conduct developmental and operational testing of their hardware and software solutions.

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

	FY 2023	FY 2024	FY 2025
Title: NGLD-M Development and NSA Certification	22.879	26.721	0.681
Description: The Next Generation Load Device - Medium (NGLD-M) will conduct the Army's key fill mission by issuing, filling, and managing Cryptographic keys to both legacy and future KMI aware End-Cryptographic Units (ECUs). This technology requires RDT&E investment to meet the requirements outlined in the NGLD Capability Production Document (CPD).			
FY 2024 Plans: Continue NGLD-M development and testing to obtain NSA Certification for both vendors. Security Verification Test (SVT) and Physical Configuration Audits (PCA) will be used with both vendors to verify that products meet cryptographic and protective alarms requirements and specifications IAW NSA IASRD.			
FY 2025 Plans: Complete NGLD-M development and testing to obtain NSA Certification for both vendors. Security Verification Test (SVT) and Physical Configuration Audits (PCA) will be used with both vendors to verify that products meet cryptographic and protective alarms requirements and specifications IAW NSA IASRD.			
FY 2024 to FY 2025 Increase/Decrease Statement:			

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
The decrease is due to NGLD-M Development and NSA Certification entering into the production phase.				
<p>Title: Program Management Support</p> <p>Description: This funds matrixed support from Combat Capabilities Development Command (CCDC) Command, Control, Computers, Communications, Cyber, Intelligence, Surveillance and Reconnaissance (C5ISR) Center to assist with the NGLD-M development effort.</p> <p>FY 2024 Plans: FY 2024 funds matrixed support to include Acquisition Program Manager (APM), and Software Engineer Program Management support from Combat Capabilities Development Command (CCDC) Command, Control, Computers, Communications, Cyber, Intelligence, Surveillance and Reconnaissance (C5ISR) Center to assist with the NGLD-M development effort.</p> <p>FY 2025 Plans: FY 2025 funds matrixed support to include partial funding for Acquisition Program Manager (APM), and Software Engineer Program Management support from Combat Capabilities Development Command (CCDC) Command, Control, Computers, Communications, Cyber, Intelligence, Surveillance and Reconnaissance (C5ISR) Center to assist with the NGLD-M development effort. Remaining funds required for support will be paid with procurement funds.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: The decrease is due to the NGLD-M Program Management Support activities entering into the production phase.</p>		0.490	2.510	0.108
<p>Title: Developmental Test & Evaluation Support</p> <p>Description: NGLD-M developmental test and evaluation support efforts.</p> <p>FY 2024 Plans: FY 2024 funds developmental test and evaluation support efforts to include End Cryptographic Unit (ECU) interoperability testing, environmental testing, Telecommunications Electronics Materials Protected from Emanating Spurious Transmissions (TEMPEST), and NSA Testing.</p> <p>FY 2025 Plans: FY 2025 funds developmental test and evaluation support efforts to include any follow-on testing or assessments post IOTR&E.</p> <p>FY 2024 to FY 2025 Increase/Decrease Statement: The decrease is due to NGLD-M activities entering into the production phase, so FY25 Test and Evaluation Support cost consists of any follow-on testing or assessments post IOT&E.</p>		0.725	7.739	2.142
Accomplishments/Planned Programs Subtotals		24.094	36.970	2.931

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

Line Item	FY 2023	FY 2024	FY 2025	FY 2025	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Cost To	
			Base	OCO	Total					Complete	Total Cost
• 0303140A: Information Systems Security Program	15.554	15.323	15.733	-	15.733	15.755	15.843	15.936	16.019	Continuing	Continuing
• B96004: KEY MANAGEMENT INFRASTRUCTURE	75.541	72.289	31.585	-	31.585	31.760	28.753	24.097	24.337	0.000	288.362
• B96016: NEXT GENERATION LOAD DEVICE- MEDIUM	-	-	59.395	-	59.395	59.689	62.664	66.671	67.336	Continuing	Continuing

Remarks

D. Acquisition Strategy

Aspects of the Next Generation Load Device - Medium (NGLD-M) may include commercially availability solutions and/or interfaces, but development is required to integrate these solutions into a device that meets the rigors of NSA certification and the Capability Production Document (CPD) requirements. There is no commercially driven market for NSA certified load devices that meet the requirements identified in the NGLD Family CPD. The NGLD-M Acquisition Strategy supports a multiple award contract strategy for development, production, and sustainment. These requirements ensure secure communications by requiring the NGLD-M to provide specific tamper protections, limit electromagnetic radiation to prevent adversarial detection of the system, among others outlined within the Information Assurance Security Requirements Document. The Milestone Decision Authority issued a Materiel Development Decision (MDD) Acquisition Decision Memorandum (ADM) on 14 March 2019 that designated the NGLD-M as an ACAT III Program of Record (PoR).

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

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Management Services (\$ 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			
Program Management Support	C/CPFF	CCDC C5ISR S&TCD : APG, MD	1.155	0.490	Apr 2023	2.510	Feb 2024	0.108	Feb 2025	-		0.108	Continuing	Continuing	-
Subtotal			1.155	0.490		2.510		0.108		-		0.108	Continuing	Continuing	N/A

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			
NGLD-M Development	C/CPFF	CCDC C5ISR S&TCD, NIWC-Pacific : APG, MD; San Diego, CA	13.680	22.879	Apr 2023	26.721	Feb 2024	0.681	Feb 2025	-		0.681	Continuing	Continuing	-
Subtotal			13.680	22.879		26.721		0.681		-		0.681	Continuing	Continuing	N/A

Test and Evaluation (\$ 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			
Test and Evaluation	C/CPFF	CCDC C5ISR S&TCD : APG, MD	-	0.725	Apr 2023	7.739	Feb 2024	2.142	Feb 2025	-		2.142	Continuing	Continuing	-
Subtotal			-	0.725		7.739		2.142		-		2.142	Continuing	Continuing	N/A

			Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			14.835	24.094	36.970	2.931	-	2.931	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Army			Date: March 2024
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Event Name	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
NGLD-M Development	██████████				██████████																							
NGLD-M Testing	██████████				██████████				██████████				██████████				██████████				██████████							
NGLD-M Development, Production, Sustainment Contract	██████████				██████████				██████████				██████████				██████████				██████████							
NGLD-M Milestone C	██████████				██████████				▲ 1																			

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Army		Date: March 2024
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
NGLD-M Development	4	2021	1	2025
NGLD-M Testing	4	2023	2	2031
NGLD-M Development, Production, Sustainment Contract	4	2021	4	2035
NGLD-M Milestone C	1	2025	1	2025