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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 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0207279F / <i>Isolated Personnel Survivability and Recovery</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	-	9.591	56.225	10.020	0.000	10.020	30.252	0.000	25.540	26.044	0.000	157.672
65412B: <i>Isolated Personnel*</i>	-	0.000	0.000	0.000	0.000	0.000	0.000	0.000	25.540	26.044	0.000	51.584
654522: <i>CSAR EMD</i>	-	9.591	56.225	10.020	0.000	10.020	30.252	0.000	0.000	0.000	0.000	106.088

\*This project's R-2a exhibit has been suppressed due to funding not beginning until after FY 2025

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

This Program Element contains two projects tasked to provide Air Force aircrew updated survival equipment to assist in their recovery in the event they become Isolated Personnel (IP).

Project 65412B (Isolated Personnel): The Isolated Personnel Survival and Flight Equipment (IPSAFE) program develops, and fields updates to aircrew survival kits to support climate specific equipment and aims to increase the ability for an IP to evade and survive in operational environments where rapid extraction is not possible.

Project 654522 (CSAR EMD): The Next Generation Survival Radio (NGSR) program is an Air Force led development effort to replace the aging legacy Combat Survivor Evader Locator (CSEL) handheld radio for the entire Joint Force. NGSR plans to deliver communications capability supporting the Joint Personnel Recovery Agency (JPRA) Combat Search and Rescue (CSAR) mission to locate, authenticate, and communicate with Joint forces who become isolated. The NGSR program plans replace legacy satellite communication and encryption methods to deliver secured end-to-end communication and locate and recover downed aircrew/special operations personnel.

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 elements 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY23 0.850M was expended for civilian pay expenses in this program element, and in FY24 0.900M is forecasted for civilian pay expenses in this program element.

The total cost of the CSEL Next Generation Survival Radio Rapid Prototyping Middle Tier of Acquisition effort is 208.1 million, including RDT&E and procurement of prototype units. The CSEL NGSR RP program is not fully funded across the Future Years Defense Program. The Department of the Air Force is assessing all options to address the funding shortfalls for MTA programs including additional funding in a future budget request, performance trades based on technical maturity, or transition to alternative pathways.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full rate production.

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<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	27.881	56.225	0.000	0.000	0.000
Current President's Budget	9.591	56.225	10.020	0.000	10.020
Total Adjustments	-18.290	0.000	10.020	0.000	10.020
• 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	-18.290	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	10.020	0.000	10.020

**Change Summary Explanation**

FY23 funding reduced by 18.290M to support higher Air Force priorities.

FY25 funding will continue the development of the NGSR HHR device and MUOS BLOS integration efforts.

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

<b>Appropriation/Budget Activity</b> 3600 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0207279F / <i>Isolated Personnel Survivability and Recovery</i>	<b>Project (Number/Name)</b> 654522 / CSAR EMD
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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
654522: CSAR EMD	-	9.591	56.225	10.020	0.000	10.020	30.252	0.000	0.000	0.000	0.000	106.088
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

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

The NGSR program is an Air Force led effort to replace the aging CSEL Radio supporting the entire Joint force. The DoD plans for the NGSR Handheld Radio (HHR) to serve as the primary communications link for all DoD aircrew who become isolated personnel. NGSR will replace legacy satellite communication and encryption methods to deliver communication capability in support of the JPRA CSAR mission to locate, authenticate, and communicate with Joint forces who become Isolated Personnel (IP).

NGSR provides secure, over-the-horizon, two-way data communications and precise geo-positioning information to rescue forces. Additionally, NGSR is able to operate in anti-access/area denial (A2/AD) environments by providing a low probability of intercept/low probability of detection communication pathway for isolated personnel. NGSR is one node of an overall personnel recovery network which includes multiple on-orbit satellite constellations, geographically dispersed satellite ground stations, joint service CSAR communication devices, and a Joint Personnel Recovery Center (JPRC) web application. NGSR plans to incorporate modern encryption technology to comply with current National Security Agency (NSA) cryptographic standards.

The Air Force will meet system objectives by executing a competitive Rapid Prototyping effort to design and build a production-ready NGSR artifact. Once prototyped, the Air Force, Army, Navy, and Marine Corps will field the NGSR prototype to their respective services via a follow-on sole-source Rapid Fielding production contract.

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

	FY 2023	FY 2024	FY 2025
<b>Title:</b> Next Generation Survival Radio (NGSR)	9.591	56.225	10.020
<b>Description:</b> The Research and Development (R&D) efforts associated with the NGSR effort aim to Rapidly Prototype a production-ready -- multi-function -- handheld radio in advance of planned future production and fielding efforts. The radio serves as the prime communications pathway for Army, Navy, Marine, and Air Force pilots in the event they become isolated personnel.			
<b>FY 2024 Plans:</b>			
<ul style="list-style-type: none"> <li>- Delivering vendor initial prototype designs</li> <li>- Delivering vendor-refined designs for evaluation</li> <li>- Kicking off Vendor prototype builds (software/hardware)</li> <li>- Building/configuring Mobile User Objective System (MUOS) Digitized Earth Terminal Interface (DETI) digital infrastructure</li> <li>- Building MUOS ground connections with the Joint Personnel Recovery Center (JPRC) interfaces</li> <li>- Conducting testing on waveform compatibility with MUOS constellation</li> <li>- Beginning test organization support and infrastructure build/configuration</li> </ul>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Air Force	<b>Date:</b> March 2024
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<b>Appropriation/Budget Activity</b> 3600 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0207279F / <i>Isolated Personnel Survivability and Recovery</i>	<b>Project (Number/Name)</b> 654522 / CSAR EMD
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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	FY 2023	FY 2024	FY 2025
- Beginning web migration of JPRC emergency event notification application			
<b><i>FY 2025 Plans:</i></b> -Will deliver second iteration of HHR prototypes -Will develop LPE Waveform and Encryption -Will develop Cloud/Web App (build-to-budget) and testing and prepare ATO			
<b><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i></b> FY2025 funding decreased due to the deferral to future years of the final development of NGSR Prototyping efforts, tests, and integration into a single system architecture.			
<b>Accomplishments/Planned Programs Subtotals</b>	9.591	56.225	10.020

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPAF 05 837140: <i>0207279F - Next Generation Survival Radio (654522)</i>	0.000	0.000	0.000	-	0.000	0.000	77.682	0.000	0.000	0.000	77.682

**Remarks**

**D. Acquisition Strategy**  
The Milestone Decision Authority (MDA), Air Force Program Executive Officer (PEO) Digital, designated the NGSR HHR program as a Middle Tier of Acquisition (MTA) Rapid Prototyping effort on 21 June 23. The program used Other Transactional Agreements (OTA) to award two project contracts and conduct the competitive prototype capability demonstrations. NGSR will kick off project development in February 2023. Single prototype will be down selected and awarded a final prototyping contract in 2026. NGSR is scheduled to transition from Rapid Prototype to Rapid Fielding in mid-2026

Program management for NGSR is under the direction of PEO Digital, located at Hanscom AFB, MA. The Aerospace Dominance Enabler Division (AFLCMC/HBZ; Hill AFB, UT) provides contracting, legal, comptroller, programmatic, engineering, test, and logistics support. The Air Force Life Cycle Management Center, provides Other Transaction Authority.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force												Date: March 2024			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
3600 / 5				PE 0207279F / Isolated Personnel Survivability and Recovery				654522 / CSAR EMD							
Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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
MUOS Ground Station Upgrade	MIPR	Government : TBD	-	2.000	Apr 2023	20.200	Feb 2024	2.000	Apr 2025	-		2.000	Continuing	Continuing	-
Low Probability of Intercept/ Low Probability of Detection (LPI/LPD) Waveform Upgrade	MIPR	Government : TBD	-	0.000	Apr 2023	2.000	Nov 2023	1.000	Apr 2025	-		1.000	Continuing	Continuing	-
NGSR Rapid Prototype (Design/Refine/Build)	C/FFP	TBD : TBD	-	3.730	Jan 2024	22.398	Jan 2024	2.020	Jul 2025	-		2.020	Continuing	Continuing	-
JPRC Software Modernization and Migration	Various	Government : TBD	-	2.564	Apr 2023	3.552	Nov 2023	1.000	Jul 2025	-		1.000	Continuing	Continuing	-
Encryption Development	MIPR	Government : TBD	-	-		2.575	Nov 2023	1.000	Jul 2025	-		1.000	Continuing	Continuing	-
<b>Subtotal</b>			-	8.294		50.725		7.020		-		7.020	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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
NGSR Direct Cite Authority	TBD	Not specified. : Hill AFB, UT	-	-		0.850	Jan 2024	0.900	Jan 2025	-		0.900	Continuing	Continuing	-
<b>Subtotal</b>			-	-		0.850		0.900		-		0.900	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 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
Sys Test & Eval	Various	Not specified. : TBD	-	0.130	Mar 2023	2.000	Mar 2024	2.000	Jan 2025	-		2.000	Continuing	Continuing	-
<b>Subtotal</b>			-	0.130		2.000		2.000		-		2.000	Continuing	Continuing	N/A

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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 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0207279F / <i>Isolated Personnel Survivability and Recovery</i>	<b>Project (Number/Name)</b> 654522 / <i>CSAR EMD</i>
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<b>Management Services (\$ 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			
Sys Eng / Prog Management (SEPM)	TBD	Not specified. : TBD	-	1.167	Jul 2023	2.650	Nov 2023	0.100	Jul 2025	-		0.100	Continuing	Continuing	-
<b>Subtotal</b>			-	1.167		2.650		0.100		-		0.100	Continuing	Continuing	N/A
<b>Project Cost Totals</b>			-	9.591		56.225		10.020		-		10.020	Continuing	Continuing	N/A

**Remarks**  
 NGSR Rapid Prototype (Design/Refine/Build) contract award changed from June 2023 to Jan 2024 due to unique waveform specifications within the technical documentation required to begin development of the handheld device.

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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 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0207279F / <i>Isolated Personnel Survivability and Recovery</i>	<b>Project (Number/Name)</b> 654522 / CSAR EMD

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>1. Beyond Line of Site Development</b>	
1.1. MUOS Ground Station Upgrade - DETI	
1.2. LPI/LPD Waveform Upgrade	
<b>2. NGSR Rapid Prototyping</b>	
2.1. Competitive Rapid Prototype Development	
2.2. Personnel Recovery Systems Integration and Testing	
2.3. BLOS Integration and Testing	
<b>3. JPRC Software Modernization and Migration</b>	
3.1. JPRC Application (Web Transition)	
3.2. JPRC Software Cloud Migration	
<b>4. NGSR Message Encryption Development</b>	
4.1. Encryption Selection/Tailoring	
4.2. Encryption Integration and Testing	
<b>5. Objective System - Rapid Fielding</b>	
5.1. Planning	
5.2. NGSR Operational Testing	
5.3. NGSR Production	
<b>6. Software Augmentation and Upkeep</b>	
6.1. MUOS Ground Station - DETI	
6.2. NGSR Handheld Device	
6.3. JPRC Applications and Cloud	

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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 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0207279F / <i>Isolated Personnel Survivability and Recovery</i>	<b>Project (Number/Name)</b> 654522 / CSAR EMD

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>1. Beyond Line of Site Development</b>				
1.1. MUOS Ground Station Upgrade - DETI	3	2023	1	2026
1.2. LPI/LPD Waveform Upgrade	3	2024	2	2026
<b>2. NGSR Rapid Prototyping</b>				
2.1. Competitive Rapid Prototype Development	2	2024	1	2026
2.2. Personnel Recovery Systems Integration and Testing	4	2024	1	2026
2.3. BLOS Integration and Testing	3	2024	1	2026
<b>3. JPRC Software Modernization and Migration</b>				
3.1. JPRC Application (Web Transition)	3	2023	1	2026
3.2. JPRC Software Cloud Migration	3	2023	1	2026
<b>4. NGSR Message Encryption Development</b>				
4.1. Encryption Selection/Tailoring	2	2023	1	2026
4.2. Encryption Integration and Testing	1	2024	1	2026
<b>5. Objective System - Rapid Fielding</b>				
5.1. Planning	1	2024	1	2026
5.2. NGSR Operational Testing	1	2025	4	2027
5.3. NGSR Production	1	2027	4	2028
<b>6. Software Augmentation and Upkeep</b>				
6.1. MUOS Ground Station - DETI	1	2026	4	2028
6.2. NGSR Handheld Device	1	2026	4	2028
6.3. JPRC Applications and Cloud	1	2026	4	2028