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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 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0207279F / <i>Isolated Personnel Survivability and Recovery</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	0.000	27.881	0.000	27.881	56.098	0.000	0.000	0.000	0.000	83.979
654522: <i>CSAR EMD</i>	-	0.000	0.000	27.881	0.000	27.881	56.098	0.000	0.000	0.000	0.000	83.979
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note
This program, BA 5, PE 0207279F, project 654522, CSEL Next Generation Survival Radio (NGSR), is a new start.

A. Mission Description and Budget Item Justification

Personnel Recovery is the United States Air Force's effort to prepare for and execute recovery and reintegration of isolated personnel. The Combat Survivor Evader Locator (CSEL) System is the US Department of Defense's (DoD) Program of Record for Joint Search and Rescue, to locate, authenticate, and communicate with Joint forces who become Isolated Personnel (IP). The Hand Held Radio (HHR) is the primary communications link for Joint forces who become isolated personnel in contested environments. The HHR provides secure, over-the-horizon, two-way data communications and precise geo-positioning information to rescue forces. It can operate in an anti-access/area denial (A2/AD) environment by providing a low probability of intercept/low probability of detection communications for isolated personnel. The HHR is one segment of the overall CSEL command and control architecture, including the UHF satellite base stations (UBS) and the Joint Personnel Recovery Center web application. The current HHR encryption requires modification to comply with current National Security Agency (NSA) cryptographic standards. The NSA is discontinuing the production and distribution of DES-based cryptographic keying material.

The HHR has significantly diminishing material sources and unsupportable hardware, including reliance on legacy Ultra High Frequency (UHF) satellite communication. UHF capabilities are nearing the end of life, and the CSEL system must move to next-generation secured satellite communication. In concert with the Services and the CSEL Joint Program Office, the Navy conducted a Business Case Analysis. It determined that a recapitalization of the CSEL HHR was more cost-effective than modifying the existing AN/PRQ-7/A. This effort is known as Next Generation Survival Radio (NGSR). The CSEL Joint Program Management Office (JPMO) will execute the NGSR effort in a two-pronged approach:

1. The program will leverage Gov't-owned satellite systems to establish a modern Beyond Line of Sight (BLOS) capability to replace legacy UHF capabilities and ensure encrypted voice and data communication. The BLOS capability should integrate through a cloud based system and SIPRNET for connections. This will culminate with a complete two-way communications path from the IP to the Joint Personnel Recovery Center (JPRC) or recovery activity center.
2. The program office will replace the existing HHR with an Industry-led next-generation survival device. The hand-held device will meet all requirements found in the Operational Requirements Document.

The CSEL JPMO will execute funding to validate and verify Government and Industry-led solutions, minimize risk, and accelerate capability maturation. The JPMO will involve Stakeholders across the Joint Services, National Agencies, and Operational community to meet the intent and maintain the integrity of the Joint Capability. The JPMO will foster a competitive acquisition through Requests For Proposals, including downselect and prototype development opportunities.

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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. In FY23 0.000M is forecasted for civilian pay expenses in this program element.

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.

B. Program Change Summary (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	27.881	0.000	27.881
Total Adjustments	0.000	0.000	27.881	0.000	27.881
• 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	27.881	0.000	27.881

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
Title: CSEL Next Generation Survival Radio (NGSR)	-	0.000	27.881
Description: The CSEL System is DoD's primary method to locate, authenticate, and communicate with aircrew who become Isolated Personnel. The Hand Held Radio is the only communications link for aircrew who become isolated personnel that provides a secure, over-the-horizon, two-way data communications and precise geo-positioning information to Rescue Forces. It has the ability to operate in an A2AD environment by providing low probability of intercept/low probability of detection communications for isolated personnel.			
FY 2022 Plans: none			
FY 2023 Plans: Begin Beyond Line of Sight (BLOS) development and Prime Product Development, with Cloud integration			
FY 2022 to FY 2023 Increase/Decrease Statement:			

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
CSEL NGSR will receive initial funding in FY23			
Accomplishments/Planned Programs Subtotals	-	0.000	27.881

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

N/A

Remarks

E. Acquisition Strategy

CSEL Next Generation Survival Radio will leverage rapid acquisition pathways and contracting vehicles to provide a survival handheld radio to rapidly utilize modernized Beyond Line of Sight capabilities with Cloud-based process and storage capabilities to meet current and future needs of Isolated Personnel. The objective of the acquisition program is to field a prototype that will be demonstrated for a combat environment and provide a residual operational capability within five years of the development of an approved requirement.

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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 / 5				PE 0207279F / Isolated Personnel Survivability and Recovery				654522 / CSAR EMD								
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	
Prime Mission Product	C/TBD	Not specified. : TBD	-	-		-		13.678	Nov 2022	-		13.678	Continuing	Continuing	-	
Sys Eng Prog Mgmt (SEPM)	TBD	Not specified. : TBD	-	-		-		0.054	Nov 2022	-		0.054	Continuing	Continuing	-	
BLOS	MIPR	USSF : TBD	-	-		-		7.000	Nov 2022	-		7.000	Continuing	Continuing	-	
Engineering Change Order	TBD	Not specified. : TBD	-	-		-		3.449	Nov 2022	-		3.449	Continuing	Continuing	-	
Subtotal			-	-		-		24.181		-		24.181	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	
Sys Test & Eval	Various	Not specified. : TBD	-	-		-		0.200	Nov 2022	-		0.200	Continuing	Continuing	-	
Subtotal			-	-		-		0.200		-		0.200	Continuing	Continuing	N/A	
Management Services (\$ 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	
Program Management Office Costs	TBD	Not specified. : TBD	-	-		-		3.500	Nov 2022	-		3.500	Continuing	Continuing	-	
Subtotal			-	-		-		3.500		-		3.500	Continuing	Continuing	N/A	
Project Cost Totals			-	-		-		27.881		-		27.881	Continuing	Continuing	N/A	
Remarks																

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Air Force		Date: April 2022
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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

CSEL NGSR	
Prime Mission Product Development	[REDACTED]
Beyond Line of Sight	[REDACTED]

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Air Force		Date: April 2022
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
CSEL NGSR				
Prime Mission Product Development	1	2023	4	2026
Beyond Line of Sight	1	2023	4	2025