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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2024 Air Force **Date:** March 2023

<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 0604287F / <i>Physical Security Equipment</i>
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	8.302	6.897	10.605	0.000	10.605	10.551	11.063	11.289	11.697	Continuing	Continuing
655120: <i>Physical Security Equipment - SD ED</i>	-	8.302	6.897	10.605	0.000	10.605	10.551	11.063	11.289	11.697	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

The Physical Security Equipment (PSE) program provides for Air Force (AF) Integrated Base Defense Security Systems (IBDSS) improvements and enhancements, to include the demonstration and testing of PSE systems related to Force Protection. This program supports the protection of tactical, fixed, and nuclear weapons systems, AF personnel and AF facilities. The PSE program includes spectrum planning for radio frequency (RF), communication security (cyber), information assurance requirements, integration and interoperability Command Control & Communication (C3) platform & components. This Program Element also includes funding for Force Protection Commercial Off the Shelf (FP COTS) equipment, market research, evaluation and testing. Force Protection programs are inherently subject to rapid changes in the operational environment and will retain sufficient program flexibility to meet changes in location, scope and capability in order to protect AF people, facilities and warfighting assets. The Defender Multi-Domain Command, Control and Communications (DMDC3) is an initiative developing the foundational structure of IBDSS to provide a platform that integrates the computing power, the means of communication, and the tools for situational awareness. PSE efforts support Modular Open Source Architecture (MOSA) standards to enable faster installations and greater interoperability to address the Chief of Staff of the AF (CSAF's) 'Fight the Base' goals.

IBDSS FY24 developmental efforts will continue to evaluate and test state-of-the-art technology to support integrated based defense systems installations worldwide, continue to improve and integrate COTS efforts into IBDSS physical security equipment, and further develop, integrate and test Defender Multi-Domain Command, Control and Communications (DMDC3) software applications. IBDSS-3 expands upon and scales IBDSS modernization efforts first developed under IBDSS-2. Capability improvements include zero-trust architecture, Machine Language (ML)/Artificial Intelligence (AI) integration, expanded sensor capabilities, Unmanned Aerial System(UAS)/Unmanned Ground Vehicle (UGV integration), and improved mobile C3.

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 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY(FY23) 1.409M forecasted for civilian pay expenses in this program element, and in FY(FY24) 0.000M is forecasted for civilian pay expenses in this program element.

This requirement supports performance of a full financial audit as required by title 10 U.S.C. Chapter 9A, Sec 240-D.)

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 2022</b>	<b>FY 2023</b>	<b>FY 2024 Base</b>	<b>FY 2024 OCO</b>	<b>FY 2024 Total</b>
Previous President's Budget	8.469	8.493	10.374	0.000	10.374
Current President's Budget	8.302	6.897	10.605	0.000	10.605
Total Adjustments	-0.167	-1.596	0.231	0.000	0.231
• 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	-0.167	0.000			
• Other Adjustments	0.000	-1.596	0.231	0.000	0.231

**Change Summary Explanation**

FY2023 Reduction for FFRDC \$1.596

FY2024 Increase to complete RDT&E efforts for Tactical Sensor System \$1.500

FY2024 Funding request reduced by \$1.269 to account for the availability of prior year execution balances.

<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<b>Title:</b> IBDSS-2	8.302	0.000	0.000
<b>Description:</b> IBDSS-2 (Integrated Base Defense Security Systems) qualifies, demonstrates, and tests Physical Security Equipment (PSE) systems to include Force Protection.			
<b>FY 2023 Plans:</b> N/A			
<b>FY 2024 Plans:</b> N/A			
<b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> N/A			
<b>Title:</b> IBDSS-3	0.000	6.897	10.605
<b>Description:</b> IBDSS-3 (Integrated Base Defense Security Systems) qualifies, demonstrates, and tests Physical Security Equipment (PSE) systems to include Force Protection.			
<b>FY 2023 Plans:</b>			

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>
<p>-Conduct market research, evaluation and testing to address capability gaps and obsolescence to include, but not limited to Force Protection Commercial Off The Shelf (COTS).</p> <p>-Integrate and test to qualify COTS equipment to provide essential upgrades/improvements and state-of-the-art technology to support integrated based security systems installations worldwide.</p> <p>-Integration and/or modification of COTS efforts to improve IBDSS physical security equipment.</p> <p>-Further development, integration and testing Defender Multi-Domain Command, Control and Communications (DMDC3) software applications.</p> <p>- Integration of DMDC3 with external systems in order to meet Advanced Battle Management System/Joint All Domain Command and Control (ABMS/JADC2) directive.</p> <p>- Expand upon and scales IBDSS modernization efforts first developed under IBDSS-2 to include, but not limited to, zero-trust architecture, Machine Learning/Artificial Intelligence (ML/AI) integration, expanded sensor capabilities, Unmanned Aerial Systems/ Unmanned Ground Vehicle (UAS/UGV) integration, and improved mobile C3.</p> <p><b>FY 2024 Plans:</b></p> <p>-Will continue to conduct market research, evaluation and testing to address capability gaps and obsolescence to include, but not limited to Force Protection Commercial Off The Shelf (COTS).</p> <p>-Will continue further integration and testing to qualify COTS equipment to provide essential upgrades/improvements and state-of-the-art technology to support integrated based security systems installations worldwide.</p> <p>-Will continue with the integration and/or modification of COTS efforts to improve IBDSS physical security equipment.</p> <p>-Will continue further development, integration and testing Defender Multi-Domain Command, Control and Communications (DMDC3) software applications.</p> <p>- Will continue integration of DMDC3 with external systems in order to meet ABMS/JADC2 directive.</p> <p>- Will continue to expand upon and scales IBDSS modernization efforts first developed under IBDSS-2 to include, but not limited to, zero-trust architecture, ML/AI integration, expanded sensor capabilities, UAS/UGV integration, and improved mobile C3.</p> <p><b>FY 2023 to FY 2024 Increase/Decrease Statement:</b> Funding increased due to continued development of DMDC3 capabilities.</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	8.302	6.897	10.605

<b>D. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u> <u>Base</u>	<u>FY 2024</u> <u>OCO</u>	<u>FY 2024</u> <u>Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPAF 03 Line Item 29: <i>Base Physical Security Systems</i>	44.812	49.370	83.386	-	83.386	104.102	105.134	70.959	72.238	Continuing	Continuing

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

<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u> <u>Base</u>	<u>FY 2024</u> <u>OCO</u>	<u>FY 2024</u> <u>Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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**Remarks**

**E. Acquisition Strategy**

Air Force Security Force Center (AFSFC) and Force Protection program office investigates requirements to include new and/or obsolete items. COTS sub-systems, equipment and components are competitively acquired from industry after thorough market research. Equipment for testing is purchased via competitive selection processes via direct purchase orders. For security systems COTS that are required to be qualified for nuclear security environments where industry COTS sources may not be mature, consideration is given to replacement of new items or modification of COTS through the competitive selection procedure as well.

Delivery Orders on Indefinite Delivery/Indefinite Quantity contract vehicles or other approved purchase methods are utilized to acquire equipment.

The Force Protection program office is developing new capabilities, updating existing capabilities, exploring and fielding COTS capabilities, using both a Middle Tier of Acquisition program and other means.

Notional strategy to deploy Defender Multi-Domain Command, Control and Communications (DMDC3) and IBDSS of the future. DMDC3 Pathfinder operations at Vindicator and Advantor IDS Systems at various bases.

Supports Modular Open Source Architecture (MOSA) standards to enable faster installations and greater interoperability to enable Chief of Staff of the Air Force (CSAF's) 'Fight the Base' goals.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force** **Date:** March 2023

<b>Appropriation/Budget Activity</b> 3600 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604287F / <i>Physical Security Equipment</i>	<b>Project (Number/Name)</b> 655120 / <i>Physical Security Equipment - SD ED</i>
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<b>Product Development (\$ in Millions)</b>				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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			
Integrated Base Defense Security Systems (IBDSS-3)	Various	Various : Various	-	0.000		3.610	Dec 2022	4.324	Dec 2024	-		4.324	Continuing	Continuing	-
Integrated Base Defense Security Systems (IBDSS-2)	Various	Various : Various	-	4.091	Mar 2022	-		-		-		-	Continuing	Continuing	-
<b>Subtotal</b>			-	4.091		3.610		4.324		-		4.324	Continuing	Continuing	N/A

<b>Support (\$ in Millions)</b>				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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			
Integrated Base Defense Security Systems (IBDSS-3)	Various	Various : Various	-	0.000		1.787	May 2023	2.000	May 2024	-		2.000	Continuing	Continuing	-
Integrated Base Defense Security Systems (IBDSS-2)	Various	Various : Various	-	1.621	Apr 2022	-		-		-		-	Continuing	Continuing	-
Integrated Base Defense Security Systems (IBDSS-2) Direct Cite Authority	Various	Various : Various	-	1.158	Apr 2022	-		-		-		-	Continuing	Continuing	-
<b>Subtotal</b>			-	2.779		1.787		2.000		-		2.000	Continuing	Continuing	N/A

**Remarks**  
The support funding is planned at the above amounts. If the support contracts are less, the available funds will be transitioned to the Product Development line.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force** **Date:** March 2023

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<b>Test and Evaluation (\$ in Millions)</b>				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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			
Integrated Base Defense Security Systems (IBDSS-3)	Various	Various : Various	-	0.000		1.500	Dec 2022	4.281	Aug 2024	-		4.281	Continuing	Continuing	-
Integrated Base Defense Security Systems (IBDSS-2)	Various	Various : Various	-	1.432	Jan 2022	-		-		-		-	Continuing	Continuing	-
<b>Subtotal</b>			-	1.432		1.500		4.281		-		4.281	Continuing	Continuing	N/A
<b>Project Cost Totals</b>			-	8.302		6.897		10.605		-		10.605	Continuing	Continuing	N/A

**Remarks**  
 Various delivery orders will be awarded through out the fiscal year for numerous projects.

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2024 Air Force		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 3600 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604287F / <i>Physical Security Equipment</i>	<b>Project (Number/Name)</b> 655120 / <i>Physical Security Equipment - SD ED</i>

FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
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>FY21 Events</b>	
Integrated Base Defense Security Systems (IBDSS-2)	██████████
<b>FY22 Events</b>	
Integrated Base Defense Security Systems (IBDSS-2)	████████████████████
<b>FY23 Events</b>	
Integrated Base Defense Security Systems (IBDSS-3)	████████████████████
<b>FY24 Events</b>	
Integrated Base Defense Security Systems (IBDSS-3)	████████████████████
<b>FY25 Events</b>	
Integrated Base Defense Security Systems (IBDSS-3)	████████████████████
<b>FY26 Events</b>	
Integrated Base Defense Security Systems (IBDSS-4)	████████████████████
<b>FY27 Events</b>	
Integrated Base Defense Security Systems (IBDSS-4)	████████████████████

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2024 Air Force		<b>Date:</b> March 2023
<b>Appropriation/Budget Activity</b> 3600 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604287F / <i>Physical Security Equipment</i>	<b>Project (Number/Name)</b> 655120 / <i>Physical Security Equipment - SD ED</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>FY21 Events</i></b>				
Integrated Base Defense Security Systems (IBDSS-2)	2	2022	1	2023
<b><i>FY22 Events</i></b>				
Integrated Base Defense Security Systems (IBDSS-2)	1	2022	4	2023
<b><i>FY23 Events</i></b>				
Integrated Base Defense Security Systems (IBDSS-3)	1	2023	4	2024
<b><i>FY24 Events</i></b>				
Integrated Base Defense Security Systems (IBDSS-3)	1	2024	4	2025
<b><i>FY25 Events</i></b>				
Integrated Base Defense Security Systems (IBDSS-3)	1	2025	4	2026
<b><i>FY26 Events</i></b>				
Integrated Base Defense Security Systems (IBDSS-4)	1	2026	4	2027
<b><i>FY27 Events</i></b>				
Integrated Base Defense Security Systems (IBDSS-4)	1	2027	4	2028