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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Air Force										Date: February 2015		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604287F I Physical Security Equipment							
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	-	-	3.926	5.973	-	5.973	4.122	4.201	4.280	4.357	Continuing	Continuing
655120: Physical Security Equipment - SD ED	-	-	3.926	5.973	-	5.973	4.122	4.201	4.280	4.357	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

## Note

In FY15, PE 0604287F, Physical Security Equipment, Project Number 655120, Physical Security Equipment SD ED efforts were transferred from PE 0603287F, Physical Security Equipment, Project Number 645121, in order to align funding in the correct Budget Activity (BA05).

## A. Mission Description and Budget Item Justification

Integrated Base Defense Security Systems (IBDSS) provides improvements and enhancements, demonstrates, and tests Physical Security Equipment (PSE) systems to include Force Protection. This program supports the protection of tactical, fixed, and nuclear weapons systems, AF personnel and AF facilities. The PSE program is organized to provide PSE RDT&E for Air Force specific needs but as a complement to and in conjunction with the PSE RDT&E programs funded by the DOD Physical Security Enterprise and Analysis Group (PSEAG). As such this program will obtain, demonstrate, and test PSE in the same manner and to the same standards and architecture as PSEAG funded projects to ensure interoperability with PSEAG developed PSE. In support of PSE, this RDT&E program includes spectrum planning for radio frequency (RF), communication security (cyber), and information assurance requirements. This Program Element also includes funding for Force Protection Commercial Off The Shelf (FP COTS) market research, evaluation and testing. The FP COTS testing applies to all available technologies (delay, denial, detection, assessment, communication display, access control and power) which are considered effective for AF physical security use. This program supports the maintenance and test support at Site C 3 and the Cold Weather Test Site (CWTS), as annotated in DoD Directive 3200.11, listing the 46th Test Wing (TW) as a Major Range and Test facility, conducting developmental and operational testing as the primary mission.

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. Program Change Summary (\$ in Millions)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget		-	3.926	4.036	-	4.036
Current President's Budget		-	3.926	5.973	-	5.973
Total Adjustments		-	-	1.937	-	1.937
• Congressional General Reductions		-	-			
• Congressional Directed Reductions		-	-			
• Congressional Rescissions		-	-			
• Congressional Adds		-	-			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-	-			
• SBIR/STTR Transfer		-	-			
• Other Adjustments		-	-	1.937	-	1.937
Change Summary Explanation						
FY16 PB increase of \$1.937M due to higher AF priorities.						
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2014	FY 2015	FY 2016
Title: Integrated Base Defense Security Systems (IBDSS)				-	3.926	5.973
Description: IBDSS qualifies, demonstrates, and tests Physical Security Equipment (PSE) systems to include Force Protection. This continuing effort was previously named Physical Security Equipment.						
FY 2014 Accomplishments: N/A						
FY 2015 Plans: Continue Force Protection Commercial Off The Shelf (COTS) market research, evaluation and testing to address capability gaps and obsolescence. This includes 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. Type of technologies includes delay/ denial/detection/assessment/communication display/access control/power equipment & systems for IBDSS projects.						
Also continuing previously developed or modified COTS efforts to improve IBDSS physical security equipment: - Continue Tactical Automated Security System (TASS)efforts including improvements to the annunciator. - Develop internal & external delay, denial, and detection options for the Nuclear Storage environment. - Delay advancements include semi-hardened transport containers for logistic movement of nuclear assets. - Denial advancement includes prototypes for denial capability within protective aircraft shelters.						

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<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>		
<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>
<ul style="list-style-type: none"> <li>- Denial capability integration to improve life cycle cost and effectiveness for the Remote Target Engagement System (RTES)</li> <li>- Conduct RTES Independent Validation and Verification (IV&amp;V) and safety reviews with NNMSB and applicable safety agencies to assure OSS&amp;E of developed systems</li> <li>- Analyses and maturity assessment of interruption methods to disable or mitigate adversary remote airborne platforms.</li> <li>- Conduct IV&amp;V of fielded PSE and integrated systems</li> <li>- Continue to research technological advances with other agencies and industry.</li> <li>- Conduct analyses to include the adversary needs assessment and System Effectiveness Assessment (SEA) of the Nuclear Environment.</li> <li>- DInvestigate Physical Security Alarm Systems; identify, integrate and evaluate fusion and display capability to improve command, control and communication to include fusion of disparate sensor technologies and threat indicators; improve situational awareness and increase the decision support provided to security system operators through a Common Operational Picture or an enhancement to established alarm display capability; planned environments are in the missile field and for weapons storage where Base Defense Operations Center aggregates threat, sensor alarms, video and thermal assessment for developing response plans and priorities.</li> <li>- Support the maintenance and test support at Site C-3 and the Cold Weather Test Site (CWTS), as annotated in DoD Directive 3200.11, listing the 46TW as a Major Range and Test facility, conducting developmental and operational testing as the primary mission.</li> </ul> <p><b>FY 2016 Plans:</b></p> <p>Will continue Force Protection Commercial Off The Shelf (COTS) market research, evaluation and testing to address capability gaps and obsolescence. This includes 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. Type of technologies includes delay/denial/detection/assessment/communication display/access control/power equipment &amp; systems for IBDSS projects.</p> <p>Will continue previously developed or modified COTS efforts to improve IBDSS physical security equipment:</p> <ul style="list-style-type: none"> <li>- Continue Tactical Automated Security System (TASS)efforts including improvements to the annunciator.</li> <li>- Develop internal &amp; external delay, denial, and detection options for the Nuclear Storage environment.</li> <li>- Delay advancements include semi-hardened transport containers for logistic movement of nuclear assets.</li> <li>- Denial advancement includes prototypes for denial capability within protective aircraft shelters.</li> <li>- Denial capability integration to improve life cycle cost and effectiveness for the Remote Target Engagement System (RTES)</li> <li>- Conduct RTES Independent Validation and Verification (IV&amp;V) and safety reviews with NNMSB and applicable safety agencies to assure OSS&amp;E of developed systems</li> </ul>				

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>												
<ul style="list-style-type: none"> <li>- Analyses and maturity assessment of interruption methods to disable or mitigate adversary remote airborne platforms.</li> <li>- Conduct IV&amp;V of fielded PSE and integrated systems</li> <li>- Continue to research technological advances with other agencies and with industry.</li> <li>- Conduct analyses to include the adversary needs assessment and System Effectiveness Assessment (SEA) of the Nuclear Environment.</li> <li>- Qualify Physical Security Alarm Systems; identify, integrate and evaluate fusion and display capability to improve command, control and communication to include fusion of disparate sensor technologies and threat indicators; improve situational awareness and increase the decision support provided to security system operators through a Common Operational Picture or an enhancement to established alarm display capability; planned environments are in the missile field and for weapons storage where Base Defense Operations Center aggregates threat, sensor alarms, video and thermal assessment for developing response plans and priorities.</li> <li>- Support the maintenance and test support at Site C-3 and the Cold Weather Test Site (CWTS), as annotated in DoD Directive 3200.11, listing the 46TW as a Major Range and Test facility, conducting developmental and operational testing as the primary mission.</li> </ul>										<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>
<b>Accomplishments/Planned Programs Subtotals</b>										-	3.926	5.973
<b>D. Other Program Funding Summary (\$ in Millions)</b>												
<b>Line Item</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016 Base</b>	<b>FY 2016 OCO</b>	<b>FY 2016 Total</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	
• OPAF: BA03: Line Item #30: <i>Air Force Physical Security System</i>	32.089	19.582	103.849	-	103.849	57.280	45.176	53.984	54.940	Continuing	Continuing	
<b>Remarks</b>												
<b>E. Acquisition Strategy</b>												
<p>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.</p> <p>Delivery Orders on Indefinite Delivery/Indefinite Quantity contract vehicles or other approved purchase methods are utilized to acquire equipment.</p>												

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<b>F. Performance Metrics</b> Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Air Force												Date: February 2015			
Appropriation/Budget Activity 3600 / 5						R-1 Program Element (Number/Name) PE 0604287F / <i>Physical Security Equipment</i>				Project (Number/Name) 655120 / <i>Physical Security Equipment - SD ED</i>					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
HQ Hanscom AFB (Air Force)	Various	Various : Various,	-	-		3.531		5.833		-		5.833	Continuing	Continuing	-
Subtotal			-	-		3.531		5.833		-		5.833	-	-	-
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
HQ Hanscom AFB	Various	Various : ,	-	-		0.395		0.140		-		0.140	Continuing	Continuing	-
Subtotal			-	-		0.395		0.140		-		0.140	-	-	-
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.															
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Subtotal			-	-		-		-		-		-	-	-	-
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Subtotal			-	-		-		-		-		-	-	-	-
			Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		3.926		5.973		-		5.973	-	-	-

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	<b>Prior Years</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016 Base</b>	<b>FY 2016 OCO</b>	<b>FY 2016 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
<b>Remarks</b> Various delivery orders will be awarded throughout the fiscal year for numerous projects.										

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2016 Air Force			<b>Date:</b> February 2015		
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			<b>Project (Number/Name)</b> 655120 / <i>Physical Security Equipment - SD ED</i>		

	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	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
TASS Modernization (Tactical Security Sensors)																												
Wide Area Detection																												
WSTI Upgrade																												
LRTI Upgrade																												
Portable Advanced Security System																												
Narrow Width IDS (NWIDS)																												
Annunciator (Phase 1 and 2)																												
Clear Zone Sensors																												
Assessment Devices																												
Balanced Magnetic Switch Sensors																												
Fence,Interior,break beam sensors																												
Long Range Assessment/Surveillance																												
Interior Video Motion Detection																												
Common Operational Picture																												



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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2016 Air Force			<b>Date:</b> February 2015
<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	Start		End	
	Quarter	Year	Quarter	Year
TASS Modernization (Tactical Security Sensors)	1	2015	2	2018
Wide Area Detection	2	2015	3	2016
WSTI Upgrade	3	2015	3	2016
LRTI Upgrade	3	2015	3	2016
Portable Advanced Security System	3	2015	2	2017
Narrow Width IDS (NWIDS)	3	2015	3	2017
Annunciator (Phase 1 and 2)	1	2016	1	2018
Clear Zone Sensors	4	2016	2	2018
Assessment Devices	3	2016	2	2017
Balanced Magnetic Switch Sensors	3	2017	3	2018
Fence,Interior,break beam sensors	2	2016	2	2019
Long Range Assessment/Surveillance	3	2019	3	2020
Interior Video Motion Detection	3	2019	3	2020
Common Operational Picture	1	2014	3	2017