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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Air Force **Date:** March 2014

<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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	-	0.051	-	3.926	-	3.926	4.036	4.155	4.236	4.316	Continuing	Continuing
645121: <i>Physical Security Equipment</i>	-	0.051	-	3.926	-	3.926	4.036	4.155	4.236	4.316	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**Note**

In FY15, Project Number 655120, Physical Security Equipment SD&DD, 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) develops, 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 develop, 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 development 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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	
Previous President's Budget	0.051	0.050	0.050	-	0.050	
Current President's Budget	0.051	-	3.926	-	3.926	
Total Adjustments	-	-0.050	3.876	-	3.876	
• Congressional General Reductions	-	-				
• Congressional Directed Reductions	-	-0.050				
• Congressional Rescissions	-	-				
• Congressional Adds	-	-				
• Congressional Directed Transfers	-	-				
• Reprogrammings	-	-				
• SBIR/STTR Transfer	-	-				
• Other Adjustments	-	-	3.876	-	3.876	
<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>				<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> Integrated Base Defense Security Systems				0.051	-	3.926
<b>Description:</b> Develops, demonstrates, and tests Physical Security Equipment (PSE) systems, to include Force Protection. This continuing effort was previously named Physical Security Equipment and is not a New Start.						
<b>FY 2013 Accomplishments:</b>						
Conducted Force Protection Commercial Off The Shelf (COTS) evaluation and testing:						
- Capability operated for operationally representative test and evaluation accomplished at Test Area C-3, Eglin AFB, FL and the Cold Weather Test Site (CWTS) at Grand Forks AFB, ND, 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						
- Test site capability essential for the rapid installation of a VICADS video management system installed with Predator Elite alarm display equipment in 3QY13 with initial test and evaluation conducted in 4QFY13. Successful resolution of documented discrepancies and qualification will result in a system approved for use and would provide a way ahead to resolve a nuclear security deviation documented by the operating MAJCOM commander.						
Refined, researched, and tested technology for automated entry control systems; continued to test, develop, and integrate equipment to improve security and access to facilities. Program office management and test site capability enabled prior year RDT&E investments that:						
- Completed initial evaluation of Vindicator alarm display evaluation with updated operating system and information assurance configuration (46TS report 13-213); maintains viable alarm display system that can be accredited. To be delivered for New Boston AFS installation project and retrofit for aging AF security systems.						

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p>- Completed Advantor alarm display evaluation with updated components and information assurance configuration (46TS report 13-145); maintains viable alarm display system that can be accredited. To be delivered for Fairchild AFB installation project and retrofit for aging AF security systems.</p> <p>Continued to manage sensor and assessment product developments and tests with the following results. Program office management and test site capability enabled prior year RDT&amp;E investments that:</p> <ul style="list-style-type: none"> <li>- VTW-400 Fence Sensor Deficiency Resolution and Evaluation (09 Nov 12); enabled depot procurement and retrofit of components in the nuclear security environment at three locations ? completed in Sep 13.</li> <li>- VICADS evaluation for video storage integrated with Vindicator alarm display (46TS report 13-010); procured with installation in-process for Protection Level 1 security systems at Beale AFB, Cape Cod AFS and a USAFE protection Level 3 system to enable security operators highly reliable pre and post alarm video details for each perimeter alarm.</li> <li>- Fiber Defender (FD-525) Fence Sensor Cold Weather Evaluation (46TS 13-022); verified sensor performance through CTWS evaluation in the range of extreme winter conditions that nuclear security capable base security systems endure at AFGSC locations in the northern plains</li> <li>- Defensor-100 Fence Sensor Cold Weather Evaluation (46TS 13-023); verified sensor performance to relieve risk of one commercial source for perimeter fence sensors at nuclear security capable bases within AFGSC</li> <li>- Mid-Range Perimeter Surveillance Radar (STS-1400) Evaluation (46TS 13-224); applied AF developed test procedures to validate wide area detection sensor performance at a Missile Defense Agency operational location.</li> <li>- Pelco (ES40) Camera engineering analysis to qualify successor product and field evaluation (46TS 13-182); provided immediate relief for five installation delivery orders that had the same obsolescence problem.</li> <li>- Bosch (VG5) Camera Evaluation (46TS 13-112); provided immediate relief to remedy an issue with available camera that was no longer manufactured in accord with Trade Agreement Act.</li> </ul> <p>Continued to manage, develop, evaluate, and test Delay/Denial products:</p> <ul style="list-style-type: none"> <li>- Transitioned development work for consolidation of expeditionary and fixed base alarm display system to consolidate security operator workload into test and evaluation phase. Conducted contractor and initial Government evaluation; following FY14 evaluation and qualification the capability will be deployed at three AFCENT locations to relieve manpower burdens.</li> </ul> <p>Continued to prepare operational systems improvement plans; develop technology roadmap, update system architecture. PEO Battle Management and HAF/A7S developed plans to increase capacity of evaluating COTS products applicable for IBDSS projects. Plans matured through acquisition strategy development for IBDSS fielding contracts to leverage industry resources.</p>				

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p>Rapid Improvement Event (RIE) conducted in 4QFY13 to streamline process and reduce risks that COTS product qualification introduce to deployment of IBDSS capabilities.</p> <p><b>FY 2014 Plans:</b> N/A</p> <p><b>FY 2015 Plans:</b> 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.</p> <ul style="list-style-type: none"> <li>- Type of technologies includes delay/ denial/detection/assessment/communication display/access control/power equipment &amp; systems for IBDSS projects.</li> </ul> <p>Other developmental or modified COTS efforts to improve IBDSS physical security equipment:</p> <ul style="list-style-type: none"> <li>- Continue TASS P3I 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> <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 at NSSA, DoD, DoE, University Labs, DARPA, within industry, etc., with PSE utility.</li> <li>- Conduct analyses to include the adversary needs assessment and System Effectiveness Assessment (SEA) of the Nuclear Environment.</li> <li>- Develop Physical Security Alarm Systems; develop, 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 in 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> </ul>				

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	FY 2013	FY 2014	FY 2015
- 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.			
<b>Accomplishments/Planned Programs Subtotals</b>	0.051	-	3.926

<b>D. Other Program Funding Summary (\$ in Millions)</b>											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• AFOP: BA03: Line Item #30: <i>Air Force Physical Security System</i>	-	-	19.582	-	19.582	104.532	57.738	45.560	54.447	Continuing	Continuing

**Remarks**

**E. Acquisition Strategy**  
COTS sub-systems, equipment and components are competitively acquired from industry after thorough market research. Equipment for testing is purchased via competitive Delivery Orders on Indefinite Delivery/Indefinite Quantity contract vehicles, direct purchase orders after competitive selection process, or other alternative competitive selection processes. 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 development of new items or modification of COTS through national laboratories; as competitive delivery order efforts on IDIQ contracts; or alternative competitive selection procedures as determined through acquisition strategy decisions.

**F. Performance Metrics**  
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-4, RDT&E Schedule Profile: PB 2015 Air Force

Date: March 2014

Appropriation/Budget Activity  
3600 / 5

R-1 Program Element (Number/Name)  
PE 0604287F / Physical Security Equipment

Project (Number/Name)  
645121 / Physical Security Equipment

