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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603830F: Space Protection Program							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	8.306	7.299	10.429	-	10.429	11.464	12.492	12.840	13.010	Continuing	Continuing
64A025: Space Protection Program	8.306	7.299	10.429	-	10.429	11.464	12.492	12.840	13.010	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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

Growing dependence on space and demonstrated vulnerabilities have highlighted the need to actively plan for and respond to threats against national security space effects and deliver informed options to national leaders and system acquirers. Due to the asymmetric nature of the threat environment, it is increasingly imperative that the Nation take quick action to remain ahead of threats and progressively evolve our approach as those threats evolve.

In response to these needs, the AF and National Reconnaissance Office (NRO) formed a strategic partnership and leveraged a combination of Department of Defense (DoD) and Office of the Director of National Intelligence (ODNI) resources in March 2008 to establish and execute the Space Protection Program (SPP); a joint, enduring program to develop and execute an integrated protection approach for the Nation covering all defense, intelligence, civil, commercial and allied space systems. The SPP is a core protection competency that unifies and integrates AF, NRO, DoD and Intelligence Community (IC) activities to deliver strategic recommendations and options to senior leaders and inform their decisions on how best to protect our space systems and stay ahead of an increasingly sophisticated threat environment.

The DoD/AF portion of this program is consolidated under a dedicated Program Element Code to: streamline DoD SPP activities under a single appropriation; clearly categorize/convey the DoD investment in SPP; and provide visibility/transparency to AF, DoD, Congress and other offices with equities in space protection. A fully-functioning SPP effort allows for the active planning, comprehensive analysis and timely delivery of products, tools and recommendations to respond to threats against national security space effects and deliver independent and informed options to national leaders and system acquirers. This includes the key element of providing Combatant Commanders (COCOM) a range of mitigation options which are cross-domain, integrated and aimed at preserving space effects for warfighting missions.

The FY13 President's Budget request represents a minimum level required to operate and execute a synchronized and effective space protection effort for the Nation. The FY13 request preserves the skill-set, knowledge base and multi-organizational construct required to remain ahead of threats and to evolve programmatic direction and Concept of Operations (CONOPS) across multiple orbital regimes in a way that minimizes duplication and inefficiency. To that end, SPP will provide a central focus for unifying and integrating Title 10/50 roles and responsibilities (AF and NRO efforts) to deliver research, analysis, studies, tools and capabilities necessary to identify, prioritize, and develop the most effective and economical recommendations for space protection options to preserve national space capabilities and guide/influence future requirements, acquisitions, Science and Technology (S&T) research and investment focus areas.

Specifically, SPP's FY13 efforts involve a diligent focus on identifying/defining threats, determining National Security Space (NSS) vulnerabilities to clarify threat impacts and developing corresponding opportunities to reduce or altogether mitigate the threats. This will involve dedicated protection program activities centered on Ops Engagement, development/refinement of specific protection measures coming out of technical vulnerability assessments, instituting key cyber initiatives for

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<p>space protection, completing the delivery/transition of the space capabilities and interdependencies database, coordinating strategic space protection communication strategies, and specific engagement in Indications &amp; Warning (I&amp;W) and Space Situational Awareness (SSA) architecture assessments/modeling.</p> <p>SPP's focus on Ops Engagement provides unique space protection analytic capabilities to support the COCOM's ability to prepare to operate in a degraded space environment; providing analyses of COCOM space dependencies, vulnerabilities and consequence of loss, and the ability to develop and test mitigation options for evaluation in COCOM exercises. SPP will provide space protection subject matter experts and analysis to participate in all phases of crucial exercises and wargames; improving the validity of event and influencing future requirements, acquisitions, budgets and operations. The program will then leverage the key conclusions and recommendations coming out of each of these events to develop recommended courses of action (COAs) such as those outlined in the WARNORD for Space Operations, CONOPS, Tactics Techniques &amp; Procedures (TTPs) and strategic protection strategies (based on additional SPP research, analysis and validation).</p> <p>SPP intends to continue its efforts to deliver operational warfighting capabilities that attribute and defeat attacks on space systems through specific, focused defense initiatives which maintain our inherent right of self defense in space and deny the benefit of attack to our adversaries. The program also plans to expand its focus to include assessments of non-space related effects that would ensure the survivability of space assets and institute key defense initiatives to address vulnerabilities in multiple orbit regimes. Cyber effects will become a larger focus of SPP, and the program will focus on the delivery of tools and capabilities to the operational community within the DOD and the IC; further integrating cyberspace into the National Infrastructure Protection Framework. SPP will make recommendations to improve and operationalize a limited set of cyber capabilities in 2013, and will continue to investigate other utilities and opportunities in the years that follow.</p> <p>SPP will continue to leverage resident space protection intelligence expertise to identify and anticipate threats to space systems. Key efforts in this area include analysis and inputs to provide specific detailed direction to intelligence agencies on crucial intelligence data collection/analysis and providing comprehensive and accurate threat impact assessments.</p> <p>In coordination with NRO and AFSPC acquisition and requirements communities, SPP will perform analyses and assessments to identify options to enhance the survivability and effectiveness of specific architectures. SPP will work with the community to build integrated architectures for I&amp;W and SSA in order to develop recommendations to support requirement development, budget formulation, and/or technical performance requirements across Title 10/50 organizations.</p> <p>This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&amp;P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.</p>		

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B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	
Previous President's Budget	8.349	9.819	10.410	-	10.410	
Current President's Budget	8.306	7.299	10.429	-	10.429	
Total Adjustments	-0.043	-2.520	0.019	-	0.019	
• Congressional General Reductions	-	-0.020				
• Congressional Directed Reductions	-	-2.500				
• Congressional Rescissions	-	-				
• Congressional Adds	-	-				
• Congressional Directed Transfers	-	-				
• Reprogrammings	-	-				
• SBIR/STTR Transfer	-	-				
• Other Adjustments	-0.043	-	0.019	-	0.019	
Change Summary Explanation						
FY11: -\$0.043M for Congressional General Reductions.						
FY12: -\$2.5M for Congressional Directed Reduction, excess to need.						
FY12: -\$0.020M for Congressional General Reductions.						
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2011	FY 2012	FY 2013
Title: Program Objectives Support				5.742	5.515	8.122
Description: Space Protection/Security Systems & Capabilities						
FY 2011 Accomplishments:						
Identified, prioritized, and developed recommendations for space protection options to guide future Science and Technology (S&T) research and investment focus areas. Compiled and analyzed US National Security systems/capabilities (current and future) for decision makers. Continued development of alternative futures support to provide senior space leaders insights and recommendations on how space activities shape the strategic environment.						
FY 2012 Plans:						
Identify, prioritize, and develop recommendations for space protection operations to guide future Science and Technology (S&T) research and investment focus areas. Compile and analyze US National Security systems/capabilities (current and future) for decision makers. Develop alternative futures support to provide senior space leaders insights and recommendations on how space activities shape the strategic environment. Complete the delivery/transition of the space capabilities and interdependencies database. Support development of updated National Space Protection Policy.						
FY 2013 Plans:						

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>
Identifying/defining the threat, determining National Security Space (NSS) vulnerabilities to clarify threat impacts and developing corresponding opportunities to reduce or altogether mitigate the threat. Involves dedicated protection program activities centered on Ops Engagement, development/refinement of specific protection measures coming out of technical vulnerability assessments, instituting key cyber initiatives for space protection, coordinating strategic space protection communication strategies, and specific engagement in Indications & Warning (I&W) and Space Situational Awareness (SSA) architecture assessments/modeling.				
<b>Title:</b> Oversight/advisory Support  <b>Description:</b> Provide oversight, advisory and other technical support to the Space Protection Program.  <b>FY 2011 Accomplishments:</b> Provided oversight, advisory and other technical support to the Space Protection Program.  <b>FY 2012 Plans:</b> Provide oversight, advisory and other technical support to the Space Protection Program.  <b>FY 2013 Plans:</b> Provides for the program's key management/oversight and advisory support as well as technical support in day-to-day and strategic programming/planning activities. Includes essential levels of security, PPBE, program control, personnel management, administrative, policy, and senior technical advisor support to sustain the program.		1.761	1.215	1.555
<b>Title:</b> Program support/infrastructure  <b>Description:</b> Provide program support and infrastructure.  <b>FY 2011 Accomplishments:</b> Provided program support and infrastructure.  <b>FY 2012 Plans:</b> Provide program support and infrastructure.  <b>FY 2013 Plans:</b> Provide for program support and infrastructure operating costs to include facilities, government travel, internal/external computer systems, and general supplies & equipment.		0.803	0.569	0.752
<b>Accomplishments/Planned Programs Subtotals</b>		8.306	7.299	10.429

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<b>D. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• none: <i>N/A</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
<b>E. Acquisition Strategy</b> All contracts funded in this program element will be awarded using competitive procedures to the maximum extent possible. The program consists of numerous small projects.											
<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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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2013 Air Force		<b>DATE:</b> February 2012
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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2013 Air Force			<b>DATE:</b> February 2012
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Wargame & Exercises (planning, participation, and COA implementation)	1	2011	4	2017
COCOM Analytical Engagement/Support (tailored products and threat-specific options)	3	2011	4	2017
Technical Assessment Studies (Assured C2, PNT, Cyber)	1	2011	4	2012
2017Protection Measures Development & Integration (from validated vulnerability assessment results)	1	2012	1	2017
Vulnerabilitiy Assessments & Evaluations	3	2012	2	2017
Cyber & Defense Protection Initiatives	2	2011	4	2017
Capabilities & Interdependencies Database Delivery	1	2011	4	2012
Event & Program Strategic Communications	1	2011	4	2017
National Space Protection Strategy (bi-annual delivery in even FYs)	1	2011	4	2017
Intelligence Analysis & Integration	1	2011	4	2017
Architecture Analysis & Assessments	1	2011	4	2017