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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2012 Air Force **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604425F: <i>Space Situational Awareness Systems</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	224.178	426.525	273.689	-	273.689	283.776	350.141	281.788	120.247	Continuing	Continuing
65A006: <i>Space Based Space Surveillance</i>	128.621	185.915	12.616	-	12.616	2.071	-	-	-	Continuing	Continuing
65A009: <i>Space Fence</i>	62.984	164.790	235.460	-	235.460	254.793	323.914	261.574	106.634	Continuing	Continuing
65A012: <i>Net-centric Sensors and Data Sources</i>	17.072	24.435	10.159	-	10.159	12.575	12.018	7.181	-	Continuing	Continuing
65A037: <i>Space Surveillance Telescope</i>	-	1.947	-	-	-	-	-	-	-	Continuing	Continuing
65A038: <i>SSA Environmental Monitoring</i>	15.501	49.438	15.454	-	15.454	14.337	14.209	13.033	13.613	Continuing	Continuing

**Note**

The program funding in this Program Element includes overhead reductions that are not intended to impact program content. The efficiencies reductions total \$6.663M in FY12.

Totals include funding for PRCP Program Number 328, SBSS Block 10.

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

Space Situational Awareness (SSA) is knowledge of all aspects of space related to operations. As the foundation for space control, SSA encompasses intelligence on adversary space operations; surveillance of all space objects and activities; detailed reconnaissance of specific space assets; monitoring space environmental conditions; monitoring cooperative space assets; and conducting integrated command, control, communications, processing, analysis, dissemination, and archiving activities. This program element develops new Air Force sensors, and improved information capabilities for integration across the SSA network; it also includes developmental planning and technology forecasting for future blocks and emerging needs.

A companion program element, 0305940F, Space Situational Awareness Operations, fields, upgrades, operates, and sustains sensors and information integration capabilities within the SSA network. An additional companion program element, 0305614F, JSpOC Mission System, processes surveillance of all space objects and activities, maintains detailed reconnaissance of space assets, fuses space data, maintains awareness of cooperative space assets, and allows JFCC-Space to conduct integrated C2 of space forces.

Development activities are necessary to deploy new advanced sensors capable of finding, fixing, tracking, and reconnoitering the expanding number of debris objects on orbit as well as the increasing number of satellites launched by other nations, of which many are smaller and more capable than previous spacecraft. These

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2012 Air Force	<b>DATE:</b> February 2011
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**APPROPRIATION/BUDGET ACTIVITY**

3600: *Research, Development, Test & Evaluation, Air Force*  
 BA 5: *Development & Demonstration (SDD)*

**R-1 ITEM NOMENCLATURE**

PE 0604425F: *Space Situational Awareness Systems*

activities are also required to better integrate the disparate elements of SSA in order to enable rapid, responsive space operations. These efforts are in Budget Activity 5, System Development and Demonstration, because they develop new SSA capabilities.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	239.534	426.525	508.259	-	508.259
Current President's Budget	224.178	426.525	273.689	-	273.689
Total Adjustments	-15.356	-	-234.570	-	-234.570
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-2.135	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	3.000	-			
• SBIR/STTR Transfer	-11.221	-			
• Other Adjustments	-5.000	-	-234.570	-	-234.570

**Change Summary Explanation**

FY12: -\$196.992M SBSS Follow-on zeroed pending OSD directed study

FY12: -\$30M SSAEM reduction

FY12: -\$5.669M AF efficiencies (Space Fence)

FY12: -\$0.360 overhead reduction efficiencies (SBSS)

FY12: -\$0.109 overhead reduction efficiencies (Space Fence)

FY12: -\$0.253 overhead reduction efficiencies (NCSDS)

FY12: -\$0.272 overhead reduction efficiencies (SSAEM)

FY12: -\$0.043 inflation adjustments (SBSS)

FY12: -\$0.785 inflation adjustments (Space Fence)

FY12: -\$0.035 inflation adjustments (NCSDS)

FY12: -\$0.052 inflation adjustments (SSAEM)

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604425F: Space Situational Awareness Systems				PROJECT 65A006: Space Based Space Surveillance			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
65A006: Space Based Space Surveillance	128.621	185.915	12.616	-	12.616	2.071	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note Totals include funding for PRCP Program Number 328, SBSS Block 10. SBSS Follow-on was zeroed pending OSD directed study											
A. Mission Description and Budget Item Justification Building upon the success of the Space-Based Visible (SBV) technology demonstration, which proved the utility of surveilling orbiting objects from space, the Space-Based Space Surveillance (SBSS) satellite (launched on 25 September 2010) provides the capability to search, detect, and track objects primarily in deep space. It accomplishes this via collecting and processing space object identification and satellite metric data, then communicating it to command and control nodes. Surveillance from space augments existing ground sensors with timely 24-hour, all-weather, all-geography object search capabilities. In conjunction with information from other Space Situational Awareness (SSA) network sensors, SBSS data enables more timely detection and tracking of space objects, particularly those in deep space.  This effort is in Budget Activity 5, System Development and Demonstration, because it is developing a new spacecraft system.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: SBSS Block 10 Description: Block 10 design, development, and risk reduction FY 2010 Accomplishments: Block 10 system available for launch; continuation of necessary contractor support to accomplish ops readiness risk reduction FY 2011 Plans: Block 10 Data Processing improvement and Standardized Space Trainer development FY 2012 Base Plans: Block 10 Standardized Space Trainer development and fielding FY 2012 OCO Plans:							28.117	19.309	10.774	-	10.774
Title: SBSS Block 10 LV							19.398	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)		R-1 ITEM NOMENCLATURE PE 0604425F: Space Situational Awareness Systems		PROJECT 65A006: Space Based Space Surveillance	
B. Accomplishments/Planned Programs (\$ in Millions)					
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<b>Description:</b> Block 10 launch vehicle integration					
<b>FY 2010 Accomplishments:</b> Coordinate range assets; solve launch vehicle technical challenges					
<b>FY 2011 Plans:</b>					
<b>FY 2012 Base Plans:</b>					
<b>FY 2012 OCO Plans:</b>					
<b>Title:</b> SBSS Block 10 ops					
<b>Description:</b> Block 10 contractor opts and interim contractor support					
<b>FY 2010 Accomplishments:</b> Support operations readiness and sustainment planning					
<b>FY 2011 Plans:</b> Support Block 10 launch ops and complete Initial Operational Test & Evaluation (IOT&E)					
<b>FY 2012 Base Plans:</b>					
<b>FY 2012 OCO Plans:</b>					
<b>Title:</b> SBSS Follow-on					
<b>Description:</b> Follow-on design, development, and risk reduction					
<b>FY 2010 Accomplishments:</b> Obtain Milestone Decision Authority (MDA) approval of Materiel Development Decision (MDD); develop and release draft Requests for Proposal (RFPs)					
<b>FY 2011 Plans:</b>					
<b>FY 2012 Base Plans:</b>					
<b>FY 2012 OCO Plans:</b>					
<b>Title:</b> SSA Risk Reduction & Technology Transfer					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604425F: Space Situational Awareness Systems	PROJECT 65A006: Space Based Space Surveillance				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<b>Description:</b> Technical research, studies, and analyses  <b>FY 2010 Accomplishments:</b> Technical research, studies, and analyses for future space-based space situational awareness (SSA) sensor technology, risk reduction, and architecture modeling  <b>FY 2011 Plans:</b> Technical research, studies, and analyses for future space-based space situational awareness (SSA) sensor technology, risk reduction, and architecture modeling and prototyping  <b>FY 2012 Base Plans:</b> <b>FY 2012 OCO Plans:</b>						
<b>Title:</b> Program Office Operations  <b>Description:</b> Program Management Support  <b>FY 2010 Accomplishments:</b> Program office and related support activities, such as technical studies and analysis, systems engineering and integration  <b>FY 2011 Plans:</b> Program office and related support activities, such as technical studies and analysis, systems engineering and integration  <b>FY 2012 Base Plans:</b> Program office and related support activities, such as technical studies and analysis, systems engineering and integration  <b>FY 2012 OCO Plans:</b>		15.668	15.578	1.842	-	1.842
Accomplishments/Planned Programs Subtotals		128.621	185.915	12.616	-	12.616

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Air Force			<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604425F: <i>Space Situational Awareness Systems</i>	<b>PROJECT</b> 65A006: <i>Space Based Space Surveillance</i>	

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

**D. Acquisition Strategy**

This system is being acquired via a block approach. Block 10 will develop and field a satellite-based capability to replace the SBV sensor with a capability significantly improving the timeliness of data on objects in deep space. Block 10 was awarded competitively under an option on the existing Mission Area Prime Integrating contract for the space control mission area. The planning portion of the Block 10 contractor ops & interim contractor support effort was previously included in the design, development and risk reduction effort.

**E. 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				PE 0604425F: Space Situational Awareness Systems				65A006: Space Based Space Surveillance					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 10 design and development	C/CPAF	Northrop Grumman:Redondo Beach, CA	535.266	14.793	Nov 2010	7.299		-		7.299	0.000	557.358	0.000
Block 10 Technical risk reduction, mission planning & mission data processing	SS/CPFF	MIT Lincoln Laboratory:Lexington, MA	14.486	4.517	Nov 2010	3.475	Nov 2011	-		3.475	1.794	24.272	0.000
Block 10 Launch vehicle integration	MIPR	Space and Missile Systems Center Det.:Kirtland AFB, NM	85.644	-		-		-		-	0.000	85.644	0.000
Block 10 contractor ops & Interim Contract Support	SS/CPAF	Boeing:Huntington Beach, CA	117.641	52.727	Nov 2010	-		-		-	0.000	170.368	0.000
SBSS Follow-on Design & Development	Various	Various:Various,	8.430	-		-		-		-	0.000	8.430	0.000
SSA risk reduction and technology transfer	Various	Various:Various,	2.843	98.301	Nov 2010	-		-		-	0.000	101.144	0.000
Subtotal			764.310	170.338		10.774		-		10.774	1.794	947.216	0.000
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Support, Technical Support	SS/CPFF	Aerospace:Los Angeles, CA	36.059	9.234	Sep 2010	-		-		-	0.000	45.293	0.000
Engineering and Technical Services	C/FFP	AT&T Government Solutions, Inc:Los Angeles, CA	12.595	4.635	Dec 2010	-		-		-	0.000	17.230	0.000
SMC Financial Services	C/FFP	Tecolote Research, Inc:Los Angeles, CA	3.563	-		-		-		-	0.000	3.563	0.000
Program Office Support, Technical Analysis	Various	Various:Los Angeles, CA	34.126	1.708	Oct 2010	1.842	Oct 2011	-		1.842	0.255	37.931	0.000
Subtotal			86.343	15.577		1.842		-		1.842	0.255	104.017	0.000

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2012 Air Force											<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604425F: <i>Space Situational Awareness Systems</i>				<b>PROJECT</b> 65A006: <i>Space Based Space Surveillance</i>					

  

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
<b>Subtotal</b>			-	-		-		-		-	0.000	0.000	0.000

  

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
<b>Subtotal</b>			-	-		-		-		-	0.000	0.000	0.000

  

			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>			850.653	185.915		12.616		-		12.616	2.049	1,051.233	0.000

  

**Remarks**



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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	PE 0604425F: Space Situational Awareness Systems	65A006: Space Based Space Surveillance

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Air Force	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604425F: <i>Space Situational Awareness Systems</i>	<b>PROJECT</b> 65A006: <i>Space Based Space Surveillance</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Block 10 IOT&E Complete	2	2011	2	2011
OSD Directed Study	1	2010	4	2011

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Air Force								<b>DATE:</b> February 2011			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604425F: <i>Space Situational Awareness Systems</i>				<b>PROJECT</b> 65A009: <i>Space Fence</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
65A009: <i>Space Fence</i>	62.984	164.790	235.460	-	235.460	254.793	323.914	261.574	106.634	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
<b>A. Mission Description and Budget Item Justification</b> <p>The Space Fence effort will develop a system of ground-based sensors to replace the aging Air Force Space Surveillance System (AFSSS), a Very High Frequency radar operational since 1961. By using higher radio frequencies in conjunction with radar transmitters and receivers co-located at sites dispersed worldwide, the Space Fence will provide timely detection of smaller orbiting objects, primarily those in low-earth orbit (LEO). As a result, it will greatly expand the uncued detection and tracking capacity of the Space Surveillance Network, from just under 20,000 to up to 100,000 objects, while working in concert with other network sensors.</p> <p>This effort is in Budget Activity 5, System Development and Demonstration, because it is developing a new system of ground-based sensors.</p>											
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>							<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
<b>Title:</b> Space Fence  <b>Description:</b> Space Fence will release Phase A PDR RFP, satisfy Defense Acquisition Executive (DAE) Milestone A Acquisition Decision Memorandum (ADM) criteria, and contractors will complete their Phase A SDR activities and begin Phase A PDR activities. Space Fence will seek MDA approval to release RFP for final Development, Production and Fielding contract, satisfy entry criteria for Milestone B, and award final contract.  <b>FY 2010 Accomplishments:</b> The three prime contractors completed System Requirements Review (SRR). Government formed high performance team to develop and draft Capabilities Development Document (CDD). Contractors conducted System Design Review (SDR) and demonstrated the prototypes. SDR completed Aug 10.  <b>FY 2011 Plans:</b> Space Fence will satisfy DAE Milestone A ADM criteria, award follow on contract awards to up to two contractors to continue radar development and prototype activities, to include Preliminary HW/SW Design, and conduct Site Surveys and complete their Pre-CDR Risk Reduction activities.  <b>FY 2012 Base Plans:</b> Space Fence will seek Milestone Decision Authority (MDA) approval to release RFP for final Development, Production and Fielding contract, and satisfy entry criteria for Milestone B. A Final contract will be awarded for							62.984	164.790	235.460	-	235.460

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Air Force				<b>DATE:</b> February 2011	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604425F: <i>Space Situational Awareness Systems</i>		<b>PROJECT</b> 65A009: <i>Space Fence</i>	

  

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
final design and development of the IOC system to include hardware delivery and system build. Program Office and FFRDCs will perform design evaluation and management work.					
<b><i>FY 2012 OCO Plans:</i></b>					
<b>Accomplishments/Planned Programs Subtotals</b>	62.984	164.790	235.460	-	235.460

  

<b>C. Other Program Funding Summary (\$ in Millions)</b>												
	<u><b>Line Item</b></u>	<u><b>FY 2010</b></u>	<u><b>FY 2011</b></u>	<u><b>FY 2012 Base</b></u>	<u><b>FY 2012 OCO</b></u>	<u><b>FY 2012 Total</b></u>	<u><b>FY 2013</b></u>	<u><b>FY 2014</b></u>	<u><b>FY 2015</b></u>	<u><b>FY 2016</b></u>	<u><b>Cost To Complete</b></u>	<u><b>Total Cost</b></u>
• N/A:		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

  

<b>D. Acquisition Strategy</b>
The Air Force competitively awarded requirements definition contracts for the effort in FY 2006.
The Air Force competitively awarded three (3) Phase A System Design Review (SDR) contracts in June 2009 to Lockheed Martin, Northrop Grumman, and Raytheon. In February 2010, Northrop Grumman was terminated due to insufficient program funding as a result of a \$30M FY10 appropriations conference funding cut. SDR concluded on 10 December 2010. A full and open competition will occur in FY11 for award of up to two contracts through Preliminary Design Review (PDR). A final full and open competition is planned following PDR and MS B to award for final development, production, fielding and sustainment contract. A phased, incremental capabilities approach will deliver Space Fence capabilities that follow the principles of time-certain capability/development and considers user needs and required delivery dates, technology maturity, program risk, and fiscal constraints. Initial Operational Capability (IOC) consisting of capabilities defined in the CDD and notionally consisting of the first radar site and Space Fence Operations Center is desired no later than FY15. The final schedule will be determined in Phase A.

  

<b>E. 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 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				PE 0604425F: Space Situational Awareness Systems				65A009: Space Fence					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Design and development (Lockheed Martin)	C/FFP	Lockheed Martin:Moorestown, NJ	28.859	1.141	Oct 2010	-		-		-	0.000	30.000	30.000
Design and development (Northrop Grumman)	C/FFP	Northrop Grumman:Linthicum Heights, MD	15.922	-		-		-		-	0.000	15.922	15.922
Design and development (Raytheon)	C/FFP	Raytheon:Sudbury, MA	29.040	0.960	Oct 2010	-		-		-	0.000	30.000	30.000
System design and prototyping (TBD Contractor 1)	C/FFP	TBD Contractor 1:TBD,	-	66.350	Feb 2011	40.650	Oct 2011	-		40.650	Continuing	Continuing	107.000
System design and prototyping (TBD Contractor 2)	C/FFP	TBD Contractor 2:TBD,	-	66.350	Feb 2011	40.650	Oct 2011	-		40.650	Continuing	Continuing	107.000
System development	TBD	TBD:TBD,	-	-		122.900	Jul 2012	-		122.900	Continuing	Continuing	0.000
Design evaluation (Lincoln Lab)	SS/TBD	MIT Lincoln Laboratory:Lexington, MA	8.700	4.547	Oct 2010	3.000	Oct 2011	-		3.000	Continuing	Continuing	0.000
Design evaluation (Mitre)	SS/TBD	MITRE Corp.:Bedford, MA	6.461	5.634	Oct 2010	2.500	Oct 2011	-		2.500	Continuing	Continuing	0.000
Subtotal			88.982	144.982		209.700		-		209.700			289.922
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Support, Technical Studies and Analysis, Systems Engineering and Integration	Various	Electronic Systems Center:Various,	4.544	13.673	Nov 2010	20.550	Nov 2011	-		20.550	Continuing	Continuing	0.000
Development review and management (Odyssey)	C/TBD	Odyssey Systems:Wakefield, MA	3.670	3.038	Feb 2011	2.930	Feb 2012	-		2.930	Continuing	Continuing	0.000
	C/TBD		5.325	3.097	Jan 2011	2.280	Jan 2012	-		2.280	Continuing	Continuing	0.000

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2012 Air Force											<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604425F: <i>Space Situational Awareness Systems</i>				<b>PROJECT</b> 65A009: <i>Space Fence</i>					

  

<b>Support (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Development review and management (Jacobs)		Jacobs Technology:Tullahoma, TN											
<b>Subtotal</b>			13.539	19.808		25.760		-		25.760			0.000

  

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Subtotal</b>			-	-		-		-		-	0.000	0.000	0.000

  

<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Subtotal</b>			-	-		-		-		-	0.000	0.000	0.000

  

			<b>Total Prior Years Cost</b>	<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			102.521	164.790		235.460		-		235.460			289.922

  

**Remarks**

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	PE 0604425F: Space Situational Awareness Systems	65A009: Space Fence

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Air Force			<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604425F: <i>Space Situational Awareness Systems</i>	<b>PROJECT</b> 65A009: <i>Space Fence</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
System Requirements Review	1	2010	1	2010
System Design Review	4	2010	4	2010
Draft Capabilities Development Document	4	2010	4	2010
Design Development Award	2	2011	2	2011
Delta System Design Review	4	2011	4	2011
Capabilities Development Document	4	2011	4	2011
Preliminary Design Review	2	2012	2	2012
Delta Preliminary Design Review	3	2012	3	2012
Final Development/Production Contract	4	2012	4	2012
Milestone B	3	2012	3	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604425F: Space Situational Awareness Systems				PROJECT 65A012: Net-centric Sensors and Data Sources			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
65A012: Net-centric Sensors and Data Sources	17.072	24.435	10.159	-	10.159	12.575	12.018	7.181	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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

Net-centric Sensors and Data Sources efforts migrate the space surveillance network, non-traditional SSA sensors and data sources for use by any entity (primarily the JSPOC) into a net-centric enterprise, enabling more rapid distribution of data to the warfighter based on an AFSPC provided prioritization list. This effort will define and implement the technical architecture, and support the concept to provide the foundational data necessary to enable rapid, responsive decisions by the Commander, US Strategic Command's Joint Functional Component Commander for Space and other national capability users to detect, evaluate, attribute space events. This effort builds upon and operationalizes the successful Extended Space Sensor Architecture Advanced Concept Technology Demonstration (ESSA ACTD) and prototypes how disparate and legacy space sensor network data can be translated into a net-centric operating environment. Data will be exposed as defined by published DoD and community interface standards to ensure technical interoperability.

These efforts are in Budget Activity 5, System Development & Demonstration, because they develop and demonstrate capabilities for better integration of SSA data.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
<b>Title:</b> sensor & data integration & exposure	14.489	23.207	5.982	-	5.982
<b>Description:</b> Providing Data Exposure and Data Source Integration Net-Centrically for consumption and use by the JSPOC and other users					
<b>FY 2010 Accomplishments:</b> Research and analysis for sensor data source roadmapping; traditional / non-traditional SSA sensor and data source exposure, including net-centrally exposing data from GEODSS-Socorro and Milestone sensors (traditional); ESIS & Red Cloud (non-traditional) sensors as well as the following data sources: SAGE, MCERS, and MIDB					
<b>FY 2011 Plans:</b> Research and analysis for sensor data source roadmapping; continuation of traditional / non-traditional SSA sensor and data source exposure to include net-centrally exposing data from GEODSS-Maui, GEODSS-Diego Garcia & Eglin (traditional) as well as TPY-2 (non-traditional) sensors and the following data sources: Road Bed & Wrangler; also complete Blue Force Status Pilot for WGS and Begin BFS for GPS					
<b>FY 2012 Base Plans:</b>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Air Force							<b>DATE:</b> February 2011				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604425F: <i>Space Situational Awareness Systems</i>			<b>PROJECT</b> 65A012: <i>Net-centric Sensors and Data Sources</i>					
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>							<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Research and analysis for sensor data source roadmapping; continuation of traditional / non-traditional SSA sensor and data source exposure including net-centrally exposing data from Cape Cod, AFSSS, and Eglin(traditional) sensors; Sea-based X-band (non-traditional) sensor as well as the following data source: Maui Mod Sim											
<b>FY 2012 OCO Plans:</b>											
<b>Title:</b> program office support							2.583	1.228	4.177	-	4.177
<b>Description:</b> Program Office Support and related support activities											
<b>FY 2010 Accomplishments:</b> program office related support activities such as, technical studies and analysis, systems engineering and integration, and advanced concept technology demonstrations (ACTDs)											
<b>FY 2011 Plans:</b> program office related support activities such as, technical studies and analysis, systems engineering and integration, and advanced concept technology demonstrations (ACTDs)											
<b>FY 2012 Base Plans:</b> program office related support activities such as, technical studies and analysis, systems engineering and integration, and advanced concept technology demonstrations (ACTDs)											
<b>FY 2012 OCO Plans:</b>											
<b>Accomplishments/Planned Programs Subtotals</b>							17.072	24.435	10.159	-	10.159
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• PE 08036790F: <i>Space Mods</i>	0.000	0.000	4.312	0.000	4.312	4.482	4.720	4.911	5.000	Continuing	Continuing
<i>Space, OPAF</i>											
<b>D. Acquisition Strategy</b>											
Sensor and data sources activities utilize existing engineering and study contracts and a competitively selected system engineering team. Sensor integration focus is on supporting the migration of the space surveillance network sensors, non-traditional sensors and data sources to a net-centric architecture based on an AFSPC provided prioritization list. The systems engineering team will provide high-level technical oversight support and assist in the proper execution of data exposure.											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>	PROJECT 65A012: <i>Net-centric Sensors and Data Sources</i>

E. 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				PE 0604425F: Space Situational Awareness Systems				65A012: Net-centric Sensors and Data Sources					
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Concept Definition Research and Analysis	Various	Various:Various,	1.000	1.500	Nov 2010	-		-		-	Continuing	Continuing	TBD
Sensor & Data Source Exposure	Various	Various:Various,	10.429	13.601	Nov 2010	3.482	Nov 2009	-		3.482	Continuing	Continuing	TBD
Systems Engineering and Integration	Various	Various:Various,	2.960	3.000	Nov 2010	2.500	Nov 2009	-		2.500	Continuing	Continuing	TBD
ESSA ACTD	Various	MIT Lincoln Laboratory, Lexington, MA:APL, Laurel, MD	0.100	-		-		-		-	0.000	0.100	0.000
Subtotal			14.489	18.101		5.982		-		5.982			
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Operations	Various	Various:Various,	0.747	3.565	Oct 2010	1.546	Oct 2009	-		1.546	Continuing	Continuing	TBD
FFRDC	SS/CPFF	Aerospace:Los Angeles, CA	1.477	1.558	Oct 2010	1.420	Oct 2011	-		1.420	Continuing	Continuing	TBD
Engineering and Technical Support	C/FFP	AT&T:Los Angeles, CA	0.359	1.211	Oct 2010	1.211	Oct 2011	-		1.211	Continuing	Continuing	TBD
Subtotal			2.583	6.334		4.177		-		4.177			
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2012 Air Force											<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604425F: <i>Space Situational Awareness Systems</i>				<b>PROJECT</b> 65A012: <i>Net-centric Sensors and Data Sources</i>					

  

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
<b>Subtotal</b>			-	-		-		-		-	0.000	0.000	0.000

  

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	17.072	24.435		10.159		-		10.159			

**Remarks**

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>	PROJECT 65A012: <i>Net-centric Sensors and Data Sources</i>

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Air Force			<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604425F: <i>Space Situational Awareness Systems</i>	<b>PROJECT</b> 65A012: <i>Net-centric Sensors and Data Sources</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
SSN Sensor (Traditional)	1	2011	4	2011
SSN Sensor (Non-traditional)	2	2011	4	2011
Data Sources (Non-sensor)	2	2011	1	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604425F: Space Situational Awareness Systems				PROJECT 65A037: Space Surveillance Telescope				
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost	
65A037: Space Surveillance Telescope	-	1.947	-	-	-	-	-	-	-	Continuing	Continuing	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0			
Note												
SST was an FY10 New Start, however, all FY10 funds were subsequently removed by a Congressional Mark. Therefore, FY11 will be the only year in which program funds are allotted.												
A. Mission Description and Budget Item Justification												
The Space Surveillance Telescope (SST) is a Defense Advanced Research Projects Agency (DARPA) program to develop an advanced ground-based optical system to enable detection and tracking of faint objects in deep space, while providing rapid, wide-area search capability. After demonstrating the successful application of state-of-the-art optical, curved charge couple device (CCD) and large telescope control technologies AFSPC will conduct a Military Utility Assessment (MUA). This budget item funds the delivery, evaluation and completion of developmental technical data in order to establish a complete technical baseline of the as-built system, required to operate and support the capability long-term. The SST system will become a contributing Space Surveillance Network sensor during the MUA and a dedicated sensor upon completion of the MUA.												
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Space Surveillance Telescope								-	1.947	-	-	-
Description: Completes technical baseline to allow SST transition to operations.												
FY 2010 Accomplishments:												
FY 2011 Plans:												
Evaluate, complete, and deliver the developmental technical baseline in order to support SST-Initial System during AFSPC's Military Utility Assessment (MUA) and normalized operations and support.												
FY 2012 Base Plans:												
FY 2012 OCO Plans:												
Accomplishments/Planned Programs Subtotals								-	1.947	-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Air Force										<b>DATE:</b> February 2011	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604425F: <i>Space Situational Awareness Systems</i>				<b>PROJECT</b> 65A037: <i>Space Surveillance Telescope</i>			

  

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

  

**D. Acquisition Strategy**

This project transitions the SST system, located at White Sands Missile Range, Socorro, New Mexico, from DARPA to the Air Force. It will enable the Air Force to support the system and conduct the MUA beginning in FY11 by obtaining and completing technical baseline documentation available from the DARPA development effort and leverage the significant (~\$90M) DARPA investment to date in this effort.

  

**E. 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604425F: Space Situational Awareness Systems					PROJECT 65A037: Space Surveillance Telescope				
Product Development (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Space Surveillance Telescope Transition	TBD	MIT Lincoln Laboratory:Lexington, MA	-	1.370	Feb 2011	-		-		-	0.000	1.370	0.000	
Space Surveillance Telescope Data Delivery	C/CPAF	ITT Corporation:Colorado Springs, CO	-	0.391	Feb 2011	-		-		-	0.000	0.391	0.000	
Subtotal			-	1.761		-		-		-	0.000	1.761	0.000	
Support (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Program Office Support	Various	Electronic Systems Center:Peterson AFB, CO	-	0.186	Feb 2011	-		-		-	0.000	0.186	0.000	
Subtotal			-	0.186		-		-		-	0.000	0.186	0.000	
Test and Evaluation (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	
Management Services (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			-	-		-		-		-	0.000	0.000	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force									DATE: February 2011					
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604425F: Space Situational Awareness Systems				PROJECT 65A037: Space Surveillance Telescope						
				Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals				-	1.947		-		-		-	0.000	1.947	0.000

**Remarks**

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>	PROJECT 65A037: <i>Space Surveillance Telescope</i>

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Air Force			<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604425F: <i>Space Situational Awareness Systems</i>	<b>PROJECT</b> 65A037: <i>Space Surveillance Telescope</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Initiate Military Utility Assessment (MUA)	3	2011	4	2013
SSN Contributing Sensor Ops Acceptance	4	2011	4	2011
SSN Dedicated Sensor (notional)	4	2013	4	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604425F: Space Situational Awareness Systems				PROJECT 65A038: SSA Environmental Monitoring			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
65A038: SSA Environmental Monitoring	15.501	49.438	15.454	-	15.454	14.337	14.209	13.033	13.613	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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

Space Situational Awareness Environmental Monitoring (SSAEM) continues the key space environment measurements of the Defense Meteorological Satellite Program (DMSP) program de-manifested from the planned next generation weather program. These measurements are critical inputs to the nation's space environment analysis and forecasting models supporting the pervasive nature of space environmental support to all aspects of SSA, offensive and defensive space control, GPS accuracy assurance, system anomaly resolution, attribution and responsive actions, and force protection from communication outages/degradation modulated by solar activity. SSAEM includes the fielding of a space-based sensing capability to gather space environment measurement data, developing and procuring sensors, and providing launch and mission assurance. Based on the results of the Alternatives Analysis, SSAEM is pursuing a partnership with the National Oceanic and Atmospheric Administration (NOAA) in the Constellation Observing System for Meteorology, Ionosphere and Climate (COSMIC 2) program or rideshare to host key space weather sensors. SSAEM will fund risk reduction efforts for space sensors by leveraging existing prototypes, operational systems and Joint/Advanced Concept Technology Demonstrations (JCTDs/ACTDs). SSAEM will seamlessly integrate into the overall SSA mission, comply with net-centricity requirements, and provide timely critical decision making data to the SSA battlespace management infrastructure.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
<b>Title:</b> SSAEM	15.501	49.438	15.454	-	15.454
<b>Description:</b> Replenishing critical space weather sensing capability de-manifested from next generation weather program. Develops new on-orbit sensors that will detect ionospheric scintillation and predict effects.					
<b>FY 2010 Accomplishments:</b> Leveraging Joint/Advanced Concept Technology Demonstrations (JCTDs/ACTDs) for risk reduction, and refining and finalizing acquisition/approach for the procurement of sensors in support of initial Key Performance Parameters (KPP) provided by Air Force Space Command. Performing initial development of critical sensors, and funding program office and related support activities such as Acquisition Planning, Technical Studies, Systems Engineering and Integration.					
<b>FY 2011 Plans:</b>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Air Force	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604425F: <i>Space Situational Awareness Systems</i>	<b>PROJECT</b> 65A038: <i>SSA Environmental Monitoring</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continues ongoing risk reduction efforts, development of critical sensors and begins procurement of launch vehicles. Funds program office and related support activities, such as Acquisition Planning, Technical Studies, Systems Engineering and Integration.  <b><i>FY 2012 Base Plans:</i></b> Continues ongoing risk reduction efforts, development of critical sensors and contributes to procurement of launch vehicles. Funds program office and related support activities, such as Acquisition Planning, Technical Studies, Systems Engineering and Integration.  <b><i>FY 2012 OCO Plans:</i></b>					
<b>Accomplishments/Planned Programs Subtotals</b>	15.501	49.438	15.454	-	15.454

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• N/A:	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

**D. Acquisition Strategy**

Studies have been conducted to determine the optimum strategy for acquiring space-based environmental data sources resulting in a decision to partner with the National Oceanic and Atmospheric Administration (NOAA) in the COSMIC 2 program or rideshare to host SSAEM sensors. Existing sensors with high Technology Readiness Levels (TRL) will be leveraged and technology modernization of SSAEM sensors will be performed by AFRL. The operational SSAEM sensors will be acquired through competitive contract awards. Part of the AF commitment to the Cosmic 2 partnership may require the procurement of launch vehicles through the Space Development Test Wing (SDTW).

**E. 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-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604425F: Space Situational Awareness Systems					PROJECT 65A038: SSA Environmental Monitoring				
Product Development (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Sensor and Spacecraft Launch Integration	C/Various	Air Force Research Laboratory (AFRL)/Space Development and Test Wing:Albuquerque, NM	11.670	36.338		10.500	Jun 2012	-		10.500	Continuing	Continuing	58.510	
Subtotal			11.670	36.338		10.500		-		10.500			58.510	
Remarks Sensor development work is currently split between AFRL in Albuquerque, NM, the University of Texas at Dallas, SRI International in Menlo Park, CA, and ITT in North Amityville, NY.														
Support (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Program Management	Various	Space and Missile Systems Center/ AFRL:Los Angeles, CA	3.831	6.400	Oct 2010	3.354	Oct 2011	-		3.354	Continuing	Continuing	13.909	
Program Support	Various	Air Force Research Laboratory:Albuquerque, NM	-	2.700	Oct 2010	1.600	Oct 2011	-		1.600	Continuing	Continuing	4.300	
Subtotal			3.831	9.100		4.954		-		4.954			18.209	
Test and Evaluation (\$ in Millions)					FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Systems Engineering & Mission Assurance	Various	Not specified.:	-	4.000		-		-		-	0.000	4.000	4.000	
Subtotal			-	4.000		-		-		-	0.000	4.000	4.000	

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2012 Air Force											<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604425F: <i>Space Situational Awareness Systems</i>				<b>PROJECT</b> 65A038: <i>SSA Environmental Monitoring</i>					

  

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
<b>Subtotal</b>			-	-		-		-		-	0.000	0.000	0.000

  

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	15.501	49.438		15.454		-		15.454			80.719

  

**Remarks**

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)	PE 0604425F: Space Situational Awareness Systems	65A038: SSA Environmental Monitoring

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Air Force			<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604425F: <i>Space Situational Awareness Systems</i>	<b>PROJECT</b> 65A038: <i>SSA Environmental Monitoring</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Preliminary Design Review - VIDI Sensors	2	2011	3	2011
Critical Design Review - VIDI Sensors - contractor #1	3	2011	3	2011
Preliminary Design Review - RF Beacon Sensor	3	2011	3	2011
MS B	3	2011	3	2011
Critical Design Review - RF Beacon Sensor	4	2011	4	2011
Critical Design Review - VIDI Sensors - contractor #2	2	2012	2	2012
MS C	3	2012	3	2012
Sensor Delivery - all sensors	2	2013	2	2013
Launch/Deployment of first sensor package	2	2014	2	2014
Initial Operating Capability	2	2015	2	2015