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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>							
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	318.652	238.261	267.252	-	267.252	340.905	260.973	119.260	151.980	Continuing	Continuing
65A006: <i>Space Based Space Surveillance</i>	117.800	-	2.071	-	2.071	8.000	60.300	119.260	151.980	Continuing	Continuing
65A009: <i>Space Fence</i>	143.931	215.448	252.578	-	252.578	320.887	193.449	-	-	Continuing	Continuing
65A012: <i>Net-centric Sensors and Data Sources</i>	26.666	9.859	12.603	-	12.603	12.018	7.224	-	-	Continuing	Continuing
65A037: <i>Space Surveillance Telescope</i>	1.799	-	-	-	-	-	-	-	-	Continuing	Continuing
65A038: <i>SSA Environmental Monitoring</i>	28.456	12.954	-	-	-	-	-	-	-	Continuing	Continuing

Note

The Cost to Complete and Total Cost for MDAP projects in this program element are documented in the R3. The Cost to Complete and Total Cost on the R2 are entered as "Continuing" and not reflective of the total cost for MDAP projects since the R2 does not account for prior years funding.

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 existing 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 activities are also required to better integrate the disparate elements of SSA in order to enable rapid, responsive space operations.

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The efforts in PE 0604425 are in Budget Activity 5, System Development and Demonstration, because they are conducting development tasks aimed at meeting validated requirements prior to full-rate production.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	426.525	273.689	283.776	-	283.776
Current President's Budget	318.652	238.261	267.252	-	267.252
Total Adjustments	-107.873	-35.428	-16.524	-	-16.524
• Congressional General Reductions	-	-2.828			
• Congressional Directed Reductions	-	-32.600			
• Congressional Rescissions	-18.000	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-2.528	-			
• SBIR/STTR Transfer	-8.010	-			
• Other Adjustments	-79.335	-	-16.524	-	-16.524

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 65A012: *Net-centric Sensors and Data Sources*

Congressional Add: *ENTERPRISE SENSING PROTOTYPE (ESP) III*

Congressional Add Subtotals for Project: 65A012

Congressional Add Totals for all Projects

FY 2011	FY 2012
3.963	-
3.963	-
3.963	-

Change Summary Explanation

FY11: -\$18M for congressional rescission applied to SSA Environmental Monitoring

FY11: -\$2.528M reprogramming due to higher Department priorities

FY11: -\$8.010M SBIR

FY11: -\$45.1M congressional directed reduction to SBSS Follow-on

FY11: -\$35M congressional directed reduction to Space Fence

FY11: +\$4M congressional add

FY11: -\$3.235M Congressional General Reductions

FY12: -\$20M Congressional Directed Reduction for Space Fence

FY12: -\$12.6M Congressional Directed Reduction for SBSS

FY12: -\$2.828M for Congressional General Reduction

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FY13: -\$14.337M termination of SSAEM program FY13: -\$2.187M reallocation of funding to higher Department priorities		

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force									DATE: February 2012		
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 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
65A006: Space Based Space Surveillance	117.800	-	2.071	-	2.071	8.000	60.300	119.260	151.980	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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) Block 10 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. The SBSS Follow-On program will enable space-based SSA after the mean mission life of the Block 10 system.

The efforts for this project are in Budget Activity 5, System Development and Demonstration, because they are conducting development tasks aimed at meeting validated requirements prior to full-rate production.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: SBSS Block 10	28.810	-	-	-	-
Description: Block 10 design, development, and risk reduction					
FY 2011 Accomplishments: Block 10 data processing and delivery improvements, ground segment hardware improvements, and trainer development					
Title: SBSS Block 10 ops	34.582	-	-	-	-
Description: Block 10 contractor ops and interim contractor support					
FY 2011 Accomplishments: Supported Block 10 launch ops and complete Initial Operational Test & Evaluation (IOT&E)					
Title: SSA Risk Reduction & Technology Transfer	30.404	-	-	-	-
Description: Technical research, studies, and analyses					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force				DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>		PROJECT 65A006: <i>Space Based Space Surveillance</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<i>FY 2011 Accomplishments:</i> Technical research, studies, and analyses for future space-based space situational awareness (SSA) sensor technology, risk reduction, and architecture modeling and prototyping					
<i>Title:</i> Program Office Operations <i>Description:</i> Program Management Support	24.004	-	2.071	-	2.071
<i>FY 2011 Accomplishments:</i> Program office and related support activities, such as technical studies and analysis, systems engineering and integration <i>FY 2013 Base Plans:</i> Initiating pre-solicitation and market research activities in preparation for first acquisition milestone for SBSS Follow-on					
Accomplishments/Planned Programs Subtotals	117.800	-	2.071	-	2.071

C. Other Program Funding Summary (\$ in Millions)											
Line Item	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
• N/A: N/A	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D. Acquisition Strategy	
Block 10 is a satellite-based capability, successfully launched in Sept 2010 that replaced the SBV sensor with a capability significantly improving the timeliness of data on objects in deep space. Completed IOT&E 3QFY11.	
SBSS Follow-on acquisition strategy plans for a Fixed Price competitively awarded contract meeting or exceeding SBSS Block 10 requirements	

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 2013 Air Force **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>	PROJECT 65A006: <i>Space Based Space Surveillance</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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	549.291	-		-		-		-	0.000	549.291	0.000
Block 10 Technical risk reduction, mission planning & mission data processing	SS/CPFF	MIT Lincoln Laboratory:Lexington, MA	29.271	-		-		-		-	0.000	29.271	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	152.223	-		-		-		-	0.000	152.223	0.000
SBSS Follow-on Design & Development	Various	Various:Various	8.430	-		-		-		-	Continuing	Continuing	0.000
SSA risk reduction and technology transfer	Various	Various:Various,	33.247	-		-		-		-	0.000	33.247	0.000
Subtotal			858.106	-		-		-		-			0.000

Remarks

*The FY11 cost for SSA risk reduction and technology transfer should reflect a total of \$35.612, but due to an accounting system error, the additional \$5.208M of funding is currently reflected in the Space Fence BPAC RDOC - Program Office Support line. A total of \$123.007M of FY11 funds will be executed against SBSS.

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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, FFRDC	SS/CPFF	Aerospace:Los Angeles, CA	43.773	-		0.977	Oct 2012	-		0.977	Continuing	Continuing	0.000
Engineering and Technical Services	C/FFP	AT&T Government Solutions, Inc:Los Angeles, CA	21.309	-		0.708	Dec 2012	-		0.708	Continuing	Continuing	0.000
Other Support Activities	Various	Various:Los Angeles, CA	30.708	-		0.265	Oct 2012	-		0.265	Continuing	Continuing	0.000
Subtotal			95.790	-		1.950		-		1.950			0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force											DATE: February 2012		
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					

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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
Support Activities	Various	Various:Los Angeles, CA	9.718	-		0.021	Dec 2012	-		0.021	Continuing	Continuing	0.000
SMC Financial Services	C/FFP	Tecolote Research, Inc:Los Angeles, CA	4.838	-		0.100		-		0.100	Continuing	Continuing	0.000
Subtotal			14.556	-		0.121		-		0.121			0.000

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			968.452	-		2.071		-		2.071			0.000

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>	PROJECT 65A006: <i>Space Based Space Surveillance</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Block 10 IOT&E Complete	3	2011	3	2011
Follow-on RFP Release	1	2015	1	2015
Follow-on Authority to Proceed	2	2015	2	2015
Follow-on PDR	4	2015	4	2015
Follow-on CDR	3	2016	3	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force									DATE: February 2012			
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 65A009: Space Fence				
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	
65A009: Space Fence	143.931	215.448	252.578	-	252.578	320.887	193.449	-	-	Continuing	Continuing	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0			
A. Mission Description and Budget Item Justification												
The Space Fence effort will develop a system of ground-based sensors to replace and improve upon the aging Air Force Space Surveillance System (AFSSS), a Very High Frequency radar operational since 1961. The Space Fence will provide timely detection of smaller orbiting objects, primarily those in low-earth orbit (LEO) by using co-located higher frequency radar transmitters and receivers at globally dispersed sites. As a result, it will greatly expand the uncued detection and tracking capacity of the Space Surveillance Network, from around 20,000 to up to 100,000 objects, while working in concert with other network sensors.												
The efforts for this project are in Budget Activity 5, System Development and Demonstration, because they are conducting development tasks aimed at meeting validated requirements prior to full-rate production.												
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Space Fence								143.931	215.448	252.578	-	252.578
Description: Space Fence contractors will complete their Phase A prototyping activities and the program will conduct a Preliminary Design Review. The Air Force will then proceed through acquisition Milestone B activities in order to release an RFP for the final system production and development contract to be awarded in the fourth quarter of FY12.												
FY 2011 Accomplishments: Space Fence completed Milestone A Acquisition Decision Memorandum criteria and awarded contracts to two contractors, Lockheed Martin and Raytheon, to continue radar development and prototyping activities; including Preliminary hardware/software (HW/SW) Design Reviews, site surveys and developmental risk reduction activities.												
FY 2012 Plans: The two contractors will complete a Preliminary Design Review and risk reduction activities, including a 60% facilities design and end-to-end prototype demonstration of design approaches.												

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force							DATE: February 2012				
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 65A009: Space Fence					
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Space Fence will seek Milestone Decision Authority (MDA) approval to release RFP for final Development, Production and Fielding contract and enter into source selection. The program will continue efforts toward satisfying Milestone B decision criteria and will seek an award decision. FY 2013 Base Plans: Program will conduct Engineering and Manufacturing Development Phase activities in support of Integrated System Design culminating in Critical Design Review followed by the exercising of options to construct and build the first site radar. Program Office and FFRDCs will perform design evaluation and management activities. FY 2013 OCO Plans: N/A											
Accomplishments/Planned Programs Subtotals							143.931	215.448	252.578	-	252.578
C. Other Program Funding Summary (\$ in Millions)											
Line Item	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
• N/A: 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											
The Air Force competitively awarded requirements definition contracts in FY 2006 and subsequently awarded three 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 Congressional reduction. SDR concluded on 10 December 2010.											
A full and open competition occurred in FY11 that awarded contracts for development through Preliminary Design Review (PDR) to Lockheed Martin and Raytheon. Milestone B and a final full and open competition are planned following PDR to award a production and deployment contract through Critical Design Review (CDR) with follow on options to complete the build. Initial Operational Capability (IOC) will consist of the first radar site and successful operations at a to be determined Command and Control center location.											
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 2013 Air Force										DATE: February 2012			
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 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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	30.000	-		-		-		-	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	29.999	-		-		-		-	0.000	29.999	30.000
System design and prototyping (Lockheed Martin)	C/FFP	Lockheed Martin:Moorestown, NJ	62.567	44.433	Oct 2011	-		-		-	0.000	107.000	107.000
System design and prototyping (Raytheon)	C/FFP	Raytheon:Sudbury, MA	63.266	43.734	Oct 2011	-		-		-	0.000	107.000	107.000
System development	C/TBD	TBD:TBD,	-	112.210	Jul 2012	243.743	Oct 2012	-		243.743	496.400	852.353	496.400
Subtotal			201.754	200.377		243.743		-		243.743	496.400	1,142.274	786.322
Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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
Various	Various	ESC:Various,	19.916	3.623	Nov 2011	-		-		-	0.000	23.539	0.000
Design Oversight and Management (Lincoln Lab)	SS/TBD	MIT Lincoln Laboratory:Lexington, MA	10.825	3.300	Oct 2011	1.277	Oct 2012	-		1.277	2.500	17.902	2.500
Design Oversight and Management (Mitre)	SS/TBD	Mitre Corp.:Bedford, MA	10.066	3.598	Oct 2011	-		-		-	0.000	13.664	0.000
Program Office Support, Technical Studies and Analysis, Systems Engineering and Integration Management	Various	Electronic Systems Center:Various,	5.114	0.650	Nov 2011	-		-		-	0.000	5.764	0.000
Development review and Management (Odyssey)	C/TBD	Odyssey Systems:Wakefield, MA	5.364	1.900	Feb 2012	-		-		-	0.000	7.264	0.000

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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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	
Development review and Management (Jacobs)	C/TBD	Jacobs Technology:Tullehoma, TN	6.951	2.000	Jan 2012	-		-		-	0.000	8.951	0.000	
Subtotal			58.236	15.071		1.277		-		1.277	2.500	77.084	2.500	
Remarks *The FY11 cost for various support services should be \$1.169M; but due to an accounting system error, an additional \$5.208M that should be reflected in the SBSS BPAC RDOC in the risk reduction and technology transfer section is reflected here within the \$6.377M shown here. A total of \$138.724M will be executed against Space Fence in FY11.														
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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	
Various	Various	ESC:Various,	-	-		2.898	Oct 2012	-		2.898	5.836	8.734	5.836	
Design Oversight and Management (Lincoln Lab)	SS/TBD	MIT Lincoln Laboratpry:Lexington, MA	-	-		0.250	Oct 2012	-		0.250	0.500	0.750	0.500	
Design Oversight and Management (Mitre)	SS/TBD	Mitre Corp.:Bedford, MA	-	-		1.476	Oct 2012	-		1.476	3.100	4.576	3.100	
Program Office Support, Technical Studies and Analysis, Systems Engineering and Integration Management	Various	Electronic Systems Center:Various,	-	-		0.650	Nov 2012	-		0.650	1.700	2.350	1.700	
Development review and Management (Odyssey)	C/TBD	Odyssey Systems:Wakefield, MA	-	-		1.142	Feb 2013	-		1.142	2.100	3.242	2.100	

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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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
Development review and Management (Jacobs)	C/TBD	Jacobs Technology:Tullahoma, TN	-	-		1.142	Jan 2013	-		1.142	2.200	3.342	2.200
Subtotal			-	-		7.558		-		7.558	15.436	22.994	15.436
			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			259.990	215.448		252.578		-		252.578	514.336	1,242.352	804.258
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>	PROJECT 65A009: <i>Space Fence</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>	PROJECT 65A009: <i>Space Fence</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Design Development Award	2	2011	2	2011
Capabilities Development Document	2	2012	2	2012
Preliminary Design Review	2	2012	2	2012
Milestone B	4	2012	4	2012
Contract Award	4	2012	4	2012
Complete Design Review (CDR)	3	2013	3	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force									DATE: February 2012		
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 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
65A012: Net-centric Sensors and Data Sources	26.666	9.859	12.603	-	12.603	12.018	7.224	-	-	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 validated requirements for better integration of SSA data.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: SENSOR & DATA INTEGRATION & EXPOSURE	17.692	7.907	10.190	-	10.190
Description: Providing Data Exposure and Data Source Integration Net-Centrically for consumption and use by the JSPOC and other users					
FY 2011 Accomplishments: Accomplishments: Conducted research and analysis for sensor data source roadmapping; continuation of traditional/non-traditional SSA sensors as well as the following data sources: Space Awareness & Global Exploitation (SAGE), Mission Critical Reporting System (MCRS), and Modernized Integrated Database (MIDB). Also completed Blue Force Status Pilot. Completed non-traditional sensor, Transportable Radar Surveillance (TPY-2) 4QFY11					
FY 2012 Plans: FY12 Plans: 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 (traditional) with planned operational acceptance. Transition ESSA ACTD to operational configuration					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force				DATE: February 2012				
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				
B. Accomplishments/Planned Programs (\$ in Millions)				FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
development of the N-CSDS version sidecar to include design documentation, training artifacts, and logistics trail. Release standardized Common Data Model for use across N-CSDS and other SSA related programs. Complete Blue Force Status (BFS) on Wideband Gapfiller System (WGS) Operatioanl Test (OT). FY 2013 Base Plans: FY13 Base Plan: 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 Sea Based X-Band (non-traditional), Space Surveillance Telescope (SST) (traditional) and other data exposure (traditional) and sensors and data sources (non-traditional) in accordance with the AFSPC-prioritized Data Exposure Roadmap.								
Title: PROGRAM OFFICE SUPPORT Description: Program Office Support and related support activities FY 2011 Accomplishments: FY11 Accomplishments: Program office support and related activities such as, technical studies and analysis, systems engineering and integration, and advanced concept technology demonstrations (ACTDs) FY 2012 Plans: FY12 Plans: Program office support and related activities such as, technical studies and analysis, systems engineering and integration, and advanced concept technology demonstrations (ACTDs), including continuation of Blue Force Status effort on new systems. FY 2013 Base Plans: FY13 Base Plan: Program office support and related support activities such as technical studies and analysis, systems engineering and integration, and advanced concept technology demonstrations (ACTDs), including continuation of Blue Force Status effort on new systems.				5.011	1.952	2.413	-	2.413
Accomplishments/Planned Programs Subtotals				22.703	9.859	12.603	-	12.603
				FY 2011	FY 2012			
Congressional Add: ENTERPRISE SENSING PROTOTYPE (ESP) III FY 2011 Accomplishments: Congressional add to support Defense Micro-Electronics Agency (DMEA) execution of the Enterprise Sensing Prototype (ESP) for space situational awareness maturation.				3.963	-			
Congressional Adds Subtotals				3.963	-			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & 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>	

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

<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>
• P-47: <i>OPAF, SPACE MODS</i> <i>SPACE, PE 0604425F</i>	0.000	4.312	4.482	0.000	4.482	4.720	4.911	5.000	0.000	Continuing	Continuing

D. Acquisition Strategy

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.

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 2013 Air Force										DATE: February 2012			
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				
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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	MIT/LL:Lexington, MA	6.300	1.500	Jan 2012	1.000	Jan 2013	-		1.000	1.500	10.300	10.300
Sensor & Data Source Exposure	Various	Various:Various,	14.573	1.697	Jan 2012	1.881	Jan 2013	-		1.881	4.305	22.456	22.428
Systems Engineering and Integration	C/CPFF	Lockheed Martin Integrated Systems:Endicott, NY	11.335	4.222	Jan 2012	6.809	Jan 2013	-		6.809	8.283	30.649	28.031
Enterprise Sensing Prototype	MIPR	Various:Various,	3.963	-		-		-		-	0.000	3.963	0.000
Subtotal			36.171	7.419		9.690		-		9.690	14.088	67.368	60.759
Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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
Management and Prof Support Services	Various	Various:Various,	0.847	0.425	Jan 2012	0.595		-		0.595	0.929	2.796	2.864
FFRDC	RO	Aerospace/MITRE:Los Angeles, CA	3.035	0.774	Jan 2012	0.918	Jan 2013	-		0.918	1.633	6.360	6.486
Engineering and Technical Support	C/FFP	AT&T:Los Angeles, CA	2.189	0.653	Jan 2012	0.774	Jan 2013	-		0.774	1.193	4.809	4.915
Subtotal			6.071	1.852		2.287		-		2.287	3.755	13.965	14.265
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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
Test and Evaluation Activities	RO	46th Test Squadron:Eglin AFB, FL	0.500	0.486	Jan 2012	0.500	Jan 2013	-		0.500	1.000	2.486	2.486
Subtotal			0.500	0.486		0.500		-		0.500	1.000	2.486	2.486

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force										DATE: February 2012			
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					
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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
Support	Various	various:,	0.415	0.102	Jul 2012	0.126	Jul 2013	-		0.126	0.190	0.833	0.833
Subtotal			0.415	0.102		0.126		-		0.126	0.190	0.833	0.833
			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			43.157	9.859		12.603		-		12.603	19.033	84.652	78.343
Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & 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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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & 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>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
ESSA Tech Transition	3	2011	3	2012
Common Data Model v2	2	2011	4	2012
GEODSS Next Gen (SSN Sensor - Traditional)	4	2011	4	2012
TPY2-Demo (SSN Sensor - Non-Traditional)	2	2011	2	2012
Blue Force Status Final OT	1	2011	2	2012
Sea-Based X-Band (SSN Sensor - Traditional)	2	2012	2	2013
Maui SSS (Data Source Non-Sensor)	3	2012	3	2013
Common Data Model v3	4	2012	4	2013
Space Surveillance Telescope (SSN Traditional Sensor)	4	2012	4	2013
Road Bed (Data Source Non-Sensor)	1	2013	1	2014
Wrangler (Data Source Non-Sensor)	3	2013	3	2014
C-Band (SSN Sensor - Non-Traditional)	4	2013	4	2014
HUSIR (SSN Sensor - Traditional)	3	2013	3	2014
Clear (SSN Sensor - Non-Traditional)	2	2014	2	2015
Beal (SSN Sensor - Non-Traditional)	4	2014	4	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force									DATE: February 2012		
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 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
65A037: Space Surveillance Telescope	1.799	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
The Space Surveillance Telescope (SST) prototype 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, DARPA and Air Force Space Command 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 reproduce, operate, and support the system. The SST prototype will become a contributing Space Surveillance Network sensor during the MUA.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Space Surveillance Telescope							1.799	-	-	-	-
Description: Completes technical baseline of SST.											
FY 2011 Accomplishments: Began evaluation to deliver the developmental technical baseline in order to support the SST-Initial System during the DARPA/AFSPC Military Utility Assessment (MUA) and a potential follow-on acquisition.											
FY 2012 Plans: N/A											
FY 2013 Base Plans: N/A											
Accomplishments/Planned Programs Subtotals							1.799	-	-	-	-
C. Other Program Funding Summary (\$ in Millions)											
Line Item	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
• N/A: N/A	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>	PROJECT 65A037: <i>Space Surveillance Telescope</i>
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 a potential follow-on acquisition by obtaining and completing technical baseline documentation available from DARPA's development effort and ~\$100M investment.		
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 2013 Air Force											DATE: February 2012		
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 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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	1.799	-		-		-		-	0.000	1.799	0.000
Subtotal			1.799	-		-		-		-	0.000	1.799	0.000

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total		Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			1.799	-		-		-		-	0.000	1.799	0.000	

Remarks													

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & 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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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force

DATE: February 2012

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*

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Initiate Military Utility Assessment (MUA)	1	2012	4	2012
SSN Contributing Sensor Ops Acceptance	2	2012	2	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force									DATE: February 2012		
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 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
65A038: SSA Environmental Monitoring	28.456	12.954	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

In FY13, the project 65A038, SSA Environmental Monitoring (SSAEM), was terminated. The sensors that have completed development will be available for rideshare on the Constellation Observing System for Meteorology Ionosphere and Climate (COSMIC-2) satellite system or other available host platform. 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 contribute to the nation's space environment analysis and forecasting models that provide 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. SSAEM funds risk reduction efforts for space sensors by leveraging existing prototypes, operational systems and Joint/Advanced Concept Technology Demonstrations (JCTDs/ACTDs). SSAEM sensors will 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)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: SSAEM	28.456	12.954	-	-	-
Description: 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.					
FY 2011 Accomplishments: Continued risk reduction efforts, and development of critical sensors. Funded program office and related support activities, such as Acquisition Planning, Technical Studies, Systems Engineering and Integration.					
FY 2012 Plans: Continues ongoing risk reduction efforts, development/production of critical sensors. Funds program office and related support activities, such as Acquisition Planning, Technical Studies, Systems Engineering and Integration.					
FY 2013 Base Plans: Program is terminated in FY13.					
Accomplishments/Planned Programs Subtotals	28.456	12.954	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force										DATE: February 2012		
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				
C. Other Program Funding Summary (\$ in Millions)												
	Line Item	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
	• N/A: 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 pursue a rideshare opportunity on the COSMIC 2 program 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 Air Force Research Laboratory (AFRL). The operational SSAEM sensors will be acquired through competitive contract awards.												
Current sensor development contract period of performance will continue through FY13 to deliver sensors in 4QFY13.												
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 2013 Air Force											DATE: February 2012			
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 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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, Spacecraft Launch Integration and the Communication/Navigation Outage Forecasting System (C/NOFS)	C/Various	Air Force Research Laboratory (AFRL)/Space Development and Test Directorate/Defense Weather Systems Directorate:Albuquerque, NM	25.356	8.000	Apr 2012	-		-		-	0.000	33.356	117.300	
Subtotal			25.356	8.000		-		-		-	0.000	33.356	117.300	
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. Includes C/NOFS funding for SSAEM risk reduction in FY10 and FY11.														
Support (\$ in Millions)					FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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 Support	Various	Air Force Research Laboratory:Albuquerque, NM	4.000	1.600	Oct 2011	-		-		-	0.000	5.600	7.200	
Subtotal			4.000	1.600		-		-		-	0.000	5.600	7.200	
Test and Evaluation (\$ in Millions)					FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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.:Location not provided.	4.000	-		-		-		-	0.000	4.000	4.000	
Subtotal			4.000	-		-		-		-	0.000	4.000	4.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force											DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>				PROJECT 65A038: <i>SSA Environmental Monitoring</i>						
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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 Management Support	Various	Space and Missile Systems Center/ AFRL:Los Angeles, CA	10.700	3.354	Oct 2011	-		-		-	0.000	14.054	27.654	
Subtotal			10.700	3.354		-		-		-	0.000	14.054	27.654	
			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			44.056	12.954		-		-		-	0.000	57.010	156.154	
Remarks														

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>	PROJECT 65A038: <i>SSA Environmental Monitoring</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604425F: <i>Space Situational Awareness Systems</i>	PROJECT 65A038: <i>SSA Environmental Monitoring</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Space Sensor Deliveries	4	2013	4	2013