



Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-210



Space Based Infrared System High (SBIRS High)

As of FY 2016 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Common Acronyms and Abbreviations for MDAP Programs

Acq O&M - Acquisition-Related Operations and Maintenance
ACAT - Acquisition Category
ADM - Acquisition Decision Memorandum
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
\$B - Billions of Dollars
BA - Budget Authority/Budget Activity
Blk - Block
BY - Base Year
CAPE - Cost Assessment and Program Evaluation
CARD - Cost Analysis Requirements Description
CDD - Capability Development Document
CLIN - Contract Line Item Number
CPD - Capability Production Document
CY - Calendar Year
DAB - Defense Acquisition Board
DAE - Defense Acquisition Executive
DAMIR - Defense Acquisition Management Information Retrieval
DoD - Department of Defense
DSN - Defense Switched Network
EMD - Engineering and Manufacturing Development
EVM - Earned Value Management
FOC - Full Operational Capability
FMS - Foreign Military Sales
FRP - Full Rate Production
FY - Fiscal Year
FYDP - Future Years Defense Program
ICE - Independent Cost Estimate
IOC - Initial Operational Capability
Inc - Increment
JROC - Joint Requirements Oversight Council
\$K - Thousands of Dollars
KPP - Key Performance Parameter
LRIP - Low Rate Initial Production
\$M - Millions of Dollars
MDA - Milestone Decision Authority
MDAP - Major Defense Acquisition Program
MILCON - Military Construction
N/A - Not Applicable
O&M - Operations and Maintenance
ORD - Operational Requirements Document
OSD - Office of the Secretary of Defense
O&S - Operating and Support
PAUC - Program Acquisition Unit Cost

PB - President's Budget
PE - Program Element
PEO - Program Executive Officer
PM - Program Manager
POE - Program Office Estimate
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
SCP - Service Cost Position
TBD - To Be Determined
TY - Then Year
UCR - Unit Cost Reporting
U.S. - United States
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

Program Information

Program Name

Space Based Infrared System High (SBIRS High)

DoD Component

Air Force

Responsible Office

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References

Baseline (GEO 1-4, HEO 1-2, and Ground)

SAR Baseline (Development Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated March 19, 1998

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated February 27, 2013

Block Buy (GEO 5-6)

SAR Baseline (Production Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated September 4, 2012

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated February 27, 2013

Mission and Description

The Space Based Infrared System High (SBIRS High) program is intended to satisfy key requirements delineated in the SBIRS ORD dated August 15, 1996, with Annex 1 dated July 17, 1998, within the available budget and schedule. SBIRS High is an integrated system consisting of multiple space and ground elements, with incremental deployment phasing, simultaneously satisfying requirements in the following mission areas: Missile Warning, Missile Defense, Technical Intelligence and Battlespace Awareness. The constellation architecture for SBIRS High includes Highly Elliptical Orbit (HEO) sensors and Geosynchronous Earth Orbit (GEO) satellites, in addition to the following ground elements: a Continental United States-based Mission Control Station and Mission Control Station Backup, overseas Relay Ground Stations, Mobile Ground Stations, and associated communication links. The first increment of the SBIRS ground system was certified for operations in December 2001 and supports mission processing of the legacy Defense Support Program system satellites and fusion of HEO monotracks and other data. The SBIRS HEO system was certified for the Integrated Tactical Warning/Attack Assessment (ITW/AA) mission in November 2008 and technical intelligence mission in August 2009. The SBIRS GEO 1 and 2 systems were ITW/AA mission certified in August 2013 and December 2013, respectively.

The SBIRS High MDAP includes two subprograms: the Baseline subprogram, comprised of GEO satellites 1-4, HEO payloads 1-2 and associated ground elements; and the GEO 5-6 Satellites Replenishment Production "Block Buy" subprogram. HEO payloads 3 and 4 are not part of this MDAP, but are closely related, so programmatic information is included in the Executive Summary of this SAR.

Executive Summary

SBIRS Baseline (Geosynchronous Earth Orbit (GEO) 1-4, Highly Elliptical Orbit (HEO) 1-2, and Ground)

On August, 4, 2014, National Geospatial-Intelligence Agency (NGA) declared the start of Technical Intelligence (TI) Initial Data for Evaluation (IDE) phase for GEO 1-2 starrer sensors. TI operational acceptance for the starrer sensors is projected for the third quarter FY 2015.

The Ground Block 10.3 baseline consolidates all SBIRS/Defense Support Program (DSP) operations into the Mission Control Station (MCS) at Buckley AFB under a single software and hardware baseline, and the Ground Block 10.3 baseline is planned to support the next GEO launch in May 2016. The contractor did not complete Capability Integration (CI) at MCS on December 15, 2014 as planned but is expected to complete CI by March 2015.

The Air Force convened a General Officer (GO) Summit in November 2014 and notified stakeholders (Headquarters Air Force, Air Force Space Command, Air Force Operational Test and Evaluation Center, 14th Air Force, Remote Sensing Systems Program Office, Missile Defense Agency, and the Integrated System Program Office) of the schedule challenges going forward. The GO summit provided the program office direction to hold the contractor to the current baseline schedule and convene a second General Officer summit in the March 2015 timeframe to evaluate progress and engage additional corrective actions, if necessary. The program office has updated the Initial Increment 2 Ground Architecture delivery estimate from March 2016 to June 2016.

The second Block 10 Ground system mission processing class completed on November 5, 2014. A total of nine of 11 classes are now complete. Working with updated 460 Space Wing (SW) training requirements, the program office reduced the number of training classes to 11. The Initial Qualification Trainer (IQT) was delivered to 460 SW on October 29, 2014, three months ahead of the original scheduled delivery date.

On November 7, 2014, the program office awarded the SBIRS Survivable Endurable Evolution (S2E2) Increment 2 contract. This adds GEO processing capability to the two Mobile Ground Terminals (MGT) procured under the Inc 1 S2E2 contract and adds a third GEO/Defense Support Program (DSP) capable MGT. With a contract award for SMGT 4 and 5 planned in early FY 2016 we will have completed our procurement of the main elements (five SBIRS MGTs) for the S2E2 Mobile ground system.

SBIRS GEO 3-4 Production

The SBIRS GEO-3 satellite completed post-acoustic deployments on August 31, 2014 and entered Thermal Vacuum (TVAC) testing in January 2015. Due to launch vehicle availability, the satellite is slated to enter storage after TVAC in 2015. GEO-3 will be launched in 2017 as the 4th GEO flight.

SBIRS GEO-4 satellite integration is proceeding as planned. The Contamination Door Assembly (CDA) and Signal Processing Assembly (SPA) installation were completed on November 5, 2014. Payload integration completed in January 2015, and additional mechanical and electrical component integration continues in preparation for satellite Baseline Testing in March 2015. GEO-4 is ahead of schedule and is planned to launch in May 2016 as the 3rd GEO flight.

The HEO-4 production effort continues to make strong progress. The SBIRS HEO-4 payload successfully completed Pre-TVAC Ambient Functional Testing on November 21, 2014. HEO-4 Payload TVAC testing successfully completed on December 29, 2014, obtained all necessary data, and comparable with HEO-3 test results. The payload remains on track to meet the Host need date of May 1, 2015. HEO 3-4 are part of the same contract as GEO 3-4, but are not baselined as part of this MDAP.

SBIRS Block Buy (GEO 5-6)

After a June 24, 2014 contract award, the Integrated Baseline Review (IBR) was successfully completed on December 16, 2014. The baseline was determined realistic and executable after three months of assessment effort and refinement of the Integrated Master Schedule (IMS), earned value technique and backup data, scope allocation, budget distribution, and management approach.

SBIRS GEO 5-6 initial Non-Recurring Engineering (NRE) continues to progress well. To date, the NRE contract is 85% complete. The November 2014 Integrated Program Management Report (IPMR) continues to reflect positive cost and schedule indices. Designs and hardware from the NRE effort remain on time to support production.

On September 17, 2014, the program awarded the Dual Band space segment effort on the production CLIN. Dual Band adds a Unified S-Band (USB) command uplink capability to the GEO 5 and 6 satellite in case of future potential sell-off of the current Space Ground Link System (SGLS) S-Band uplink frequency band.

There are no significant software-related issues with this program at this time.

Threshold Breaches

Baseline (GEO 1-4, HEO 1-2, and Ground)

APB Breaches

Schedule		<input type="checkbox"/>
Performance		<input type="checkbox"/>
Cost	RDT&E	<input type="checkbox"/>
	Procurement	<input type="checkbox"/>
	MILCON	<input type="checkbox"/>
	Acq O&M	<input type="checkbox"/>
O&S Cost		<input type="checkbox"/>
Unit Cost	PAUC	<input type="checkbox"/>
	APUC	<input type="checkbox"/>

Nunn-McCurdy Breaches

Current UCR Baseline

PAUC	None
APUC	None

Original UCR Baseline

PAUC	None
APUC	None

Block Buy (GEO 5-6)

APB Breaches

Schedule		<input type="checkbox"/>
Performance		<input type="checkbox"/>
Cost	RDT&E	<input type="checkbox"/>
	Procurement	<input type="checkbox"/>
	MILCON	<input type="checkbox"/>
	Acq O&M	<input type="checkbox"/>
O&S Cost		<input type="checkbox"/>
Unit Cost	PAUC	<input type="checkbox"/>
	APUC	<input type="checkbox"/>

Nunn-McCurdy Breaches

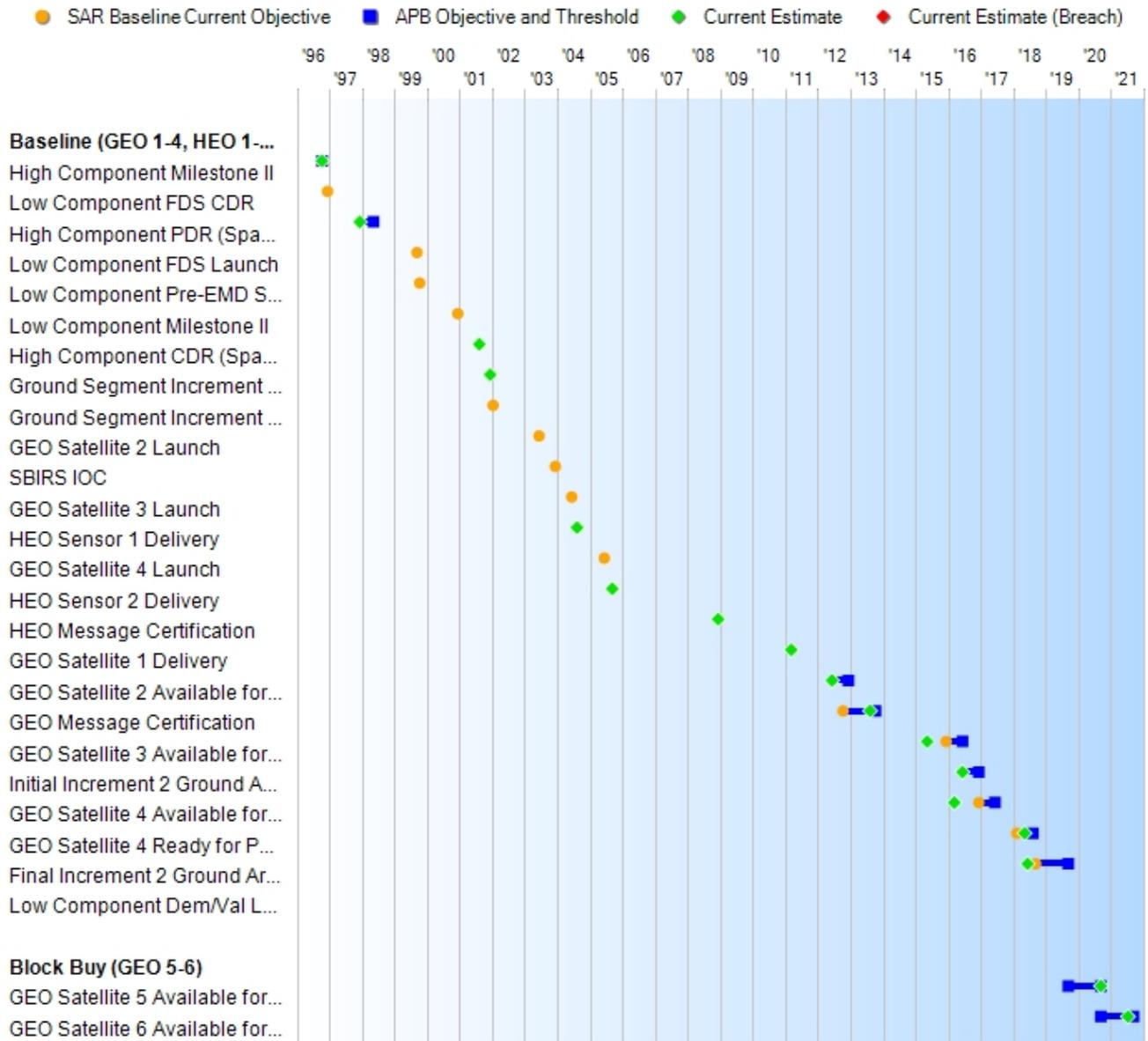
Current UCR Baseline

PAUC	None
APUC	None

Original UCR Baseline

PAUC	None
APUC	None

Schedule



Baseline (GEO 1-4, HEO 1-2, and Ground)

Schedule Events					
Events	SAR Baseline Development Estimate	Current APB Production Objective/Threshold		Current Estimate	
High Component Milestone II	Oct 1996	Oct 1996	Oct 1996	Oct 1996	
Low Component FDS CDR	Dec 1996	N/A	N/A	N/A	
High Component PDR (Space and Ground Increment 2)	Dec 1997	Dec 1997	May 1998	Dec 1997	
Low Component FDS Launch	Sep 1999	N/A	N/A	N/A	
Low Component Pre-EMD Start	Oct 1999	N/A	N/A	N/A	
Low Component Milestone II	Dec 2000	N/A	N/A	N/A	
High Component CDR (Space and Ground Increment 2)	Sep 1999	Aug 2001	Aug 2001	Aug 2001	
Ground Segment Increment 1 Certification	Aug 1999	Dec 2001	Dec 2001	Dec 2001	
Ground Segment Increment 2 Certification	Jan 2002	N/A	N/A	N/A	
GEO Satellite 2 Launch	Jun 2003	N/A	N/A	N/A	
SBIRS IOC	Dec 2003	N/A	N/A	N/A	
GEO Satellite 3 Launch	Jun 2004	N/A	N/A	N/A	
HEO Sensor 1 Delivery	Sep 2001	Aug 2004	Aug 2004	Aug 2004	
GEO Satellite 4 Launch	Jun 2005	N/A	N/A	N/A	
HEO Sensor 2 Delivery	Sep 2003	Sep 2005	Sep 2005	Sep 2005	
HEO Message Certification	N/A	Dec 2008	Dec 2008	Dec 2008	
GEO Satellite 1 Delivery	N/A	Mar 2011	Mar 2011	Mar 2011	
GEO Satellite 2 Available for Delivery	N/A	Jun 2012	Dec 2012	Jun 2012	
GEO Message Certification	N/A	Oct 2012	Oct 2013	Aug 2013	
GEO Satellite 3 Available for Delivery	N/A	Dec 2015	Jun 2016	May 2015	(Ch-1)
Initial Increment 2 Ground Architecture	N/A	Jun 2016	Dec 2016	Jun 2016	(Ch-2)
GEO Satellite 4 Available for Delivery	N/A	Dec 2016	Jun 2017	Mar 2016	(Ch-3)
GEO Satellite 4 Ready for PEO Certification	N/A	Feb 2018	Aug 2018	May 2018	(Ch-4)
Final Increment 2 Ground Architecture	N/A	Sep 2018	Sep 2019	Jun 2018	
Low Component Dem/Val Launch	TBD	N/A	N/A	N/A	

Change Explanations

(Ch-1) The current estimate for GEO Satellite 3 Available for Delivery changed from September 2015 to May 2015 due to favorable contractor performance.

(Ch-2) The current estimate for Initial Increment 2 Ground Architecture changed from March 2016 to June 2016 due to the upgraded SBIRS 10.3 hardware/software baseline that delivers an operationally accepted and launch ready capability in February 2016 missed an intermediate schedule milestone on December 15, 2014 (completion of capability integration).

(Ch-3) The current estimate for GEO Satellite 4 Available for Delivery changed from September 2016 to March 2016 due to favorable contractor performance.

(Ch-4) The current estimate for GEO Satellite Ready for PEO Certification changed from February 2018 to May 2018 due to constellation health and program priorities shifted the fourth GEO launch date to September 2017.

Notes

GEO Satellite "Available for Delivery" is defined as the satellite successfully completing Final Integrated System Test and the satellite available such that if operational priorities require the satellite to launch at the earliest opportunity, then the satellite will continue final install processing to proceed to a Consent to Ship Review. If operational priorities indicate a later manifest, then the satellite will be configured for storage.

Acronyms and Abbreviations

CDR - Critical Design Review

Dem/Val - Demonstration/Validation

FDS - Flight Demonstration System

GEO - Geosynchronous Earth Orbit

HEO - Highly Elliptical Orbit

PDR - Preliminary Design Review

Block Buy (GEO 5-6)

Schedule Events				
Events	SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Current Estimate
GEO Satellite 5 Available for Delivery	Sep 2019	Sep 2019	Sep 2020	Sep 2020
GEO Satellite 6 Available for Delivery	Sep 2020	Sep 2020	Sep 2021	Jul 2021

Change Explanations

None

Notes

GEO Satellite "Available for Delivery" is defined as the GEO satellite successfully completing Final Integrated System Test and the satellite available such that if operational priorities require the satellite to launch at the earliest opportunity, then the satellite will continue Final Install processing to proceed to a Consent-to-Ship Review. If operational priorities indicate a later manifest, then the satellite will be configured for storage.

GEO 5 and 6 delivery dates reflect the as-negotiated dates.

The one-year period between the objective and threshold values addresses the schedule risk inherent in the first time production under a fixed price contract for a SBIRS satellite.

Acronyms and Abbreviations

GEO - Geosynchronous Earth Orbit

Performance

Baseline (GEO 1-4, HEO 1-2, and Ground)

Classified Performance information is provided in the classified annex to this submission.

Notes

Performance assessment based on full SBIRS constellation and Ground Segment

Block Buy (GEO 5-6)

No performance characteristics exist for Block Buy (GEO 5-6).

Notes

Performance assessment based on full SBIRS constellation and Ground Segment

Track to Budget

Baseline (GEO 1-4, HEO 1-2, and Ground)

General Notes

RDT&E Program Element (PE) 0604441F and Missile Procurement Air Force PE 0305915F, Line Item MSSBIR and 836720, are shared. PE 0604441F includes funds for the Commercially Hosted Infrared Payload, Space Modernization Initiative and architecture studies that are not part of this MDAP. Line Item MSSBIR and 836720 include funds for Highly Elliptical Orbit payloads 3 and 4 that are not part of this MDAP.

In December 2014, the Office of Management and Budget directed the DoD to establish a new space procurement appropriation as a five-year availability account. Beginning in FY 2016, Air Force major procurement funding formerly under appropriation 3020F (Missile Procurement, Air Force) BA 05 will now be under 3021F (Space Procurement, Air Force) BA 01. The FY 2016 PB justification books reflect the new 3021F appropriation, and the SARs for programs impacted by this new appropriation also reflect this change.

RDT&E

Appn	BA	PE		
Air Force	3600	05	0604441F	
	Project	Name		
	653616	SBIR High Element EMD/SBIRS High EMD		(Shared)

Procurement

Appn	BA	PE		
Air Force	3020	05	0305915F	
	Line Item	Name		
	MSSBIR	SBIR High Missile Procurement		(Shared) (Sunk)
Air Force	3021	01	0305915F	
	Line Item	Name		
	MSSBIR	SBIR High Missile		(Shared)
Air Force	3080	03	0305915F	
	Line Item	Name		
	836720	Space Based IR Sensor Program Space		(Shared)

MILCON

Appn	BA	PE		
Air Force	3300	01	0604441F	
	Project	Name		
	F0300051	SBIRS ARCHI-EMD (SPACE) Military Construction		(Sunk)

Acq O&M

Appn	BA	PE		
Air Force	3400	01	0305915F	

Project	Name
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1G01 SBIRS Operation and Maintenance (Sunk)

Block Buy (GEO 5-6)

Procurement

Appn	BA	PE
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Air Force 3020 05 0305915F

Line Item	Name
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MSSBIR SBIR High Missile Procurement (Shared) (Sunk)

Air Force 3021 01 0305915F

Line Item	Name
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MSSBIR SBIR High Missile (Shared)

Cost and Funding

Cost Summary - Total Program

Total Acquisition Cost - Total Program							
Appropriation	BY 1995 \$M			BY 1995 \$M	TY \$M		
	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Development Estimate	Current APB Development Objective	Current Estimate
RDT&E	3016.6	8544.3	--	8450.5	3386.5	10299.1	10187.7
Flyaway	--	--	--	0.0	--	--	0.0
Recurring	--	--	--	0.0	--	--	0.0
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	0.0	--	--	0.0
Procurement	3178.3	5193.6	--	4823.7	4449.9	7193.2	6750.0
Flyaway	--	--	--	4036.3	--	--	5627.8
Recurring	--	--	--	3298.8	--	--	4622.8
Non Recurring	--	--	--	737.5	--	--	1005.0
Support	--	--	--	787.4	--	--	1122.2
Other Support	--	--	--	787.4	--	--	1122.2
Initial Spares	--	--	--	0.0	--	--	0.0
MILCON	26.0	52.0	--	52.0	28.5	57.0	57.0
Acq O&M	140.2	137.5	--	137.4	147.8	161.1	161.1
Total	6361.1	13927.4	N/A	13463.6	8012.7	17710.4	17155.8

Cost and Funding

Cost Summary - Baseline (GEO 1-4, HEO 1-2, and Ground)

Total Acquisition Cost - Baseline (GEO 1-4, HEO 1-2, and Ground)							
Appropriation	BY 1995 \$M			BY 1995 \$M	TY \$M		
	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Development Estimate	Current APB Development Objective	Current Estimate
RDT&E	3016.6	8544.3	9398.7	8450.5	3386.5	10299.1	10187.7
Procurement	496.7	2512.0	2763.2	2441.3	584.5	3327.8	3251.0
Flyaway	--	--	--	2024.9	--	--	2695.0
Recurring	--	--	--	1666.2	--	--	2225.7
Non Recurring	--	--	--	358.7	--	--	469.3
Support	--	--	--	416.4	--	--	556.0
Other Support	--	--	--	416.4	--	--	556.0
Initial Spares	--	--	--	0.0	--	--	0.0
MILCON	26.0	52.0	57.2	52.0	28.5	57.0	57.0
Acq O&M	140.2	137.5	151.3	137.4	147.8	161.1	161.1
Total	3679.5	11245.8	N/A	11081.2	4147.3	13845.0	13656.8

Confidence Level

Confidence Level of cost estimate for current APB: 55%

Research, Development, Test and Evaluation cost profile is based on the April 2011 Air Force Service Cost Position (SCP) at a 57% confidence level. The Missile Procurement, Air Force cost profile for Geosynchronous Earth Orbit (GEO) satellites 3 and 4 is based on the April 2011 SCP at a 54% confidence level, with fact-of-life modifications.

Cost Notes

The costs above reflect the FY 2016 PB for the FYDP for GEO satellites 1-4, Highly Elliptical Orbit payloads 1 and 2, and ground modifications to meet the requirements in the SBIRS ORD, plus the cost to complete beyond the FYDP.

Total Quantity - Baseline (GEO 1-4, HEO 1-2, and Ground)			
Quantity	SAR Baseline Development Estimate	Current APB Development	Current Estimate
RDT&E		3	2
Procurement		2	2
Total		5	4

Quantity Notes

The above quantity represents four GEO satellites.

Cost Summary - Block Buy (GEO 5-6)

Total Acquisition Cost - Block Buy (GEO 5-6)							
Appropriation	BY 1995 \$M			BY 1995 \$M	TY \$M		
	SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Production Estimate	Current APB Production Objective	Current Estimate
RDT&E	0.0	0.0	--	0.0	0.0	0.0	0.0
Flyaway	--	--	--	0.0	--	--	0.0
Recurring	--	--	--	0.0	--	--	0.0
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	0.0	--	--	0.0
Procurement	2681.6	2681.6	2949.8	2382.4	3865.4	3865.4	3499.0
Flyaway	--	--	--	2011.4	--	--	2932.8
Recurring	--	--	--	1632.6	--	--	2397.1
Non Recurring	--	--	--	378.8	--	--	535.7
Support	--	--	--	371.0	--	--	566.2
Other Support	--	--	--	371.0	--	--	566.2
Initial Spares	--	--	--	0.0	--	--	0.0
MILCON	0.0	0.0	--	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	2681.6	2681.6	N/A	2382.4	3865.4	3865.4	3499.0

Confidence Level

Confidence Level of cost estimate for current APB: 50%

The ICE to support the SBIRS Geosynchronous Earth Orbit (GEO) 5-6 procurement, like all life-cycle cost estimates previously performed by the CAPE, is built upon a product-oriented work breakdown structure, based on historical actual cost information to the maximum extent possible, and, most importantly, based on conservative assumptions that are consistent with actual demonstrated contractor and government performance for a series of acquisition programs in which the Department has been successful.

It is difficult to calculate mathematically the precise confidence levels associated with life-cycle cost estimates prepared for MDAPs. Based on the rigor in methods used in building estimates, the strong adherence to the collection and use of historical cost information, and the review of applied assumptions, we project that it is about equally likely that the estimate will prove too low or too high for execution of the program described.

Cost Notes

The Procurement profile above reflects costs for the delivery of the GEO satellites 5 and 6, as documented in the FY 2016 PB.

Total Quantity - Block Buy (GEO 5-6)			
Quantity	SAR Baseline Production Estimate	Current APB Production	Current Estimate
RDT&E	0	0	0
Procurement	2	2	2
Total	2	2	2

Quantity Notes

The above quantity represents two GEO satellites.

Cost and Funding

Funding Summary - Total Program

Appropriation Summary									
FY 2016 President's Budget / December 2014 SAR (TY\$ M)									
Appropriation	Prior	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
RDT&E	9562.2	230.2	188.9	110.0	96.4	0.0	0.0	0.0	10187.7
Procurement	4041.6	435.2	532.5	399.7	992.1	119.6	111.0	118.3	6750.0
MILCON	57.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.0
Acq O&M	161.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	161.1
PB 2016 Total	13821.9	665.4	721.4	509.7	1088.5	119.6	111.0	118.3	17155.8
PB 2015 Total	13801.6	670.7	617.0	481.8	1081.6	107.9	108.2	112.0	16980.8
Delta	20.3	-5.3	104.4	27.9	6.9	11.7	2.8	6.3	175.0

Cost and Funding

Funding Summary - Baseline (GEO 1-4, HEO 1-2, and Ground)

Appropriation Summary									
FY 2016 President's Budget / December 2014 SAR (TY\$ M)									
Appropriation	Prior	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
RDT&E	9562.2	230.2	188.9	110.0	96.4	0.0	0.0	0.0	10187.7
Procurement	2821.2	121.3	152.7	104.3	35.6	7.9	8.0	0.0	3251.0
MILCON	57.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.0
Acq O&M	161.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	161.1
PB 2016 Total	12601.5	351.5	341.6	214.3	132.0	7.9	8.0	0.0	13656.8
PB 2015 Total	12646.0	352.2	238.3	194.8	133.2	7.9	0.0	0.0	13572.4
Delta	-44.5	-0.7	103.3	19.5	-1.2	0.0	8.0	0.0	84.4

Quantity Summary										
FY 2016 President's Budget / December 2014 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Development	2	0	0	0	0	0	0	0	0	2
Production	0	2	0	0	0	0	0	0	0	2
PB 2016 Total	2	2	0	0	0	0	0	0	0	4
PB 2015 Total	2	2	0	0	0	0	0	0	0	4
Delta	0	0	0	0	0	0	0	0	0	0

Funding Summary - Block Buy (GEO 5-6)

Appropriation Summary									
FY 2016 President's Budget / December 2014 SAR (TY\$ M)									
Appropriation	Prior	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
RDT&E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Procurement	1220.4	313.9	379.8	295.4	956.5	111.7	103.0	118.3	3499.0
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2016 Total	1220.4	313.9	379.8	295.4	956.5	111.7	103.0	118.3	3499.0
PB 2015 Total	1155.6	318.5	378.7	287.0	948.4	100.0	108.2	112.0	3408.4
Delta	64.8	-4.6	1.1	8.4	8.1	11.7	-5.2	6.3	90.6

Quantity Summary										
FY 2016 President's Budget / December 2014 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	2	0	0	0	0	0	0	0	2
PB 2016 Total	0	2	0	0	0	0	0	0	0	2
PB 2015 Total	0	2	0	0	0	0	0	0	0	2
Delta	0	0	0	0	0	0	0	0	0	0

Cost and Funding

Annual Funding By Appropriation - Baseline (GEO 1-4, HEO 1-2, and Ground)

Annual Funding - Baseline (GEO 1-4, HEO 1-2, and Ground)							
3600 RDT&E Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1995	--	--	--	--	--	--	113.0
1996	--	--	--	--	--	--	164.0
1997	--	--	--	--	--	--	193.0
1998	--	--	--	--	--	--	337.9
1999	--	--	--	--	--	--	502.6
2000	--	--	--	--	--	--	400.0
2001	--	--	--	--	--	--	550.1
2002	--	--	--	--	--	--	524.5
2003	--	--	--	--	--	--	782.9
2004	--	--	--	--	--	--	621.8
2005	--	--	--	--	--	--	587.1
2006	--	--	--	--	--	--	706.6
2007	--	--	--	--	--	--	693.0
2008	--	--	--	--	--	--	583.3
2009	--	--	--	--	--	--	542.4
2010	--	--	--	--	--	--	521.5
2011	--	--	--	--	--	--	501.7
2012	--	--	--	--	--	--	603.9
2013	--	--	--	--	--	--	368.3
2014	--	--	--	--	--	--	264.6
2015	--	--	--	--	--	--	230.2
2016	--	--	--	--	--	--	188.9
2017	--	--	--	--	--	--	110.0
2018	--	--	--	--	--	--	96.4
Subtotal	2	--	--	--	--	--	10187.7

Annual Funding - Baseline (GEO 1-4, HEO 1-2, and Ground)							
3600 RDT&E Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	BY 1995 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1995	--	--	--	--	--	--	111.3
1996	--	--	--	--	--	--	158.7
1997	--	--	--	--	--	--	184.3
1998	--	--	--	--	--	--	320.6
1999	--	--	--	--	--	--	471.9
2000	--	--	--	--	--	--	370.0
2001	--	--	--	--	--	--	501.7
2002	--	--	--	--	--	--	473.3
2003	--	--	--	--	--	--	696.9
2004	--	--	--	--	--	--	540.0
2005	--	--	--	--	--	--	497.2
2006	--	--	--	--	--	--	580.8
2007	--	--	--	--	--	--	555.0
2008	--	--	--	--	--	--	458.0
2009	--	--	--	--	--	--	420.3
2010	--	--	--	--	--	--	399.1
2011	--	--	--	--	--	--	376.8
2012	--	--	--	--	--	--	445.7
2013	--	--	--	--	--	--	267.2
2014	--	--	--	--	--	--	189.0
2015	--	--	--	--	--	--	162.4
2016	--	--	--	--	--	--	131.0
2017	--	--	--	--	--	--	74.9
2018	--	--	--	--	--	--	64.4
Subtotal	2	--	--	--	--	--	8450.5

Funds for the Commercially Hosted Infrared Payload (CHIRP), project number A040, were removed from this report. Those RDT&E funds are not associated with the baseline SBIRS program.

The removed profile is (Then Year \$):

FY 2011 \$22.1M

FY 2012 \$17.7M

Funds for Space Modernization Initiative efforts, project number 7009, were excluded from this report. Those RDT&E funds are not associated with the baseline SBIRS program.

The omitted profile is (Then Year \$):

FY 2013 \$78.7M

FY 2014 \$57.8M

FY 2015 \$78.6M

FY 2016 \$88.7M

FY 2017 \$88.8M

FY 2018 \$88.5M

FY 2019 \$90.1M

FY 2020 \$91.7M

Funds for Evolved SBIRS, project number 7106, were excluded from this report. Those RDT&E funds are not associated with the baseline SBIRS program.

The omitted profile is (then year \$):

FY 2018 \$295.0M

FY 2019 \$518.7M

FY 2020 \$528.0M

PE0604441F is shared with HEO replenishment Payload's ground effort, which is not part of the MDAP. \$39.7M in FY 2013 funds and \$14.6M in FY 2016 funds associated with that effort are excluded from the report.

Annual Funding - Baseline (GEO 1-4, HEO 1-2, and Ground) 3020 Procurement Missile Procurement, Air Force							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2008	--	160.6	--	102.9	263.5	5.9	269.4
2009	1	961.5	--	311.2	1272.7	21.3	1294.0
2010	--	144.0	1.1	5.8	150.9	28.4	179.3
2011	1	582.9	--	19.2	602.1	33.0	635.1
2012	--	0.5	42.7	0.3	43.5	23.3	66.8
2013	--	5.7	26.3	1.3	33.3	16.8	50.1
2014	--	19.7	36.5	4.3	60.5	9.2	69.7
2015	--	53.4	21.7	6.8	81.9	13.3	95.2
Subtotal	2	1928.3	128.3	451.8	2508.4	151.2	2659.6

Annual Funding - Baseline (GEO 1-4, HEO 1-2, and Ground) 3020 Procurement Missile Procurement, Air Force								
Fiscal Year	Quantity	BY 1995 \$M						
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program	
2008	--	125.2	--	80.3	205.5	4.6	210.1	
2009	1	739.3	--	239.2	978.5	16.4	994.9	
2010	--	109.2	0.8	4.4	114.4	21.5	135.9	
2011	1	432.9	--	14.3	447.2	24.5	471.7	
2012	--	0.4	31.2	0.2	31.8	17.0	48.8	
2013	--	4.1	18.7	0.9	23.7	12.0	35.7	
2014	--	13.8	25.6	3.0	42.4	6.4	48.8	
2015	--	36.9	15.0	4.7	56.6	9.2	65.8	
Subtotal	2	1461.8	91.3	347.0	1900.1	111.6	2011.7	

The Missile Procurement Air Force (MPAF) funding profile above represents funding for Geosynchronous Earth Orbit satellites 3 and 4 as displayed in the associated P-5 exhibits in the FY 2016 PB. MPAF funds for Highly Elliptical Orbit 3 and 4 payloads are excluded above, but are reflected in the associated P-5 exhibit in the FY 2016 PB.

The omitted profile is (Then Year \$):

FY 2008 \$124.6M
 FY 2009 \$529.9M
 FY 2010 \$282.3M
 FY 2011 \$60.4M
 FY 2012 \$14.6M
 FY 2013 \$34.1M
 FY 2014 \$29.4M
 FY 2015 \$35.5M

Cost Quantity Information - Baseline (GEO 1-4, HEO 1-2, and Ground) 3020 Procurement Missile Procurement, Air Force		
Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned With Quantity) BY 1995 \$M
2008	--	--
2009	1	962.4
2010	--	--
2011	1	499.4
2012	--	--
2013	--	--
2014	--	--
2015	--	--
Subtotal	2	1461.8

Annual Funding - Baseline (GEO 1-4, HEO 1-2, and Ground) 3080 Procurement Other Procurement, Air Force							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2004	--	--	--	--	--	96.4	96.4
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	3.6	3.6
2007	--	--	--	--	--	6.5	6.5
2008	--	--	--	--	--	3.8	3.8
2009	--	--	--	--	--	1.9	1.9
2010	--	--	--	--	--	2.0	2.0
2011	--	--	--	--	--	24.7	24.7
2012	--	--	--	--	--	49.7	49.7
2013	--	--	--	--	--	39.6	39.6
2014	--	--	--	--	--	28.6	28.6
2015	--	--	--	--	--	26.1	26.1
2016	--	--	--	--	--	90.2	90.2
2017	--	--	--	--	--	7.6	7.6
2018	--	--	--	--	--	7.7	7.7
2019	--	--	--	--	--	7.9	7.9
2020	--	--	--	--	--	8.0	8.0
Subtotal	--	--	--	--	--	404.3	404.3

Annual Funding - Baseline (GEO 1-4, HEO 1-2, and Ground) 3080 Procurement Other Procurement, Air Force							
Fiscal Year	Quantity	BY 1995 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2004	--	--	--	--	--	84.1	84.1
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	3.0	3.0
2007	--	--	--	--	--	5.2	5.2
2008	--	--	--	--	--	3.0	3.0
2009	--	--	--	--	--	1.5	1.5
2010	--	--	--	--	--	1.5	1.5
2011	--	--	--	--	--	18.6	18.6
2012	--	--	--	--	--	36.7	36.7
2013	--	--	--	--	--	28.8	28.8
2014	--	--	--	--	--	20.5	20.5
2015	--	--	--	--	--	18.4	18.4
2016	--	--	--	--	--	62.6	62.6
2017	--	--	--	--	--	5.2	5.2
2018	--	--	--	--	--	5.1	5.1
2019	--	--	--	--	--	5.2	5.2
2020	--	--	--	--	--	5.1	5.1
Subtotal	--	--	--	--	--	304.5	304.5

Annual Funding - Baseline (GEO 1-4, HEO 1-2, and Ground) 3021 Procurement Space Procurement, Air Force							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2016	--	10.8	42.0	9.2	62.0	0.5	62.5
2017	--	--	89.5	7.2	96.7	--	96.7
2018	--	--	26.8	1.1	27.9	--	27.9
Subtotal	--	10.8	158.3	17.5	186.6	0.5	187.1

Annual Funding - Baseline (GEO 1-4, HEO 1-2, and Ground) 3021 Procurement Space Procurement, Air Force							
Fiscal Year	Quantity	BY 1995 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2016	--	7.3	28.7	6.2	42.2	0.3	42.5
2017	--	--	59.6	4.8	64.4	--	64.4
2018	--	--	17.5	0.7	18.2	--	18.2
Subtotal	--	7.3	105.8	11.7	124.8	0.3	125.1

The Missile Procurement Air Force (MPAF) funding profile above represents funding for Geosynchronous Earth Orbit satellites 3 and 4 as displayed in the associated P-5 exhibits in the FY 2016 PB. MPAF funds for Highly Elliptical Orbit 3 and 4 payloads are excluded above, but are reflected in the associated P-5 exhibit in the FY 2016 PB.

FY 2016 \$10.4M

FY 2017 \$20.7M

FY 2018 \$7.6M

Annual Funding - Baseline (GEO 1-4, HEO 1-2, and Ground) 3300 MILCON Military Construction, Air Force	
Fiscal Year	TY \$M
	Total Program
1997	14.5
1998	14.0
1999	--
2000	--
2001	2.8
2002	18.8
2003	6.9
Subtotal	57.0

Annual Funding - Baseline (GEO 1-4, HEO 1-2, and Ground) 3300 MILCON Military Construction, Air Force	
Fiscal Year	BY 1995 \$M
	Total Program
1997	13.7
1998	13.1
1999	--
2000	--
2001	2.5
2002	16.7
2003	6.0
Subtotal	52.0

Annual Funding - Baseline (GEO 1-4, HEO 1-2, and Ground) 3400 Acq O&M Operation and Maintenance, Air Force	
Fiscal Year	TY \$M
	Total Program
1998	10.4
1999	17.0
2000	15.6
2001	17.6
2002	18.2
2003	0.3
2004	6.9
2005	7.0
2006	5.4
2007	7.6
2008	9.7
2009	10.2
2010	10.2
2011	11.5
2012	13.5
Subtotal	161.1

Annual Funding - Baseline (GEO 1-4, HEO 1-2, and Ground) 3400 Acq O&M Operation and Maintenance, Air Force	
Fiscal Year	BY 1995 \$M
	Total Program
1998	9.9
1999	16.0
2000	14.4
2001	16.1
2002	16.4
2003	0.3
2004	6.0
2005	5.9
2006	4.4
2007	6.1
2008	7.6
2009	7.9
2010	7.8
2011	8.6
2012	10.0
Subtotal	137.4

Annual Funding By Appropriation - Block Buy (GEO 5-6)

Annual Funding - Block Buy (GEO 5-6) 3020 Procurement Missile Procurement, Air Force							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2011	--	103.6	--	139.7	243.3	--	243.3
2012	--	192.0	--	51.5	243.5	--	243.5
2013	2	196.2	--	89.8	286.0	22.1	308.1
2014	--	311.0	--	78.2	389.2	36.3	425.5
2015	--	210.6	--	61.4	272.0	41.9	313.9
Subtotal	2	1013.4	--	420.6	1434.0	100.3	1534.3

Annual Funding - Block Buy (GEO 5-6) 3020 Procurement Missile Procurement, Air Force							
Fiscal Year	Quantity	BY 1995 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2011	--	76.9	--	103.8	180.7	--	180.7
2012	--	140.2	--	37.6	177.8	--	177.8
2013	2	139.7	--	64.0	203.7	15.7	219.4
2014	--	217.9	--	54.9	272.8	25.4	298.2
2015	--	145.7	--	42.4	188.1	29.0	217.1
Subtotal	2	720.4	--	302.7	1023.1	70.1	1093.2

The procurement profile above reflects procurement costs for the delivery of the Geosynchronous Earth Orbit satellites 5 and 6, as documented in the FY 2016 PB. The costs above reflect the requirements for GEOs 5 and 6 production, launch, operations, checkout and support.

Cost Quantity Information - Block Buy (GEO 5-6) 3020 Procurement Missile Procurement, Air Force		
Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned With Quantity) BY 1995 \$M
2011	--	--
2012	--	--
2013	2	720.4
2014	--	--
2015	--	--
Subtotal	2	720.4

Annual Funding - Block Buy (GEO 5-6) 3021 Procurement Space Procurement, Air Force							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2016	--	275.0	--	37.4	312.4	67.4	379.8
2017	--	180.3	25.3	23.4	229.0	66.4	295.4
2018	--	473.7	361.9	41.7	877.3	79.2	956.5
2019	--	21.7	--	1.7	23.4	88.3	111.7
2020	--	22.5	--	5.8	28.3	74.7	103.0
2021	--	23.3	--	5.1	28.4	89.9	118.3
Subtotal	--	996.5	387.2	115.1	1498.8	465.9	1964.7

Annual Funding - Block Buy (GEO 5-6) 3021 Procurement Space Procurement, Air Force							
Fiscal Year	Quantity	BY 1995 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2016	--	186.8	--	25.4	212.2	45.8	258.0
2017	--	120.2	16.9	15.6	152.7	44.2	196.9
2018	--	309.6	236.4	27.3	573.3	51.8	625.1
2019	--	13.9	--	1.1	15.0	56.6	71.6
2020	--	14.1	--	3.6	17.7	47.0	64.7
2021	--	14.3	--	3.1	17.4	55.5	72.9
Subtotal	--	658.9	253.3	76.1	988.3	300.9	1289.2

The procurement profile above reflects procurement costs for the delivery of the Geosynchronous Earth Orbit satellites 5 and 6, as documented in the FY 2016 PB. The costs above reflect the requirements for GEOs 5 and 6 production, launch, operations, checkout and support.

Low Rate Initial Production

Baseline (GEO 1-4, HEO 1-2, and Ground)

There is no LRIP for this program.

Block Buy (GEO 5-6)

There is no LRIP for this program.

Foreign Military Sales

Baseline (GEO 1-4, HEO 1-2, and Ground)

Country	Date of Sale	Quantity	Total Cost \$M	Description
Australia	3/8/2012	0	18.0	The FMS case with Australia established the agreement for the sale of a SBIRS satellite data processor, satellite data interface system, and contractor logistics support.

Notes

Block Buy (GEO 5-6)

None

Nuclear Costs

Baseline (GEO 1-4, HEO 1-2, and Ground)

None

Block Buy (GEO 5-6)

None

Unit Cost

Baseline (GEO 1-4, HEO 1-2, and Ground)

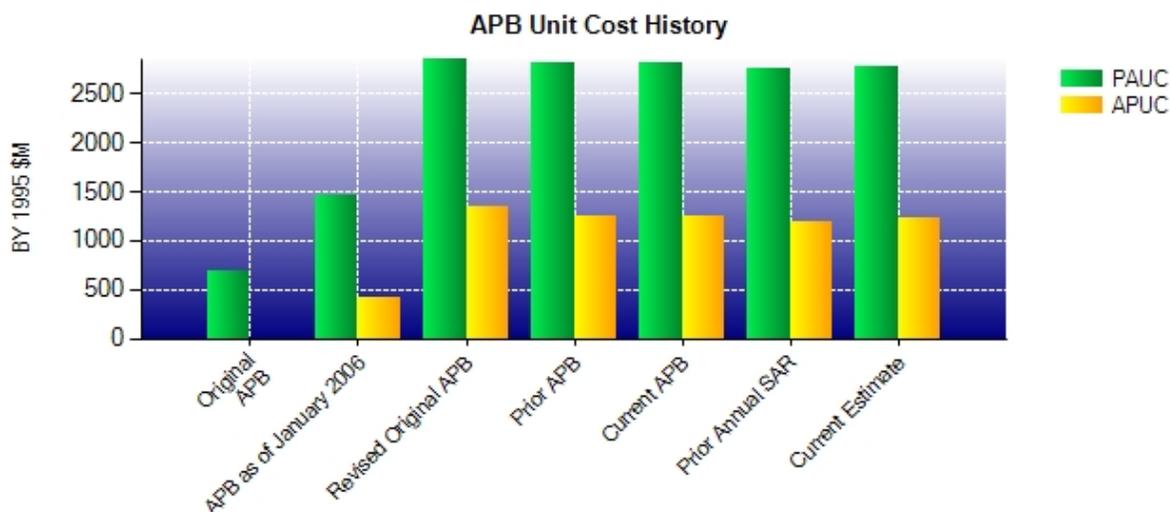
Unit Cost Report

Item	BY 1995 \$M	BY 1995 \$M	% Change
	Current UCR Baseline (Feb 2013 APB)	Current Estimate (Dec 2014 SAR)	
Program Acquisition Unit Cost			
Cost	11245.8	11081.2	
Quantity	4	4	
Item	2811.450	2770.300	-1.46
Average Procurement Unit Cost			
Cost	2512.0	2441.3	
Quantity	2	2	
Unit Cost	1256.000	1220.650	-2.81

Item	BY 1995 \$M	BY 1995 \$M	% Change
	Revised Original UCR Baseline (Mar 2006 APB)	Current Estimate (Dec 2014 SAR)	
Program Acquisition Unit Cost			
Cost	8569.3	11081.2	
Quantity	3	4	
Unit Cost	2856.433	2770.300	-3.02
Average Procurement Unit Cost			
Cost	1342.8	2441.3	
Quantity	1	2	
Unit Cost	1342.800	1220.650	-9.10

Baseline (GEO 1-4, HEO 1-2, and Ground)

Unit Cost History



Item	Date	BY 1995 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	Oct 1996	693.980	N/A	732.340	N/A
APB as of January 2006	Sep 2002	1467.640	420.500	1684.180	499.133
Revised Original APB	Mar 2006	2856.433	1342.800	3386.200	1723.200
Prior APB	Sep 2012	2811.450	1256.000	3461.250	1663.900
Current APB	Feb 2013	2811.450	1256.000	3461.250	1663.900
Prior Annual SAR	Dec 2013	2754.125	1190.250	3393.100	1582.750
Current Estimate	Dec 2014	2770.300	1220.650	3414.200	1625.500

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY \$M)									
Initial PAUC Development Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
829.460	22.975	169.190	129.200	126.600	1996.450	0.000	140.325	2584.740	3414.200

Current SAR Baseline to Current Estimate (TY \$M)									
Initial APUC Development Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
292.250	36.150	0.000	0.000	0.000	1016.450	0.000	280.650	1333.250	1625.500

SAR Baseline History					
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate	
Milestone I		N/A	N/A	N/A	N/A
Milestone II		N/A	Oct 1996	N/A	Oct 1996
Milestone III		N/A	N/A	N/A	N/A
IOC		N/A	Dec 2003	N/A	N/A
Total Cost (TY \$M)		2670.3	4147.3	N/A	13656.8
Total Quantity		N/A	5	N/A	4
PAUC		N/A	829.460	N/A	3414.200

Block Buy (GEO 5-6)

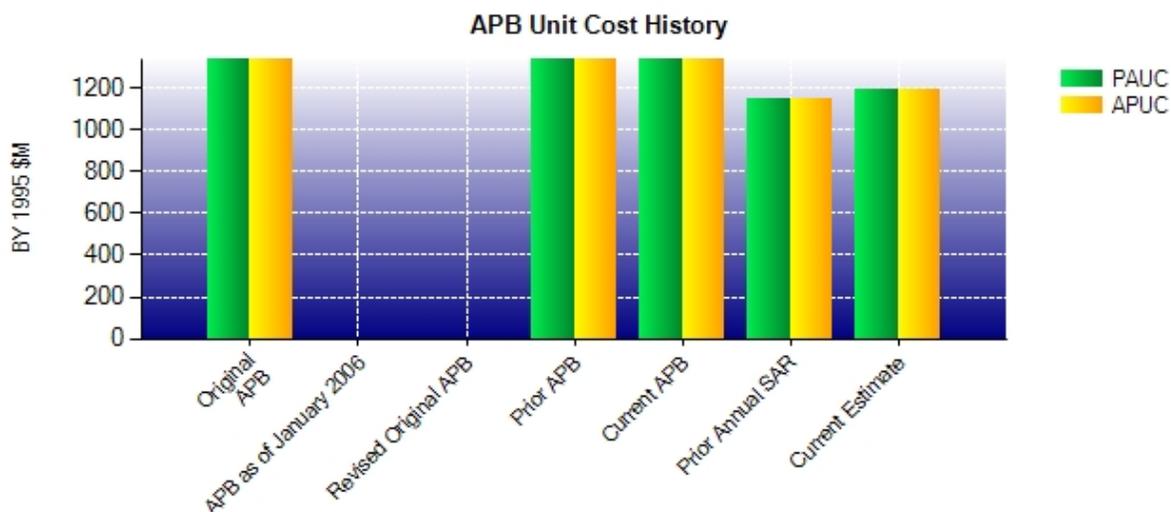
Unit Cost Report

Item	BY 1995 \$M	BY 1995 \$M	% Change
	Current UCR Baseline (Feb 2013 APB)	Current Estimate (Dec 2014 SAR)	
Program Acquisition Unit Cost			
Cost	2681.6	2382.4	
Quantity	2	2	
Item	1340.800	1191.200	-11.16
Average Procurement Unit Cost			
Cost	2681.6	2382.4	
Quantity	2	2	
Unit Cost	1340.800	1191.200	-11.16

Item	BY 1995 \$M	BY 1995 \$M	% Change
	Original UCR Baseline (Sep 2012 APB)	Current Estimate (Dec 2014 SAR)	
Program Acquisition Unit Cost			
Cost	2681.6	2382.4	
Quantity	2	2	
Unit Cost	1340.800	1191.200	-11.16
Average Procurement Unit Cost			
Cost	2681.6	2382.4	
Quantity	2	2	
Unit Cost	1340.800	1191.200	-11.16

Block Buy (GEO 5-6)

Unit Cost History



Item	Date	BY 1995 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	Sep 2012	1340.800	1340.800	1932.700	1932.700
APB as of January 2006	N/A	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	Sep 2012	1340.800	1340.800	1932.700	1932.700
Current APB	Feb 2013	1340.800	1340.800	1932.700	1932.700
Prior Annual SAR	Dec 2013	1149.750	1149.750	1704.200	1704.200
Current Estimate	Dec 2014	1191.200	1191.200	1749.500	1749.500

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY \$M)									
Initial PAUC Production Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
1932.700	36.250	0.000	0.000	0.000	-226.450	0.000	7.000	-183.200	1749.500

Current SAR Baseline to Current Estimate (TY \$M)									
Initial APUC Production Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
1932.700	36.250	0.000	0.000	0.000	-226.450	0.000	7.000	-183.200	1749.500

SAR Baseline History					
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate	
Milestone A		N/A	N/A	N/A	N/A
Milestone B		N/A	N/A	N/A	N/A
Milestone C		N/A	N/A	N/A	N/A
IOC		N/A	N/A	N/A	N/A
Total Cost (TY \$M)		N/A	N/A	3865.4	3499.0
Total Quantity		N/A	N/A	2	2
PAUC		N/A	N/A	1932.700	1749.500

Cost Variance

Baseline (GEO 1-4, HEO 1-2, and Ground)

Summary TY \$M					
Item	RDT&E	Procurement	MILCON	Acq O&M	Total
SAR Baseline (Development Estimate)	3386.5	584.5	28.5	147.8	4147.3
Previous Changes					
Economic	+26.0	+75.8	-1.4	+1.9	+102.3
Quantity	-152.7	--	--	--	-152.7
Schedule	+516.8	--	--	--	+516.8
Engineering	+514.2	--	+7.8	-15.6	+506.4
Estimating	+5895.7	+1991.5	+22.1	+27.0	+7936.3
Other	--	--	--	--	--
Support	--	+471.6	--	--	+471.6
Subtotal	+6800.0	+2538.9	+28.5	+13.3	+9380.7
Current Changes					
Economic	-6.9	-3.5	--	--	-10.4
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	+8.1	+41.4	--	--	+49.5
Other	--	--	--	--	--
Support	--	+89.7	--	--	+89.7
Subtotal	+1.2	+127.6	--	--	+128.8
Total Changes	+6801.2	+2666.5	+28.5	+13.3	+9509.5
CE - Cost Variance	10187.7	3251.0	57.0	161.1	13656.8
CE - Cost & Funding	10187.7	3251.0	57.0	161.1	13656.8

Summary BY 1995 \$M					
Item	RDT&E	Procurement	MILCON	Acq O&M	Total
SAR Baseline (Development Estimate)	3016.6	496.7	26.0	140.2	3679.5
Previous Changes					
Economic	--	--	--	--	--
Quantity	-128.4	--	--	--	-128.4
Schedule	+384.8	--	--	--	+384.8
Engineering	+460.5	--	+6.8	-13.5	+453.8
Estimating	+4711.4	+1500.1	+19.2	+10.7	+6241.4
Other	--	--	--	--	--
Support	--	+354.5	--	--	+354.5
Subtotal	+5428.3	+1854.6	+26.0	-2.8	+7306.1
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	+5.6	+28.1	--	--	+33.7
Other	--	--	--	--	--
Support	--	+61.9	--	--	+61.9
Subtotal	+5.6	+90.0	--	--	+95.6
Total Changes	+5433.9	+1944.6	+26.0	-2.8	+7401.7
CE - Cost Variance	8450.5	2441.3	52.0	137.4	11081.2
CE - Cost & Funding	8450.5	2441.3	52.0	137.4	11081.2

Previous Estimate: September 2014

RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-6.9
Adjustment for current and prior escalation. (Estimating)	+1.9	+2.7
Revised estimate to reflect the application of new out year escalation indices. (Estimating)	+0.4	+0.6
Revised estimate to reflect six month contract extension for Combined Task Force. (Estimating)	+3.3	+4.8
RDT&E Subtotal	+5.6	+1.2

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-3.5
Adjustment for current and prior escalation. (Estimating)	+1.1	+1.3
Revised estimate to reflect an increase for Geosynchronous Earth Orbit (GEO) 3 storage. (Estimating)	+26.9	+40.1
Revised estimate to reflect new 3021 APPN (reduction to APPN 3020 funding). (Estimating)	-124.6	-186.6
Revised estimate to reflect addition of new 3021 APPN funding. (Estimating)	+124.7	+186.6
Adjustment for current and prior escalation. (Support)	+0.2	+0.4
Decrease in Other Support due to shift of Evolved Expendable Launch Vehicle funds as a result of the Initial Launch Capability date change. (Support)	-0.8	-1.4
Increase in Other Support due to the FY 2016 funding of two S2E2 Survivable Mobile Ground Terminals, increasing the total from three to five. (Support)	+62.2	+90.2
Increase in Other Support due to an increase for GEO 3 storage. (Support)	+0.3	+0.5
Procurement Subtotal	+90.0	+127.6

Cost Variance

Block Buy (GEO 5-6)

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	--	3865.4	--	3865.4
Previous Changes				
Economic	--	+104.1	--	+104.1
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	-489.5	--	-489.5
Other	--	--	--	--
Support	--	-6.7	--	-6.7
Subtotal	--	-392.1	--	-392.1
Current Changes				
Economic	--	-31.6	--	-31.6
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	+36.6	--	+36.6
Other	--	--	--	--
Support	--	+20.7	--	+20.7
Subtotal	--	+25.7	--	+25.7
Total Changes	--	-366.4	--	-366.4
CE - Cost Variance	--	3499.0	--	3499.0
CE - Cost & Funding	--	3499.0	--	3499.0

Summary BY 1995 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	--	2681.6	--	2681.6
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	-329.4	--	-329.4
Other	--	--	--	--
Support	--	-7.4	--	-7.4
Subtotal	--	-336.8	--	-336.8
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	+24.0	--	+24.0
Other	--	--	--	--
Support	--	+13.6	--	+13.6
Subtotal	--	+37.6	--	+37.6
Total Changes	--	-299.2	--	-299.2
CE - Cost Variance	--	2382.4	--	2382.4
CE - Cost & Funding	--	2382.4	--	2382.4

Previous Estimate: September 2014

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-31.6
Adjustment for current and prior escalation. (Estimating)	+4.4	+6.0
Revised estimate to reflect increase primarily due to dual band ground control from FY 2015 to FY 2016 PB. (Estimating)	+19.7	+30.6
Revised estimate to reflect new 3021 APPN (FY 2015 and prior years). (Estimating)	-988.5	-1498.8
Revised estimate to reflect new 3021 APPN (FY 2016 and out-years funding). (Estimating)	+988.4	+1498.8
Adjustment for current and prior escalation. (Support)	+0.3	+0.7
Decrease in Other Support due to 3021 APPN (FY 2015 and prior years). (Support)	-287.6	-445.9
Increase in Other Support due to new 3021 APPN (FY 2016 and out-years funding) (\$445.9M), and the awarded Geosynchronous Earth Orbit Launch Operation and Checkout costs being higher than estimated (\$20.0M). (Support)	+300.9	+465.9
Procurement Subtotal	+37.6	+25.7

Contracts

Contract Identification

Appropriation: RDT&E
Contract Name: SBIRS 5-6 Initial Non-Recurring Engineering
Contractor: Lockheed Martin Corporation
Contractor Location: Sunnyvale, CA 94089
Contract Number: FA8810-12-C-0001
Contract Type: Cost Plus Incentive Fee (CPIF)
Award Date: September 10, 2012
Definitization Date: September 11, 2012

Contract Price

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
81.9	N/A	N/A	148.6	N/A	N/A	147.3	148.6

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the Geosynchronous Earth Orbit (GEO) 5 and 6 Initial Non-Recurring Engineering (I-NRE) contract being awarded in September 2012, with an Engineering Change Proposal (ECP) to modify the contract to complete all component builds through component qualification added in December 2012. It is a CPIF contract with a Contract Target Price of \$148.6M, which includes the I-NRE and the ECP.

There is no contract quantity associated with this I-NRE contract.

The Contractor Estimated Price at Completion is \$147.3M compared to \$147.7M in the September Out of Cycle 2014 SAR. The decrease is due to EAC efficiencies in Payload Systems Engineering, Integration and Test support. The government's Estimated Price at Completion is \$148.6M.

Contract Variance

Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (1/31/2015)	+8.6	+12.8
Previous Cumulative Variances	+5.0	+13.1
Net Change	+3.6	-0.3

Cost and Schedule Variance Explanations

The favorable net change in the cost variance is due to efficiencies in completing Northrop Grumman payload effort and level of effort under-runs in program management.

The unfavorable net change in the schedule variance is due to delays with Space Bus Communication unit assemblies.

Contract Identification

Appropriation: Procurement
Contract Name: SBIRS Follow-on Production
Contractor: Lockheed Martin Corporation
Contractor Location: Sunnyvale, CA 94089
Contract Number: FA8810-08-C-0002
Contract Type: Cost Plus Award Fee (CPAF)
Award Date: March 14, 2008
Definitization Date: June 07, 2010

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
370.0	N/A	0	3126.2	N/A	4	3197.5	3418.5

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to additional scope. The Initial Contract Price Target included Highly Elliptical Orbit (HEO)-3 and Geosynchronous Earth Orbit (GEO)-3 long lead effort (\$370.0M). Since then the program office exercised the HEO-3 and 4 and GEO-3 and 4 production efforts, HEO-3 ground modification effort, Launch Vehicle Integration, Launch and Early On-Orbit Support and various special studies, all on separate contract line items. The increased quantity from zero to four is due to the contract award of the HEO 3-4 and GEO 3-4 production efforts.

The contractor Estimated Price at Completion is \$3,197.5M, compared to \$3,187.9M, in the September Out of Cycle 2014 SAR, is primarily due to additional scope added for the Space Vehicle Launch Processing Alternate Facility & Delta IV compatibility study. The government's Estimated Price at Completion is \$3,416.5M, derived from the 2014 Single Best Estimate (SBE), which assumes an April 2015 HEO-4 Payload delivery, a September 2015 GEO-3 delivery, and a September 2016 GEO-4 delivery. HEO-3 Payload was delivered in June 2013.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (1/31/2015)	-7.1	-65.4
Previous Cumulative Variances	-13.9	-58.4
Net Change	+6.8	-7.0

Cost and Schedule Variance Explanations

The favorable net change in the cost variance is due to Level of Effort and Program Management Office under-runs and efficiencies in Northrop Grumman payload. Additionally, the favorable variance was driven by effective cost control for work that will be realigned through the GEO 3-4 Initial Launch Capability (ILC) Proposal. Resource planning will be realigned once the proposal is negotiated.

The unfavorable net change in the schedule variance is due to delays to GEO-3 activities associated with GEO 3-4 ILC proposal as well as delays with GEO-3 TVAC and GEO-4 equipment panel integration. Work will be realigned through the GEO 3-4 ILC proposal. Unfavorable schedule variance for impacted efforts will remain until resolution of activities leading to GEO 3-4 launch dates are reached.

Contract Identification

Appropriation: Procurement
Contract Name: SBIRS GEO 5-6 Advance Procurement/Production
Contractor: Lockheed Martin Corporation
Contractor Location: Sunnyvale, CA 94089
Contract Number: FA8810-13-C-0001
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: February 19, 2013
Definitization Date: February 19, 2013

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
284.4	N/A	2	1947.6	2045.2	2	1931.9	1974.6

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to added scope. The initial contract price included the Geosynchronous Earth Orbit (GEO)-5/6 Advance Procurement (AP) effort. The program office added an Engineering Change Proposal (ECP) in September 2013 and the Production portion of the contract was awarded in June 2014. The entire GEO-5/6 Contract consists of AP (plus the ECP) and Production efforts. This is a Fixed Price Incentive Fee contract with a Contractor Target Price of \$1,947.6M.

There is no contract quantity associated with the AP portion of this contract. The change in quantity reflects the award of the GEO 5-6 Production effort. The Contractor Estimated Price at Completion is \$1,931.9M, which represents the initial Advance Procurement (plus ECP) & Production award. The Government Estimated Price at Completion is \$1,974.6M.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (1/31/2015)	+17.4	+35.3
Previous Cumulative Variances	+11.6	+27.4
Net Change	+5.8	+7.9

Cost and Schedule Variance Explanations

The favorable net change in the cost variance is due to efficiencies with Northrop Grumman payload supplies and level of effort underruns in management.

The favorable net change in the schedule variance is due to early subcontractor deliveries.

Notes

The GEO 5-6 Advance Procurement contract was awarded on February 19, 2013 and the Full Production effort was awarded on June 24, 2014.

The Current Contract Price Ceiling (\$2045.2M) increased from the September 2014 SAR primarily due to the award of the Dual Band contract (\$39M).

Contract Identification

Appropriation: Acq O&M
Contract Name: SBIRS CLS-CTF
Contractor: Lockheed Martin Corporation
Contractor Location: Sunnyvale, CA 94089
Contract Number: FA8810-13-C-0002
Contract Type: Cost Plus Incentive Fee (CPIF)
Award Date: March 15, 2013
Definitization Date: March 15, 2013

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
105.9	N/A	N/A	534.7	N/A	N/A	529.1	534.7

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to added scope. The initial Contract Price Target included the Contractor Logistics Support and Combined Task Force (CLS/CTF) contract that was awarded in March 2013. The SBIRS Survivable Endurable Evolution (S2E2) ground mobiles contract was awarded in July 2013. Additional CLS effort for FY 2014 was awarded in September 2013. Environmental Control Unit (ECU) S2E2 Request for Equitable Adjustment (REA) was awarded in July 2014 and various factory & on-orbit sustainment mods added in Sep/Oct 2014. In addition, the S2E2 Inc 2 was awarded in November 2014 (\$235.7M increase). The total Contractor Target Price is \$534.7M.

The Contractor Estimated Price at Completion is \$529.1M, which represents the initial CLS/CTF portion and its FY 2014 S2E2 ground mobiles extension. The ECU S2E2 REA and factory & on-orbit sustainment mods & S2E2 Inc 2 award. The government Estimated Price at Completion is \$534.7.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (1/31/2015)	+12.2	-3.3
Previous Cumulative Variances	+8.7	-1.3
Net Change	+3.5	-2.0

Cost and Schedule Variance Explanations

The favorable net change in the cost variance is due to level of effort underruns for sustainment efforts.

The unfavorable net change in the schedule variance is due to delay with subcontractor integration & unit testing. The CLS/CTF portion is 100% level of effort with no schedule variance.

Notes

The contract consists of CLS (APPN 3400), CTF (APPN 3600), and S2E2 Blocks 1 & 2 (APPN 3080).

Although this contract is designated Acq O&M (APPN 3400) the bulk of the funds are non Acq O&M APPN 3400 funds. This contract also includes some Procurement and RDT&E funding, but the predominance of non-Acquisition O&M funding supports a key milestone in the IOC of the SBIRS program and therefore this contract is included in the SAR.

Deliveries and Expenditures

Baseline (GEO 1-4, HEO 1-2, and Ground)

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	2	2	2	100.00%
Production	0	0	2	0.00%
Total Program Quantity Delivered	2	2	4	50.00%

Expended and Appropriated (TY \$M)

Total Acquisition Cost	13656.8	Years Appropriated	21
Expended to Date	12228.4	Percent Years Appropriated	80.77%
Percent Expended	89.54%	Appropriated to Date	12953.0
Total Funding Years	26	Percent Appropriated	94.85%

The above data is current as of January 31, 2015.

Block Buy (GEO 5-6)

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	0	0	0	--
Production	0	0	2	0.00%
Total Program Quantity Delivered	0	0	2	0.00%

Expended and Appropriated (TY \$M)

Total Acquisition Cost	3499.0	Years Appropriated	5
Expended to Date	251.0	Percent Years Appropriated	45.45%
Percent Expended	7.17%	Appropriated to Date	1534.3
Total Funding Years	11	Percent Appropriated	43.85%

The above data is current as of January 31, 2015.

Operating and Support Cost

Baseline (GEO 1-4, HEO 1-2, and Ground)

Cost Estimate Details

Date of Estimate:	October 01, 2014
Source of Estimate:	POE
Quantity to Sustain:	1
Unit of Measure:	Integrated System
Service Life per Unit:	35.00 Years
Fiscal Years in Service:	FY 1999 - FY 2033

O&M funds support the activation of the SBIRS High System, including Component ground operating and training facilities at worldwide sites. The SBIRS Increment 1 ground system was operational in December 2001. These funds purchase temporary facilities, minor construction, office equipment, furniture, travel, supplies, and communication links necessary for the activation of the SBIRS Mission Control Station, the Mission Control Station Backup, Outside Continental United States Relay Ground Stations, Initial Qualification Training facility, and repair and transportation of Government Furnished Equipment and Temporary Duty costs for training of the initial cadre of operators. Also included in this estimate are all manpower and indirect costs required to operate and sustain the SBIRS system.

The Quantity to Sustain of one Integrated System encompasses the four GEO satellites, two HEO payloads and the associated ground infrastructure. The mission and the sustainment costs cannot be assigned to individual satellites. There are two different satellites and one sensor (three constellations) supported by the same Level I and II maintenance/operations and on-orbit sustainment costs. All pieces together are required to meet the mission.

Ground Rules and Assumptions: 35 years service life start date (1999) is based upon increment 1 entry into Development Test/Operational Test and end date (2033) is based upon final GEO 6 satellite and 12 year service life for SBIRS system.

Sustainment Strategy

The current SBIRS sustainment strategy is Contractor Logistics Support (CLS) under one contract with a balanced fee structure of performance and cost incentives with limited organic depot partnership.

The SBIRS High Baseline subprogram profile reflects the first 30 years of the 35 year SBIRS High Life Cycle Cost, from 1999-2028. The average annual costs are based on the entire 35 year life cycle.

Antecedent Information

Comparable O&S cost estimates for the legacy system, Defense Support Program, are not available.

Annual O&S Costs BY1995 \$M			
Cost Element	Baseline (GEO 1-4, HEO 1-2, And Ground) Average Annual Cost Per Integrated System	Defense Support Program (Antecedent) N/A	
Unit-Level Manpower	64.200		0.000
Unit Operations	2.900		0.000
Maintenance	34.200		0.000
Sustaining Support	37.900		0.000
Continuing System Improvements	6.400		0.000
Indirect Support	4.400		0.000
Other	0.000		0.000
Total	150.000		--

Item	Total O&S Cost \$M			
	Baseline (GEO 1-4, HEO 1-2, And Ground)			Defense Support Program (Antecedent)
	Current Development APB Objective/Threshold	Current Estimate		
Base Year	4203.4	4623.7	4390.2	N/A
Then Year	6404.5	N/A	6764.5	N/A

Equation to Translate Annual Cost to Total Cost

Average annual O&S cost of SBIRS High System = (Total O&S cost of SBIRS High Baseline + Total O&S cost of SBIRS High Block Buy)/service life of system = (\$4390.2M + \$861.8M) / 35Yrs = \$150.06M (\$0.06M delta from Unitized cost total due to rounding).

O&S Cost Variance		
Category	BY 1995 \$M	Change Explanations
Prior SAR Total O&S Estimates - Sep 2014 SAR	4203.4	
Programmatic/Planning Factors	83.6	Sustaining two mobile systems: legacy and S2E2
Cost Estimating Methodology	0.0	
Cost Data Update	0.0	
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	103.2	Added Mission Analysis and Auxiliary Systems Sustainment
Other	0.0	
Total Changes	186.8	
Current Estimate	4390.2	

Unitized costs reflect the Average Annual O&S cost for the SBIRS High system. Estimated unitized costs have increased by 5% (\$7M / year) since the previous SAR estimate. The increase was primarily due to Unit-Level Manpower (\$4M / year)

and Maintenance (\$3M / year) driven by requirements to maintain both legacy and SBIRS Survivable Endurable Evolution (S2E2) mobile systems until S2E2 is fully operational, increased mission analysis related sustainment costs, and increased support required for the Real Time Server, Enterprise Consolidation and Operational Support Environment systems.

Disposal Estimate Details

Date of Estimate:

Source of Estimate:

Disposal/Demilitarization Total Cost (BY 1995 \$M):

Disposal costs have not been estimated at this time.

Block Buy (GEO 5-6)

Cost Estimate Details

Date of Estimate:	October 01, 2014
Source of Estimate:	POE
Quantity to Sustain:	1
Unit of Measure:	Integrated System
Service Life per Unit:	35.00 Years
Fiscal Years in Service:	FY 1999 - FY 2033

O&M funds support the activation of the SBIRS High System, including Component ground operating and training facilities at worldwide sites. The SBIRS Increment 1 ground system was operational in December 2001. These funds purchase temporary facilities, minor construction, office equipment, furniture, travel, supplies, and communication links necessary for the activation of the SBIRS Mission Control Station, the Mission Control Station Backup, Outside Continental United States Relay Ground Stations, Initial Qualification Training facility, and repair and transportation of Government Furnished Equipment and Temporary Duty costs for training of the initial cadre of operators. Also included in this estimate are all manpower and indirect costs required to operate and sustain the SBIRS system.

The Quantity to Sustain of one Integrated System encompasses the four GEO satellites, two HEO payloads and the associated ground infrastructure. The mission and the sustainment costs cannot be assigned to individual satellites. There are two different satellites and one sensor (three constellations) supported by the same Level I and II maintenance/operations and on-orbit sustainment costs. All pieces together are required to meet the mission.

Ground Rules and Assumptions: 35 years service life start date (1999) is based upon increment 1 entry into Development Test/Operational Test and end date (2033) is based upon final GEO 6 satellite and 12 year service life for SBIRS system.

Sustainment Strategy

The current SBIRS sustainment strategy is Contractor Logistics Support (CLS) under one contract with a balanced fee structure of performance and cost incentives with limited organic depot partnership.

The SBIRS High Baseline subprogram profile reflects the first 30 years of the 35 year SBIRS High Life Cycle Cost, from 1999-2028. The average annual costs are based on the entire 35 year life cycle.

Antecedent Information

Comparable O&S cost estimates for the legacy system, Defense Support Program, are not available.

Annual O&S Costs BY1995 \$M			
Cost Element	Block Buy (GEO 5-6) Average Annual Cost Per Integrated System	Defense Support Program (Antecedent) N/A	
Unit-Level Manpower	64.200		0.000
Unit Operations	2.900		0.000
Maintenance	34.200		0.000
Sustaining Support	37.900		0.000
Continuing System Improvements	6.400		0.000
Indirect Support	4.400		0.000
Other	0.000		0.000
Total	150.000		--

Item	Total O&S Cost \$M			
	Block Buy (GEO 5-6)			Defense Support Program (Antecedent)
	Current Production APB Objective/Threshold	Current Estimate		
Base Year	795.3	874.8	861.8	N/A
Then Year	1551.1	N/A	1748.2	N/A

Equation to Translate Annual Cost to Total Cost

Average annual O&S cost of SBIRS High System = (Total O&S cost of SBIRS High Baseline + Total O&S cost of SBIRS High Block Buy)/service life of system = (\$4390.2M + \$861.8M) / 35Yrs = \$150.06M (\$0.06M delta from Unitized cost total due to rounding).

O&S Cost Variance		
Category	BY 1995 \$M	Change Explanations
Prior SAR Total O&S Estimates - Sep 2014 SAR	795.3	
Programmatic/Planning Factors	29.8	Sustaining two mobile systems: legacy and S2E2
Cost Estimating Methodology	0.0	
Cost Data Update	0.0	
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	36.7	Added Mission Analysis and Auxiliary Sustainment
Other	0.0	
Total Changes	66.5	
Current Estimate	861.8	

Unitized costs reflect the Average Annual O&S cost for the SBIRS High system. Estimated unitized costs have increased by 5% (\$7M / year) since the previous SAR estimate. The increase was primarily due to Unit-Level Manpower (\$4M / year) and Maintenance (\$3M / year) driven by requirements to maintain both legacy and SBIRS Survivable Endurable Evolution (S2E2) mobile systems until S2E2 is fully operational, increased mission analysis related sustainment costs, and

increased support required for the Real Time Server, Enterprise Consolidation and Operational Support Environment systems.

Disposal Estimate Details

Date of Estimate:

Source of Estimate:

Disposal/Demilitarization Total Cost (BY 1995 \$M):

Disposal costs have not been estimated at this time.