# Selected Acquisition Report (SAR)

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

# Space Based Infrared System High (SBIRS High)

As of December 31, 2012

Defense Acquisition Management
Information Retrieval
(DAMIR)

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## Program Information

**Program Name**

Space Based Infrared System High (SBIRS High)

**DoD Component**

Air Force

## Responsible Office

**Responsible Office**

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**Date Assigned** May 8, 2011

## 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 SBIRS High program is intended to satisfy key requirements delineated in the SBIRS Operational Requirements Document 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 the technical intelligence mission in August 2009.

The SBIRS High Major Defense Acquisition Program (MDAP) includes two subprograms: the Baseline subprogram, comprised of GEO satellites 1-4, HEO payloads 1-2 and associated ground elements; and the Baseline subprogram, comprised of GEO satellites 5 and 6. 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 Geosynchronous Earth Orbit (GEO) Satellite 1

The GEO-1 satellite entered formal integrated operational and developmental testing with the Air Force Operational Test and Evaluation Center (AFOTEC) on June 9, 2012 and entered dedicated operational testing on September 24, 2012. GEO-1 completed operational trial period on November 27, 2012. Overall data quality demonstrated during trial period was outstanding. On-orbit GEO-1 payload infrared intensity measurements were 25-35% better than specification and payload pointing error was nine times better than required during early on-orbit testing. However, the satellite was returned to developmental testing to further investigate a sporadic spacecraft issue. On November 28, 2012, AFOTEC published their final test report and recommended operationalizing the system once the spacecraft issue is resolved. Subsequently, the team made significant progress in understanding and influencing the chain of events driving the issue and is ready to offer the GEO-1 system back to operations. Based upon the rigorous investigation by the joint government and contractor team, along with independent assessment, this issue was deemed low risk to GEO-2 mission performance; thus, GEO-2 was cleared for launch processing. Based upon successful mitigation of the sporadic spacecraft issue, GEO-1 is projected to return to operations in April 2013. The program office projects GEO Message Certification in the second quarter, calendar year 2013.

SBIRS GEO Satellite 2

In 2012, the GEO-2 satellite was assigned a March 2013 launch date. The satellite entered storage configuration on June 21, 2012 following successful Final Integrated System Testing, and remained in storage until August 2012. Factory closeouts completed in December 2012 and the satellite was shipped to Cape Canaveral Air Force Station on January 11, 2013. GEO-2 successfully launched aboard an Atlas V rocket, with a Centaur upper stage, on March 19, 2013 from Cape Canaveral Air Force Station, Florida. The spacecraft separated from the booster 43 minutes after launch. After separation, a series of six Liquid Apogee Engine burns propelled the spacecraft from its transfer orbit into geosynchronous orbit. The satellite then deployed its light shade, solar arrays, and antenna wing assemblies, and began the activation of spacecraft and payload sub-assemblies. The infrared sensors will now be characterized, calibrated and tuned prior to space vehicle drift to its final operational slot.

Ground Development

The SBIRS ground system continues to mature incrementally and is performing well. The Block 10 Critical Design Review was completed in March 2012, completing the Block 10 design activity and beginning software code and unit test.

Program leadership approved the contractor’s Ground Increment 2 baseline, which delivers all SBIRS Ground capability necessary to meet the Operational Requirements Document. The baseline provides early delivery of the Launch and Anomaly Resolution Center to support GEO-3 launch, delivers Block 10 with accelerated starer-tracking capability in 2016, and full Increment 2 in 2018.

SBIRS GEO 3-4 and HEO 3-4 Production

The Program Office continues to aggressively manage the SBIRS GEO 3-4 and HEO 3-4 contract and to manage the cost and schedule pressures caused by “first article issues” resulting from an eight-year production gap. The government team implemented a series of actions and reviews aimed at mitigating projected overruns, to include a comprehensive review of the technical and schedule baseline to seek and capitalize on production efficiencies. Mitigation efforts have been paying dividends and the program’s cost and schedule performance remained stable over the past twelve months.

The third Highly Elliptical Orbit (HEO) payload is on track to deliver to the Host satellite provider by the beginning of June 2013, ahead of the Host satellite provider's need date. HEO-3 completed Electromagnetic Interference (EMI) regression testing, which demonstrated 17 EMI fixes to improve performance over HEO-2. HEO-3 completed Thermal Vacuum (TVAC) Run For Record testing on March 24, 2013.

The third GEO satellite has been making great progress. The payload sub-contractor completed sensor assembly integration in January 2013, and transitioned into testing of the integrated payload in February 2013. The Program Office anticipates the GEO-3 payload will be ready for TVAC testing in September 2013, with shipment to Lockheed Martin for spacecraft integration expected in February 2014.

The GEO-4 and HEO-4 production efforts also continue to make strong progress. Most of the GEO-4 sub-systems are finished or are in-build and are delivering ahead of the program baseline. The Communication and Guidance/Navigation control boxes delivered months ahead of need and are being stored until GEO-4 integration. The HEO-4 sensor sub-assembly completed integration when the sensor successfully exited cold testing in February 2013.

SBIRS GEO 5-6 Production

The Under Secretary of Defense for Acquisition, Technology and Logistics (USD(AT&L)) signed an Acquisition Decision Memorandum (ADM) on January 18, 2012 increasing the SBIRS program of record to include six GEO satellites and establishing the SBIRS GEO 5-6 Block Buy subprogram. The ADM also authorized the Air Force to proceed with the Initial Non-Recurring Engineering (I-NRE) and parts procurement to address the longest-duration redesign efforts and limited procurement of diminishing manufacturing source piece parts. Subsequently, the Acquisition Strategy for the full SBIRS GEO 5-6 procurement was approved by the USD(AT&L) on February 26, 2012. The USD(AT&L) approved the procurement of the full SBIRS 5-6 effort on July 27, 2012, and signed an ADM on August 24, 2012 authorizing the release of the Request for Proposal for the SBIRS GEO 5-6 production contract.

The Program Office continues to work on the four distinct contract actions necessary to implement the three-phased Efficient Space Procurement Acquisition Strategy. The I-NRE effort was awarded on September 10, 2012. The second effort, awarded on December 19, 2012, modified the I-NRE scope to complete all of the I-NRE work through component qualification. The third effort is the Advance Procurement (AP) of the remaining non-recurring engineering and purchase of long lead parts. The AP NRE/Long Lead contract was awarded on February 19, 2013. The Program Office released the Request for Proposal for the SBIRS GEO 5-6 production contract on September 11, 2012 to support a fall 2013 production award.

SBIRS Acquisition Program Baseline (APB)

The USD(AT&L) signed the SBIRS High APB update that incorporated the GEO-4 satellite into the program baseline and reset cost and schedule parameters on January 26, 2012. The previously reported APB deviations against schedule and Research, Development, Test & Evaluation cost were resolved.

The USD(AT&L) signed the SBIRS High APB update that established the SBIRS Block Buy subprogram on September 4, 2012. The subprogram established cost and schedule parameters for the acquisition of the fifth and sixth satellites (GEO 5-6). As a result, the procurement cost deviation previously reported was resolved.

The USD(AT&L) signed the SBIRS High APB update incorporating the revised Operating and Support (O&S) cost estimate for the SBIRS Baseline (GEOs 1-4, HEOs 1-2 and Ground) subprogram, and establishing the O&S parameters for the SBIRS Block Buy (GEOs 5-6) subprogram on February 27, 2013.

Software Statement

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** | | ☐ |
| **Performance** | | ☐ |
| **Cost** | RDT&E | ☐ |
| | Procurement | ☐ |
| | MILCON | ☐ |
| | Acq O&M | ☐ |
| **O&S Cost** | | ☐ |
| **Unit Cost** | PAUC | ☐ |
| | APUC | ☐ |

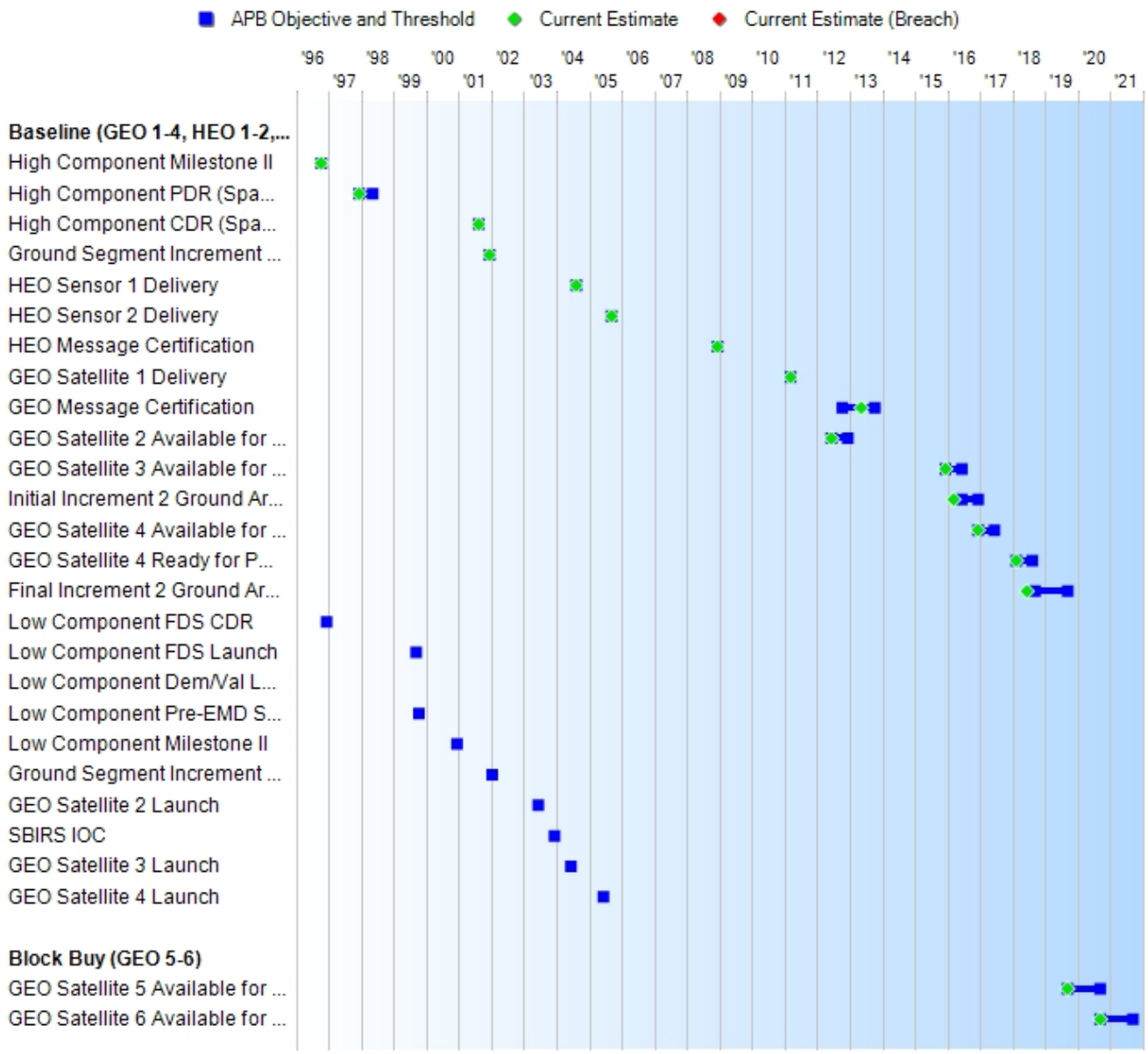
| Nunn-McCurdy Breaches | | |
|---|---|---|
| **Current UCR Baseline** | | |
| | PAUC | None |
| | APUC | None |
| **Original UCR Baseline** | | |
| | PAUC | None |
| | APUC | None |

**Block Buy (GEO 5-6)**

| APB Breaches | | |
|---|---|---|
| **Schedule** | | ☐ |
| **Performance** | | ☐ |
| **Cost** | RDT&E | ☐ |
| | Procurement | ☐ |
| | MILCON | ☐ |
| | Acq O&M | ☐ |
| **O&S Cost** | | ☐ |
| **Unit Cost** | PAUC | ☐ |
| | APUC | ☐ |

| Nunn-McCurdy Breaches | | |
|---|---|---|
| **Current UCR Baseline** | | |
| | PAUC | None |
| | APUC | None |
| **Original UCR Baseline** | | |
| | PAUC | None |
| | APUC | None |

## Schedule


APB Objective and Threshold
Current Estimate
Current Estimate (Breach)
'96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12 '13 '14 '15 '16 '17 '18 '19 '20 '21
Baseline (GEO 1-4, HEO 1-2,...
High Component Milestone II
High Component PDR (Spa...
High Component CDR (Spa...
Ground Segment Increment ...
HEO Sensor 1 Delivery
HEO Sensor 2 Delivery
HEO Message Certification
GEO Satellite 1 Delivery
GEO Message Certification
GEO Satellite 2 Available for ...
GEO Satellite 3 Available for ...
Initial Increment 2 Ground Ar...
GEO Satellite 4 Available for ...
GEO Satellite 4 Ready for P...
Final Increment 2 Ground Ar...
Low Component FDS CDR
Low Component FDS Launch
Low Component Dem/Val L...
Low Component Pre-EMD S...
Low Component Milestone II
Ground Segment Increment ...
GEO Satellite 2 Launch
SBIRS IOC
GEO Satellite 3 Launch
GEO Satellite 4 Launch
Block Buy (GEO 5-6)
GEO Satellite 5 Available for ...
GEO Satellite 6 Available for ...

| Baseline (GEO 1-4, HEO 1-2, And Ground) | | | | | |
|---|---|---|---|---|---|
| **Milestones** | **SAR Baseline Dev Est** | **Current APB Production Objective/Threshold** | | **Current Estimate** | |
| High Component Milestone II | OCT 1996 | OCT 1996 | OCT 1996 | OCT 1996 | |
| High Component PDR (Space and Ground Increment 2) | DEC 1997 | DEC 1997 | MAY 1998 | DEC 1997 | |
| 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 | |
| HEO Sensor 1 Delivery | SEP 2001 | AUG 2004 | AUG 2004 | AUG 2004 | |
| 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 Message Certification | N/A | OCT 2012 | OCT 2013 | MAY 2013 | (Ch-1) |
| GEO Satellite 2 Available for Delivery | N/A | JUN 2012 | DEC 2012 | JUN 2012 | |
| GEO Satellite 3 Available for Delivery | N/A | DEC 2015 | JUN 2016 | DEC 2015 | |
| Initial Increment 2 Ground Architecture | N/A | JUN 2016 | DEC 2016 | MAR 2016 | (Ch-2) |
| GEO Satellite 4 Available for Delivery | N/A | DEC 2016 | JUN 2017 | DEC 2016 | |
| GEO Satellite 4 Ready for PEO Certification | N/A | FEB 2018 | AUG 2018 | FEB 2018 | |
| Final Increment 2 Ground Architecture | N/A | SEP 2018 | SEP 2019 | JUN 2018 | (Ch-3) |
| Low Component FDS CDR | DEC 1996 | N/A | N/A | N/A | |
| Low Component FDS Launch | SEP 1999 | N/A | N/A | N/A | |
| Low Component Dem/Val Launch | TBD | 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 | |
| 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 | |
| GEO Satellite 4 Launch | JUN 2005 | N/A | N/A | N/A | |

**Acronyms And Abbreviations**

CDR - Critical Design Review
Dem/Val - Demonstration/Validation
EMD - Engineering, Manufacturing and Development
FDS - Flight Demonstration System
GEO - Geosynchronous Earth Orbit
HEO - Highly Elliptical Orbit
IOC - Initial Operational Capability
PDR - Preliminary Design Review
PEO - Program Executive Officer

**Change Explanations**

(Ch-1) The current estimate for GEO Message Certification changed from January 2013 to May 2013 in order to address a sporadic recurrence of a known GEO-1 spacecraft issue.

(Ch-2) The current estimate for Initial Increment 2 Ground Architecture changed from June 2016 to March 2016 due to incorporation of test lessons learned, efficiencies in starer tuning, and an incremental delivery approach.

(Ch-3) The current estimate for Final Increment 2 Ground Architecture changed from September 2018 to June 2018 due to incorporation of test lessons learned and a streamlined incremental delivery approach.

**Memo**

GEO Satellite Delivery is defined as a Directorate-accepted satellite ready for shipment to the launch facility.

GEO Satellites 2 through 4 "Available for Delivery" is defined as the satellite successfully completing Final Integrated System Test and the space vehicle 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.

**Block Buy (GEO 5-6)**

| Milestones | SAR Baseline Prod Est | Current APB Production Objective/Threshold | | Current Estimate |
|---|---|---|---|---|
| GEO Satellite 5 Available for Delivery | SEP 2019 | SEP 2019 | SEP 2020 | SEP 2019 |
| GEO Satellite 6 Available for Delivery | SEP 2020 | SEP 2020 | SEP 2021 | SEP 2020 |

**Acronyms And Abbreviations**

GEO - Geosynchronous Earth Orbit

**Change Explanations**

None

**Memo**

GEO Satellite 5 and 6 "Available for Delivery" is defined as the satellite successfully completing Final Integrated System Test and the space vehicle 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.

## Performance

**Baseline (GEO 1-4, HEO 1-2, And Ground)**

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

**Block Buy (GEO 5-6)**

**Memo**

The performance parameters defined in the SBIRS High subprogram are the Key Performance Parameters (KPPs) specified in the SBIRS Operational Requirements Document (ORD), dated August 15, 1996. These KPPs are not allocated to individual space assets. All SBIRS High KPPs are captured in the Baseline (GEO 1-4, HEO 1-2, and Ground) subprogram.

## Track To Budget

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

**General Memo**

Research, Development, Test and Evaluation Program Element (PE) 0604441F and Missile Procurement Air Force PE 0305915F, Item Control Numbers (ICNs) 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 Major Defense Acquisition Program (MDAP). ICNs MSSBIR and 836720 include funds for Highly Elliptical Orbit payloads 3 and 4 that are not part of this MDAP.

**RDT&E**

| | | | | |
|---|---|---|---|---|
| APPN 3600 | BA 05 | PE 0604441F | (Air Force) | |
| | Project 3616 | SBIR High Element EMD/SBIRS High EMD | | |

**Procurement**

| | | | | |
|---|---|---|---|---|
| APPN 3020 | BA 05 | PE 0305915F | (Air Force) | |
| | ICN MSSBIR | SBIR High Missile Procurement | (Shared) | |
| APPN 3080 | BA 03 | PE 0305915F | (Air Force) | |
| | ICN 836720 | Space Based IR Sensor Program Space | | |

**MILCON**

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

**Acq O&M**

| | | | | |
|---|---|---|---|---|
| APPN 3400 | BA 01 | PE 0305915F | (Air Force) | |
| | Subactivity Group 1G01 | SBIRS Operation and Maintenance | | (Sunk) |

**Block Buy (GEO 5-6)**

**Procurement**

| | | | |
|---|---|---|---|
| APPN 3020 | BA 05 | PE 0305915F | (Air Force) |
| | ICN MSSBIR | SBIR High Missile Procurement | (Shared) |

## Cost and Funding

## Cost Summary - Total Program

### Total Acquisition Cost and Quantity - Total Program

| | BY1995 $M | | | BY1995 $M | TY $M | | |
|---|---|---|---|---|---|---|---|
| Appropriation | SAR Baseline Dev Est | Current APB Development Objective/Threshold | | Current Estimate | SAR Baseline Dev Est | Current APB Development Objective | Current Estimate |
| RDT&E | 3016.6 | 8544.3 | -- | 8477.3 | 3386.5 | 10299.1 | 10257.0 |
| Flyaway | 0.0 | -- | -- | 0.0 | 0.0 | -- | 0.0 |
| Recurring | 0.0 | -- | -- | 0.0 | 0.0 | -- | 0.0 |
| Non Recurring | 0.0 | -- | -- | 0.0 | 0.0 | -- | 0.0 |
| Support | 0.0 | -- | -- | 0.0 | 0.0 | -- | 0.0 |
| Procurement | 3178.3 | 5193.6 | -- | 5028.5 | 4449.9 | 7193.2 | 7123.8 |
| Flyaway | 2813.5 | -- | -- | 4371.9 | 3909.3 | -- | 6192.2 |
| Recurring | 2572.5 | -- | -- | 3851.5 | 3585.5 | -- | 5492.3 |
| Non Recurring | 241.0 | -- | -- | 520.4 | 323.8 | -- | 699.9 |
| Support | 364.8 | -- | -- | 656.6 | 540.6 | -- | 931.6 |
| Other Support | 364.8 | -- | -- | 656.6 | 540.6 | -- | 931.6 |
| Initial Spares | 0.0 | -- | -- | 0.0 | 0.0 | -- | 0.0 |
| MILCON | 26.0 | 52.0 | -- | 52.0 | 28.5 | 57.0 | 57.0 |
| Acq O&M | 140.2 | 137.5 | -- | 137.3 | 147.8 | 161.1 | 161.1 |
| Total | 6361.1 | 13927.4 | N/A | 13695.1 | 8012.7 | 17710.4 | 17598.9 |

## Cost and Funding

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

**Total Acquisition Cost and Quantity - Baseline (GEO 1-4, HEO 1-2, and Ground)**

| | BY1995 $M | | | BY1995 $M | TY $M | | |
|---|---|---|---|---|---|---|---|
| Appropriation | SAR Baseline Dev Est | Current APB Development Objective/Threshold | | Current Estimate | SAR Baseline Dev Est | Current APB Development Objective | Current Estimate |
| RDT&E | 3016.6 | 8544.3 | 9398.7 | 8477.3 | 3386.5 | 10299.1 | 10257.0 |
| Procurement | 496.7 | 2512.0 | 2763.2 | 2433.0 | 584.5 | 3327.8 | 3254.5 |
| Flyaway | 496.7 | -- | -- | 2069.8 | 584.5 | -- | 2773.5 |
| Recurring | 496.7 | -- | -- | 1808.6 | 584.5 | -- | 2430.7 |
| Non Recurring | 0.0 | -- | -- | 261.2 | 0.0 | -- | 342.8 |
| Support | 0.0 | -- | -- | 363.2 | 0.0 | -- | 481.0 |
| Other Support | 0.0 | -- | -- | 363.2 | 0.0 | -- | 481.0 |
| Initial Spares | 0.0 | -- | -- | 0.0 | 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 | 137.3 | 147.8 | 161.1 | 161.1 |
| Total | 3679.5 | 11245.8 | N/A | 11099.6 | 4147.3 | 13845.0 | 13729.6 |

Confidence Level for Current APB Cost 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.

The costs above reflect the 2014 President's Budget for the Future Years Defense Program (FYDP) for Geosynchronous Earth Orbit (GEO) satellites 1-4, Highly Elliptical Orbit payloads 1 and 2, and ground modifications to meet the requirements in the SBIRS Operational Requirements Document, plus the cost to complete beyond the FYDP. Since the previous SAR, the Under Secretary of Defense for Acquisition, Technology and Logistics directed the program office to establish the SBIRS GEO satellites 5 and 6 as a separate subprogram. As a result, the procurement costs and quantities associated with those satellites have been removed from the Baseline subprogram and moved to the newly-established Block Buy subprogram.

| Quantity | SAR Baseline Dev Est | Current APB Development | Current Estimate |
|---|---|---|---|
| RDT&E | 3 | 2 | 2 |
| Procurement | 2 | 2 | 2 |
| Total | 5 | 4 | 4 |

The above quantity represents four Geosynchronous Earth Orbit (GEO) satellites.

## Cost Summary - Block Buy (GEO 5-6)

**Total Acquisition Cost and Quantity - Block Buy (GEO 5-6)**

| | BY1995 $M | | | BY1995 $M | TY $M | | |
|---|---|---|---|---|---|---|---|
| Appropriation | SAR Baseline Prod Est | Current APB Production Objective/Threshold | | Current Estimate | SAR Baseline Prod Est | 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 | 0.0 | -- | 0.0 |
| Recurring | 0.0 | -- | -- | 0.0 | 0.0 | -- | 0.0 |
| Non Recurring | 0.0 | -- | -- | 0.0 | 0.0 | -- | 0.0 |
| Support | 0.0 | -- | -- | 0.0 | 0.0 | -- | 0.0 |
| Procurement | 2681.6 | 2681.6 | 2949.8 | 2595.5 | 3865.4 | 3865.4 | 3869.3 |
| Flyaway | 2316.8 | -- | -- | 2302.1 | 3324.8 | -- | 3418.7 |
| Recurring | 2075.8 | -- | -- | 2042.9 | 3001.0 | -- | 3061.6 |
| Non Recurring | 241.0 | -- | -- | 259.2 | 323.8 | -- | 357.1 |
| Support | 364.8 | -- | -- | 293.4 | 540.6 | -- | 450.6 |
| Other Support | 364.8 | -- | -- | 293.4 | 540.6 | -- | 450.6 |
| Initial Spares | 0.0 | -- | -- | 0.0 | 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 | 2595.5 | 3865.4 | 3865.4 | 3869.3 |

Confidence Level for Current APB Cost 50% -
The Independent Cost Estimate (ICE) to support the SBIRS Geosynchronous Earth Orbit (GEO) 5-6 procurement, like all life-cycle cost estimates previously performed by the Cost Assessment Program Evaluation (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 Major Defense Acquisition Programs (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.

The Procurement profile above reflects costs for the delivery of the GEO satellites 5 and 6, as documented in the FY 2014 President's Budget.

| Quantity | SAR Baseline Prod Est | Current APB Production | Current Estimate |
|---|---|---|---|
| RDT&E | 0 | 0 | 0 |
| Procurement | 2 | 2 | 2 |
| Total | 2 | 2 | 2 |

The above quantity represents two Geosynchronous Earth Orbit satellites.

## Cost and Funding

## Funding Summary - Total Program

**Appropriation and Quantity Summary - Total Program**
**FY2014 President's Budget / December 2012 SAR (TY$ M)**

| Appropriation | Prior | FY2013 | FY2014 | FY2015 | FY2016 | FY2017 | FY2018 | To Complete | Total |
|---|---|---|---|---|---|---|---|---|---|
| RDT&E | 8929.3 | 365.4 | 267.4 | 190.2 | 187.7 | 112.0 | 98.0 | 107.0 | 10257.0 |
| Procurement | 3090.1 | 466.5 | 562.8 | 569.4 | 535.1 | 557.4 | 1143.1 | 199.4 | 7123.8 |
| 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 2014 Total | 12237.5 | 831.9 | 830.2 | 759.6 | 722.8 | 669.4 | 1241.1 | 306.4 | 17598.9 |
| PB 2013 Total | 12337.0 | 829.1 | 830.2 | 760.7 | 725.9 | 673.4 | 1235.7 | 307.8 | 17699.8 |
| Delta | -99.5 | 2.8 | 0.0 | -1.1 | -3.1 | -4.0 | 5.4 | -1.4 | -100.9 |

## Cost and Funding

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

**Appropriation and Quantity Summary - Baseline (GEO 1-4, HEO 1-2, and Ground)**
**FY2014 President's Budget / December 2012 SAR (TY$ M)**

| Appropriation | Prior | FY2013 | FY2014 | FY2015 | FY2016 | FY2017 | FY2018 | To Complete | Total |
|---|---|---|---|---|---|---|---|---|---|
| RDT&E | 8929.3 | 365.4 | 267.4 | 190.2 | 187.7 | 112.0 | 98.0 | 107.0 | 10257.0 |
| Procurement | 2603.1 | 98.4 | 143.5 | 158.9 | 121.9 | 84.6 | 36.2 | 7.9 | 3254.5 |
| 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 2014 Total | 11750.5 | 463.8 | 410.9 | 349.1 | 309.6 | 196.6 | 134.2 | 114.9 | 13729.6 |
| PB 2013 Total | 12337.0 | 829.1 | 830.2 | 760.7 | 725.9 | 673.4 | 1235.7 | 307.8 | 17699.8 |
| Delta | -586.5 | -365.3 | -419.3 | -411.6 | -416.3 | -476.8 | -1101.5 | -192.9 | -3970.2 |

Program funding and production quantities listed in this SAR are consistent with the FY 2014 President's Budget (PB). The FY 2014 PB did not reflect the enacted DoD appropriation for FY 2013, nor sequestration; it reflected the President's requested amounts for FY 2013.

| Quantity | Undistributed | Prior | FY2013 | FY2014 | FY2015 | FY2016 | FY2017 | FY2018 | 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 2014 Total | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| PB 2013 Total | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| Delta | 0 | 0 | -2 | 0 | 0 | 0 | 0 | 0 | 0 | -2 |

## Funding Summary - Block Buy (GEO 5-6)

**Appropriation and Quantity Summary - Block Buy (GEO 5-6)**
**FY2014 President's Budget / December 2012 SAR (TY$ M)**

| Appropriation | Prior | FY2013 | FY2014 | FY2015 | FY2016 | FY2017 | FY2018 | To Complete | Total |
|---|---|---|---|---|---|---|---|---|---|
| RDT&E | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Procurement | 487.0 | 368.1 | 419.3 | 410.5 | 413.2 | 472.8 | 1106.9 | 191.5 | 3869.3 |
| 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 2014 Total | 487.0 | 368.1 | 419.3 | 410.5 | 413.2 | 472.8 | 1106.9 | 191.5 | 3869.3 |
| PB 2013 Total | -- | -- | -- | -- | -- | -- | -- | -- | 0.0 |
| Delta | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3869.3 |

Program funding and production quantities listed in this SAR are consistent with the FY 2014 President's Budget (PB). The FY 2014 PB did not reflect the enacted DoD appropriation for FY 2013, nor sequestration; it reflected the President's requested amounts for FY 2013.

| Quantity | Undistributed | Prior | FY2013 | FY2014 | FY2015 | FY2016 | FY2017 | FY2018 | To Complete | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Development | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Production | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| PB 2014 Total | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| PB 2013 Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Delta | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |

## Cost and Funding

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

**Annual Funding TY$ - Baseline (GEO 1-4, HEO 1-2, and Ground)**
**3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force**

| Fiscal Year | Quantity | End Item Recurring Flyaway TY $M | Non End Item Recurring Flyaway TY $M | Non Recurring Flyaway TY $M | Total Flyaway TY $M | Total Support TY $M | Total Program TY $M |
|---|---|---|---|---|---|---|---|
| 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 | -- | -- | -- | -- | -- | -- | 365.4 |
| 2014 | -- | -- | -- | -- | -- | -- | 267.4 |
| 2015 | -- | -- | -- | -- | -- | -- | 190.2 |
| 2016 | -- | -- | -- | -- | -- | -- | 187.7 |
| 2017 | -- | -- | -- | -- | -- | -- | 112.0 |
| 2018 | -- | -- | -- | -- | -- | -- | 98.0 |
| 2019 | -- | -- | -- | -- | -- | -- | 107.0 |
| **Subtotal** | **2** | **--** | **--** | **--** | **--** | **--** | **10257.0** |

**Annual Funding BY$ - Baseline (GEO 1-4, HEO 1-2, and Ground)**
**3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force**

| Fiscal Year | Quantity | End Item Recurring Flyaway BY 1995 $M | Non End Item Recurring Flyaway BY 1995 $M | Non Recurring Flyaway BY 1995 $M | Total Flyaway BY 1995 $M | Total Support BY 1995 $M | Total Program BY 1995 $M |
|---|---|---|---|---|---|---|---|
| 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 | -- | -- | -- | -- | -- | -- | 420.2 |
| 2010 | -- | -- | -- | -- | -- | -- | 398.9 |
| 2011 | -- | -- | -- | -- | -- | -- | 376.3 |
| 2012 | -- | -- | -- | -- | -- | -- | 444.0 |
| 2013 | -- | -- | -- | -- | -- | -- | 262.7 |
| 2014 | -- | -- | -- | -- | -- | -- | 188.7 |
| 2015 | -- | -- | -- | -- | -- | -- | 131.7 |
| 2016 | -- | -- | -- | -- | -- | -- | 127.6 |
| 2017 | -- | -- | -- | -- | -- | -- | 74.7 |
| 2018 | -- | -- | -- | -- | -- | -- | 64.1 |
| 2019 | -- | -- | -- | -- | -- | -- | 68.7 |
| **Subtotal** | **2** | **--** | **--** | **--** | **--** | **--** | **8477.3** |

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

The omitted profile is (Then Year $):
FY 2013 $83.2M
FY 2014 $85.1M
FY 2015 $89.7M
FY 2016 $90.3M
FY 2017 $90.4M
FY 2018 $90.0M

**Annual Funding TY$ - Baseline (GEO 1-4, HEO 1-2, and Ground)**
**3020 | Procurement | Missile Procurement, Air Force**

| Fiscal Year | Quantity | End Item Recurring Flyaway TY $M | Non End Item Recurring Flyaway TY $M | Non Recurring Flyaway TY $M | Total Flyaway TY $M | Total Support TY $M | Total Program TY $M |
|---|---|---|---|---|---|---|---|
| 2008 | -- | 183.5 | -- | 80.0 | 263.5 | 5.9 | 269.4 |
| 2009 | 1 | 1065.8 | -- | 206.9 | 1272.7 | 21.3 | 1294.0 |
| 2010 | -- | 144.6 | 1.1 | 5.2 | 150.9 | 28.4 | 179.3 |
| 2011 | 1 | 553.1 | -- | 19.0 | 572.1 | 33.0 | 605.1 |
| 2012 | -- | 42.4 | 0.4 | 0.8 | 43.6 | 23.2 | 66.8 |
| 2013 | -- | 14.7 | 4.2 | 13.7 | 32.6 | 18.7 | 51.3 |
| 2014 | -- | 82.1 | 14.4 | 5.9 | 102.4 | 12.9 | 115.3 |
| 2015 | -- | 89.4 | 22.4 | 5.7 | 117.5 | 15.1 | 132.6 |
| 2016 | -- | 40.6 | 66.7 | 5.6 | 112.9 | 1.3 | 114.2 |
| 2017 | -- | -- | 76.9 | -- | 76.9 | -- | 76.9 |
| 2018 | -- | -- | 28.4 | -- | 28.4 | -- | 28.4 |
| **Subtotal** | **2** | **2216.2** | **214.5** | **342.8** | **2773.5** | **159.8** | **2933.3** |

**Annual Funding BY$ - Baseline (GEO 1-4, HEO 1-2, and Ground)**
**3020 | Procurement | Missile Procurement, Air Force**

| Fiscal Year | Quantity | End Item Recurring Flyaway BY 1995 $M | Non End Item Recurring Flyaway BY 1995 $M | Non Recurring Flyaway BY 1995 $M | Total Flyaway BY 1995 $M | Total Support BY 1995 $M | Total Program BY 1995 $M |
|---|---|---|---|---|---|---|---|
| 2008 | -- | 143.1 | -- | 62.4 | 205.5 | 4.6 | 210.1 |
| 2009 | 1 | 819.1 | -- | 158.9 | 978.0 | 16.4 | 994.4 |
| 2010 | -- | 109.5 | 0.8 | 3.9 | 114.2 | 21.6 | 135.8 |
| 2011 | 1 | 409.5 | -- | 14.1 | 423.6 | 24.4 | 448.0 |
| 2012 | -- | 30.8 | 0.3 | 0.6 | 31.7 | 16.8 | 48.5 |
| 2013 | -- | 10.3 | 3.0 | 9.6 | 22.9 | 13.2 | 36.1 |
| 2014 | -- | 56.7 | 9.9 | 4.1 | 70.7 | 8.9 | 79.6 |
| 2015 | -- | 60.6 | 15.2 | 3.9 | 79.7 | 10.2 | 89.9 |
| 2016 | -- | 27.0 | 44.4 | 3.7 | 75.1 | 0.9 | 76.0 |
| 2017 | -- | -- | 50.2 | -- | 50.2 | -- | 50.2 |
| 2018 | -- | -- | 18.2 | -- | 18.2 | -- | 18.2 |
| **Subtotal** | **2** | **1666.6** | **142.0** | **261.2** | **2069.8** | **117.0** | **2186.8** |

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 2014 President's Budget. 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 2014 President's Budget.

The omitted profile is (Then Year $):
FY 2008 $124.5M
FY 2009 $529.5M
FY 2010 $282.3M
FY 2011 $90.4M
FY 2012 $14.6M
FY 2013 $34.8M
FY 2014 $48.6M
FY 2015 $37.7M
FY 2016 $10.5M
FY 2017 $21.1M
FY 2018 $7.7M

**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 | 1108.6 |
| 2010 | -- | -- |
| 2011 | 1 | 558.0 |
| 2012 | -- | -- |
| 2013 | -- | -- |
| 2014 | -- | -- |
| 2015 | -- | -- |
| 2016 | -- | -- |
| 2017 | -- | -- |
| 2018 | -- | -- |
| **Subtotal** | **2** | **1666.6** |

**Annual Funding TY$ - Baseline (GEO 1-4, HEO 1-2, and Ground)**
**3080 | Procurement | Other Procurement, Air Force**

| Fiscal Year | Quantity | End Item Recurring Flyaway TY $M | Non End Item Recurring Flyaway TY $M | Non Recurring Flyaway TY $M | Total Flyaway TY $M | Total Support TY $M | Total Program TY $M |
|---|---|---|---|---|---|---|---|
| 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 | -- | -- | -- | -- | -- | 49.6 | 49.6 |
| 2013 | -- | -- | -- | -- | -- | 47.1 | 47.1 |
| 2014 | -- | -- | -- | -- | -- | 28.2 | 28.2 |
| 2015 | -- | -- | -- | -- | -- | 26.3 | 26.3 |
| 2016 | -- | -- | -- | -- | -- | 7.7 | 7.7 |
| 2017 | -- | -- | -- | -- | -- | 7.7 | 7.7 |
| 2018 | -- | -- | -- | -- | -- | 7.8 | 7.8 |
| 2019 | -- | -- | -- | -- | -- | 7.9 | 7.9 |
| **Subtotal** | **--** | **--** | **--** | **--** | **--** | **321.2** | **321.2** |

**Annual Funding BY$ - Baseline (GEO 1-4, HEO 1-2, and Ground)**
**3080 | Procurement | Other Procurement, Air Force**

| Fiscal Year | Quantity | End Item Recurring Flyaway BY 1995 $M | Non End Item Recurring Flyaway BY 1995 $M | Non Recurring Flyaway BY 1995 $M | Total Flyaway BY 1995 $M | Total Support BY 1995 $M | Total Program BY 1995 $M |
|---|---|---|---|---|---|---|---|
| 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 | -- | -- | -- | -- | -- | 18.5 | 18.5 |
| 2012 | -- | -- | -- | -- | -- | 36.5 | 36.5 |
| 2013 | -- | -- | -- | -- | -- | 34.0 | 34.0 |
| 2014 | -- | -- | -- | -- | -- | 20.0 | 20.0 |
| 2015 | -- | -- | -- | -- | -- | 18.3 | 18.3 |
| 2016 | -- | -- | -- | -- | -- | 5.2 | 5.2 |
| 2017 | -- | -- | -- | -- | -- | 5.2 | 5.2 |
| 2018 | -- | -- | -- | -- | -- | 5.1 | 5.1 |
| 2019 | -- | -- | -- | -- | -- | 5.1 | 5.1 |
| **Subtotal** | **--** | **--** | **--** | **--** | **--** | **246.2** | **246.2** |

$78M in FY 2009 Other Procurement Air Force funds for Highly Elliptical Orbit 3 ground modifications are excluded. It is a replenishment effort and is baselined separately.

**Annual Funding TY$ - Baseline (GEO 1-4, HEO 1-2, and Ground)**
**3300 | MILCON | Military Construction, Air Force**

| Fiscal Year | Total Program TY $M |
|---|---|
| 1997 | 14.5 |
| 1998 | 14.0 |
| 1999 | -- |
| 2000 | -- |
| 2001 | 2.8 |
| 2002 | 18.8 |
| 2003 | 6.9 |
| **Subtotal** | **57.0** |

**Annual Funding BY$ - Baseline (GEO 1-4, HEO 1-2, and Ground)**
**3300 | MILCON | Military Construction, Air Force**

| Fiscal Year | Total Program BY 1995 $M |
|---|---|
| 1997 | 13.7 |
| 1998 | 13.1 |
| 1999 | -- |
| 2000 | -- |
| 2001 | 2.5 |
| 2002 | 16.7 |
| 2003 | 6.0 |
| **Subtotal** | **52.0** |

**Annual Funding TY$ - Baseline (GEO 1-4, HEO 1-2, and Ground)**
**3400 | Acq O&M | Operation and Maintenance, Air Force**

| Fiscal Year | Total Program TY $M |
|---|---|
| 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 BY$ - Baseline (GEO 1-4, HEO 1-2, and Ground)**
**3400 | Acq O&M | Operation and Maintenance, Air Force**

| Fiscal Year | Total Program BY 1995 $M |
|---|---|
| 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 | 9.9 |
| **Subtotal** | **137.3** |

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

**Annual Funding TY$ - Block Buy (GEO 5-6)**
**3020 | Procurement | Missile Procurement, Air Force**

| Fiscal Year | Quantity | End Item Recurring Flyaway TY $M | Non End Item Recurring Flyaway TY $M | Non Recurring Flyaway TY $M | Total Flyaway TY $M | Total Support TY $M | Total Program TY $M |
|---|---|---|---|---|---|---|---|
| 2011 | -- | 31.5 | -- | 212.0 | 243.5 | -- | 243.5 |
| 2012 | -- | 131.5 | -- | 112.0 | 243.5 | -- | 243.5 |
| 2013 | 2 | 344.3 | -- | -- | 344.3 | 23.8 | 368.1 |
| 2014 | -- | 379.3 | -- | -- | 379.3 | 40.0 | 419.3 |
| 2015 | -- | 368.3 | -- | -- | 368.3 | 42.2 | 410.5 |
| 2016 | -- | 350.4 | -- | -- | 350.4 | 62.8 | 413.2 |
| 2017 | -- | 400.2 | 1.2 | 6.5 | 407.9 | 64.9 | 472.8 |
| 2018 | -- | 857.6 | 172.5 | 7.9 | 1038.0 | 68.9 | 1106.9 |
| 2019 | -- | 11.5 | -- | 10.2 | 21.7 | 70.8 | 92.5 |
| 2020 | -- | 13.3 | -- | 8.5 | 21.8 | 77.2 | 99.0 |
| **Subtotal** | **2** | **2887.9** | **173.7** | **357.1** | **3418.7** | **450.6** | **3869.3** |

**Annual Funding BY$ - Block Buy (GEO 5-6)**
**3020 | Procurement | Missile Procurement, Air Force**

| Fiscal Year | Quantity | End Item Recurring Flyaway BY 1995 $M | Non End Item Recurring Flyaway BY 1995 $M | Non Recurring Flyaway BY 1995 $M | Total Flyaway BY 1995 $M | Total Support BY 1995 $M | Total Program BY 1995 $M |
|---|---|---|---|---|---|---|---|
| 2011 | -- | 23.3 | -- | 157.0 | 180.3 | -- | 180.3 |
| 2012 | -- | 95.4 | -- | 81.3 | 176.7 | -- | 176.7 |
| 2013 | 2 | 242.3 | -- | -- | 242.3 | 16.8 | 259.1 |
| 2014 | -- | 262.0 | -- | -- | 262.0 | 27.6 | 289.6 |
| 2015 | -- | 249.6 | -- | -- | 249.6 | 28.6 | 278.2 |
| 2016 | -- | 233.1 | -- | -- | 233.1 | 41.7 | 274.8 |
| 2017 | -- | 261.2 | 0.8 | 4.2 | 266.2 | 42.4 | 308.6 |
| 2018 | -- | 549.3 | 110.5 | 5.1 | 664.9 | 44.1 | 709.0 |
| 2019 | -- | 7.2 | -- | 6.4 | 13.6 | 44.5 | 58.1 |
| 2020 | -- | 8.2 | -- | 5.2 | 13.4 | 47.7 | 61.1 |
| **Subtotal** | **2** | **1931.6** | **111.3** | **259.2** | **2302.1** | **293.4** | **2595.5** |

The procurement profile above reflects procurement costs for the delivery of the Geosynchronous Earth Orbit satellites 5 and 6, as documented in the FY 2014 President's Budget. 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 | 1931.6 |
| 2014 | -- | -- |
| 2015 | -- | -- |
| 2016 | -- | -- |
| 2017 | -- | -- |
| 2018 | -- | -- |
| 2019 | -- | -- |
| 2020 | -- | -- |
| **Subtotal** | **2** | **1931.6** |

## Low Rate Initial Production

**Baseline (GEO 1-4, HEO 1-2, and Ground)**
There is no Low Rate Initial Production for the SBIRS High Baseline subprogram.

**Block Buy (GEO 5-6)**
There is no Low Rate Initial Production for the SBIRS High Block Buy subprogram.

## Foreign Military Sales

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

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

**Block Buy (GEO 5-6)**

None

## Nuclear Cost

**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)

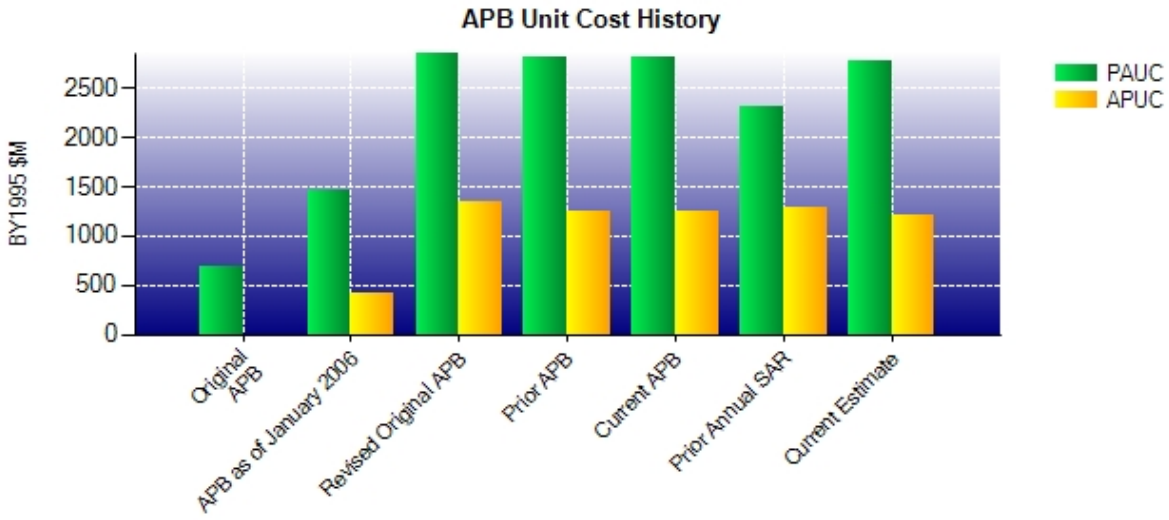
## Unit Cost Report

| | BY1995 $M | BY1995 $M | |
|---|---|---|---|
| **Unit Cost** | **Current UCR Baseline (FEB 2013 APB)** | **Current Estimate (DEC 2012 SAR)** | **BY % Change** |
| Program Acquisition Unit Cost (PAUC) | | | |
| Cost | 11245.8 | 11099.6 | |
| Quantity | 4 | 4 | |
| Unit Cost | 2811.450 | 2774.900 | -1.30 |
| Average Procurement Unit Cost (APUC) | | | |
| Cost | 2512.0 | 2433.0 | |
| Quantity | 2 | 2 | |
| Unit Cost | 1256.000 | 1216.500 | -3.14 |

| | BY1995 $M | BY1995 $M | |
|---|---|---|---|
| **Unit Cost** | **Revised Original UCR Baseline (MAR 2006 APB)** | **Current Estimate (DEC 2012 SAR)** | **BY % Change** |
| Program Acquisition Unit Cost (PAUC) | | | |
| Cost | 8569.3 | 11099.6 | |
| Quantity | 3 | 4 | |
| Unit Cost | 2856.433 | 2774.900 | -2.85 |
| Average Procurement Unit Cost (APUC) | | | |
| Cost | 1342.8 | 2433.0 | |
| Quantity | 1 | 2 | |
| Unit Cost | 1342.800 | 1216.500 | -9.41 |

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

### Unit Cost History




| | | BY1995 $M | | TY $M | |
|---|---|---|---|---|---|
| | Date | 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 2011 | 2306.567 | 1281.850 | 2949.967 | 1794.225 |
| **Current Estimate** | DEC 2012 | 2774.900 | 1216.500 | 3432.400 | 1627.250 |

**SAR Unit Cost History**

**Current SAR Baseline to Current Estimate (TY $M)**

| Initial PAUC Dev Est | Changes | | | | | | | | PAUC Current Est |
|---|---|---|---|---|---|---|---|---|---|
| | Econ | Qty | Sch | Eng | Est | Oth | Spt | Total | |
| 829.460 | 31.675 | 169.190 | 140.250 | 126.600 | 2014.250 | 0.000 | 120.975 | 2602.940 | 3432.400 |

### Current SAR Baseline to Current Estimate (TY $M)

| Initial APUC Dev Est | Changes | | | | | | | | APUC Current Est |
|---|---|---|---|---|---|---|---|---|---|
| | Econ | Qty | Sch | Eng | Est | Oth | Spt | Total | |
| 292.250 | 42.200 | 0.000 | 0.000 | 0.000 | 1050.850 | 0.000 | 241.950 | 1335.000 | 1627.250 |

### SAR Baseline History

| Item/Event | SAR Planning Estimate (PE) | SAR Development Estimate (DE) | SAR Production Estimate (PdE) | 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 | 13729.6 |
| Total Quantity | N/A | 5 | N/A | 4 |
| Prog. Acq. Unit Cost (PAUC) | N/A | 829.460 | N/A | 3432.400 |

## Block Buy (GEO 5-6)

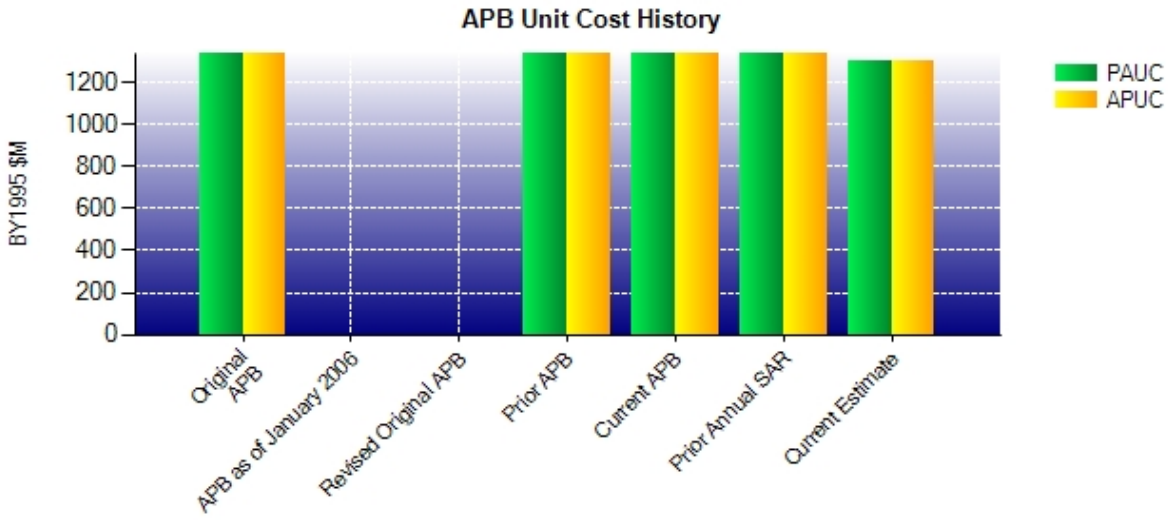
## Unit Cost Report

| Unit Cost | BY1995 $M Current UCR Baseline (FEB 2013 APB) | BY1995 $M Current Estimate (DEC 2012 SAR) | BY % Change |
|---|---|---|---|
| Program Acquisition Unit Cost (PAUC) | | | |
| Cost | 2681.6 | 2595.5 | |
| Quantity | 2 | 2 | |
| Unit Cost | 1340.800 | 1297.750 | -3.21 |
| Average Procurement Unit Cost (APUC) | | | |
| Cost | 2681.6 | 2595.5 | |
| Quantity | 2 | 2 | |
| Unit Cost | 1340.800 | 1297.750 | -3.21 |

| Unit Cost | BY1995 $M Original UCR Baseline (SEP 2012 APB) | BY1995 $M Current Estimate (DEC 2012 SAR) | BY % Change |
|---|---|---|---|
| Program Acquisition Unit Cost (PAUC) | | | |
| Cost | 2681.6 | 2595.5 | |
| Quantity | 2 | 2 | |
| Unit Cost | 1340.800 | 1297.750 | -3.21 |
| Average Procurement Unit Cost (APUC) | | | |
| Cost | 2681.6 | 2595.5 | |
| Quantity | 2 | 2 | |
| Unit Cost | 1340.800 | 1297.750 | -3.21 |

## Block Buy (GEO 5-6)

## Unit Cost History




| | | BY1995 $M | | TY $M | |
|---|---|---|---|---|---|
| | Date | 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 2011 | 1340.800 | 1340.800 | 1932.700 | 1932.700 |
| **Current Estimate** | DEC 2012 | 1297.750 | 1297.750 | 1934.650 | 1934.650 |

### SAR Unit Cost History

### Current SAR Baseline to Current Estimate (TY $M)

| Initial PAUC Prod Est | Changes | | | | | | | | PAUC Current Est |
|---|---|---|---|---|---|---|---|---|---|
| | Econ | Qty | Sch | Eng | Est | Oth | Spt | Total | |
| 1932.700 | 66.700 | 0.000 | 0.000 | 0.000 | -9.050 | 0.000 | -55.700 | 1.950 | 1934.650 |

### Current SAR Baseline to Current Estimate (TY $M)

| Initial APUC Prod Est | Changes | | | | | | | | APUC Current Est |
|---|---|---|---|---|---|---|---|---|---|
| | Econ | Qty | Sch | Eng | Est | Oth | Spt | Total | |
| 1932.700 | 66.700 | 0.000 | 0.000 | 0.000 | -9.050 | 0.000 | -55.700 | 1.950 | 1934.650 |

### SAR Baseline History

| Item/Event | SAR Planning Estimate (PE) | SAR Development Estimate (DE) | SAR Production Estimate (PdE) | Current Estimate |
|---|---|---|---|---|
| Total Cost (TY $M) | N/A | N/A | N/A | 3869.3 |
| Total Quantity | N/A | N/A | N/A | 2 |
| Prog. Acq. Unit Cost (PAUC) | N/A | N/A | N/A | 1934.650 |

## Cost Variance

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

| Summary Then Year $M | | | | | |
|---|---|---|---|---|---|
| | RDT&E | Proc | MILCON | Acq O&M | Total |
| SAR Baseline (Dev Est) | 3386.5 | 584.5 | 28.5 | 147.8 | 4147.3 |
| Previous Changes | | | | | |
| Economic | +26.4 | +62.1 | -1.4 | +2.0 | +89.1 |
| Quantity | -152.7 | -- | -- | -- | -152.7 |
| Schedule | +561.0 | -- | -- | -- | +561.0 |
| Engineering | +514.2 | -- | +7.8 | -15.6 | +506.4 |
| Estimating | +5969.4 | +2082.2 | +22.1 | +26.9 | +8100.6 |
| Other | -- | -- | -- | -- | -- |
| Support | -- | +582.7 | -- | -- | +582.7 |
| Subtotal | +6918.3 | +2727.0 | +28.5 | +13.3 | +9687.1 |
| Current Changes | | | | | |
| Economic | +15.3 | +22.3 | -- | -- | +37.6 |
| Quantity | -- | -- | -- | -- | -- |
| Schedule | -- | -- | -- | -- | -- |
| Engineering | -- | -- | -- | -- | -- |
| Estimating | -63.1 | +19.5 | -- | -- | -43.6 |
| Other | -- | -- | -- | -- | -- |
| Support | -- | -98.8 | -- | -- | -98.8 |
| Subtotal | -47.8 | -57.0 | -- | -- | -104.8 |
| Total Changes | +6870.5 | +2670.0 | +28.5 | +13.3 | +9582.3 |
| CE - Cost Variance | 10257.0 | 3254.5 | 57.0 | 161.1 | 13729.6 |
| CE - Cost & Funding | 10257.0 | 3254.5 | 57.0 | 161.1 | 13729.6 |

| Summary Base Year 1995 $M | | | | | |
|---|---|---|---|---|---|
| | RDT&E | Proc | MILCON | Acq O&M | Total |
| SAR Baseline (Dev Est) | 3016.6 | 496.7 | 26.0 | 140.2 | 3679.5 |
| Previous Changes | | | | | |
| Economic | -- | -- | -- | -- | -- |
| Quantity | -128.4 | -- | -- | -- | -128.4 |
| Schedule | +416.6 | -- | -- | -- | +416.6 |
| Engineering | +460.5 | -- | +6.8 | -13.5 | +453.8 |
| Estimating | +4757.4 | +1523.8 | +19.2 | +10.6 | +6311.0 |
| Other | -- | -- | -- | -- | -- |
| Support | -- | +425.3 | -- | -- | +425.3 |
| Subtotal | +5506.1 | +1949.1 | +26.0 | -2.9 | +7478.3 |
| Current Changes | | | | | |
| Economic | -- | -- | -- | -- | -- |
| Quantity | -- | -- | -- | -- | -- |
| Schedule | -- | -- | -- | -- | -- |
| Engineering | -- | -- | -- | -- | -- |
| Estimating | -45.4 | +49.3 | -- | -- | +3.9 |
| Other | -- | -- | -- | -- | -- |
| Support | -- | -62.1 | -- | -- | -62.1 |
| Subtotal | -45.4 | -12.8 | -- | -- | -58.2 |
| Total Changes | +5460.7 | +1936.3 | +26.0 | -2.9 | +7420.1 |
| CE - Cost Variance | 8477.3 | 2433.0 | 52.0 | 137.3 | 11099.6 |
| CE - Cost & Funding | 8477.3 | 2433.0 | 52.0 | 137.3 | 11099.6 |

Previous Estimate: September 2012

| RDT&E | $M | |
|---|---|---|
| **Current Change Explanations** | **Base Year** | **Then Year** |
| Revised escalation indices. (Economic) | N/A | +15.3 |
| Revised estimate due to removal of costs associated with the Commercially Hosted Infrared Payload effort. These costs are not part of the approved SBIRS High program. (Estimating) | -29.6 | -39.8 |
| Adjustment for current and prior escalation. (Estimating) | -2.9 | -4.0 |
| Revised estimate due to reduced program management support requirement based on the 2013 Single Best Estimate. (Estimating) | -12.9 | -19.3 |
| RDT&E Subtotal | -45.4 | -47.8 |

| Procurement | $M | |
|---|---|---|
| **Current Change Explanations** | **Base Year** | **Then Year** |
| Revised escalation indices. (Economic) | N/A | +22.3 |
| Revised estimate due to additional allocation of funds to the Highly Elliptical Orbit (HEO) Payloads, which are not part of the approved SBIRS High Program. (Estimating) | -43.2 | -58.2 |
| Adjustment for current and prior escalation. (Estimating) | -1.4 | -1.7 |
| Revised estimate to align with the 2013 Single Best Estimate's increase for recurring end item costs. (Estimating) | +93.9 | +79.4 |
| Adjustment for current and prior escalation. (Support) | -0.6 | -1.1 |
| Decrease in support costs due reduced support requirements in program management and administration as well as reallocation of support requirements to the SBIRS Geosynchronous Earth Orbit 5-6 subprogram. (Support) | -61.1 | -97.0 |
| Decrease in Other Support (Air Force) to reflect the application of new outyear escalation indices. (Support) | -0.4 | -0.7 |
| Procurement Subtotal | -12.8 | -57.0 |

## Cost Variance

## Block Buy (GEO 5-6)

| Summary Then Year $M | | | | |
|---|---|---|---|---|
| | RDT&E | Proc | MILCON | Total |
| SAR Baseline (Prod Est) | -- | 3865.4 | -- | 3865.4 |
| Previous Changes | | | | |
| Economic | -- | -- | -- | -- |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | -- | -- | -- |
| Engineering | -- | -- | -- | -- |
| Estimating | -- | -- | -- | -- |
| Other | -- | -- | -- | -- |
| Support | -- | -- | -- | -- |
| Subtotal | -- | -- | -- | -- |
| Current Changes | | | | |
| Economic | -- | +133.4 | -- | +133.4 |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | -- | -- | -- |
| Engineering | -- | -- | -- | -- |
| Estimating | -- | -18.1 | -- | -18.1 |
| Other | -- | -- | -- | -- |
| Support | -- | -111.4 | -- | -111.4 |
| Subtotal | -- | +3.9 | -- | +3.9 |
| Total Changes | -- | +3.9 | -- | +3.9 |
| CE - Cost Variance | -- | 3869.3 | -- | 3869.3 |
| CE - Cost & Funding | -- | 3869.3 | -- | 3869.3 |

| Summary Base Year 1995 $M | | | | |
|---|---|---|---|---|
| | RDT&E | Proc | MILCON | Total |
| SAR Baseline (Prod Est) | -- | 2681.6 | -- | 2681.6 |
| Previous Changes | | | | |
| Economic | -- | -- | -- | -- |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | -- | -- | -- |
| Engineering | -- | -- | -- | -- |
| Estimating | -- | -- | -- | -- |
| Other | -- | -- | -- | -- |
| Support | -- | -- | -- | -- |
| Subtotal | -- | -- | -- | -- |
| Current Changes | | | | |
| Economic | -- | -- | -- | -- |
| Quantity | -- | -- | -- | -- |
| Schedule | -- | -- | -- | -- |
| Engineering | -- | -- | -- | -- |
| Estimating | -- | -14.7 | -- | -14.7 |
| Other | -- | -- | -- | -- |
| Support | -- | -71.4 | -- | -71.4 |
| Subtotal | -- | -86.1 | -- | -86.1 |
| Total Changes | -- | -86.1 | -- | -86.1 |
| CE - Cost Variance | -- | 2595.5 | -- | 2595.5 |
| CE - Cost & Funding | -- | 2595.5 | -- | 2595.5 |

Previous Estimate: September 2012

| Procurement | $M | |
|---|---|---|
| **Current Change Explanations** | **Base Year** | **Then Year** |
| Revised escalation indices. (Economic) | N/A | +133.4 |
| Revised estimate due to reduced requirement for flyaway costs in accordance with the Cost Assessment and Program Evaluation Independent Cost Estimate. (Estimating) | -2.4 | -1.1 |
| Adjustment for current and prior escalation. (Estimating) | -12.3 | -17.0 |
| Adjustment for current and prior escalation. (Support) | -0.6 | -1.0 |
| Decrease in Other Support due to reduced program office support requirements partially resulting from an updated allocation of cost-sharing across the portfolio. (Support) | -70.8 | -110.4 |
| Procurement Subtotal | -86.1 | +3.9 |

## Contracts

| Appropriation: RDT&E | |
|---|---|
| Contract Name | **SBIRS High EMD Mod** |
| Contractor | Lockheed Martin Corporation |
| Contractor Location | Sunnyvale, CA 94089 |
| Contract Number, Type | F04701-95-C-0017, CPAF |
| Award Date | November 08, 1996 |
| Definitization Date | November 08, 1996 |

| Initial Contract Price ($M) | | | Current Contract Price ($M) | | | Estimated Price At Completion ($M) | |
|---|---|---|---|---|---|---|---|
| Target | Ceiling | Qty | Target | Ceiling | Qty | Contractor | Program Manager |
| 1590.1 | N/A | 2 | 6292.6 | N/A | 4 | 9276.2 | 9341.2 |

| Variance | Cost Variance | Schedule Variance |
|---|---|---|
| Cumulative Variances To Date (11/25/2012) | -299.3 | -3.8 |
| Previous Cumulative Variances | -322.3 | -10.6 |
| Net Change | +23.0 | +6.8 |

### Cost And Schedule Variance Explanations

The favorable net change in the cost variance is due to continued testing efficiencies, level-of-effort under-runs and staff reductions.

The favorable net change in the schedule variance is due to ground material recoveries and early Block 10 material deliveries, as well as completion of Software Item Qualification Testing prior to delivery of Geosynchronous Earth Orbit satellite 2.

### Contract Comments

This contract is more than 90% complete; therefore, this is the final report for this contract.

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to multiple program restructures and program extensions.

The change in quantity reflects the inclusion of the Highly Elliptical Orbit (HEO) Payloads 1-2 as deliverables to align with the Contract Performance Report. Previously quantities were only considered to be Geosychronous Earth Orbit (GEO) satellites 1-2. There is no increase in contract quantity since the previous SAR.

The current Engineering, Manufacturing and Development contractor Estimated Price at Completion is $9,276.2M, compared to $9,215M in the December 2011 SAR. The increase since the previous SAR is due to added scope for a six month extension for contractor logistics support and updates to the contractor's Comprehensive Estimate at Completion. The government’s Estimated Price at Completion is $9,341M and is consistent with both the scope of the contractor's estimate and the 2011 Service Cost Position.

The difference between the current target contract price and the contractor and program manager's estimated price at completion is due to the multiple contract re-baselines. The current target price does not include the cumulative Over Target Baseline (OTB) value, while the estimated price at completion does incorporate the OTBs.

**Appropriation: Procurement**

| | |
|---|---|
| Contract Name | **SBIRS Follow-on Production** |
| Contractor | Lockheed Martin Corporation |
| Contractor Location | Sunnyvale, CA 94089 |
| Contract Number, Type | FA8810-08-C-0002, CPAF |
| Award Date | March 14, 2008 |
| Definitization Date | April 08, 2009 |

| 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 | 3009.5 | N/A | 4 | 3100.0 | 3459.4 |

| Variance | Cost Variance | Schedule Variance |
|---|---|---|
| Cumulative Variances To Date (11/25/2012) | -56.2 | -52.4 |
| Previous Cumulative Variances | -53.0 | -34.4 |
| Net Change | -3.2 | -18.0 |

**Cost And Schedule Variance Explanations**

The unfavorable net change in the cost variance is due to Pointing and Control Assembly and payload manufacturing activities.

The unfavorable net change in the schedule variance is due to Pointing and Control Assembly and payload manufacturing issues, including late Contractor Furnished Equipment and integration and test challenges. Manufacturing issues with the Geosynchronous Earth Orbit satellite 3 propellant tanks also resulted in rework that drove negative schedule variances.

**Contract Comments**

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to additional scope. The program office exercised the Highly Elliptical Orbit (HEO) 3 and 4, and Geosynchronous Earth Orbit (GEO) satellite 3 and 4 production efforts, increasing the quantity from zero to two, HEO-3 ground modification effort, and various studies and launch vehicle integration Contract Line Items.

The change in quantity reflects the inclusion of the HEO Payloads 3-4 as deliverables to align with the Contract Performance Report. Previously reported quantities were only considered to be GEO satellites 3-4. There is no increase in contract quantity since the previous SAR.

The contractor Estimated Price at Completion is $3100M, compared to $3000.6M in the December 2011 SAR. The increase is primarily due to additional scope for existing contract options for GEO-3 launch and early on-orbit support, and GEO-4 launch vehicle integration. The government's Estimated Price at Completion is $3459.4M, derived from the April 2011 Air Force Service Cost Position, which assumes a December 2015 GEO-3 delivery and a February 2013 HEO-3 delivery.

In order to mitigate further delays and build confidence in future delivery schedules, the government team implemented a series of actions and reviews aimed at mitigating the projected overrun, to include a comprehensive review of the technical and schedule baseline to seek and capitalize on production efficiencies. Mitigation efforts have been paying dividends and the program’s cost and schedule performance remained relatively stable over the past twelve months.

**Appropriation: Procurement**

| | |
|---|---|
| Contract Name | **SBIRS 5-6 Initial Non-Recurring Engineering** |
| Contractor | Lockheed Martin Corporation |
| Contractor Location | Sunnyvale, CA 94089 |
| Contract Number, Type | FA8810-12-C-0001, CPIF |
| Award Date | September 11, 2012 |
| Definitization Date | September 11, 2012 |

| 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 | 0 | 81.9 | N/A | 0 | 81.9 | 81.9 |

| Variance | Cost Variance | Schedule Variance |
|---|---|---|
| Cumulative Variances To Date (11/25/2012) | +0.1 | +0.2 |
| Previous Cumulative Variances | -- | -- |
| Net Change | +0.1 | +0.2 |

**Cost And Schedule Variance Explanations**

The favorable cumulative cost variance is due to labor in support of the initial non-recurring engineering phase being rephased to support supplier forecasted readiness review dates.

The favorable cumulative schedule variance is due to accelerated effort to acquire long lead parts.

**Contract Comments**

This is the first time this contract is being reported.

The Geosynchronous Earth Orbit (GEO) 5 and 6 Initial Non-Recurring Engineering (I-NRE) contract was awarded in September 2012. It is a Cost Plus Incentive Fee contract with a target price of $81.9M. An Engineering Change Proposal to modify the contract to complete all component builds through component qualification was awarded in December 2012, but is not yet reflected in the contract information above.

## Deliveries and Expenditures

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

| Deliveries To Date | Plan To Date | Actual To Date | Total Quantity | Percent Delivered |
|---|---|---|---|---|
| Development | 2 | 2 | 2 | 100.00% |
| Production | 0 | 0 | 2 | 0.00% |
| Total Program Quantities Delivered | 2 | 2 | 4 | 50.00% |

| Expenditures and Appropriations (TY $M) | | | |
|---|---|---|---|
| Total Acquisition Cost | 13729.6 | Years Appropriated | 19 |
| Expenditures To Date | 10888.8 | Percent Years Appropriated | 76.00% |
| Percent Expended | 79.31% | Appropriated to Date | 12214.3 |
| Total Funding Years | 25 | Percent Appropriated | 88.96% |

The above data is current as of 3/31/2013.

### Block Buy (GEO 5-6)

| Deliveries To Date | Plan To Date | Actual To Date | Total Quantity | Percent Delivered |
|---|---|---|---|---|
| Development | 0 | 0 | 0 | -- |
| Production | 0 | 0 | 2 | 0.00% |
| Total Program Quantities Delivered | 0 | 0 | 2 | 0.00% |

| Expenditures and Appropriations (TY $M) | | | |
|---|---|---|---|
| Total Acquisition Cost | 3869.3 | Years Appropriated | 3 |
| Expenditures To Date | 13.0 | Percent Years Appropriated | 30.00% |
| Percent Expended | 0.34% | Appropriated to Date | 855.1 |
| Total Funding Years | 10 | Percent Appropriated | 22.10% |

The above data is current as of 3/31/2013.

## Operating and Support Cost

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

**Assumptions and Ground Rules**

Cost Estimate Reference:
The current estimate is based on the Program Office Estimate that was completed in December 2012.

Sustainment Strategy:
Operation and Maintenance 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 became operational in December 2001. These funds support the procurement of 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 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.

Antecedent Information:
Comparable Operating and Support cost estimates for the legacy system, Defense Support Program, are not available.

| Unitized O&S Costs BY1995 $M | | |
|---|---|---|
| **Cost Element** | **Baseline (GEO 1-4, HEO 1-2, and Ground) Avg Annual Cost for SBIRS High System** | **Defense Support Program (Antecedent) N/A** |
| Unit-Level Manpower | 60.4 | 0.0 |
| Unit Operations | 2.6 | 0.0 |
| Maintenance | 31.4 | 0.0 |
| Sustaining Support | 37.7 | 0.0 |
| Continuing System Improvements | 6.3 | 0.0 |
| Indirect Support | 4.4 | 0.0 |
| Other | 0.0 | 0.0 |
| Total | 142.8 | -- |

Unitized Cost Comments:
Unitized costs reflect the Average Annual cost for the SBIRS High system.

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

Total O&S Costs Comments:

The SBIRS High Baseline subprogram profile reflects the first 30 years of the 35 year SBIRS HIgh Life Cycle Cost, from 1999-2028. The current estimate was completed in December 2012. Average annual costs have been updated to reflect the new Life Cycle Cost estimate. Manpower and other indirect costs were added, other costs were updated to reflect actuals to date and incorporate efficiencies. The average annual costs are based on the entire 35 year life cycle.

**Disposal Costs**

Disposal costs are not included in the above estimate. The disposal estimate is to be determined.

**Block Buy (GEO 5-6)**

**Assumptions and Ground Rules**

Cost Estimate Reference:
The current estimate is based on the Program Office Estimate that was completed in December 2012.

Sustainment Strategy:
Operation and Maintenance 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 became operational in December 2001. These funds support the procurement of 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 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.

Antecedent Information:
Comparable Operating and Support cost estimates for the legacy system, Defense Support Program, are not available.

| Unitized O&S Costs BY1995 $M | | |
|---|---|---|
| **Cost Element** | **Block Buy (GEO 5-6) Avg Annual Cost for SBIRS High System** | **Defense Support Program (Antecedent) N/A** |
| Unit-Level Manpower | 60.4 | 0.0 |
| Unit Operations | 2.6 | 0.0 |
| Maintenance | 31.4 | 0.0 |
| Sustaining Support | 37.7 | 0.0 |
| Continuing System Improvements | 6.3 | 0.0 |
| Indirect Support | 4.4 | 0.0 |
| Other | 0.0 | 0.0 |
| Total | 142.8 | -- |

Unitized Cost Comments:
Unitized costs reflect the Average Annual cost for the SBIRS High system.

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

Total O&S Costs Comments:

The SBIRS High Block Buy subprogram total O&S costs reflect the last 5 years of the SBIRS High Major Defense Acquisitin Program (MDAP) 35 year Life Cycle Cost, from 2029-2033, representing the extension to the SBIRS High Baseline life cycle due to the addition of Geosychronous Earth Orbit satellites 5 and 6. The average annual costs are based on the entire 35 year MDAP life cycle.

**Disposal Costs**

Disposal costs are not included in the above estimate. The disposal estimate is to be determined.