Selected Acquisition Report (SAR)

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

SBIRS HIGH

As of September 30, 2011

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Program Information

Designation And Nomenclature (Popular Name)

Space Based Infrared System (SBIRS) High Component

DoD Component

Air Force

Responsible Office

Responsible Office

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Date Assigned May 8, 2011

References

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 March 31, 2006

Mission and Description

The Space Based Infrared Systems (SBIRS) High program is intended to satisfy key requirements delineated in the SBIRS Operational Requirements Document (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 (CONUS)-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.

Executive Summary

This quarterly exception SAR is being submitted due to a schedule slip of six months to the current estimate for the Mission Control Station Increment 2 Certification milestone.

Acquisition Program Baseline (APB)

The Service Acquisition Executive signed the revised SBIRS APB on September 23, 2011. The Air Force provided the APB to the Office of the Secretary of Defense (OSD) staff for final coordination and USD(AT&L) approval. The revised APB incorporates the latest reconciled cost estimates and establishes new schedule milestones for delivery of the GEO satellites and associated ground segment upgrades necessary to ultimately satisfy the SBIRS requirements.

Geosynchronous Earth Orbit 1 (GEO 1) Space Vehicle (SV)

The GEO 1 satellite was transported on a C-5 to Cape Canaveral Air Force Station on March 3, 2011. GEO 1 successfully launched aboard an Atlas V, with a Centaur upper stage, on May 7, 2011. The spacecraft separated from the booster 43 minutes after launch and achieved geosynchronous orbit. The satellite deployments were successful and the team received first light data on June 21, 2011. Early on orbit system test concluded on July 14, 2011. The team is currently conducting the tests designed to characterize the infrared sensor and conduct radiometric calibrations. These tests began on July 25, 2011 and are scheduled to complete in mid October 2011. Unprocessed GEO data is currently being sent to some users and the program office expects to provide GEO data to the Technical Intelligence (TI) agencies by the end of the 2011. GEO 1 repositioning to its operational node is in progress and all activities are on path to bringing GEO 1 into formal operations in the fall of 2012.

SBIRS Geosynchronous Earth Orbit 2 (GEO 2) Space Vehicle (SV) Activities

GEO 2 successfully completed the Baseline Integrated System Test on May 28, 2011 and the team successfully conducted deployment testing of the various assemblies (the deployable light shade, the antenna wing assembly and the contamination door assembly) on August 1, 2011. The Thermal Vacuum Test, which demonstrates the ability of the satellite to perform under the vacuum and temperature extremes experienced during launch and flight is underway. Open Door Testing was held September 20 - 27, 2011, and closed door testing began on September 29, 2011 and is expected to complete November 15, 2011. The GEO 2 space vehicle is on track for delivery in summer of 2012. The assignment of a specific launch date is under review and a decision based on range availability and national priorities is expected by the end of 2011.

Ground Baseline Activity

The ground team completed contracting actions to execute a revised ground architecture strategy and product deliveries on April 4, 2011, scheduled to deliver in June 2016. Block 10 is the first major delivery of the new ground architecture and is built upon a 'smart' architecture that allows the four different mission areas to be segregated to achieve future sustainment efficiencies and enable independent evolution of capability. The capability will be fielded at the primary and back-up Government ground processing facility, and it will replace the existing legacy operational ground system and other interim stand-alone software baselines. The Block 10 system will perform integrated processing of data from both SBIRS and Defense Support Program satellites.

SBIRS Survivable / Endurable Element (S2E2)

The S2E2 project will provide the capability to satisfy the survivable/endurable requirement contained in the SBIRS 1996 Operational Requirements Document (ORD). Originally, this requirement was going to be satisfied through the development of a new mobile element capable of processing the SBIRS data. However, due to cost growth, that plan was replaced with a more affordable solution, which is based on reuse of existing mobile assets. The initial contract modification was awarded in July 2011. The first of the mobiles with the required capability has a planned

delivery of September 2015.

SBIRS Follow On Production (SFP) Program

The SFP contract is experiencing cost and schedule pressures due to development delays and test failures with Special Test Equipment (STE) as well as technical issues with the payload subassemblies resulting in a delayed delivery of several components for payload integration for GEO 3 and HEO 3. The Air Force Service Cost Position estimate projects a cost overrun of $438M and a 12-month schedule slip to GEO 3 and GEO 4 delivery. The contractor does not agree with the government's estimated overrun and schedule slip; however, based on their August Contract Performance Report, they are claiming a $52M cost variance. 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. The Integrated Baseline Review is projected to complete in the first quarter of calendar year 2012 and will include an extensive review of the contractor's Integrated Master Schedule down through the subcontractors' respective schedules to ensure the baseline is solid. Additionally, the government team requested the contractor initiate an independent (external to SBIRS) review of STE development and a senior review of payload production. These reviews are expected to be complete by the end of December 2011.

SBIRS Replenishment Production (SRP) -- GEO 5-6 Acquisition Strategy

During this period the team gained approval on several documents supporting the SRP acquisition. The SRP contract will acquire GEO 5 and GEO 6 as production units to replenish the GEO constellation. The sole source Justification and Approval document was signed by the Service Acquisition Executive (SAE) in July 2011 and the Acquisition Strategy document was signed by the Service Acquisition Executive on October 11, 2011.

Software Statement

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

Threshold Breaches

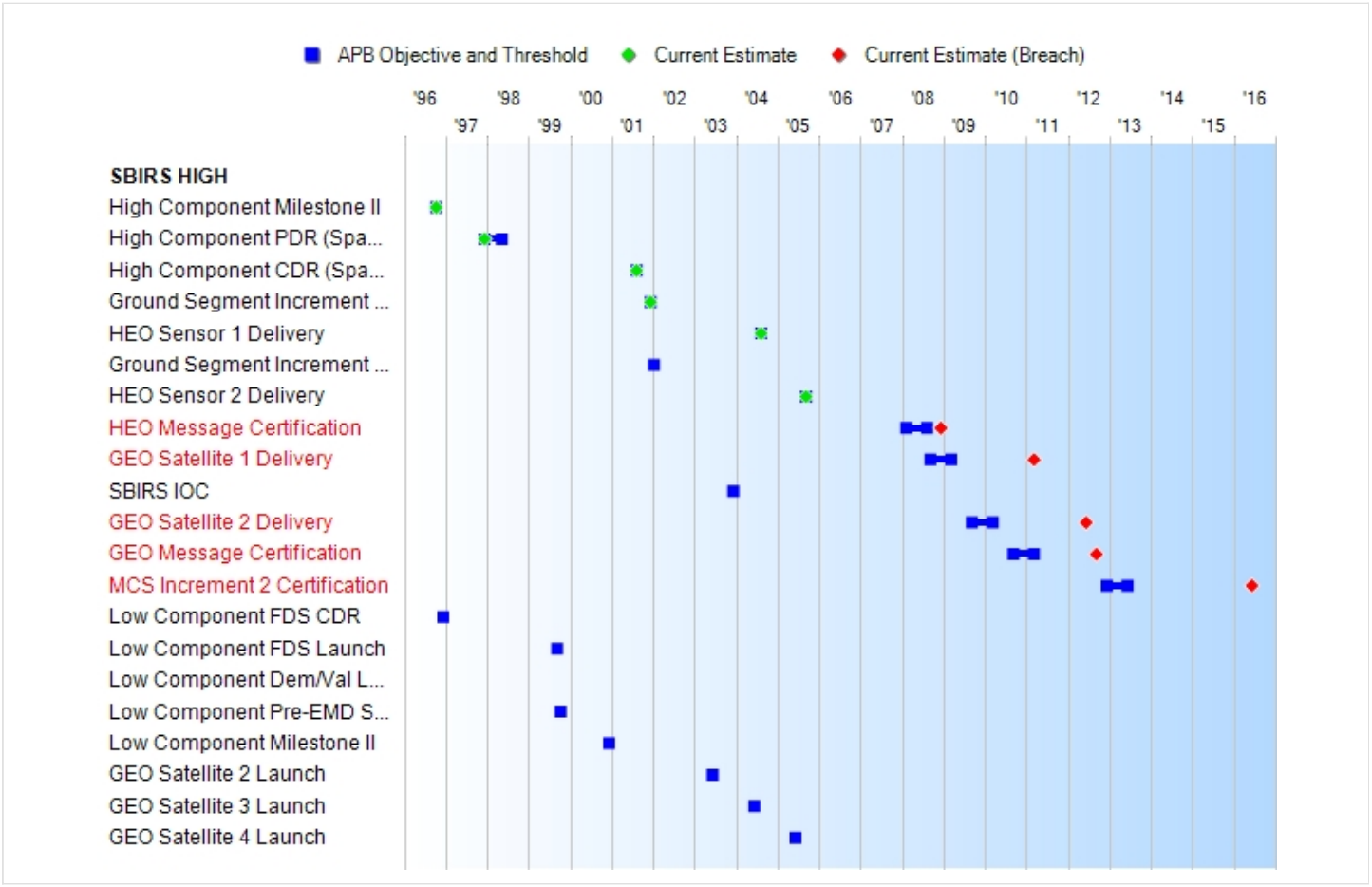
APB Breaches		
Schedule		☑
Performance		☐
Cost	RDT&E	☑
	Procurement	☑
	MILCON	☐
	Acq O&M	☐
Unit Cost	PAUC	☐
	APUC	☐

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

Explanation of Breach

The Acquisition Program Baseline breaches reported in this section were addressed in the December 2010 SAR.

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
SBIRS HIGH
High Component Milestone II
High Component PDR (Spa...
High Component CDR (Spa...
Ground Segment Increment ...
HEO Sensor 1 Delivery
Ground Segment Increment ...
HEO Sensor 2 Delivery
HEO Message Certification
GEO Satellite 1 Delivery
SBIRS IOC
GEO Satellite 2 Delivery
GEO Message Certification
MCS Increment 2 Certification
Low Component FDS CDR
Low Component FDS Launch
Low Component Dem/Val L...
Low Component Pre-EMD S...
Low Component Milestone II
GEO Satellite 2 Launch
GEO Satellite 3 Launch
GEO Satellite 4 Launch

Milestones	SAR Baseline Dev Est	Current APB Development 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	
Ground Segment Increment 2 Certification	JAN 2002	N/A	N/A	N/A	
HEO Sensor 2 Delivery	SEP 2003	SEP 2005	SEP 2005	SEP 2005	
HEO Message Certification	N/A	FEB 2008	AUG 2008	**DEC 2008**[1]	
GEO Satellite 1 Delivery	N/A	SEP 2008	MAR 2009	**MAR 2011**[1]	
SBIRS IOC	DEC 2003	N/A	N/A	N/A	
GEO Satellite 2 Delivery	N/A	SEP 2009	MAR 2010	**JUN 2012**[1]	(Ch-1)
GEO Message Certification	N/A	SEP 2010	MAR 2011	**SEP 2012**[1]	
MCS Increment 2 Certification	N/A	DEC 2012	JUN 2013	**JUN 2016**[1]	(Ch-2)
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	
GEO Satellite 2 Launch	JUN 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	

[1] *APB Breach*

Acronyms And Abbreviations

CDR - Critical Design Review
EMD - Engineering, Manufacturing and Development
FDS - Flight Demonstration System
GEO - Geosynchronous Earth Orbit
HEO - Highly Elliptical Orbit
IOC - Initial Operational Capability
MCS - Mission Control Station
PDR - Preliminary Design Review

Change Explanations

(Ch-1) The Program Manager's estimate for GEO 2 Delivery changed from March 2012 to June 2012 in order to maximize on-orbit experience with GEO 1 which reduces the risk of identifying any reachback performance issues from GEO 1 prior to GEO 2 delivery. This is consistent with the proposed APB schedule milestone "GEO Satellite 2 Available for Delivery" objective date.

(Ch-2) The Program Manager’s estimate for MCS Increment 2 Certification changed from December 2015 to June 2016 due to delay in awarding the contract. This is consistent with the proposed Acquisition Program Baseline

schedule milestone “Initial Increment 2 Ground Architecture” Objective date.

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

Performance

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

Track To Budget

General Memo

3600F PE 0604441F, project 3616, and 3020F PE 0305915F, ICN MSSBIR, are shared. Project 3616 includes funds for the Cost and Affordability Improvement Program (CAIP) and architecture studies that are not part of this Major Defense Acquisition Program (MDAP). ICN MSSBIR includes funds for Highly Elliptical Orbit (HEO) 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	(Shared)
	Project A040	Commercially Hosted Infrared Payload (CHIRP)	

PE 0604441F, project 3616 is shared with the Cost and Affordability Improvement Program (CAIP) and architecture studies, that are not part of this Major Defense Acquisition Program (MDAP) and excluded from this report.

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	SBIR High Other Procurement	

PE 0305915F, ICN MSSBIR is shared with the Highly Elliptical Orbit (HEO) Replenishment Payloads, which are not part of this MDAP and excluded from this report.

MILCON

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

Acq O&M

APPN 3400	BA 01	PE 0305915F	(Air Force)
		SBIRS Operation and Maintenance	

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

	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	7018.1	7719.9	**8748.4** [1]	3386.5	8192.5	10593.6
Procurement	496.7	1342.8	1477.1	**4906.5** [1]	584.5	1723.2	6763.5
Flyaway	496.7	--	--	4251.2	--	--	5868.1
Recurring	496.7	--	--	3523.2	--	--	4911.8
Non Recurring	0.0	--	--	728.0	--	--	956.3
Support	0.0	--	--	655.3	--	--	895.4
Other Support	0.0	--	--	655.3	--	--	895.4
Initial Spares	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	156.4	172.0	137.5	147.8	185.9	161.1
Total	3679.5	8569.3	N/A	13844.4	4147.3	10158.6	17575.2

[1] ***APB Breach***

Quantity	SAR Baseline Dev Est	Current APB Development	Current Estimate
RDT&E	3	2	2
Procurement	2	1	4
Total	5	3	6

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

Cost and Funding

Funding Summary

Appropriation and Quantity Summary
SEP 2011 Exception SAR (TY $M)

Appropriation	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
RDT&E	7823.4	530.0	621.6	446.7	300.1	167.4	170.4	534.0	10593.6
Procurement	1876.0	967.8	341.4	473.5	502.2	491.6	501.2	1609.8	6763.5
MILCON	57.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.0
Acq O&M	136.1	11.5	13.5	0.0	0.0	0.0	0.0	0.0	161.1
SEP 2011 Total	9892.5	1509.3	976.5	920.2	802.3	659.0	671.6	2143.8	17575.2
PB 2012 Total	9892.5	1509.3	976.5	920.2	802.3	659.0	671.6	2143.8	17575.2
Delta	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Quantity	Undistributed	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
Development	2	0	0	0	0	0	0	0	0	2
Production	0	1	1	0	2	0	0	0	0	4
SEP 2011 Total	2	1	1	0	2	0	0	0	0	6
PB 2012 Total	2	1	1	0	2	0	0	0	0	6
Delta	0	0	0	0	0	0	0	0	0	0

FY2012 President's Budget / December 2010 SAR (TY$ M)

Appropriation	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
RDT&E	7823.4	530.0	621.6	446.7	300.1	167.4	170.4	534.0	10593.6
Procurement	1876.0	967.8	341.4	473.5	502.2	491.6	501.2	1609.8	6763.5
MILCON	57.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.0
Acq O&M	136.1	11.5	13.5	0.0	0.0	0.0	0.0	0.0	161.1
PB 2012 Total	9892.5	1509.3	976.5	920.2	802.3	659.0	671.6	2143.8	17575.2
PB 2011 Total	9970.4	1514.3	1834.6	1157.9	388.5	249.9	0.0	0.0	15115.6
Delta	-77.9	-5.0	-858.1	-237.7	413.8	409.1	671.6	2143.8	2459.6

Quantity	Undistributed	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
Development	2	0	0	0	0	0	0	0	0	2
Production	0	1	1	0	2	0	0	0	0	4
PB 2012 Total	2	1	1	0	2	0	0	0	0	6
PB 2011 Total	2	1	1	1	1	0	0	0	0	6
Delta	0	0	0	-1	1	0	0	0	0	0

Cost and Funding

Annual Funding By Appropriation

Annual Funding TY$
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	--	--	--	--	--	--	521.2
2011	--	--	--	--	--	--	530.0
2012	--	--	--	--	--	--	621.6
2013	--	--	--	--	--	--	446.7
2014	--	--	--	--	--	--	300.1
2015	--	--	--	--	--	--	167.4
2016	--	--	--	--	--	--	170.4
2017	--	--	--	--	--	--	174.8
2018	--	--	--	--	--	--	178.0
2019	--	--	--	--	--	--	181.2
Subtotal	**2**	**--**	**--**	**--**	**--**	**--**	**10593.6**

Annual Funding BY$
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	--	--	--	--	--	--	580.9
2007	--	--	--	--	--	--	555.1
2008	--	--	--	--	--	--	458.2
2009	--	--	--	--	--	--	420.7
2010	--	--	--	--	--	--	400.1
2011	--	--	--	--	--	--	401.3
2012	--	--	--	--	--	--	463.8
2013	--	--	--	--	--	--	327.9
2014	--	--	--	--	--	--	216.6
2015	--	--	--	--	--	--	118.8
2016	--	--	--	--	--	--	118.9
2017	--	--	--	--	--	--	119.9
2018	--	--	--	--	--	--	120.1
2019	--	--	--	--	--	--	120.2
Subtotal	**2**	**--**	**--**	**--**	**--**	**--**	**8748.4**

The cost profile above includes $18.2M in FY 2011 and $16.6M in FY 2012 for the Commercially Hosted Infrared Payload (CHIRP), BPAC 65A040.

Funds for the Capability and Affordability Improvement Program (CAIP) and Architecture Studies are excluded from this report. Those Research and Development funds are not associated with the baseline SBIRS Program.

The omitted profile is:
FY 2013 $128.0M
FY 2014 $128.7M
FY 2015 $129.4M
FY 2016 $130.1M
FY 2017 $129.7M
FY 2018 $132.0M
FY 2019 $134.4M

Annual Funding TY$
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	--	173.1	--	91.2	264.3	5.9	270.2
2009	1	836.3	--	456.4	1292.7	21.5	1314.2
2010	--	126.8	--	15.5	142.3	35.1	177.4
2011	1	606.1	0.3	287.9	894.3	48.7	943.0
2012	--	138.4	1.1	105.3	244.8	47.0	291.8
2013	2	384.0	--	--	384.0	42.6	426.6
2014	--	412.6	--	--	412.6	61.5	474.1
2015	--	413.0	--	--	413.0	52.8	465.8
2016	--	396.2	--	--	396.2	97.5	493.7
2017	--	396.2	--	--	396.2	81.3	477.5
2018	--	1027.7	--	--	1027.7	81.3	1109.0
Subtotal	**4**	**4910.4**	**1.4**	**956.3**	**5868.1**	**575.2**	**6443.3**

Annual Funding BY$
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	--	135.1	--	71.2	206.3	4.6	210.9
2009	1	644.6	--	351.7	996.3	16.6	1012.9
2010	--	96.4	--	11.8	108.2	26.6	134.8
2011	1	454.1	0.2	215.7	670.0	36.5	706.5
2012	--	102.1	0.8	77.6	180.5	34.7	215.2
2013	2	278.6	--	--	278.6	30.9	309.5
2014	--	294.3	--	--	294.3	43.9	338.2
2015	--	289.7	--	--	289.7	37.0	326.7
2016	--	273.3	--	--	273.3	67.2	340.5
2017	--	268.7	--	--	268.7	55.1	323.8
2018	--	685.3	--	--	685.3	54.2	739.5
Subtotal	**4**	**3522.2**	**1.0**	**728.0**	**4251.2**	**407.3**	**4658.5**

The Missile Procurement Air Force (MPAF) funding profile above represents funding for Geosynchronous Earth Orbit (GEO) satellites 3 through 6. MPAF funds for Highly Elliptical Orbit (HEO) 3 and 4 payloads are excluded. HEO 3 and 4 payloads are replenishment payloads and are baselined separately.

The omitted profile is:
FY 2008 $123.8M
FY 2009 $511.8M
FY 2010 $286.5M
FY 2011 $27.6M
FY 2012 $33.1M
FY 2013 $22.1M
FY 2014 $30.4M
FY 2015 $26.8M

Cost Quantity Information
3020 | Procurement | Missile Procurement, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 1995 $M
2008	--	--
2009	1	697.3
2010	--	--
2011	1	594.3
2012	--	--
2013	2	2230.6
2014	--	--
2015	--	--
2016	--	--
2017	--	--
2018	--	--
Subtotal	**4**	**3522.2**

Annual Funding TY$
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	--	--	--	--	--	24.8	24.8
2012	--	--	--	--	--	49.6	49.6
2013	--	--	--	--	--	46.9	46.9
2014	--	--	--	--	--	28.1	28.1
2015	--	--	--	--	--	25.8	25.8
2016	--	--	--	--	--	7.5	7.5
2017	--	--	--	--	--	7.6	7.6
2018	--	--	--	--	--	7.8	7.8
2019	--	--	--	--	--	7.9	7.9
Subtotal	**--**	**--**	**--**	**--**	**--**	**320.2**	**320.2**

Annual Funding BY$
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	--	--	--	--	--	18.8	18.8
2012	--	--	--	--	--	37.0	37.0
2013	--	--	--	--	--	34.4	34.4
2014	--	--	--	--	--	20.3	20.3
2015	--	--	--	--	--	18.3	18.3
2016	--	--	--	--	--	5.2	5.2
2017	--	--	--	--	--	5.2	5.2
2018	--	--	--	--	--	5.3	5.3
2019	--	--	--	--	--	5.2	5.2
Subtotal	**--**	**--**	**--**	**--**	**--**	**248.0**	**248.0**

$78 million in FY 2009 Other Procurement Air Force (OPAF) funds for Highly Elliptical Orbit (HEO) 3 ground modifications are excluded. It is a replenishment program and is baselined separately.

Annual Funding TY$
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$
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$
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$
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	8.7
2012	10.0
Subtotal	**137.5**

Low Rate Initial Production

The SBIRS Program does not have Low Rate Initial Production.

Foreign Military Sales

The SBIRS Program has no Foreign Military Sales.

Nuclear Cost

The SBIRS Program has no nuclear costs.

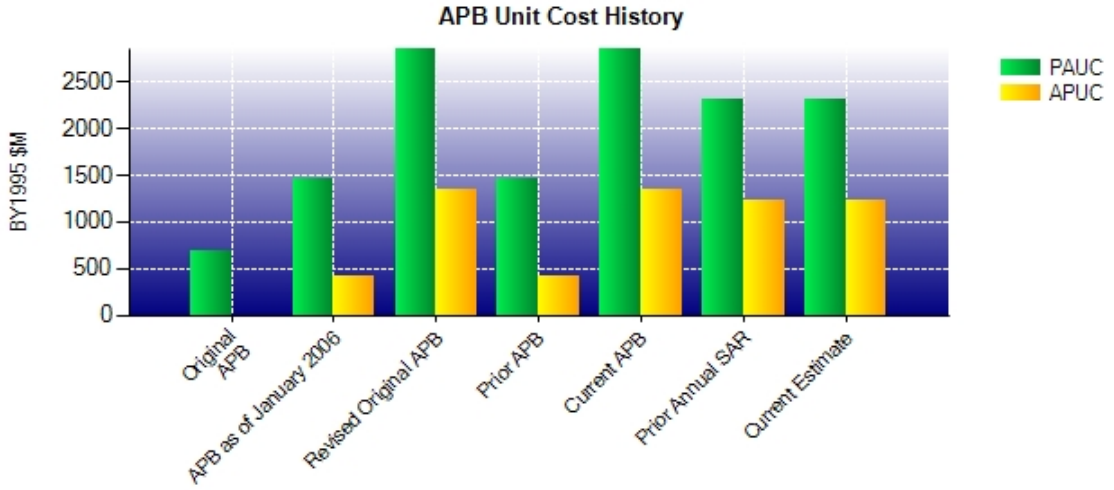
Unit Cost

Unit Cost Report

Unit Cost	BY1995 $M Current UCR Baseline (MAR 2006 APB)	BY1995 $M Current Estimate (SEP 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	8569.3	13844.4	
Quantity	3	6	
Unit Cost	2856.433	2307.400	-19.22
Average Procurement Unit Cost (APUC)			
Cost	1342.8	4906.5	
Quantity	1	4	
Unit Cost	1342.800	1226.625	-8.65

Unit Cost	BY1995 $M Revised Original UCR Baseline (MAR 2006 APB)	BY1995 $M Current Estimate (SEP 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	8569.3	13844.4	
Quantity	3	6	
Unit Cost	2856.433	2307.400	-19.22
Average Procurement Unit Cost (APUC)			
Cost	1342.8	4906.5	
Quantity	1	4	
Unit Cost	1342.800	1226.625	-8.65

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 2002	1467.640	420.500	1684.180	499.133
Current APB	MAR 2006	2856.433	1342.800	3386.200	1723.200
Prior Annual SAR	DEC 2010	2307.400	1226.625	2929.200	1690.875
Current Estimate	SEP 2011	2307.400	1226.625	2929.200	1690.875

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	-3.933	172.639	95.817	84.400	1601.200	0.000	149.617	2099.740	2929.200

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	-2.500	358.375	3.475	0.000	814.850	0.000	224.425	1398.625	1690.875

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	17575.2
Total Quantity	N/A	5	N/A	6
Prog. Acq. Unit Cost (PAUC)	N/A	829.460	N/A	2929.200

Cost Variance

Cost Variance Summary

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	-14.0	-10.0	-1.4	+1.8	-23.6
Quantity	-152.7	+2018.0	--	--	+1865.3
Schedule	+561.0	+13.9	--	--	+574.9
Engineering	+514.2	--	+7.8	-15.6	+506.4
Estimating	+6298.6	+3259.4	+22.1	+27.1	+9607.2
Other	--	--	--	--	--
Support	--	+897.7	--	--	+897.7
Subtotal	+7207.1	+6179.0	+28.5	+13.3	+13427.9
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	--	--	--	--	--
Other	--	--	--	--	--
Support	--	--	--	--	--
Subtotal	--	--	--	--	--
Total Changes	+7207.1	+6179.0	+28.5	+13.3	+13427.9
CE - Cost Variance	10593.6	6763.5	57.0	161.1	17575.2
CE - Cost & Funding	10593.6	6763.5	57.0	161.1	17575.2

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	+1477.4	--	--	+1349.0
Schedule	+416.6	-115.1	--	--	+301.5
Engineering	+460.5	--	+6.8	-13.5	+453.8
Estimating	+4983.1	+2392.2	+19.2	+10.8	+7405.3
Other	--	--	--	--	--
Support	--	+655.3	--	--	+655.3
Subtotal	+5731.8	+4409.8	+26.0	-2.7	+10164.9
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	--	--	--	--	--
Other	--	--	--	--	--
Support	--	--	--	--	--
Subtotal	--	--	--	--	--
Total Changes	+5731.8	+4409.8	+26.0	-2.7	+10164.9
CE - Cost Variance	8748.4	4906.5	52.0	137.5	13844.4
CE - Cost & Funding	8748.4	4906.5	52.0	137.5	13844.4

Previous Estimate: December 2010

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	6113.0	N/A	2	9108.0	9164.0

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	-340.0	-6.0
Previous Cumulative Variances	-324.1	-63.9
Net Change	-15.9	+57.9

Cost And Schedule Variance Explanations

The unfavorable net change in the cost variance is due to $15.9M in technical issues associated with the Space Vehicle (SV), Software Product, Integrated Ground Product and Flight Operations and Support.

The favorable net change in the schedule variance is due to $57.9M for the completion of the March 2011 Over Target Baseline (OTB), in which the cumulative schedule variance was reset from $60M, while the cumulative cost variance was not reset. Since the OTB, the negative schedule variance that has accrued is primarily due to technical delays in SV, Integrated Ground Products and Operations and Support.

Contract Comments

The difference between the initial contract price target and the current contract price target is due to to multiple program restructures and program extensions.

The current Engineering, Manufacturing and Development contractor Estimated Price at Completion, as reported in the Contract Performance Report received in September 2011, is $9,108M, compared to $8,620M in the previous SAR. The $488M increase since the previous SAR is due to added scope for the Block 10 ground effort and the SBIRS Survivable Endurable Evolution effort. The Government Program Manager’s Estimated Price at Completion is $9,164M and is consistent with the 2011 Service Cost Position.

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	2863.2	N/A	2	2921.8	3301.0

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	-52.0	-39.8
Previous Cumulative Variances	-20.4	-39.2
Net Change	-31.6	-0.6

Cost And Schedule Variance Explanations

The unfavorable net change in the cost variance is due to -$31.6M in the continuation of Pointing Control Assembly (PCA) subcontractor performance and actual costs not aligned with the based plan; higher material costs; unplanned labor required to execute the baseline schedule and recovery plan, as well as Payload anomaly issues.

The unfavorable net change in the schedule variance is due to -$0.6M for Payload testing delays in Geosynchronous Earth Orbit (GEO) 3, and PCA hardware delays in Highly Elliptical Orbit (HEO) Payload 3, which was offset primarily by realignment of subcontractors' payment plans.

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 HEO 3 and 4, and GEO 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 (CLINs).

The contract Estimate Price at Completion, as reported in the Contract Performance Report (CPR) received in September 2011, is $2,921.8M, compared to $2,847.7M in the previous SAR. The $74.1M increase is due to the exercise of the GEO 3 Launch Vehicle Integration CLIN, HEO back-up string 4, and contract modification for HEO Functional Test Article implementation, as well as de-scope of Dual Operations Capability.

The Air Force Service Cost Position estimate projects a cost overrun of $438M and a 12-month schedule slip to GEO 3 and GEO 4 delivery. The contractor does not agree with the government's estimated overrun and schedule slip; however, they are claiming a $52M cost variance in the CPR submitted in September. The SBIRS Follow-on Production contract is experiencing cost and schedule pressures due to development delays and test failures with Special Test Equipment (STE) as well as technical issues with the payload subassemblies resulting in a delayed delivery of several components for payload integration for GEO 3 and HEO 3. 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. The Integrated Baseline Review is projected to complete in the first quarter of calendar year 2012 and will include an extensive review of the contractor's Integrated Master Schedule down through the subcontractors' respective schedules to ensure the baseline is solid. Additionally, the government team requested the contractor initiate an independent (external to SBIRS) review of STE development and a senior review of payload production. These reviews are expected to be complete by the end of December 2011.

Deliveries and Expenditures

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	0	1	2	50.00%
Production	0	0	4	0.00%
Total Program Quantities Delivered	0	1	6	16.67%

Expenditures and Appropriations (TY $M)			
Total Acquisition Cost	17575.2	Years Appropriated	17
Expenditures To Date	9602.9	Percent Years Appropriated	68.00%
Percent Expended	54.64%	Appropriated to Date	11401.8
Total Funding Years	25	Percent Appropriated	64.87%

Operating and Support Cost

Assumptions And Ground Rules
Operations and Maintenance funds support the activation of the SBIRS High System, including Component ground operating and training facilities at worldwide sites. 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, and Initial Qualification Training facility. Also supported with these funds are the repair and transportation of Government Furnished Equipment and Temporary Duty costs for training of the initial cadre of operators. The SBIRS High profile reflects a 30-year Life Cycle Cost and is based upon the Operations and Maintenance Database jointly maintained by Headquarters, Air Force Space Command (HQ AFSPC) and the program office, reviewed and updated in January 2010. Comparable Operating and Support cost estimates for the legacy system, Defense Support Program, are not available.

Costs BY1995 $M		
Cost Element	**SBIRS HIGH Avg Annual Cost for SBIRS High System**	**Defense Support Prog**
Unit-Level Manpower	42.76	--
Unit Operations	3.55	--
Maintenance	50.32	--
Sustaining Support	31.02	--
Continuing System Improvements	0.00	--
Indirect Support	10.97	--
Other	--	--
Total Unitized Cost (Base Year 1995 $)	138.62	--

Total O&S Costs $M	SBIRS HIGH	Defense Support Prog
Base Year	4158.6	--
Then Year	6421.1	--