

AF-3 SBIRS

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SELECTED ACQUISITION REPORT (RCS:DD-COMP(Q&A)823)

PROGRAM: SBIRS

AS OF DATE: June 30, 1995

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1. (U) Designation and Nomenclature (Preferred Name):
Space Based Infrared System (SBIRS) - HIGH COMPONENT
2. (U) DoD Component: USAF
3. (U) Responsible Office and Telephone Number:

SMC/MT	COL CRAIG P. WESTON
185 Discoverer Blvd.	Assigned: March 1, 1994
Suite 2512	AV 833-1807 COMM (310) 363-1807
Los Angeles, CA 90245-4695	

4. (U) Program Elements/Procurement Line Items:

RDT&E:
PE 0604441F

SAF/PAS

95-569 - 7

5. (U) Related Programs:

(U) Defense Support Program (DSP), Advanced Programs- Cobra Brass (CB), Miniature Sensor Technology Integration (MSTI-3), Midcourse Space Experiments (MSX), Russian American Observational Satellite (RAMOS), Space and Missile Tracking System (SMTS) [aka Brilliant Eyes

Classified by: DRAFT SBIRS SCG 15 Feb 95
Declassify on: Originating Agency's Determination Required (OADR)
Downgrade Instructions: Not subject to automatic downgrade

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AND SECURITY REVIEW (OASD-PA)
DEPARTMENT OF DEFENSE

95-C-1237

SBIRS, June 30, 1995

5. (U) Related Programs (Cont'd):

(BE)], Titan IV, Attack and Launch Early Report to Theater (ALERT)/Talon Shield.

6. (U) Mission and Description:

The Space Based Infrared System (SBIRS) program is a new effort to satisfy key requirements delineated in the SBIRS Capstone Requirements Document, within the available budget and schedule. SBIRS is an integrated "system of systems", consisting of multiple space and ground elements, with deployment phasing "High now, Low later", simultaneously satisfying requirements in the following mission areas: Missile Warning; Missile Defense; Technical Intelligence; and Battlespace Characterization. The baseline architecture for SBIRS includes space elements in Highly Elliptical Orbits (HEO), Geosynchronous Earth Orbits (GEO), and Low Earth Orbits (LEO), in addition to the following ground elements: a CONUS-based Mission Control Station (MCS) and backup (MCSB), overseas Relay Ground Stations (RGSs), Relocatable Terminals (RTs), and associated communication links. The High Component consists of four satellites in GEO, two hosted sensors in HEO (platforms provided by another organization) and associated ground elements.

7. (U) Program Highlights:

a. (U) Significant Historical Developments --

These requirements are only a starting point and are to be refined to establish the system requirements baseline for SBIRS. Full definition of the requirements will result from a government/contractor requirements analysis/allocation process conducted during a Pre-Engineering Manufacturing and Development (Pre-EMD) Phase. The Pre-EMD activities will clarify requirements, assess additional requirements and allocate requirements in areas such as survivability, identify cost/performance/utility relationships in all requirement areas, and allocate requirements among the SBIRS High and Low Components. The complete mission and system performance requirements will be finalized with the benefit of contractor analysis in these areas. All requirements (including Key Performance Parameter thresholds) will be assessed for affordability and are subject to refinement and trade-offs, with sufficient rationale as necessary. A SBIRS Operational Requirements Document (ORD) will be developed by Air Force Space Command (AFSPC) during Pre-EMD. The SBIRS ORD will be validated by the Joint Requirements Oversight Council (JROC) and Defense Pre-EMD effort will be followed by an EMD effort to finalize, mature, and integrate a selected design; validate manufacturing and production processes; produce elements of the architecture; and integrate, test, and evaluate the system.

SBIRS is currently in Source Selection and expects to award a contract in August 1995.

SBIRS, June 30, 1995

7a. (U) Program Highlights (Cont'd):

b. (U) Significant Developments Since Last Report --
This is the initial Selected Acquisition Report (SAR) for the Space Based Infrared System (SBIRS).

Limited reporting is permitted for Pre-MS II programs IAW Title 10, USC, Section 2432.

The SBIRS system is expected to satisfy the mission requirements.

c. (U) Changes Since As Of Date --
The Air Force requested Congress to reprogram \$20M from Other Procurement (3080) to RDT&E (3600).

8. (U) Threshold Breaches:
Nunn-McCurdy unit cost reporting is not required for Pre-Milestone II programs, IAW Title 10, USC, Section 2433.

9. (U) Schedule:

a. (U) Milestones --	<u>Planning</u> <u>Estimate</u>	<u>Approved</u> <u>Program</u>	<u>Current</u> <u>Estimate</u>	
Pre-EMD				
System Requirements Review	TBD	TBD	TBD	
System Functional Review	TBD	TBD	TBD	
EMD				
Ground Increment 1 Operational	SEP 99	SEP 99	TBD	(Ch-1)
Msn Control Station Govt Acceptance	SEP 01	SEP 01	TBD	(Ch-1)
GEO Satellite 1 Delivery	SEP 02	SEP 02	TBD	(Ch-1)
HEO Sensor 1 Delivery	SEP 02	SEP 02	TBD	(Ch-1)

TBD for Pre-EMD milestones means authorization to proceed (contract award) plus 7 months for SSR and plus 12 months for SFR.

It is expected that the Approved Program Acquisition Program Baseline (APB) will be updated at the EMD decision based on pre-EMD efforts and cost performance trade-offs.

b. (U) Previous Change Explanations -- This is an initial SAR.

c. (U) Current Change Explanations --

This is an initial SAR.

(Ch-1) It is expected that the Approved Program Acquisition Program Baseline (APB) will be updated at the EMD decision based on pre-EMD

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- 9c. (U) Schedule (Cont'd):
efforts and cost performance trade-offs.
- d. (U) References --
- (U) Planning Estimate:
DAE Approved Acquisition Program Baseline dated February 06, 1995.
- (U) Approved Program:
DAE Approved Acquisition Program Baseline dated February 06, 1995.
10. (U) Performance Characteristics:
-

SBIRS, June 30, 1995

11. (U) Total Program Cost and Quantity (Current Estimate in Millions of Dollars):

	<u>Planning</u> <u>Estimate</u>	<u>Approved</u> <u>Program</u>	<u>Current</u> <u>Estimate</u>
a. (U) Cost --			
Development (RDT&E)	2308.0	254.5	2308.0
Procurement	0.0	N/A	0.0
Peculiar Support	(0.0)		(0.0)
Initial Spares	(0.0)		(0.0)
Construction (MILCON)	0.0	N/A	0.0
Ops. and Maint. (O&M)	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
Total FY 95 Base-Year \$	2308.0	254.5	2308.0
Escalation	362.3	1.5	362.3
Development (RDT&E)	(362.3)	(1.5)	(362.3)
Procurement	(0.0)	(N/A)	(0.0)
Construction (MILCON)	(0.0)	(N/A)	(0.0)
Ops. and Maint. (O&M)	<u>(0.0)</u>	<u>(0.0)</u>	<u>(0.0)</u>
Total Then-Year \$	2670.3	256.0	2670.3

The Approved Program costs are for Pre-EMD SBIRS High only, as approved in the DAE Acquisition Program Baseline (APB) dated February 6, 1995.

The Planning Estimate and Current Estimate totals include Pre-EMD and EMD costs for SBIRS High through FY01.

b. (U) Quantity --			
Development (RDT&E)	0	0	0
Procurement	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Total	0	0	0

c. (U) Foreign Military Sales/International Cooperative Programs -- None.

d. (U) Nuclear Costs -- None.

e. (U) References --

(U) Planning Estimate:

DAE Approved Acquisition Program Baseline dated February 06 1995.

(U) Approved Program:

DAE Approved Acquisition Program Baseline dated February 06, 1995.

SBIRS, June 30, 1995

12. (U) Unit Cost Summary:

(U) Note: Not required for Pre-Milestone II programs in accordance with Section 2433, Title 10, USC.

13. (U) Cost Variance Analysis:

a. (U) Summary (Current (Then-Year) Dollars in Millions)

	RDT&E	PROC	MILCON	TOTAL
Planning Estimate	2670.3	0.0	0.0	2670.3
Previous Changes:				
Economic	-	-	-	-
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	-	-	-	-
Other	-	-	-	-
Support	-	-	-	-
Subtotal	-	-	-	-
Current Changes:				
Economic	-	-	-	-
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	-	-	-	-
Other	-	-	-	-
Support	-	-	-	-
Subtotal	-	-	-	-
Total Changes	-	-	-	-
Current Estimate	2670.3	-	-	2670.3

SBIRS, June 30, 1995

13a. (U) Cost Variance Analysis (Cont'd):

a. (U) Summary (FY 1995 Constant (Base-Year) Dollars in Millions)

	RDT&E	PROC	MILCON	TOTAL
Planning Estimate	2308.0	0.0	0.0	2308.0
Previous Changes:				
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	-	-	-	-
Other	-	-	-	-
Support	-	-	-	-
Subtotal	-	-	-	-
Current Changes:				
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	-	-	-	-
Other	-	-	-	-
Support	-	-	-	-
Subtotal	-	-	-	-
Total Changes	-	-	-	-
Current Estimate	2308.0	-	-	2308.0

b. (U) Previous Change Explanations -- None.

c. (U) Current Change Explanations -- None.

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14. (U) Program Acquisition Unit Cost (PAUC) History (Then-Year Dollars in Millions):

(U) Not required for Pre-Milestone II programs in accordance with Section 2433, Title 10, USC.

15. (U) Contract Information:

SBIRS is currently in Source Selection and expects to award a contract award in August 1995.

16. (U) Program Funding Summary (Current Estimate in Millions of Dollars):

a. (U) Program Status --

- (1) Percent Program Completed: 14.3% (1 yrs/7 yrs)
- (2) Percent Program Cost Appropriated: 4.2% (\$113.0 / \$2670.3)

b. (U) Appropriation Summary (Then-Year Dollars in Millions)

<u>Appropriation</u>	<u>Prior Years</u> (FY95)	<u>Budget Year</u> (FY96)	<u>Budget Year</u> (FY97)	<u>Balance To Complete</u> (FY98-2001)	<u>Total</u>
RDT&E	113.0	152.2	180.6	2224.5	2670.3
Procurement	-	-	-	-	-
MILCON	-	-	-	-	-
O&M	-	-	-	-	-
Total	113.0	152.2	180.6	2224.5	2670.3

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16c. (U) Program Funding Summary (Cont'd):

c. (U) Annual Summary --

Fiscal Year	Qty	Flyaway FY95 Dollars		Total Base Year\$	Total Then-Year \$			Escl Rate (%)
		Nonrec	Rec		Program	Obligated	Expended	

Appropriation: 3600 Research, Development, Test + Eval, AF

1995				110.4	113.0	24.5	5.2	3.0
1996				144.3	152.2			3.0
1997				166.3	180.6			
1998				275.7	308.5			
1999				488.9	563.2			
2000				554.5	658.2			
2001				567.9	694.6			
Subtot				2308.0	2670.3	24.5	5.2	
Grand Total				2308.0	2670.3	24.5	5.2	

Expenditures and obligations reflect program office records as of 30 May 1995.

17. (U) Production Rate Data:

- a. (U) Deliveries (Plan/Actual) -- None.
- b. (U) Approved Design-to-Cost Objective --
N/A for Pre-Milestone II programs.

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18. (U) Operating and Support Costs:

Not applicable for Pre-Milestone II programs.

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SELECTED ACQUISITION REPORT (RCS:DD-COMP(Q&A)823)
PROGRAM: SBIRS (High)

AS OF DATE: December 31, 1995

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1. (U) Designation and Nomenclature (Preferred Name):
Space Based Infrared System (SBIRS) (High)

2. (U) DoD Component: USAF

3. (U) Responsible Office and Telephone Number:
SMC/MT COL CRAIG P. WESTON
185 Discoverer Blvd. Assigned: March 1, 1994
Suite 2512 AV 833-1807 COMM (310) 363-1807
Los Angeles, CA 90245-4695

4. (U) Program Elements/Procurement Line Items:

RDT&E:
PE 0604441F

5. (U) Related Programs:

(U) Defense Support Program (DSP), Advanced Programs- Cobra Brass (CB), Miniature Sensor Technology Integration (MSTI-3), Midcourse Space Experiments (MSX), Russian American Observational Satellite (RAMOS), Space and Missile Tracking System (SMTS) [aka Brilliant

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Classified by: DRAFT SBIRS SCG 12 Jan 96
Derived from: Not subject to automatic downgrade
Declassify on: Originating Agency's Determination Required (OADR)

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SBIRS, December 31, 1995

5. (U) Related Programs (Cont'd):

Eyes (BE)], Titan IV, Attack and Launch Early Report to Theater (ALERT)/Talon Shield.

6. (U) Mission and Description:

The Space Based Infrared System (SBIRS) program is a new effort to satisfy key requirements delineated in the SBIRS Capstone Requirements Document (CRD), within the available budget and schedule. SBIRS is an integrated "system of systems", consisting of multiple space and ground elements, with deployment phasing "High now, Low later", simultaneously satisfying requirements in the following mission areas: Missile Warning; Missile Defense; Technical Intelligence; and Battlespace Characterization. The baseline architecture for SBIRS includes space elements in Highly Elliptical Orbits (HEO), Geosynchronous Earth Orbits (GEO), and Low Earth Orbits (LEO), in addition to the following ground elements: a CONUS-based Mission Control Station (MCS) and backup (MCSB), overseas Relay Ground Stations (RGSSs), Relocatable Terminals (RTs), and associated communication links. The High Component consists of four satellites in GEO, two hosted sensors in HEO (platforms provided by another organization), and associated ground elements.

7. (U) Program Highlights:

a. (U) Significant Historical Developments --

Between November 1994 and February 1995, the SBIRS Program Office developed the first Single Acquisition Management Plan (SAMP) outlining the acquisition strategy to fulfill the requirements in the SBIRS Capstone Requirements Document (CRD). The SAMP was approved on 6 Feb 95 and paved the way for the release of a Request for Proposal (RFP) to select two contractor teams for a one-year Pre-Engineering and Manufacturing Development (EMD) contract. The RFP was released on 17 Feb 95.

b. (U) Significant Developments Since Last Report --

On 4 Aug 95, SBIRS pre-EMD contracts were awarded to two prime contractor teams: Lockheed-Martin, and Hughes/TRW. Following the accomplishment of pre-EMD trades, allocation of SBIRS requirements to elements of the system, and definition of system functional requirements to elements of the system, a downselect and successful Defense Acquisition Executive (DAE) decision will allow one team to go forward into the EMD phase by 1 Oct 96.

The integrated Air Force Space Command (AFSPC)-SMC SBIRS team, in conjunction with the user community and contractors, is executing an intensive requirements closure process. The first Interim Progress Review (IPR) #1 was held from 30 Oct - 2 Nov 95 with the two SBIRS High contractor teams and Pentagon, Service, CINC, AFSPC, and SPO representatives making up the Requirements Review Group (RRG).

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7b. (U) Program Highlights (Cont'd):

During this meeting, both contractors showed they had appropriately bounded the trade space and were on track with their requirement cost versus military benefit trade process. During the IPR #2 held on 12-15 Dec 95, the contractors presented the results of the major trade studies completed to date and used the results to recommend changes to the current draft Operational Requirements Document (ORD) language. Technical Intelligence (TI), Multi-Mission capability, and Survivability requirements are the main cost drivers. However, the full range of requirements is being addressed. The interested user communities have been heavily involved in the requirements clarification discussions to date. At IPR #2, the contractors also narrowed their many design options to several basic solutions each.

The SPO has continued to refine its SBIRS acquisition strategy which, in addition to selecting the contractor with the "best" solution for EMD, will also satisfy all criteria for entry into EMD, as detailed in the Acquisition Decision Memorandum, dated 8 Feb 95. The goal is to be on contract for EMD by 1 Oct 96. An AF and OSD Integrated Process Team (IPT) kickoff meeting was held 29 Nov 95 to form working groups to update the SAMP and prepare for the DAE review scheduled for 30 Aug 96--the decision point for moving into the EMD Phase. During Dec 95, the SBIRS High acquisition strategy was briefed to the Service Acquisition Executive (SAE), who approved the downselect approach.

Congress reprogrammed \$20M from Other Procurement (3080) to RDT&E (3600) due to ground procurement requirements being deferred until FY97.

The SBIRS system is expected to satisfy the mission requirement.

c. (U) Changes Since As Of Date --

A Senior Warfighters' Conference, attended by flag officer representatives from the Air Force Space Command (AFSPC) SBIRS team and User community, met from 31 Jan-1 Feb 96 to resolve SBIRS requirements issues prior to the Jul 96 Joint Requirement Oversight Council (JROC). The major requirements issues addressed by user groups were performance, survivability, and data availability as constrained by affordability. Contractors submitted 279 suggested changes to requirements and CONOPS. The Warfighters reviewed and documented a collective perspective on proposed changes and clarifications to SBIRS requirements and will advocate service command acceptance of their consensus view. All issues were resolved for the JROC and Systems Requirement Review (SRRs). A JROC is scheduled for 16 Apr 96 to approve the USSPACECOM CRD. Another JROC is planned in Jul 96 to approve proposed AFSPC ORD changes.

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7c. (U) Program Highlights (Cont'd):

SRRs were held at Lockheed-Martin from 20-23 Feb 96, and at Hughes/TRW from 26-29 Feb 96. The contractors successfully defined and showed understanding of system requirements, their allocation and flowdown of requirements with rationale and supporting analysis, described "system-of-systems" concept architecture(s) and rationale for selection, showed supporting cost and performance analyses, and addressed technical and schedule risk. The next milestone will be System Functional Reviews (SFR) to be held in Jun 96.

8. (U) Threshold Breaches:

There are no breaches to the Air Force Acquisition Executive (AFAE) Acquisition Program Baseline (APB), dated 06 February 1995. Nunn-McCurdy unit cost reporting is not required for Pre-Milestone II programs, IAW Title 10, USC, Section 2433.

9. (U) Schedule:

a. (U) Milestones --

	<u>Planning Estimate</u>	<u>Approved Program</u>	<u>Current Estimate</u>
Pre-EMD			
System Requirements Review	TBD	TBD	FEB 96 (Ch-1)
System Functional Review	TBD	TBD	JUN 96 (Ch-1)
EMD			
Ground Increment 1 Operational	SEP 99	SEP 99	SEP 99 (Ch-1)
Msn Control Station Govt Acceptance	SEP 01	SEP 01	SEP 01 (Ch-1)
GEO Satellite 1 Delivery	SEP 02	SEP 02	SEP 02 (Ch-1)
HEO Sensor 1 Delivery	SEP 02	SEP 02	SEP 01 (Ch-1)

It is expected that the Approved Acquisition Program Baseline (APB) will be updated at the EMD decision based on pre-EMD efforts and cost performance trade-offs.

b. (U) Previous Change Explanations -- None.

c. (U) Current Change Explanations --

(Ch-1) The TBD schedule milestones have been updated with dates based upon government and contractor coordinated schedules.

d. (U) References --

(U) Planning Estimate:

DAE Approved Acquisition Program Baseline dated February 06, 1995.

(U) Approved Program:

DAE Approved Acquisition Program Baseline dated February 06, 1995.

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SBIRS, December 31, 1995

10b. (U) Performance Characteristics (Cont'd):

b. (U) Previous Change Explanations --

It is expected that the Approved Acquisition Program Baseline (APB) will be updated at the EMD decision based on Pre-EMD efforts and cost performance trade-offs.

c. (U) Current Change Explanations --

(S) (Ch-1) "Probability Warning - NAMW", current estimate was corrected

SBIRS (High), December 31, 1995

11a. (U) Total Program Cost and Quantity (Cont'd):

program office intended this SAR to be only for the one year pre-EMD program, with the total program costs updated upon successful completion of Milestone II in Aug 96.

SBIRS

	Planning <u>Estimate</u>	Approved <u>Program</u>	Current <u>Estimate</u>
b. (U) Quantity --			
Development (RDT&E)	0	0	0
<u>Procurement</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Total	0	0	0

c. (U) Foreign Military Sales/International Cooperative Programs -- None.

d. (U) Nuclear Costs -- None.

e. (U) References --

(U) Planning Estimate:

DAE Approved Acquisition Program Baseline dated February 06, 1995.

(U) Approved Program:

DAE Approved Acquisition Program Baseline dated February 06, 1995.

12. (U) Unit Cost Summary:

(U) Note: Not required for Pre-Milestone II programs in accordance with Section 2433, Title 10, USC.

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13. (U) Cost Variance Analysis:

a. (U) Summary (Current (Then-Year) Dollars in Millions)

	RDT&E	PROC	MILCON	TOTAL
Planning Estimate	2670.3	0.0	0.0	2670.3
Previous Changes:				
Economic	-	-	-	-
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	-	-	-	-
Other	-	-	-	-
Support	-	-	-	-
Subtotal	-	-	-	-
Current Changes:				
Economic	-104.8	-	-	-104.8
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	11.3	-	-	+11.3
Other	-	-	-	-
Support	-	-	-	-
Subtotal	-93.5	-	-	-93.5
Total Changes	-93.5	-	-	-93.5
Current Estimate	2576.8	-	-	2576.8

13a. (U) Cost Variance Analysis (Cont'd):

a. (U) Summary (FY 1995 Constant (Base-Year) Dollars in Millions)

	RDT&E	PROC	MILCON	TOTAL
Planning Estimate	2308.0	0.0	0.0	2308.0
Previous Changes:				
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	-	-	-	-
Other	-	-	-	-
Support	-	-	-	-
Subtotal	-	-	-	-
Current Changes:				
Quantity	-	-	-	-
Schedule	-	-	-	-
Engineering	-	-	-	-
Estimating	10.9	-	-	+10.9
Other	-	-	-	-
Support	-	-	-	-
Subtotal	+10.9	-	-	+10.9
Total Changes	+10.9	-	-	+10.9
Current Estimate	2318.9	-	-	2318.9

b. (U) Previous Change Explanations -- None.

c. (U) Current Change Explanations --

(Dollars in Millions)
Base-Year Then-Year

(1) <u>RDT&E</u>		
Revised escalation indices. (Economic)	N/A	-104.8
Adjustment for Current and Prior Inflation. (Estimating)	+3.1	+3.2
Increased funds for ground consolidation efforts. (Estimating)	+9.7	+10.1

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13c. (U) Cost Variance Analysis (Cont'd):

	(Dollars in Millions)	
	<u>Base-Year</u>	<u>Then-Year</u>
Reduction to ECO Risk. (Estimating)	-1.9	-2.0
RDT&E Subtotal	<u>+10.9</u>	<u>-93.5</u>

14. (U) Program Acquisition Unit Cost (PAUC) History (Then-Year Dollars in Millions):

(U) Not required for Pre-Milestone II programs in accordance with Section 2433, Title 10, USC.

15. (U) Contract Information (Then-Year Dollars in Millions):

a. (U) RDT&E --		Initial Contract Price		
(U) <u>SBIRS High Pre-EMD:</u>		<u>Target</u>	<u>Ceiling</u>	<u>Qty</u>
LMSC, Sunnyvale, CA				
F04701-95-C-0017, CPFF		\$80.0	\$80.0	0
Award: August 4, 1995				
Definitized: August 4, 1995				
		Estimated Price At Completion		
Current Contract Price		<u>Contractor</u>	<u>Program Manager</u>	
<u>Target</u>	<u>Ceiling</u>	<u>Qty</u>		
\$80.0	\$80.0	0	\$80.0	\$80.0
		<u>Cost Variance</u>	<u>Schedule Variance</u>	
Previous Cumulative Variances		\$0.0	\$0.0	
Cumulative Variances To Date (01/28/96)		<u>\$1.6</u>	<u>\$-0.5</u>	
Net Change		\$1.6	\$-0.5	

Explanation of Change:

An Integrated Baseline Review (IBR) was successfully conducted and completed on 20 Dec 95. The Contract Cost Baseline was established on 29 Sep 95. Cost information in this report is as-of 28 Jan 96 per the "Feb 96 Cost Performance Report" which shows Jan 96 fiscal month-end data. The cumulative positive cost variance is due to temporary delays in manpower usage in the System Engineering area. The cumulative negative schedule variance is due to unplanned efforts in the subcontracted Ground Assembly and Checkout design effort. The responsible subcontractor has modified their estimate at completion to stay within allocated resources. These variances will have no impact to the contract or to the program. Overall, the program is doing well. Cost is underrunning by 5%, and the schedule is within 2% of plan. The SPO anticipates no significant future cost or schedule problems for the Pre-EMD.

This is the first time this contract has been reported in the SAR.

SBIRS (High), December 31, 1995

15. (U) Contract Information (Cont'd):

(U) <u>SBIRS High Pre-EMD:</u>			Initial Contract Price		
Hughes Aircraft, El Segundo, CA			<u>Target</u>	<u>Ceiling</u>	<u>Qty</u>
F04701-95-C-0018, CPFF			\$80.0	\$80.0	0
Award: August 4, 1995					
Definitized: August 4, 1995					
Current Contract Price			Estimated Price At Completion		
<u>Target</u>	<u>Ceiling</u>	<u>Qty</u>	<u>Contractor</u>	<u>Program Manager</u>	
\$80.0	\$80.0	0	\$80.0	\$80.0	
			<u>Cost Variance</u>	<u>Schedule Variance</u>	
Previous Cumulative Variances			\$0.0	\$0.0	
Cumulative Variances To Date (01/26/96)			\$1.6	\$-0.4	
Net Change			\$1.6	\$-0.4	

Explanation of Change:

An Integrated Baseline Review (IBR) was successfully conducted and completed on 18 Dec 95. The Contract Cost Baseline was established on 24 Nov 95. Cost information in this report is as-of 26 Jan 96 per the "Feb 96 Cost Performance Report" which shows contractor's Jan 96 fiscal month-end data. The cumulative cost variance reflects a positive \$1.6M due to temporarily delayed effort in the Electronic Information Integrated Product Team (IPT). No other IPTs have exceeded the cumulative thresholds for either cost or schedule variance reporting. The reported variances have no impact on the contract or to the program. Overall, the program is doing well. Cost is underrunning by 3%, and the schedule is within 1% of plan. The SPO anticipates no significant future cost or schedule problems.

This is the first time this contract has been reported in the SAR.

16. (U) Program Funding Summary (Current Estimate in Millions of Dollars):

a. (U) Program Status --

- (1) Percent Program Completed: 28.6% (2 yrs/7 yrs)
- (2) Percent Program Cost Appropriated: 10.7% (\$275.3 / \$2576.8)

SBIRS (High), December 31, 1995

16b. (U) Program Funding Summary (Cont'd):

b. (U) Appropriation Summary (Then-Year Dollars in Millions)

<u>Appropriation</u>	<u>Prior Years</u> (FY95)	<u>Budget Year</u> (FY96)	<u>Budget Year</u> (FY97)	<u>Balance To Complete</u> (FY98-2001)	<u>Total</u>
RDT&E	113.0	162.3	173.3	2128.2	2576.8
Procurement	-	-	-	-	-
MILCON	-	-	-	-	-
O&M	-	-	-	-	-
Total	113.0	162.3	173.3	2128.2	2576.8

c. (U) Annual Summary --

<u>Fiscal Year</u>	<u>Qty</u>	<u>Flyaway</u>		<u>Total Base Year\$</u>	<u>Total Then-Year \$</u>			<u>Escl Rate (%)</u>
		<u>FY95 Dollars</u>			<u>Program</u>	<u>Obligated</u>	<u>Ex-pended</u>	
		<u>Nonrec</u>	<u>Rec</u>					

Appropriation: 3600 Research, Development, Test + Eval, AF

1995				111.2	113.0	107.3	67.3	1.9
1996				156.4	162.3	123.0	17.9	2.0
1997				163.3	173.3			2.2
1998				276.7	300.2			2.3
1999				487.4	540.5			2.2
2000				557.2	631.3			2.2
2001				566.7	656.2			2.2
Subtot				2318.9	2576.8	230.3	85.2	
Grand Total				2318.9	2576.8	230.3	85.2	

*** UNCLASSIFIED ***

SBIRS (High), December 31, 1995

16c. (U) Program Funding Summary (Cont'd):

Expenditures and obligations reflect program office records as of 29 Feb 96.

17. (U) Production Rate Data:

a. (U) Deliveries to Date -- 0/0.

b. (U) Approved Design-to-Cost Objective --
N/A for Pre-Milestone II programs.

18. (U) Operating and Support Costs:

Not applicable for Pre-Milestone II programs.

*** UNCLASSIFIED ***

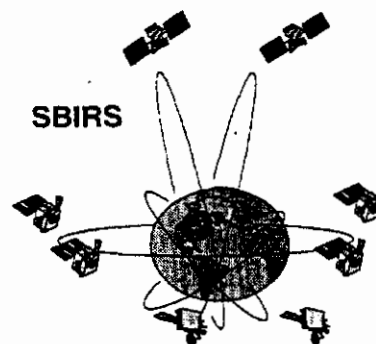
~~Unclassified~~

SELECTED ACQUISITION REPORT (RCS: DD-A&T(Q&A)823)
PROGRAM: SBIRS

AS OF DATE: December 31, 1996

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1. (U) Designation and Nomenclature (Popular Name): Space Based Infrared System (SBIRS)
2. (U) DoD Component: USAF
3. (U) Responsible Office and Telephone Number:

SMC/MT	Col Craig P. Weston
185 Discoverer Blvd.	Assigned: March 1, 1994
Suite 2512	DSN 833-1807; COMM (310) 363-1807
Los Angeles, CA 90245-4695	
4. (U) Program Elements/Procurement Line Items:

RDT&E:	
(U)	PE 0604441F
PROCUREMENT:	
(U)	APPN 3020 ICN MSSBIR (Air Force)
MILCON:	
(U)	PE 0604441F
O&M:	
(U)	PE 0305915F

CLEARED
FOR OPEN PUBLICATION
AS AMENDED
17 MAR 11 1997

DIRECTORATE FOR FREEDOM OF INFORMATION
AND SECURITY REVIEW (OASD-PA)
DEPARTMENT OF DEFENSE

SAF/PAS

97--0106

CONGRESSION

Classified by: DRAFT SBIRS SCG 12 Jan 96
Downgrade instructions: Not subject to automatic downgrade
Declassify on: Originating Agency's Determination Required (OADR)

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97-C-0421

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5. (U) References:

SAR Baseline (Planning Estimate):

(U) Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated February 06, 1995.

Approved Program / Development Estimate (DE):

(U) Approved Acquisition Program Baseline (APB) dated October 3, 1996.

6. (U) Mission and Description:

(U) The Space Based Infrared System (SBIRS) program is a new effort to satisfy key requirements delineated in the SBIRS 1 Oct 96 Operational Requirements Document within the available budget and schedule. SBIRS is an integrated "system of systems", consisting of multiple space and ground elements, with deployment phasing "High now, Low later", simultaneously satisfying requirements in the following mission areas: Missile Warning, Missile Defense, Technical Intelligence, and Battlespace Characterization. The baseline architecture for SBIRS includes space elements in Highly Elliptical Orbits (HEO), Geosynchronous Earth Orbits (GEO), and Low Earth Orbits (LEO), in addition to the following ground elements: a CONUS-based Mission Control Station (MCS) and backup (MCSB), overseas Relay Ground Stations (RGSS), Relocatable Terminals (RTs), and associated communication links. The High Component consists of four satellites in GEO, two hosted sensors in HEO (platforms provided by another organization), and associated ground elements. The current Low Component baseline, to be updated in Engineering and Manufacturing Development (EMD), consists of 3 rings of satellites, 8 satellites per ring, in low earth orbit.

7. (U) Executive Summary:

(U) This SAR reports on SBIR High as in previous SARs. However, certain SBIR Low information is included in sections 7, 9, 10, and other related narratives and footnotes. The SBIR Low financial, unit cost, contract, and related information will not be reported until after the SBIRS DAB review, scheduled for May 97.

(U) (1) SBIR HIGH:

(U) SBIR HIGH PRE-EMD ACTIVITIES/REVIEWS. SBIR High Pre-Engineering and Manufacturing Development (Pre-EMD) began in Aug 95. The Pre-EMD continued into 1996 with a "system of systems" requirements analysis effort. This effort was predicated on a Cost and Operational Effectiveness Analysis (COEA)-like process to refine the Operational Requirements Document (ORD), system definition, risk mitigation planning, and costing. The process' goal was to achieve an affordable system requirements set. Integral to the process were the numerous reviews and conferences accomplished throughout Spring 96 to garner Warfighter requirements consensus and to demonstrate contractor ability to meet system performance as well as cost and schedule goals. The reviews conducted included:

7. (U) Executive Summary (Cont'd):

- A Senior Warfighter Forum on 31 Jan 96.
- System Requirement Reviews (SRRs) at Lockheed-Martin Missile & Space (LMMS) on 20-23 Feb 96 and Hughes-TRW on 26-29 Feb 96.
- A Joint Requirements Oversight Council (JROC), which approved US Space Command's SBIRS Capstone Requirements Document (CRD) on 30 Apr 96.
- System Functional Reviews (SFRs) at Hughes-TRW on 18-21 Jun 96 and at Lockheed-Martin Missile & Space (LMMS) on 24-27 Jun 96.
- A paper JROC, which approved the AF Space Command's SBIRS Operational Requirements Document (ORD) on 27 Nov 96.

(U) DOCUMENTATION/EMD PHASE. In parallel to the activities above, the SBIRS team also actively planned, refined, and coordinated the program acquisition strategy necessary for Defense Acquisition Board (DAB) approval to enter the EMD phase. On 3 Oct 96, the Under Secretary of Defense (Acquisition and Technology) [USD(A&T)] reviewed and signed the SBIRS "system of systems" Single Acquisition Management Plan (SAMP) and the Acquisition Program Baseline (APB). Subsequently, USD(A&T) issued the Acquisition Decision Memorandum (ADM).

(U) EMD CONTRACT AWARD. On 7 May 96, the SBIR High Component Call for Improvement and the Downselect Guide were released to the contractors. EMD proposals were submitted to the Government on 5 Jul 96. Formal government downselect activities began on 8 Jul 96. The source selection decision was made by SAF/AQ, and a \$1.9B SBIR High Component EMD contract modification was competitively awarded to LMMS of Sunnyvale, CA on 8 Nov 96. In addition, \$217.4M is planned for contract options.

(U) MILCON CONTRACT AWARD. Military Construction (MILCON) efforts were accomplished during 1996 to arrive at a baseline design for the SBIRS Mission Control Station (MCS). RFPs for MCS construction were released in late Oct 96. Contract Award occurred in Nov 96.

(U) EMD CONTRACTOR KICK-OFFS. An executive level SBIR High EMD contract kick-off meeting was accomplished 25-26 Nov 96. Senior management from Air Force Space Command (AFSPC), the SBIRS SPO, and LMMS attended. Also, a formal SBIR High kick-off meeting was conducted 9-10 Dec 96, and LMMS presented a detailed overview of the EMD program.

(U) (2) SBIR LOW:

(U) SBIRS DSB REVIEWS; SBIRS DAB OBJECTIVES. As a result of the 12 Jul 96 joint review of the National Missile Defense (NMD) and the SBIR Low [formerly Space and Missile Tracking System (SMTS)] programs, USD(A&T) designated SBIR Low as a Major Defense Acquisition Program (MDAP). The USD(A&T) commissioned the Defense Science Board (DSB) to review early deployment options for SBIR Low. Based on DSB's findings and recommendations, USD(A&T) directed the Air Force to plan for SBIR Low deployment to begin in FY04 as an optimized balance of cost and risks. A SBIRS DAB is scheduled for May 97. DAB objectives are to: (1) baseline the Low acquisition strategy, the Low program, and SBIR High and Low test strategy, (2) establish SBIR Low Program Definition and Risk Reduction (PDRR) success criteria, and (3) review the SBIR Low independent cost

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SBIRS, December 31, 1996

8. (U) Threshold Breaches:

a. (U) Acquisition Program Baseline (APB):

Item	Breach
Schedule	No
Performance	No
Cost -- RDT&E	No
-- Procurement	No
-- MILCON	No
-- O&M	No
-- Average Procurement Unit Cost (APUC)	(Same as APUC, below)

b. (U) Nunn-McCurdy Unit Cost:

Item	Breach
Program Acquisition Unit Cost	No
Average Procurement Unit Cost	No

9. (U) Schedule:

a. Milestones --

	Planning Estimate (SAR)	Approved Program; DE	Current Estimate	
Pre-EMD				
System Requirements Review	TBD	N/A	FEB 96	
System Functional Review	TBD	N/A	JUN 96	
High Component Milestone II	N/A	OCT 96	OCT 96	(Ch-1)
High Component PDR (Space and Ground Increment 2)	N/A	DEC 97	DEC 97	(Ch-1)
High Component CDR (Space and Ground Increment 2)	N/A	SEP 99	SEP 99	(Ch-1)
Low Component FDS CDR	N/A	DEC 96	DEC 96	(Ch-1)
Low Component FDS Launch	N/A	SEP 99	SEP 99	(Ch-1)
Low Component Dem/Val Launch	N/A	TBD	TBD	(Ch-1)
Ground Segment Increment 1 Certification	SEP 99	AUG 99	AUG 99	(Ch-1)
Low Component Pre-EMD Start	N/A	OCT 99	OCT 99	(Ch-1)
Low Component Milestone II	N/A	DEC 00	DEC 00	(Ch-1)
Msn Control Station Govt Acceptance	SEP 01	N/A	N/A	(Ch-1)
HEO Sensor 1 Delivery	SEP 02	SEP 01	SEP 01	
Ground Segment Increment 2 Certification	N/A	JAN 02	JAN 02	(Ch-1)
(S)GEO Satellite 1 Delivery	SEP 02			
(S)GEO Satellite 1 Launch	N/A			
(S)GEO Satellite 2 Launch	N/A			
(S)SBIRS IOC	N/A			
HEO Sensor 2 Delivery	N/A			
(S)GEO Satellite 3 Launch	N/A			

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SBIRS, December 31, 1996

7. (U) Executive Summary (Cont'd):
assessment.

(U) FDS PROGRAM RESTRUCTURE. The Flight Demonstration System (FDS) Program was restructured in the summer of 96 to adjust content, add long wave infrared capability, constrain cost growth, and recognize impacts caused by government funding uncertainties. The resulting revised launch date is not earlier than 3Q FY99. TRW completed a Critical Design Review in Dec 96. Projected design performance meets or exceeds program requirements.

(U) LADS CONTRACT AWARD/COMPETITION. The Low Altitude Demonstration System (LADS) competitive Dem/Val contract was awarded to Rockwell on 3 Sep 96 for \$179M. The LADS contract will provide additional risk reduction for the SBIR Low concept, an alternative concept to the FDS program, and robust competition within the SBIR Low program.

(U) MSX EXPERIMENT-MSTI ACCOMPLISHMENTS. The Mid-Course Space Experiment (MSX) was launched on 24 Apr 96 on a Delta II from Vandenberg AFB. On 31 August, MSX successfully viewed a dedicated ICBM target which deployed 26 objects to replicate re-entry vehicles and penetration aids. Data reduction confirmed successful mid-course track in the Medium Wavelength Infrared (MWIR) band, first-time viewing of target in the Long Wavelength Infrared (LWIR) bands, and characterization of background signatures. The success of this experiment builds confidence that similar techniques planned by Low FDS program will also discriminate between warheads and decoys. The Miniature Sensor Technology Integration (MSTI) infrared sensor satellite was launched 16 May 96 on a Standard Pegasus over the Pacific Ocean west of Vandenberg AFB. MSTI is collecting infrared data with all sensors performing nominally. To date, MSTI has taken over 120,000 scenes in the Short Wavelength Infrared (SWIR) and Medium Wavelength Infrared (MWIR) passbands. MSTI has completed several joint data collections with MSX, research aircraft, and ground-based sensors. MSTI payload operations are scheduled to conclude Jun 97 with all mission objectives completed.

(U) COBRA BRASS DELAYS. Delays in delivering Cobra Brass components (telescopes, optics, cryocoolers, flight electronics) have compressed the original master schedule which eliminates all margin in the originally planned delivery date to the host satellite. All major elements have been delivered to Sandia National Laboratory for final integration and testing. The test status supported a late Feb 97 shipment date for integration with the host satellite.

11. (U) Total Program Cost and Quantity (Dollars in Millions):

	<u>Planning Estimate (SAR)</u>	<u>Approved Program;DE</u>	<u>Current Estimate</u>
a. (U) Cost --			
Development (RDT&E)	2308.0	3303.7	2713.7
Procurement	0.0	0.0	507.4
Flyaway			(507.4)
Total Other Wpn Sys			(0.0)
Peculiar Support	(0.0)		(0.0)
Initial Spares	(0.0)		
Construction (MILCON)	0.0	26.0	26.1
Acquisition O&M	0.0	140.2	124.9
Total FY 95 Base-Year \$	<u>2308.0</u>	<u>3469.9</u>	<u>3372.1</u>
Escalation	362.3	191.8	467.9
Development (RDT&E)	(362.3)	(181.7)	(332.4)
Procurement	(0.0)	(0.0)	(109.6)
Construction (MILCON)	(0.0)	(2.5)	(2.4)
Acquisition O&M	(0.0)	(7.6)	(23.5)
Total Then Year \$	<u>2670.3</u>	<u>3661.7</u>	<u>3840.0</u>

(U) NOTE: SBIRS was directed to use missile procurement funds after the APB was approved. The APB will be updated after the SBIRS DAB in May 97 to reflect the current program direction.

The Current Estimate totals include Pre-EMD and EMD costs for SBIR High through FY06. It also includes missile procurement funds for GEO G4 and G5.

b. (U) Quantity --

Development (RDT&E)	0	5	3
Procurement	<u>N/A</u>	<u>N/A</u>	<u>2</u>
Total	N/A	N/A	5

c. Foreign Military Sales -- None.

d. Nuclear Costs -- None.

12. (U) Unit Cost Summary:

	Current Estimate (Dec 96 SAR)	UCR Baseline (OCT 96 APB)	Percent Change
a. (U) Prog. Acq. Unit Cost (PAUC)			
(1) Cost (FY 95 BY\$)	3372.1	3469.9	
(2) Quantity	5	5	
(3) Unit Cost	674.420	693.980	-2.82
b. (U) Avg. Proc. Unit Cost (APUC)			
(1) Cost (FY 95 BY\$)	507.4	0.0	
(2) Quantity	2	0	
(3) Unit Cost	253.700	N/A	N/A

13. (U) Cost Variance Analysis:

a. (U) Summary (Current (Then-Year) Dollars in Millions)

	RD&E	PROC	MILCON	O&M	TOTAL
Planning Estimate	2670.3	-	-	-	2670.3
Previous Changes:					
Economic	-104.8	-	-	-	-104.8
Quantity	-	-	-	-	-
Schedule	-	-	-	-	-
Engineering	-	-	-	-	-
Estimating	+11.3	-	-	-	+11.3
Other	-	-	-	-	-
Support	-	-	-	-	-
Subtotal	-93.5	-	-	-	-93.5
Current Changes:					
Economic	-13.5	-	-0.3	-	-13.8
Quantity	-	-	-	-	-
Schedule	-	-	-	-	-
Engineering	-	-	-	-	-
Estimating	+482.8	-	+0.3	+0.6	+483.7
Other	-	-	-	-	-
Support	-	-	-	-	-
Subtotal	+469.3	-	-	+0.6	+469.9
Total Changes	+375.8	-	-	+0.6	+376.4
Adjustments	-	+617.0	+28.5	+147.8	+793.3
Current Estimate	3046.1	617.0	28.5	148.4	3840.0

13a. (U) Cost Variance Analysis (Cont'd):

(U) Summary (FY 1995 Constant (Base-Year) Dollars in Millions)

	RDT&E	PROC	MILCON	O&M	TOTAL
Planning Estimate	2308.0	-	-	-	2308.0
Previous Changes:					
Quantity	-	-	-	-	-
Schedule	-	-	-	-	-
Engineering	-	-	-	-	-
Estimating	+10.9	-	-	-	+10.9
Other	-	-	-	-	-
Support	-	-	-	-	-
Subtotal	+10.9	-	-	-	+10.9
Current Changes:					
Economic	-	-	-	-	-
Quantity	-	-	-	-	-
Schedule	-	-	-	-	-
Engineering	-	-	-	-	-
Estimating	+394.8	-	+0.1	-15.3	+379.6
Other	-	-	-	-	-
Support	-	-	-	-	-
Subtotal	+394.8	-	+0.1	-15.3	+379.6
Total Changes	+405.7	-	+0.1	-15.3	+390.5
Adjustments	-	+507.4	+26.0	+140.2	+673.6
Current Estimate	2713.7	507.4	26.1	124.9	3372.1

b. (U) Current Change Explanations --

	(Dollars in Millions)	
	<u>Base-Year</u>	<u>Then-Year</u>
(1) <u>RDT&E</u>		
Revised escalation indices. (Economic)	N/A	-13.5
Adjustment for Current and Prior Inflation. (Estimating)	+0.6	+0.8
Realignment of funds to support the Miniature Sensor Technology Integration (MSTI) launch. (Estimating)	+2.8	+2.9
Additional cost required to complete development of the program. (Estimating)	+908.2	+1096.1
Allocation of cost change since Baseline. Direction to use missile procurement funds to buy G4 and G5. (Estimating)	-516.8	-617.0
RDT&E Subtotal	+394.8	+469.3
(2) <u>MILCON</u>		
Revised escalation indices. (Economic)	N/A	-0.3
Adjustment for Current and Prior Inflation. (Estimating)	+0.1	+0.3
MILCON Subtotal	+0.1	0.0

13b. (U) Cost Variance Analysis (Cont'd):

b. (U) Current Change Explanations --

(Dollars in Millions)
Base-Year Then-Year

(3) <u>O&M</u>		
Adjustment to correct inflation rates used to develop the Acquisition Program Baseline (APB). (Estimating)	-15.7	0.0
Additional funds to support ground operations. (Estimating)	+0.4	+0.6
O&M Subtotal	<u>-15.3</u>	<u>+0.6</u>

14. (U) Unit Cost and Other History (Then-Year Dollars in Millions):

a. (U) Program Acquisition Unit Cost (PAUC) History

Current SAR Baseline to Current Estimate

PAUC Plan Est	Changes								PAUC Cur Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
N/A	--	--	--	--	--	--	--	--	768.00

b. (U) Procurement Unit Cost (PUC) History

Current SAR Baseline to Current Estimate

PUC Plan Est	Changes								PUC Cur Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
N/A	--	--	--	--	--	--	--	--	308.50

c. (U) Schedule, Cost, and Quantity 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 96	N/A	OCT 96
Milestone III	N/A	N/A	N/A	N/A
FUE/IOC	N/A	DEC 03	N/A	DEC 03
Total Cost	2670.3	N/A	N/A	3840
Total Quantity	N/A	N/A	N/A	5
Prog Acq Unit Cost	N/A	N/A	N/A	768

SBIRS, December 31, 1996

15. (U) Contract Information (Then-Year Dollars in Millions):

a. RDT&E --			Initial Contract Price		
(U) SBIRS High Pre-EMD:			<u>Target</u>	<u>Ceiling</u>	<u>Qty</u>
Hughes Aircraft, El Segundo, CA					
F04701-95-C-0018, CPFF			\$80.0	\$80.0	0
Award: August 4, 1995					
Definitized: August 4, 1995					
Current Contract Price			Estimated Price At Completion		
<u>Target</u>	<u>Ceiling</u>	<u>Qty</u>	<u>Contractor</u>	<u>Program Manager</u>	
\$80.0	\$80.0	0	\$80.0	\$80.0	
Previous Cumulative Variances			<u>Cost Variance</u>	<u>Schedule Variance</u>	
Cumulative Variances To Date (01/26/96)			\$1.6	\$-0.4	
Net Change			\$0.0	\$0.0	
			\$-1.6	\$0.4	

Explanation of Change:

(U) The Pre-EMD contract efforts was completed on target with no cost or schedule variances. This will be the last report for this contract.

(U) SBIR HIGH EMD Mod:			Initial Contract Price		
Lockheed-Martin Msl Sys, Sunnyvale CA			<u>Target</u>	<u>Ceiling</u>	<u>Qty</u>
F04701-95-C-0017, CPAF					
Award: October 31, 1995			\$80.0	\$80.0	0
Definitized: October 31, 1995					
Current Contract Price			Estimated Price At Completion		
<u>Target</u>	<u>Ceiling</u>	<u>Qty</u>	<u>Contractor</u>	<u>Program Manager</u>	
\$1590.1	\$1904.5	5	\$1904.5	\$1904.5	
Previous Cumulative Variances			<u>Cost Variance</u>	<u>Schedule Variance</u>	
Cumulative Variances To Date (01/26/96)			\$1.6	\$-0.5	
Net Change			\$0.0	\$0.0	
			\$-1.6	\$0.5	

Explanation of Change:

(U) Pre-EMD: The Pre-EMD effort for this contract was completed within the initial \$80M Target with no cost or schedule variances.

EMD: Lockheed-Martin was selected for the EMD portion of SBIR High on 8 Nov 96, and a contract modification was added to the contract. The changes above in Current Contract Prices, Quantity, and Estimated Prices At Completion result from the modification. The first Cost Performance Report (CPR) for this effort will be submitted in Feb 97. That CPR will reflect Jan 97 fiscal month end information. An Integrated Baseline Review (IBR) kickoff was held on 6 Dec 96. IBR discussions occurred during Jan 97. The IBR out briefing occurred 19 Feb 97.

16. (U) Program Funding Summary (Current Estimate in Millions of Dollars):

a. Appropriation Summary (Then-Year Dollars in Millions)

<u>Appropriation</u>	<u>Prior Years (FY95-97)</u>	<u>Budget Year (FY98)</u>	<u>Budget Year (FY99)</u>	<u>Balance To Complete (FY00-06)</u>	<u>Total</u>
RDT&E	467.8	338.4	549.3	1690.6	3046.1
Procurement	-	-	-	617.0	617.0
MILCON	14.5	14.0	-	-	28.5
O&M	-	12.4	11.3	124.7	148.4
Total	482.3	364.8	560.6	2432.3	3840.0

(U) Note: SBIR Low funding information is not included. It will not be reported until after the May 97 SBIRS Defense Acquisition Board (DAB) review.

b. Annual Summary -- SBIR (High)

Appropriation: 3600 Research, Development, Test + Eval, AF

<u>Fiscal Year</u>	<u>Qty</u>	<u>Flyaway FY95 Dollars Nonrec</u>	<u>Flyaway FY95 Dollars Rec</u>	<u>Total Program Base-Year \$</u>	<u>Total Program Then-Year \$</u>
1995				111.2	113.0
1996				159.5	165.2
1997				179.2	189.6
1998				313.3	338.4
1999				498.0	549.3
2000				517.7	582.9
2001				371.0	426.7
2002				245.0	287.9
2003				153.0	184.1
2004				68.9	85.0
2005				58.4	74.0
2006				38.5	50.0
Subtotal	3			2713.7	3046.1

Appropriation: 3020 Missile Procurement, Air Force

<u>Fiscal Year</u>	<u>Qty</u>	<u>Flyaway FY95 Dollars Nonrec</u>	<u>Flyaway FY95 Dollars Rec</u>	<u>Total Program Base-Year \$</u>	<u>Total Program Then-Year \$</u>
2001				34.9	40.8
2002	1		264.3	229.4	274.4

*** UNCLASSIFIED ***

SBIRS, December 31, 1996

16b. (U) Program Funding Summary (Cont'd):

Appropriation: 3020 Missile Procurement, Air Force

Fiscal Year	Qty	Flyaway FY95 Dollars Nonrec	Flyaway FY95 Dollars Rec	Total Program Base-Year \$	Total Program Then-Year \$
2003	1		243.1	194.8	238.8
2004				10.3	13.0
2005				10.1	13.0
2006				27.9	37.0
Subtotal	2		507.4	507.4	617.0

Appropriation: 3300 Military Construction, Air Force

Fiscal Year	Qty	Flyaway FY95 Dollars Nonrec	Flyaway FY95 Dollars Rec	Total Program Base-Year \$	Total Program Then-Year \$
1997				13.4	14.5
1998				12.7	14.0
Subtotal				26.1	28.5

Appropriation: 3400 Operation & Maintenance, Air Force

Fiscal Year	Qty	Flyaway FY95 Dollars Nonrec	Flyaway FY95 Dollars Rec	Total Program Base-Year \$	Total Program Then-Year \$
1998				11.5	12.4
1999				10.2	11.3
2000				14.5	16.3
2001				15.3	17.6
2002				13.9	16.3
2003				15.0	18.1
2004				15.2	18.8
2005				14.8	18.8
2006				14.5	18.8
Subtotal				124.9	148.4

	Qty	Flyaway Dollars Nonrec	Flyaway Dollars Rec	Total Program Base-Year \$	Total Program Then-Year \$
Grand Total	5		507.4	3372.1	3840.0

*** UNCLASSIFIED ***

17. (U) Delivery/Expenditure Information:

a. (U) Deliveries To Date	<u>Plan</u>	<u>Actual</u>
RDT&E	0	0
Procurement	0	0

(U) Percent Total Program Quantities Delivered: 0.0%

b. (U) Total Expenditures To Date (In Millions of Dollars): \$ 244.5

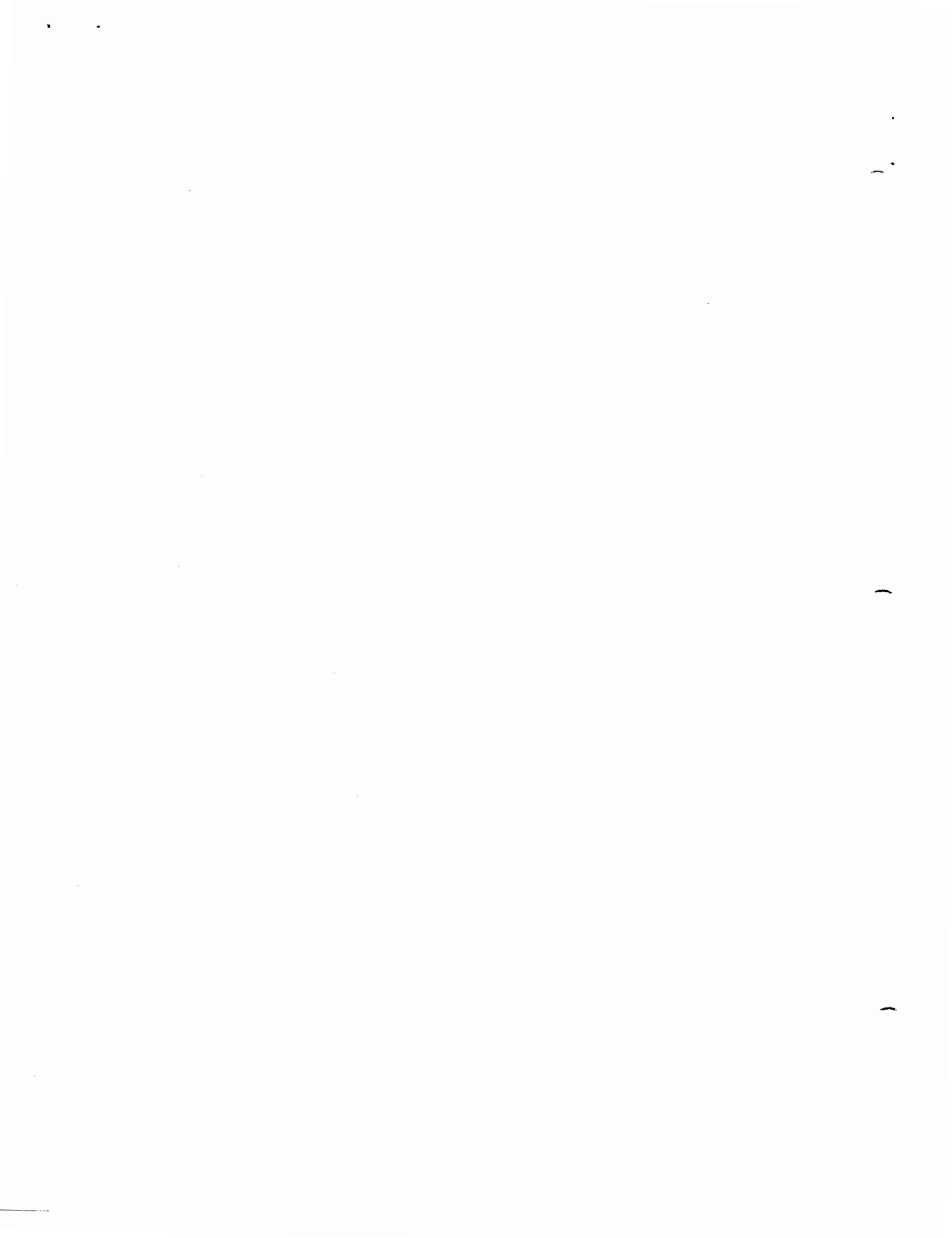
(U) Percent Total Program Expended: 6.4%

18. (U) Operating and Support Costs:

a. (U) Assumptions and Ground Rules --
 These Operations and Maintenance funds support the activation of new Space Based Infrared System (SBIRS) High Component ground operating and training facilities at four sites worldwide, along with the deactivation of an OCONUS Defense Support Program (DSP) site. SBIRS High Component Increment 1 consolidates operations from three DSP sites into one CONUS-based site. These funds support the procurement of temporary facilities, office equipment, furniture, travel, supplies, and communication links necessary for the activation of the SBIRS Mission Control Station two OCONUS Relay Ground Stations, and Initial Qualification Training (IQT) facility in FY99. These funds also provide for site cleanup, equipment transportation, and travel associated with the deactivation of the DSP Overseas Ground Station (OGS). Also support with these funds are the repair and transportation of Government Furnished Equipment (GFE), TDY for training of the initial cadre of operators, and AFOTEC efforts.

b. (U) Costs -- (FY 1995 Constant (Base-Year) Dollars in Millions)

Cost Element	Avg Annual Cost Per SBIR (High) system	Avg Annual Cost Per DSP System
Mission Pay & Allowances	N/A	N/A
Unit Level Consumption	13.9	20.3
Intermediate Maintenance	N/A	N/A
Depot Maintenance	N/A	N/A
Contractor Support	N/A	N/A
Sustaining Support	N/A	N/A
Indirect Costs	N/A	N/A
	N/A	N/A
Total	13.9	20.3





Defense Acquisition Management Information Retrieval (DAMIR)



Selected Acquisition Report (SAR)

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



SBIRS HIGH

As of December 31, 1997

UNCLASSIFIED

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Program Information

Designation And Nomenclature (Popular Name)

Space Based Infrared System (SBIRS) Program

DoD Component

Air Force

Responsible Office

Responsible Office

Col Daniel L. Burkett, II
SMC/MT
185 Discoverer Blvd.
Suite 2512
Los Angeles, CA 90245-4695

Phone 310-363-1807
Fax --
DSN Phone 833-1807
DSN Fax --

Date Assigned July 3, 1997

References

SAR Baseline (Development Estimate)

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

Approved APB

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

Mission and Description

The Space Based Infrared System (SBIRS) program is intended to satisfy key requirements delineated in the SBIRS October 1, 1996 Operational Requirements Document within the available budget and schedule. SBIRS is an integrated "system of systems", 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 Characterization. The baseline architecture for SBIRS includes space elements in Highly Elliptical Orbits (HEO), Geosynchronous Earth Orbits (GEO), and Low Earth Orbits (LEO), in addition to the following ground elements: a CONUS-based Mission Control Station (MCS) and backup (MCSB), overseas Remote Ground Stations (RGSs), Relocatable Terminals (RTs), and associated communication links. The High Component consists of four satellites in GEO, two hosted sensors in HEO (platforms provided by another organization), and associated ground elements. The Low Component baseline consists of TBD satellites and will be integrated with the High Component through the SBIRS MCS.

Executive Summary

This SAR reports on SBIRS High as in previous SARs. However, certain SBIRS Low information is included in sections 7 and 9, and other related narratives and footnotes. The SBIRS Low financial, unit cost, contract, and related information will not be reported until after the SBIRS DAB review, scheduled for June 1998.

(U) SBIRS HIGH EMD CONTRACT AWARD ACTIVITIES/REVIEWS: Since SBIRS High EMD contract award, November 8, 1996, contract activities continue to progress in accordance with the Integrated Master Plan. Contractor team performance has been viewed as excellent. During this period of EMD, Lockheed Martin Missile and Space (LMMS) has successfully completed numerous design milestones on both the ground and space segments and demonstrated its commitment to Cost as an Independent Variable via numerous design initiatives to contain both contract and Life Cycle Cost. On the ground segment, these milestones included Increment 1 Final Design Review (FDR) and the Increment 2 Preliminary Design Review (PDR). For the space segment, LMMS successfully completed the Payload PDR and the High Orbit Space Vehicle (HOSV) PDR as well as PDRs or Technical Interchange Meetings (TIMs) for most space segment subsystems. This effort culminated in the SBIRS High System PDR in which LMMS successfully demonstrated system compliance with allocated requirements. The SBIRS High Program is proceeding into the detailed design phase of the program.

Following is a list and description of key milestones and activities during this period of the program.

- SBIRS High Ground Segment Interim Design Review (IDR) March 10-14, 1997 - SBIRS High Payload PDR August 27-29, 1997
- SBIRS High Ground Segment Increment 1 FDR September 8-12, 1997
- SBIRS High HOSV PDR October 8-10, 1997
- SBIRS High Ground Segment Increment 2 PDR November 17-20, 1997
- SBIRS High System PDR December 9-12, 1997
- Memorandum of Agreement (MOA) between SBIRS High program and Army Joint Tactical Ground Station program signed December 12, 1997

(U) SBIRS HIGH: SBIRS High EMD progress has been excellent. However, a budget shortfall has been identified in FY98 due to: 1a) a need to accelerate backbone communications one year to support Initial Operational Test and Evaluation (IOT&E) and Integrated Tactical Warning/Attack Assessment (ITW/AA) Certification, 1b) a need to accelerate some HEO Host tasks, and 2) congressionally mandated cuts. In order to drive down the FY98 shortfall, the System Program Office (SPO) is implementing program contract modifications to reduce the shortfall by \$25.5M, resulting in a four month delay to increment 2 and all five GEO satellites. These modifications also result in a three month delay in HEO sensor delivery, which still meets integration need dates for the host vehicle. The remaining shortfall will be eliminated with approval of a waiver to the Special Termination Cost Clause (\$25.9M) and Above Threshold Reprogramming (ATR) of DSP 3020 funds (\$21.6M).

(U) SBIRS LOW ISSUES: A funding shortfall in FY98 also exists for the SBIRS Low Program. The amount of the shortfall is \$20M. This shortfall will be eliminated by an ATR request.

(U) SBIRS LOW FLIGHT DEMONSTRATIONS SYSTEM (FDS). Earlier this past year, TRW submitted a not to exceed (NTE) estimate of \$136.8M to cover cost growth. Through aggressive program management, buy back of the payload pathfinder, and award fee reduction the amount was reduced to \$111.8M. The launch date has moved to December 1999. Technically, the program is back on track having completed build of the support structures for both vehicle 1 and 2 plus the Orbital Insertion System. Raytheon System, formerly Hughes, has begun integration and testing of the payload pathfinder. We continue to meet all of the technical performance measurements with good margin.

(U) SBIRS LOW ALTITUDE DEMONSTRATION SYSTEM: The program office and Boeing North American (BNA) completed an Integrated Baseline Review (IBR). BNA and Lockheed made personnel and organizational changes to

improve program execution. Design reviews were completed on the payload, payload sensors, and System Integrated Design. Hardware fabrication is now under way. We continue to meet all 20 technical performance measurements. As part of the IBR, the ground demonstrations were eliminated because of cost growth in the flight system.

(U) SBIRS LOW PROGRAM DEFINITION (PD): The SBIRS Single Acquisition Management Plan and Test and Evaluation Master Plan are being updated. The Build 1 Request for Proposal for PD solicitation has been placed on the World Wide Web.

(U) COBRA BRASS: The Cobra Brass payload was integrated to the host vehicle and, after several launch delays, the vehicle was delivered to a successful orbit. The payload is functioning nominally.

(U) MINIATURE SENSOR TECHNOLOGY INTEGRATION (MSTI): Following a successful on-orbit mission, MSTI-3 was brought back to earth with splashdown at 1521ZULU on December 11, 1997.

Threshold Breaches

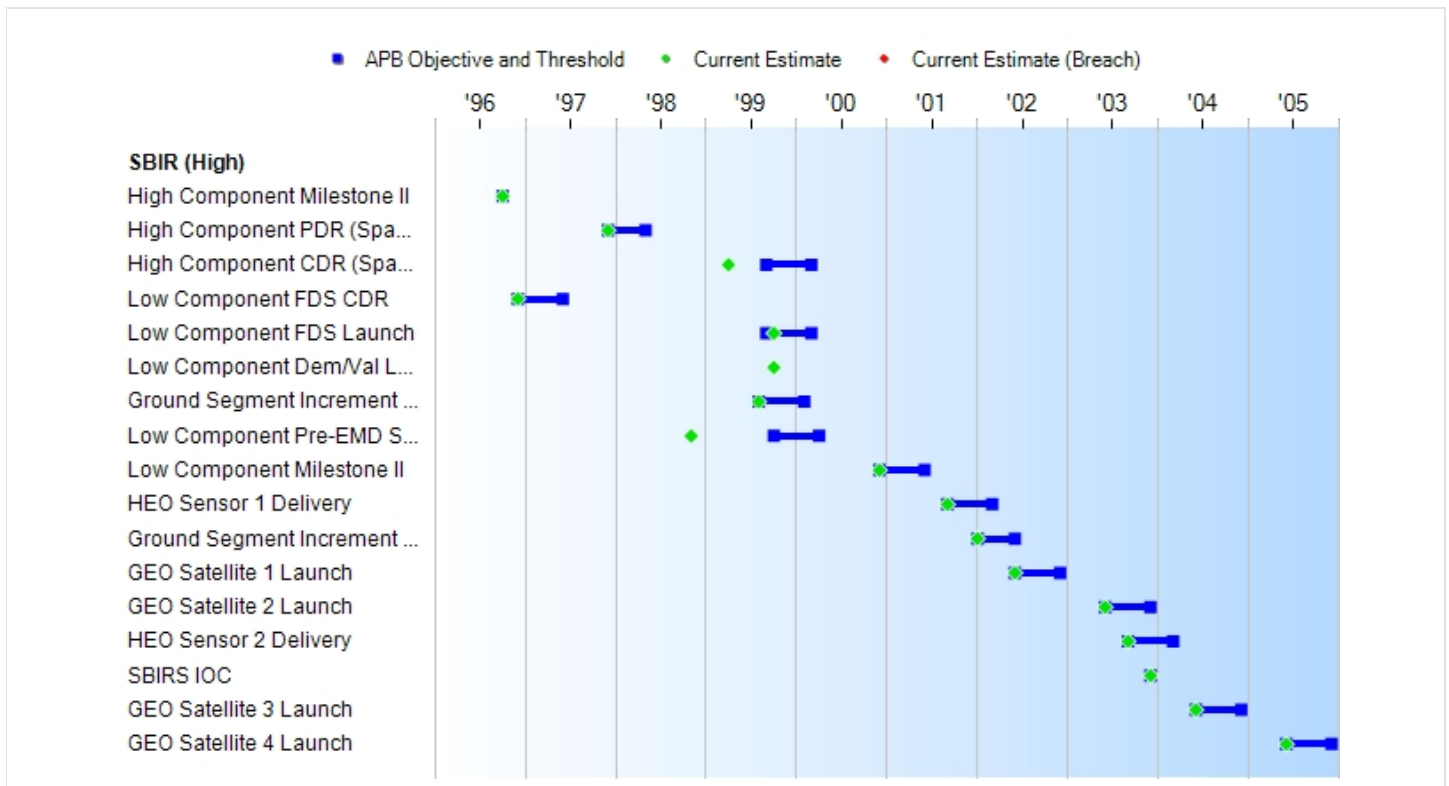
APB Breaches		
--------------	--	--

- 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

Schedule



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	SEP 1999	MAR 2000	APR 1999
Low Component FDS CDR	DEC 1996	DEC 1996	JUN 1997	DEC 1996
Low Component FDS Launch	SEP 1999	SEP 1999	MAR 2000	OCT 1999
Low Component Dem/Val Launch	TBD	TBD	TBD	OCT 1999
Ground Segment Increment 1 Certification	AUG 1999	AUG 1999	FEB 2000	AUG 1999
Low Component Pre-EMD Start	OCT 1999	OCT 1999	APR 2000	NOV 1998
Low Component Milestone II	DEC 2000	DEC 2000	JUN 2001	DEC 2000
HEO Sensor 1 Delivery	SEP 2001	SEP 2001	MAR 2002	SEP 2001
Ground Segment Increment 2 Certification	JAN 2002	JAN 2002	JUN 2002	JAN 2002
GEO Satellite 1 Launch	N/A	JUN 2002	DEC 2002	JUN 2002
GEO Satellite 2 Launch	JUN 2003	JUN 2003	DEC 2003	JUN 2003
HEO Sensor 2 Delivery	SEP 2003	SEP 2003	MAR 2004	SEP 2003
SBIRS IOC	DEC 2003	N/A	N/A	DEC 2003
GEO Satellite 3 Launch	JUN 2004	JUN 2004	DEC 2004	JUN 2004
GEO Satellite 4 Launch	JUN 2005	JUN 2005	DEC 2005	JUN 2005

Change Explanations

None

Memo

None

Performance

Note: Classified and unclassified performance parameters are displayed in the Classified DAMIR.

Track To Budget**RDT&E**

APPN 3600 PE 0604441F (Air Force)
SBIR High Element EMD

Procurement

APPN 3020 (Air Force) ICN MSSBIR
SBIR High Missile Procurement

MILCON

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

Acq O&M

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

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

Appropriation	BY1995 \$M				TY \$M		
	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	3016.6	3318.3	2566.6	3386.5	3386.5	2812.2
Procurement	496.7	496.7	546.4	391.3	584.5	584.5	459.3
Flyaway	496.7	--	--	--	584.5	--	--
Recurring	496.7	--	--	--	584.5	--	--
Non Recurring	0.0	--	--	0.0	0.0	--	0.0
Support	0.0	--	--	--	0.0	--	--
Other Support	0.0	--	--	--	0.0	--	--
Initial Spares	0.0	--	--	--	0.0	--	--
MILCON	26.0	26.0	28.6	26.5	28.5	28.5	28.5
Acq O&M	140.2	140.2	154.2	71.2	147.8	147.8	79.1
Total	3679.5	3679.5	N/A	3055.6	4147.3	4147.3	3379.1

NOTE: The APB will be updated to include SBIRS Low after the SBIRS DAB in June 1998 to reflect the current program direction.

The Current Estimate totals include Pre-EMD and EMD costs for SBIRS High through FY06. It also includes Missile Procurement funds for Geosynchronous Satellites G4 and G5.

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

Funding Summary

Appropriation and Quantity Summary

FY1999 President's Budget / December 1997 SAR (TY\$ M)

Appropriation	Prior	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	To Complete	Total
RDT&E	478.2	316.5	538.4	564.2	396.0	270.0	143.1	105.8	2812.2
Procurement	0.0	0.0	0.0	0.0	34.0	214.4	188.5	22.4	459.3
MILCON	14.5	14.0	0.0	0.0	0.0	0.0	0.0	0.0	28.5
Acq O&M	0.0	12.0	21.2	8.3	9.6	9.0	17.3	1.7	79.1
PB1999 Total	492.7	342.5	559.6	572.5	439.6	493.4	348.9	129.9	3379.1
	--	--	--	--	--	--	--	--	--

Quantity	Prior	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	To Complete	Total
Development	0	0	0	0	0	0	0	0	3
Production	0	0	0	0	0	1	1	0	2
PB1999 Total	0	0	0	0	0	1	1	0	5

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	--	--	--	--	--	--	116.4
1996	--	--	--	--	--	--	168.8
1997	--	--	--	--	--	--	193.0
1998	--	--	--	--	--	--	316.5
1999	--	--	--	--	--	--	538.4
2000	--	--	--	--	--	--	564.2
2001	--	--	--	--	--	--	396.0
2002	--	--	--	--	--	--	270.0
2003	--	--	--	--	--	--	143.1
2004	--	--	--	--	--	--	40.8
2005	--	--	--	--	--	--	32.2
2006	--	--	--	--	--	--	32.8
Subtotal	3	--	--	--	--	--	2812.2

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	--	--	--	--	--	--	114.6
1996	--	--	--	--	--	--	163.1
1997	--	--	--	--	--	--	183.5
1998	--	--	--	--	--	--	296.6
1999	--	--	--	--	--	--	496.7
2000	--	--	--	--	--	--	512.0
2001	--	--	--	--	--	--	353.3
2002	--	--	--	--	--	--	236.6
2003	--	--	--	--	--	--	123.0
2004	--	--	--	--	--	--	34.3
2005	--	--	--	--	--	--	26.5
2006	--	--	--	--	--	--	26.4
Subtotal	3	--	--	--	--	--	2566.6

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
2001	--	--	--	--	--	--	34.0
2002	1	--	--	--	--	--	214.4
2003	1	--	--	--	--	--	188.5
2004	--	--	--	--	--	--	11.1
2005	--	--	--	--	--	--	11.3
Subtotal	2	--	--	--	--	--	459.3

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
2001	--	--	--	--	--	--	29.8
2002	1	--	--	--	--	--	184.4
2003	1	--	--	--	--	--	158.8
2004	--	--	--	--	--	--	9.2
2005	--	--	--	--	--	--	9.1
Subtotal	2	--	--	--	--	--	391.3

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

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M
2001	--	--
2002	1	214.2
2003	1	177.1
2004	--	--
2005	--	--
Subtotal	2	391.3

Annual Funding TY\$
3300 | MILCON | Military Construction, Air
Force

Fiscal Year	Total Program TY \$M
1997	14.5
1998	14.0
Subtotal	28.5

Annual Funding BY\$
3300 | MILCON | Military Construction, Air
Force

Fiscal Year	Total Program BY 1995 \$M
1997	13.6
1998	12.9
Subtotal	26.5

Annual Funding TY\$
3400 | Acq O&M | Operation and
Maintenance, Air Force

Fiscal Year	Total Program TY \$M
1998	12.0
1999	21.2
2000	8.3
2001	9.6
2002	9.0
2003	17.3
2004	0.5
2005	0.6
2006	0.6
Subtotal	79.1

Annual Funding BY\$
3400 | Acq O&M | Operation and
Maintenance, Air Force

Fiscal Year	Total Program BY 1995 \$M
1998	11.3
1999	19.6
2000	7.5
2001	8.6
2002	7.9
2003	14.9
2004	0.4
2005	0.5
2006	0.5
Subtotal	71.2

Low Rate Initial Production

None

Foreign Military Sales

None

Nuclear Cost

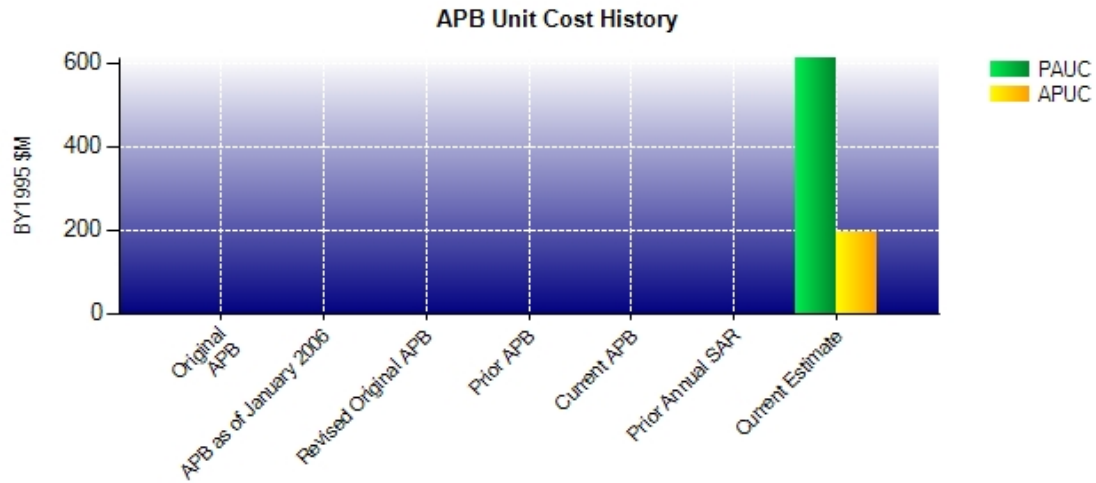
None

Unit Cost**Unit Cost Report**

Unit Cost	BY1995 \$M		
	Current UCR Baseline (MAR 1998 APB)	Current Estimate (DEC 1997 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	3679.5	3055.6	
Quantity	5	5	
Unit Cost	735.900	611.120	-16.96
Average Procurement Unit Cost (APUC)			
Cost	496.7	391.3	
Quantity	2	2	
Unit Cost	248.350	195.650	-21.22

Unit Cost	BY1995 \$M		
	Original UCR Baseline	Current Estimate (DEC 1997 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost		3055.6	
Quantity		5	
Unit Cost		611.120	+0.00
Average Procurement Unit Cost (APUC)			
Cost		391.3	
Quantity		2	
Unit Cost		195.650	+0.00

Unit Cost History



	Date	BY1995 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	N/A	N/A	N/A	N/A	N/A
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	N/A	N/A	N/A	N/A	N/A
Current APB	N/A	N/A	N/A	N/A	N/A
Prior Annual SAR	N/A	N/A	N/A	N/A	N/A
Current Estimate	DEC 1997	611.120	195.650	675.820	229.650

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	-16.420	0.000	0.000	0.000	-137.220	0.000	0.000	-153.640	675.820

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	-9.350	0.000	0.000	0.000	-53.250	0.000	0.000	-62.600	229.650

SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Total Cost (TY \$M)	2670.3	4147.3	N/A	3379.1
Total Quantity	N/A	5	N/A	5
Prog. Acq. Unit Cost (PAUC)	N/A	829.460	N/A	675.820

Cost Variance

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	0.0	0.0	0.0	0.0	0.0
Quantity	0.0	0.0	0.0	0.0	0.0
Schedule	0.0	0.0	0.0	0.0	0.0
Engineering	0.0	0.0	0.0	0.0	0.0
Estimating	-340.4	+32.5	0.0	+0.6	-307.3
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	0.0	0.0	0.0	0.0
Subtotal	-340.4	+32.5	0.0	+0.6	-307.3
Current Changes					
Economic	-60.8	-18.7	-0.5	-2.1	-82.1
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	-173.1	-139.0	+0.5	-67.2	-378.8
Other	--	--	--	--	--
Support	--	--	--	--	--
Subtotal	-233.9	-157.7	0.0	-69.3	-460.9
Total Changes	-574.3	-125.2	0.0	-68.7	-768.2
CE - Cost Variance	2812.2	459.3	28.5	79.1	3379.1
CE - Cost & Funding	2812.2	459.3	28.5	79.1	3379.1

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	0.0	0.0	0.0	0.0	0.0
Quantity	0.0	0.0	0.0	0.0	0.0
Schedule	0.0	0.0	0.0	0.0	0.0
Engineering	0.0	0.0	0.0	0.0	0.0
Estimating	-302.9	+10.7	+0.1	-15.3	-307.4
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	0.0	0.0	0.0	0.0
Subtotal	-302.9	+10.7	+0.1	-15.3	-307.4
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	-147.1	-116.1	+0.4	-53.7	-316.5
Other	--	--	--	--	--
Support	--	--	--	--	--
Subtotal	-147.1	-116.1	+0.4	-53.7	-316.5
Total Changes	-450.0	-105.4	+0.5	-69.0	-623.9
CE - Cost Variance	2566.6	391.3	26.5	71.2	3055.6
CE - Cost & Funding	2566.6	391.3	26.5	71.2	3055.6

Previous Estimate:

RDT&E	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	-60.8
Adjustment for Current and Prior Inflation. (Estimating)	+4.9	+5.3
Revised estimate of RDT&E costs for Geosynchronous Earth Orbit (GEO) Satellites G1-G3. (Estimating)	-124.1	-147.2
Change due to general Congressional and OSD reductions. (Estimating)	-37.9	-41.6
Increase to cover Miniature Sensor Technology Integration (MSTI) schedule delays and additional operational requirements. (Estimating)	+10.0	+10.4
RDT&E Subtotal	-147.1	-233.9

Procurement	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	-18.7
Revised estimate of procurement costs for GEO satellites G4 and G5 (Estimating)	-114.7	-137.2
Change due to general Congressional and OSD reductions. (Estimating)	-1.4	-1.8
Procurement Subtotal	-116.1	-157.7

MILCON	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	-0.5
Adjustment for Current and Prior Inflation. (Estimating)	+0.4	+0.5
MILCON Subtotal	+0.4	0.0

Acq O&M	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	-4.8
Economic adjustment for negative program change. (Economic)	N/A	+2.7
Adjustment for Current and Prior Inflation. (Estimating)	+0.1	+0.1
Revised estimate of transition of SBIRS ground system from Air Force Materiel Command (AFMC) to Air Force Space Command (AFSPC). (Estimating)	-53.8	-67.3
Acq O&M Subtotal	-53.7	-69.3

Contracts

Appropriation: RDT&E	
Contract Name	SBIRS High EMD Mod
Contractor	Lockheed-Martin Msl Sys
Contractor Location	Sunnyvale , CA
Contract Number, Type	F04701-95-C-0017, CPAF
Award Date	October 31, 1995
Definitization Date	October 31, 1995

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
80.0	80.0	0	1666.4	N/A	5	1984.6	1984.6

	Cost Variance	Schedule Variance
Previous Cumulative Variances	--	--
Cumulative Variances To Date	+4.2	-4.9
Net Change	+4.2	-4.9

Cost And Schedule Variance Explanations

Explanation of Change: The major contributors for the cost variance change were the favorable performance on the Pre-EMD program, spending less than planned on level of effort activities, and less costly labor rates than planned in a couple of areas. The major contributors for the schedule variance change were key staffing shortages and late hardware deliveries.

The EMD contract is a cost plus contract with no ceiling price.

Contract Comments

None

Deliveries and Expenditures

Deliveries To Date	Plan	Actual	Total Quantity	Percent Delivered
Development	0	0	3	0.00%
Production	0	0	2	0.00%
Total Program Quantities Delivered	0	0	5	0.00%

Expenditures and Appropriations (TY \$M)

Total Acquisition Cost	3379.1	Years Appropriated	4
Expenditures To Date	486.4	Percent Years Appropriated	33.33%
Percent Expended	14.39%	Appropriated to Date	835.2
Total Funding Years	12	Percent Appropriated	24.72%

Operating and Support Cost

Assumptions and Ground Rules

These Operations and Maintenance funds support the activation of new SBIRS High Component ground operating and training facilities at four sites worldwide. SBIRS High Component Increment 1 consolidates operations from three Defense Support Program sites into one CONUS-based site. 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, two OCONUS Remote Ground Stations, and Initial Qualification Training facility in FY99. Also supported with these funds are the repair and transportation of Government Furnished Equipment and TDY for training of the initial cadre of operators.

Costs BY1995 \$M

Cost Element	SBIR (High) SBIR (High) system	Avg Annual Cost Per DSP System
Mission Pay & Allowance	--	--
Unit Level Consumption	7.9	12.3
Intermediate Maintenance	--	--
Depot Maintenance	--	--
Contractor Support	--	--
Sustaining Support	--	--
Indirect	--	--
Other	--	--
Total Unitized Cost (Base Year 1995 \$)	7.9	12.3

Total O&S Costs \$M	SBIR (High)	Avg Annual Cost Per
Base Year	--	--
Then Year	--	--



Defense Acquisition Management Information Retrieval (DAMIR)



Selected Acquisition Report (SAR)

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

SBIRS HIGH

As of December 31, 1998

UNCLASSIFIED

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Program Information

Designation And Nomenclature (Popular Name)

Space Based Infrared System (SBIRS) Program

DoD Component

Air Force

Responsible Office

Responsible Office

Col Daniel L. Burkett, II
SMC/MT
185 Discoverer Blvd.
Suite 2512
Los Angeles, CA 90245-4695

Phone 310-363-1807

Fax --

DSN Phone 833-1807

DSN Fax --

Date Assigned July 3, 1997

References

SAR Baseline (Development Estimate)

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

Approved APB

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

Mission and Description

The Space Based Infrared System (SBIRS) 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 is an integrated "system of systems", 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 Characterization. The baseline architecture for SBIRS includes space elements in Highly Elliptical Orbits (HEO), Geosynchronous Earth Orbits (GEO), and Low Earth Orbits (LEO), in addition to the following ground elements: a CONUS-based Mission Control Station (MCS) and backup (MCSB), overseas Remote Ground Stations (RGSs), Multi-Mission Mobile Processor (M3P), and associated communication links. The High Component consists of four satellites in GEO, two hosted sensors in HEO (platforms provided by another organization), and associated ground elements. The Low Component will consist of TBD satellites and will be integrated with the High Component through the SBIRS ground segment.

Executive Summary

This SAR reports on SBIRS High as in previous SARs. However, certain SBIRS Low information is included in sections 7 and 9, and other related narratives and footnotes. The SBIRS Low financial, unit cost, contract, and related information will not be reported until after the SBIRS Low Milestone I Defense Acquisition Board (DAB) review.

(U) SBIRS HIGH EMD CONTRACT AWARD ACTIVITIES/REVIEWS: The SBIRS High Engineering and Manufacturing Development (EMD) contract was awarded on November 8, 1996. Development and design contract work progressed in accordance with the Integrated Master Plan. As of December 1998, the contract is 34% complete; schedule and cost variances are only at -1% and -2%, respectively. However, in January 1999, as a result of software development and testing difficulties, the contractor allocated 4 of the 6 weeks of contractor schedule slack to complete Increment 1 System Certification. Increment 1 Initial Operational Capability (IOC) is scheduled for October 1999, which is in accordance with the original baseline. During this period of EMD, Lockheed Martin Missile and Space (LMMS) has successfully completed several significant milestones on both the ground and space segments. On the ground segment these milestones included Increment 2 Software Interim Design Review (IDR). For the Space segment, LMMS successfully completed testing of the starer payload Engineering Test Model (ETM). A second program Integrated Baseline Review (IBR) was completed in January 1999.

(U) SBIRS HIGH: SBIRS High EMD progress has been excellent, although key issues still exist that need attention for continued success of the program. The FY98 funding shortfalls were resolved by a Special Terminations Contract Clause (\$25.9M) and Above Threshold Reprogramming to SBIRS High of DSP Missile Procurement funds (\$21.6M) issued on May 15, 1998, and June 5, 1998, respectively, as well as the 4-month schedule deferral contract modifications. The ground and space segments continued to make excellent progress toward achieving all milestones. The Mission Control Station (MCS) building was completed and furnished for occupancy in May 1998. The Test and Evaluation Master Plan was approved by OSD on June 17, 1998. The contract modification for satellites GEO 4 and GEO 5 breakout was completed on September 8, 1998.

All Increment 1 hardware has been delivered to the MCS and was fully integrated as of October 1998. All Increment 1 software was integrated into the ground segment hardware. Crew training and Technical Order validation are high risk areas that are being monitored closely; maximum resources are being applied to ensure success. As a result of delays in software verification for all ground elements, a 4-week delay in Operational Test and Evaluation was approved at the request of LMMS. In order to preserve an October 1999 IOC, AFSPC is evaluating the option to compress its review and coordination cycle. The SBIRS High Ground Segment Increment 2 Software Interim Design Review was held December 1-3, 1998.

(U) In the Space segment, the starer sensor ETM completed testing in the thermal vacuum chamber. The starer ETM completed radiometric performance testing on December 21, 1998. Preliminary test data indicates the starer payload sensitivity and line-of-sight repeatability is better than the payload specification requirements. Final analysis of the test data will be completed in February 1999. Spacecraft bus is under LMMS' Independent Research and Development (IR&D) and Product Development; the development effort is approximately 2 months behind schedule. The delays are driven by software development, and manufacturing of the command and data handling engineering unit circuit cards. These delays have been accommodated by the 2-month delay to the space segment Critical Design Review (CDR) from April 15, 1999, to June 15, 1999.

(U) As part of the IBR, we completed a bottom up Estimate at Complete to determine if the program was funded adequately to meet the contract baseline and an FY02 first GEO launch. The contractor is now reporting a Variance At Completion (VAC) of -\$33M at the end of the contract, while the System Program Office (SPO) estimated a VAC of -\$98M. The SPO's assessment tends to be more conservative, while the contractor has a high incentive with Award Fee and Corporate Commitment to complete on or below target.

During the formulation of the FY 2000 budget, the Air Force recommended, and OSD and the Joint Staff approved, a

two year slip of the launch of the first geosynchronous satellite from FY 2002 to FY 2004. This schedule change was implemented for three reasons: (1) to take advantage of the coverage which will be provided by the current constellation of DSP satellites, five of which have yet to be launched, (2) to synchronize the SBIRS High program with the new schedules for the National and Theater Missile Defense programs, and (3) to free up FY 2000 funds.

(U) SBIRS LOW COMPONENT ISSUES: The Demonstrations experienced significant cost growth in 1998. The SBIRS Low program office is preparing for the start of the Program Definition effort.

(U) SBIRS LOW FLIGHT DEMONSTRATION SYSTEM (FDS). Significant technical progress occurred in 1998, including partial buildup of both space vehicles; delivery of all sensors to payload integration; fit check of the booster/satellite interface. Drafts of critical test documentation are in coordination. Two major cost overruns were identified this year, caused by underestimation of effort required to integrate key sensors and processors. The first was resolved with a fee share agreement in July 1998, bringing up to \$23M of fee to mitigate cost growth. The second overrun was identified based on the results of an internal bottom up review in December 1998. This overrun exceeds the program's ability to fund by over \$40M and delays the launch 11 months to October 2000. The government options range from rebaselining the effort (using "new" funds from other government programs) to an option to terminate the contract. [NOTE: The Air Force took action on February 5, 1999, to terminate the FDS program for the convenience of the government.]

(U) SBIRS LOW ALTITUDE DEMONSTRATION SYSTEM (LADS). The majority of the flight hardware was delivered in 1998, and buildup and integration of the sensors and space vehicle are ongoing. Boeing identified a major cost growth and submitted a cost overrun proposal in July 1998. The government evaluation found an additional \$21M in technical risk; discussions are ongoing. The \$35M of contractual effort originally allocated for a ground demonstration was eliminated to offset a portion of the cost growth. Boeing agreed to put all fee at risk in December 1998, and a cost share agreement is in negotiation. [NOTE: The Air Force took action on February 5, 1999, to terminate the LADS program for the convenience of the government.]

(U) SBIRS LOW OPERATIONAL SYSTEM DEVELOPMENT. The Acquisition Decision Memorandum was signed June 11, 1998, and the operational requirements were validated by the Joint Requirements Oversight Council on July 16, 1998. The Request for Proposal (RFP) for the Program Definition contracts was released July 23, 1998, with proposals received September 2, 1998. The source selection evaluation phase was completed in November 1998, and the Source Selection Authority is awaiting the successful completion of Milestone I to announce the winners. [NOTE: SBIRS Low re-entered source selection. The amended RFP will reflect revised Program Definition Risk Reduction strategy, which added enhanced risk reduction efforts and extended the period of performance.]

Threshold Breaches

APB Breaches	
--------------	--

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

Explanation of Breach

Schedule milestones breached due to Air Force two year delay to SBIRS High and SBIRS Low. Updated APB for SBIRS Low will be provided for the DAB Milestone I review. The same APB will be updated for SBIRS High 180 days after USD(A&T) direction to implement the two year delay contractually.

Procurement cost breached due to the decision to fund satellite GEO 3 in the Missile Procurement appropriation rather than the RDT&E appropriation. This will be updated during the SBIRS High APB submission.

Nunn-McCurdy Breaches	
-----------------------	--

Current UCR Baseline

PAUC	None
APUC	None

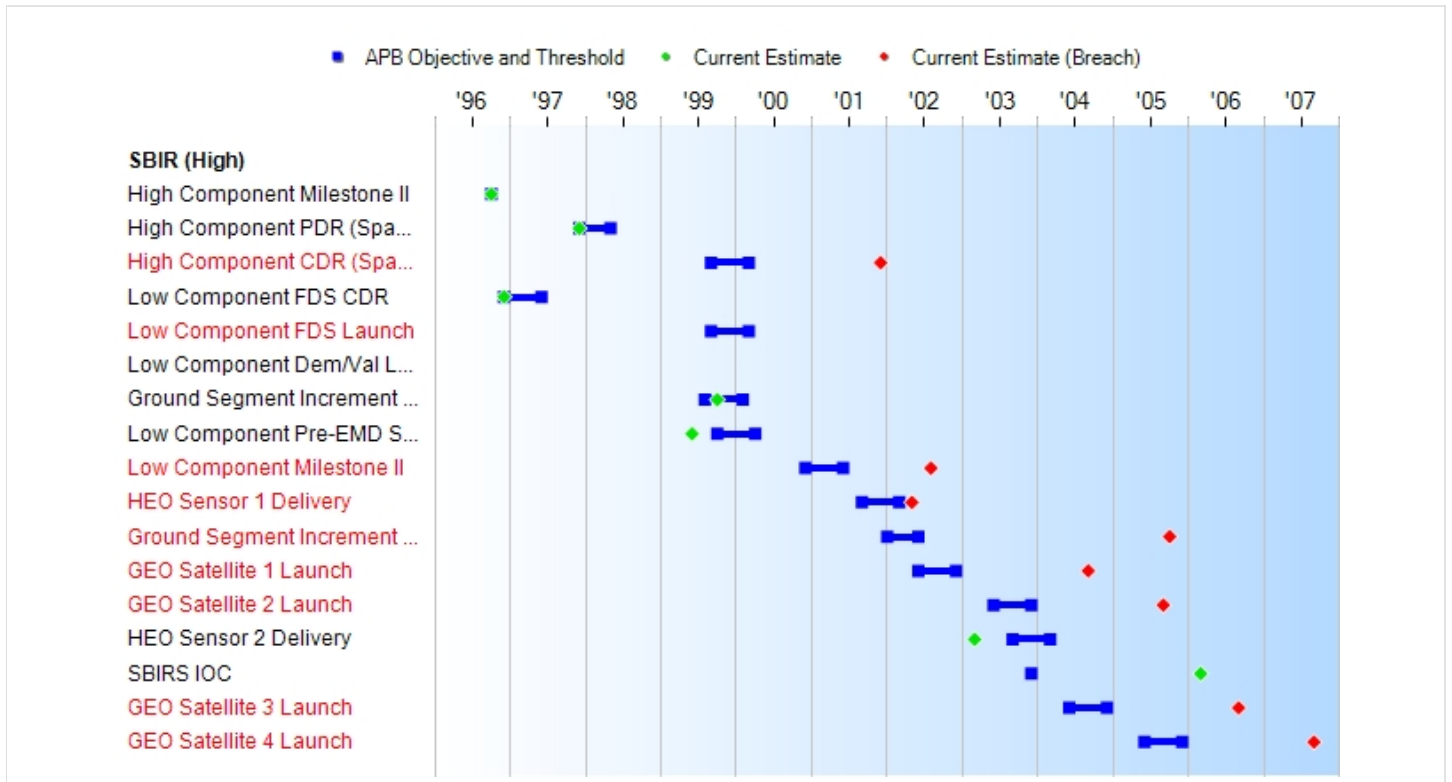
MILCON cost breached due to addition of funds for Mission Control Station Backup (MCSB) construction.

A Program Deviation Report (PDR) will be provided.

Original UCR Baseline

PAUC	None
APUC	None

Schedule



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	SEP 1999	MAR 2000	DEC 2001 ¹
Low Component FDS CDR	DEC 1996	DEC 1996	JUN 1997	DEC 1996
Low Component FDS Launch	SEP 1999	SEP 1999	MAR 2000	N/A ¹
Low Component Dem/Val Launch	TBD	TBD	TBD	N/A
Ground Segment Increment 1 Certification	AUG 1999	AUG 1999	FEB 2000	OCT 1999
Low Component Pre-EMD Start	OCT 1999	OCT 1999	APR 2000	JUN 1999
Low Component Milestone II	DEC 2000	DEC 2000	JUN 2001	AUG 2002 ¹
HEO Sensor 1 Delivery	SEP 2001	SEP 2001	MAR 2002	MAY 2002 ¹
Ground Segment Increment 2 Certification	JAN 2002	JAN 2002	JUN 2002	OCT 2005 ¹
GEO Satellite 1 Launch	N/A	JUN 2002	DEC 2002	SEP 2004 ¹
GEO Satellite 2 Launch	JUN 2003	JUN 2003	DEC 2003	SEP 2005 ¹
HEO Sensor 2 Delivery	SEP 2003	SEP 2003	MAR 2004	MAR 2003
SBIRS IOC	DEC 2003	N/A	N/A	MAR 2006
GEO Satellite 3 Launch	JUN 2004	JUN 2004	DEC 2004	SEP 2006 ¹
GEO Satellite 4 Launch	JUN 2005	JUN 2005	DEC 2005	SEP 2007 ¹

¹APB Breach**Change Explanations**

None

Memo

NOTE: GEO Satellite Launch dates, Ground Segment Increment 2 Certification, and ultimately SBIRS IOC, will be definitized when the System Program Office (SPO) develops a cost estimate for a restructured program and determines executability of funds provided. This information will be available 180 days after USD(A&T) direction to implement the two year delay contractually.

Performance

Note: Classified and unclassified performance parameters are displayed in the Classified DAMIR.

Track To Budget**RDT&E**

APPN 3600 PE 0604441F (Air Force)
SBIR High Element EMD

Procurement

APPN 3020 (Air Force) ICN MSSBIR
SBIR High Missile Procurement
APPN 3080 (Air Force) ICN MSSBIR
SBIR High Other Procurement

MILCON

APPN 3300 PE 0604441F (Air Force)
SBIRS ARCHI-EMD (SPACE) Military Contruction

Acq O&M

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

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

Appropriation	BY1995 \$M				TY \$M		
	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	3016.6	3318.3	2926.9	3386.5	3386.5	3202.3
Procurement	496.7	496.7	546.4	564.3 ¹	584.5	584.5	668.0
Flyaway	496.7	--	--	--	584.5	--	--
Recurring	496.7	--	--	0.0	584.5	--	0.0
Non Recurring	0.0	--	--	0.0	0.0	--	0.0
Support	0.0	--	--	0.0	0.0	--	0.0
Other Support	0.0	--	--	0.0	0.0	--	0.0
Initial Spares	0.0	--	--	0.0	0.0	--	0.0
MILCON	26.0	26.0	28.6	42.7 ¹	28.5	28.5	46.6
Acq O&M	140.2	140.2	154.2	76.4	147.8	147.8	85.4
Total	3679.5	3679.5	N/A	3610.3	4147.3	4147.3	4002.3

¹ APB Breach

The Current Estimate totals include Pre-EMD and EMD costs for SBIRS High through FY08. It also includes Missile Procurement funds for Geosynchronous Satellites GEO 3 thru GEO 5. Mission Control Station Backup (MCSB) reflects funded Military Construction and Other Procurement effort.

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

Funding Summary

Appropriation and Quantity Summary

FY2000 President's Budget / December 1998 SAR (TY\$ M)

Appropriation	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	To Complete	Total
RDT&E	807.9	539.4	328.7	475.3	376.2	247.6	123.1	95.9	208.2	3202.3
Procurement	0.0	0.0	0.0	12.0	55.2	174.4	225.9	188.2	12.3	668.0
MILCON	28.5	0.0	0.0	4.0	14.1	0.0	0.0	0.0	0.0	46.6
Acq O&M	10.4	19.6	6.6	8.6	7.9	8.5	5.7	4.4	13.7	85.4
PB2000 Total	846.8	559.0	335.3	499.9	453.4	430.5	354.7	288.5	234.2	4002.3
PB1999 Total	835.2	559.6	572.5	439.6	493.4	348.9	52.4	44.1	33.4	3379.1
Delta	11.6	-0.6	-237.2	60.3	-40.0	81.6	302.3	244.4	200.8	623.2

Quantity	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	2
Production	0	0	0	0	0	1	1	1	0	3
PB2000 Total	0	0	0	0	0	1	1	1	0	5
PB1999 Total	0	0	0	0	1	1	0	0	0	5
Delta	0	0	0	0	-1	0	1	1	0	0

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	--	--	--	--	--	--	539.4
2000	--	--	--	--	--	--	328.7
2001	--	--	--	--	--	--	475.3
2002	--	--	--	--	--	--	376.2
2003	--	--	--	--	--	--	247.6
2004	--	--	--	--	--	--	123.1
2005	--	--	--	--	--	--	95.9
2006	--	--	--	--	--	--	98.2
2007	--	--	--	--	--	--	56.4
2008	--	--	--	--	--	--	53.6
Subtotal	2	--	--	--	--	--	3202.3

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	--	--	--	--	--	--	158.8
1997	--	--	--	--	--	--	184.3
1998	--	--	--	--	--	--	320.6
1999	--	--	--	--	--	--	506.0
2000	--	--	--	--	--	--	303.8
2001	--	--	--	--	--	--	432.1
2002	--	--	--	--	--	--	336.5
2003	--	--	--	--	--	--	217.6
2004	--	--	--	--	--	--	105.9
2005	--	--	--	--	--	--	80.9
2006	--	--	--	--	--	--	81.1
2007	--	--	--	--	--	--	45.6
2008	--	--	--	--	--	--	42.4
Subtotal	2	--	--	--	--	--	2926.9

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
2001	--	--	--	--	--	--	12.0
2002	--	--	--	--	--	--	24.0
2003	1	--	--	--	--	--	174.4
2004	1	--	--	--	--	--	225.9
2005	1	--	--	--	--	--	188.2
2006	--	--	--	--	--	--	--
2007	--	--	--	--	--	--	6.9
2008	--	--	--	--	--	--	5.4
Subtotal	3	--	--	--	--	--	636.8

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
2001	--	--	--	--	--	--	10.7
2002	--	--	--	--	--	--	21.1
2003	1	--	--	--	--	--	150.0
2004	1	--	--	--	--	--	190.3
2005	1	--	--	--	--	--	155.3
2006	--	--	--	--	--	--	--
2007	--	--	--	--	--	--	5.5
2008	--	--	--	--	--	--	4.2
Subtotal	3	--	--	--	--	--	537.1

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

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M
2001	--	--
2002	--	--
2003	1	151.8
2004	1	196.7
2005	1	188.6
2006	--	--
2007	--	--
2008	--	--
Subtotal	3	537.1

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
2002	--	--	--	--	--	--	31.2
Subtotal	--	--	--	--	--	--	31.2

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
2002	--	--	--	--	--	--	27.2
Subtotal	--	--	--	--	--	--	27.2

Annual Funding TY\$
3300 | MILCON | Military Construction, Air
Force

Fiscal Year	Total Program TY \$M
1997	14.5
1998	14.0
1999	--
2000	--
2001	4.0
2002	14.1
Subtotal	46.6

Annual Funding BY\$
3300 | MILCON | Military Construction, Air
Force

Fiscal Year	Total Program BY 1995 \$M
1997	13.6
1998	13.1
1999	--
2000	--
2001	3.6
2002	12.4
Subtotal	42.7

Annual Funding TY\$
3400 | Acq O&M | Operation and
Maintenance, Air Force

Fiscal Year	Total Program TY \$M
1998	10.4
1999	19.6
2000	6.6
2001	8.6
2002	7.9
2003	8.5
2004	5.7
2005	4.4
2006	4.5
2007	4.6
2008	4.6
Subtotal	85.4

Annual Funding BY\$
3400 | Acq O&M | Operation and
Maintenance, Air Force

Fiscal Year	Total Program BY 1995 \$M
1998	9.9
1999	18.4
2000	6.1
2001	7.8
2002	7.1
2003	7.5
2004	4.9
2005	3.7
2006	3.7
2007	3.7
2008	3.6
Subtotal	76.4

Low Rate Initial Production

None

Foreign Military Sales

None

Nuclear Cost

None

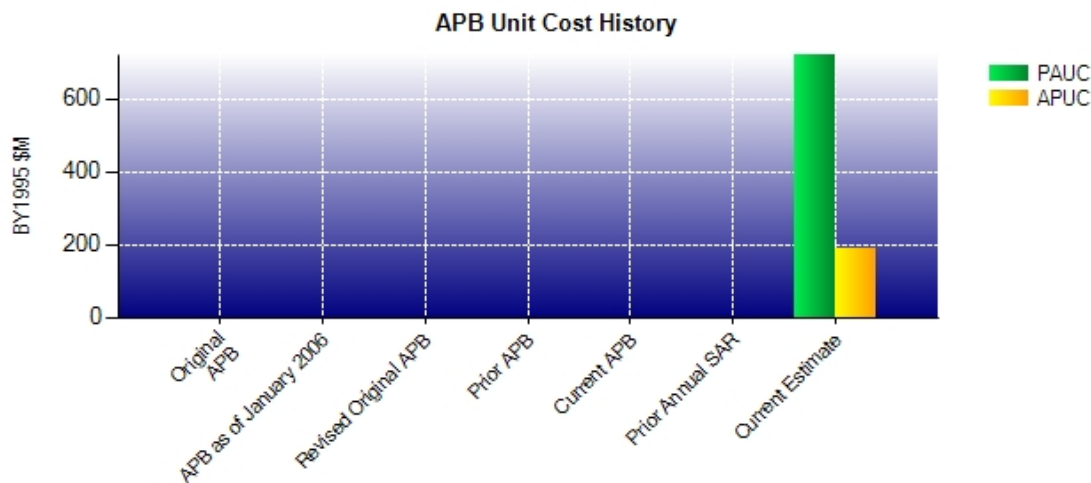
Unit Cost**Unit Cost Report**

Unit Cost	BY1995 \$M		
	Current UCR Baseline (MAR 1998 APB)	Current Estimate (DEC 1998 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	3679.5	3610.3	
Quantity	5	5	
Unit Cost	735.900	722.060	-1.88
Average Procurement Unit Cost (APUC)			
Cost	496.7	564.3	
Quantity	2	3	
Unit Cost	248.350	188.100	-24.26

Unit Cost	BY1995 \$M		
	Original UCR Baseline	Current Estimate (DEC 1998 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost		3610.3	
Quantity		5	
Unit Cost		722.060	+0.00
Average Procurement Unit Cost (APUC)			
Cost		564.3	
Quantity		3	
Unit Cost		188.100	+0.00

NOTE: Funding requirement will be definitized when the System Program Office (SPO) develops a cost estimate for a restructured program and determines executability of funds provided. This information will be available 180 days after USD(A&T) direction to implement the two year delay contractually.

Unit Cost History



	Date	BY1995 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	N/A	N/A	N/A	N/A	N/A
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	N/A	N/A	N/A	N/A	N/A
Current APB	N/A	N/A	N/A	N/A	N/A
Prior Annual SAR	N/A	N/A	N/A	N/A	N/A
Current Estimate	DEC 1998	722.060	188.100	800.460	222.667

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	-25.360	5.480	98.840	0.000	-114.200	0.000	6.240	-29.000	800.460

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	-9.333	-37.383	3.033	0.000	-36.300	0.000	10.400	-69.583	222.667

SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Total Cost (TY \$M)	2670.3	4147.3	N/A	4002.3
Total Quantity	N/A	5	N/A	5
Prog. Acq. Unit Cost (PAUC)	N/A	829.460	N/A	800.460

Cost Variance

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	-60.8	-18.7	-0.5	-2.1	-82.1
Quantity	0.0	0.0	0.0	0.0	0.0
Schedule	0.0	0.0	0.0	0.0	0.0
Engineering	0.0	0.0	0.0	0.0	0.0
Estimating	-513.5	-106.5	+0.5	-66.6	-686.1
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	0.0	0.0	0.0	0.0
Subtotal	-574.3	-125.2	0.0	-68.7	-768.2
Current Changes					
Economic	-34.5	-9.3	-0.2	-0.7	-44.7
Quantity	-152.7	+180.1	--	--	+27.4
Schedule	+485.1	+9.1	--	--	+494.2
Engineering	--	--	--	--	--
Estimating	+92.2	-2.4	+18.3	+7.0	+115.1
Other	--	--	--	--	--
Support	--	+31.2	--	--	+31.2
Subtotal	+390.1	+208.7	+18.1	+6.3	+623.2
Total Changes	-184.2	+83.5	+18.1	-62.4	-145.0
CE - Cost Variance	3202.3	668.0	46.6	85.4	4002.3
CE - Cost & Funding	3202.3	668.0	46.6	85.4	4002.3

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	0.0	0.0	0.0	0.0	0.0
Quantity	0.0	0.0	0.0	0.0	0.0
Schedule	0.0	0.0	0.0	0.0	0.0
Engineering	0.0	0.0	0.0	0.0	0.0
Estimating	-450.0	-105.4	+0.5	-69.0	-623.9
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	0.0	0.0	0.0	0.0
Subtotal	-450.0	-105.4	+0.5	-69.0	-623.9
Current Changes					
Economic	--	--	--	--	--
Quantity	-128.4	+155.6	--	--	+27.2
Schedule	+416.6	0.0	--	--	+416.6
Engineering	--	--	--	--	--
Estimating	+72.1	-9.8	+16.2	+5.2	+83.7
Other	--	--	--	--	--
Support	--	+27.2	--	--	+27.2
Subtotal	+360.3	+173.0	+16.2	+5.2	+554.7
Total Changes	-89.7	+67.6	+16.7	-63.8	-69.2
CE - Cost Variance	2926.9	564.3	42.7	76.4	3610.3
CE - Cost & Funding	2926.9	564.3	42.7	76.4	3610.3

Previous Estimate: December 1997

RDT&E	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	-42.7
Economic adjustment for negative program change. (Economic)	N/A	+8.2
GEO 3 will be procured with Missile Procurement funds which results in one less RDT&E satellite buy. (Quantity) (QR)	-128.4	-152.7
Impact of slipping GEO 1st launch from FY02 to FY04. Reflects addition of FY06-08 funding. (Schedule)	+416.6	+485.1
Adjustment for Current and Prior Inflation. (Estimating)	+12.4	+14.1
Reflects change of Mission Control Station Backup funding from RDT&E to Other Procurement funds. (Estimating)	-33.7	-36.7
Congressionally approved Above Threshold Reprogramming to correct funding shortfalls. (Estimating)	+20.5	+21.6
Congressionally directed Space and Atmospheric Burst Reporting System (SABRS) on SBIRS. (Estimating)	+3.3	+3.5
Satellite GEOs 4 and 5 changed from RDT&E appropriation to Missile Procurement appropriation. (Estimating)	-115.3	-128.0
Block II requirement added. (Estimating)	+182.8	+214.6
Adjustment for miscellaneous program change. (Estimating)	+2.1	+3.1
RDT&E Subtotal	+360.3	+390.1

(QR) Quantity Related

Procurement	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	-9.3
GEO 3 will be procured with Missile Procurement funds which result in one less buy for RDT&E funds. (Quantity) (QR)	+155.6	+180.1
Impact of slipping GEO first launch from FY02 to FY04. (Schedule)	0.0	+9.1
Learning curve adjustment. (Estimating) (QR)	-19.5	-14.7
Addition of launch and flight support for GEO 4 and 5. (Estimating)	+9.7	+12.3
Mission Control Station Backup change from RDT&E to Other Procurement funds. (Support)	+27.2	+31.2
Procurement Subtotal	+173.0	+208.7

(QR) Quantity Related

MILCON	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	-0.2
Adjustment for Current and Prior Inflation. (Estimating)	+0.2	+0.2
MILCON added for Mission Control Station Backup. (Estimating)	+16.0	+18.1
MILCON Subtotal	+16.2	+18.1

Acq O&M	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	-1.1
Adjustment for Current and Prior Inflation. (Economic)	N/A	+0.4
DSP and SBIRS High transition of personnel. (Estimating)	-16.7	-18.7
Additional O&M requirement for FY07 and FY08. (Estimating)	+7.4	+9.2
Revised estimate of O&M requirements. (Estimating)	+14.5	+16.5
Acq O&M Subtotal	+5.2	+6.3

Contracts**Appropriation: RDT&E**

Contract Name	SBIRS High EMD Mod
Contractor	Lockheed-Martin Msl Sys
Contractor Location	Sunnyvale , CA
Contract Number, Type	F04701-95-C-0017, CPAF
Award Date	October 31, 1995
Definitization Date	October 31, 1995

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
80.0	80.0	0	1944.6	N/A	3	1943.4	1990.4

	Cost Variance	Schedule Variance
Previous Cumulative Variances	+4.2	-4.9
Cumulative Variances To Date	-12.6	-4.2
Net Change	-16.8	+0.7

Cost And Schedule Variance Explanations

The major contributors for the cost variance change were the additional activities associated with weight/power reduction, retroactive overhead rate changes and increased amount of hardware required. Increased staffing and higher skill mix was required to complete Increment 1 tasks. In addition, overruns resulted due to single board computer effort and higher than anticipated effort resolving preliminary design review and critical design review issues. The major contributors for the schedule variance change were due to early receipt of material.

Contract Comments

None

Deliveries and Expenditures

Deliveries To Date	Plan	Actual	Total Quantity	Percent Delivered
Development	0	0	2	0.00%
Production	0	0	3	0.00%
Total Program Quantities Delivered	0	0	5	0.00%

Expenditures and Appropriations (TY \$M)

Total Acquisition Cost	4002.3	Years Appropriated	5
Expenditures To Date	885.9	Percent Years Appropriated	35.71%
Percent Expended	22.13%	Appropriated to Date	1405.8
Total Funding Years	14	Percent Appropriated	35.12%

Operating and Support Cost

Assumptions and Ground Rules

These Operations and Maintenance funds support the activation of new SBIRS High Component ground operating and training facilities at four sites worldwide. SBIRS High Component Increment 1 consolidates operations from three Defense Support Program sites into one CONUS-based site. 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, two OCONUS Remote Ground Stations, and Initial Qualification Training facility in FY99. Also supported with these funds are the repair and transportation of Government Furnished Equipment and TDY for training of the initial cadre of operators.

Annual cost based on SPO IPRG (Intelligence Program Review Group) estimate, as of 11 August 1998.

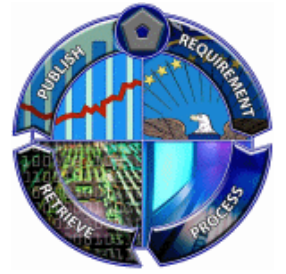
Costs BY1995 \$M

Cost Element	SBIR (High) SBIR (High) system	Avg Annual Cost Per DSP System
Mission Pay & Allowance	--	--
Unit Level Consumption	6.9	12.3
Intermediate Maintenance	--	--
Depot Maintenance	--	--
Contractor Support	--	--
Sustaining Support	--	--
Indirect	--	--
Other	--	--
Total Unitized Cost (Base Year 1995 \$)	6.9	12.3

Total O&S Costs \$M	SBIR (High)	Avg Annual Cost Per
Base Year	--	--
Then Year	--	--



Defense Acquisition Management Information Retrieval (DAMIR)



Selected Acquisition Report (SAR)

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

SBIRS HIGH

As of September 30, 1999

UNCLASSIFIED

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Program Information

Designation And Nomenclature (Popular Name)

Space Based Infrared System (SBIRS) Program

DoD Component

Air Force

Responsible Office

Responsible Office

Col Daniel L. Burkett, II
SMC/MT
185 Discoverer Blvd.
Suite 2512
Los Angeles, CA 90245-4695
daniel.burkett@losangeles.af.mil

Phone 310-363-1807

Fax --

DSN Phone 833-1807

DSN Fax --

Date Assigned July 3, 1997

References

SBIRS (High)

SAR Baseline (Development Estimate)

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

Approved APB

DAE Approved Acquisition Program Baseline (APB) dated August 13, 1999

SBIRS (Low)

SAR Baseline (Planning Estimate)

DAE Approved Acquisition Program Baseline (APB) dated August 13, 1999

Approved APB

DAE Approved Acquisition Program Baseline (APB) dated August 13, 1999

Mission and Description

The Space Based Infrared System (SBIRS) 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 is an integrated "system of systems", 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 Characterization. The baseline architecture for SBIRS includes space elements in Highly Elliptical Orbits (HEO), Geosynchronous Earth Orbits (GEO), and Low Earth Orbits (LEO), in addition to the following ground elements: a CONUS-based Mission Control Station (MCS) and backup (MCSB), overseas Remote Ground Stations (RGSs), Multi-Mission Mobile Processor (M3P), and associated communication links. The High Component consists of four satellites in GEO, two hosted sensors in HEO (platforms provided by another organization), and associated ground elements. The Low Component will consist of TBD satellites and will be integrated with the High Component through the SBIRS ground segment.

Executive Summary

This SAR is being submitted to reflect the approval of the Program Definition Risk Reduction decision for SBIRS Low, and includes the SBIRS Low development cost in accordance with 10 U.S.C. 2433 for pre-Milestone II programs. It also identifies SBIRS Low as a separate end item within the SBIRS SAR. (Previously, the SBIRS SAR reported limited SBIRS Low schedule and performance information, together with SBIRS High information.) The SBIRS High data reflects the pre-slowdown position and will be updated once the program receives authorization to proceed with the two-year delay.

SBIRS HIGH

U) SBIRS HIGH Engineering and Manufacturing Development (EMD) CONTRACT AWARD ACTIVITIES/REVIEWS: The SBIRS High EMD contract was awarded on November 8, 1996. Development and design contract work has progressed in accordance with the Integrated Master Plan.

SBIRS HIGH FUNDING: The Joint Estimate Team (JET) was chartered by the Secretary of the Air Force for Acquisition (SAF/AQ) to provide a most probable cost for the SBIRS High program with a 2-year delay in the GEO satellite launches (first launch in FY04). The JET kicked off on March 2, 1999, and presented its results to the Executive Steering Committee (ESC) on April 30, 1999. At that time, the JET recommended that the Air Force proceed with a program restructure and begin definitizing the Lockheed Martin Missiles and Space (LMMS) \$295.8M, 2-year restructure proposal. The proposal also included an additional \$113.2M in new work, bringing the total restructure cost to \$409M. The Deputy Secretary of Defense (DEPSECDEF) endorsed the JET funding recommendations. However, the contract restructure, incorporating the 2-year launch delay, remains undefinitized pending congressional consultations. Lockheed Martin Missiles and Space has been operating under the slowdown directions given on January 29 and February 2, 1999. SBIRS System Program Director (SPD) has directed the contractor to preserve the restructure schedule. In addition, since the JET was accomplished after the submittal of the FY00 President's Budget, there was a \$92M shortfall to meet the restructure position. The FY00 Authorization and Appropriation Acts corrected this shortfall. On September 15, 1999, the Under Secretary of Defense for Acquisition and Technology (USD(A&T)) chaired a Defense Acquisition Board (DAB) to review procurement alternatives for GEO satellites 3-5. Additional information and options were requested by the USD (A&T) and SBIRS prepared the pertinent information for his review. The SBIRS SPD expects direction on the specific acquisition strategy shortly.

SBIRS HIGH SCHEDULE: The Increment 1 System Integrated Tactical Warning/Attack Assessment (ITW/AA) threshold certification date is at risk. The Acquisition Program Baseline (APB) threshold date is February 2000. The program office developed schedule centric options which may prevent an APB breach, if other participants (AFOTEC, AFSPC and USSPACE) endorse the proposed replan. The decision will be weighed against performance risk. The

decision point is expected to occur in conjunction with Initial Operational Test and Evaluation (IOT&E) entry (currently mid-November 1999), not to exceed mid-December 1999. Passing IOT&E and schedule recovery are the primary concerns of the SBIRS community.

MOBILE SEGMENT: During September 28-30, 1999, LMMS presented the Multi-Mission Mobile Processor (M3P) Preliminary Design Review (PDR) to the Joint Tactical Ground Station (JTAGS)/M3P Product Office (PO), the SBIRS SPO, and user, developer, and test organizations. Lockheed Martin Missiles and Space displayed an M3P shelter mockup based on utilizing the 42-foot Ground Based Radar trailer design. Overall, the contractor's presentation was adequate to proceed with the M3P program, leading towards a Critical Design Review (CDR) in August 2000.

INTERIM MISSION CONTROL STATION BACK-UP (IMCS-B): Increment 1 delays pose a threat to the IMCS-B and Increment 2 schedules. Even taking into account the actions resulting from the JET slowdown direction, LMMS' milestone dates are considered by the program office to be moderate risk within the allocated budgets.

(U) PAYLOAD DEVELOPMENT STATUS: The GEO payload development effort has been deferred due to the JET 2-year program restructure. The development efforts for components common to the GEO and HEO payloads are continuing under the HEO payload development effort. HEO payload weight and power are both still under the host allocation; however, several payload design changes caused by Interface Control Document (ICD) requirement changes will require additional weight and power allocations. These are ICD changes over and above those included in the JET restructure baseline. Under the JET restructure, the HEO payload schedule margin was eliminated to meet FY99 and FY00 funding targets. Further, with the deferral of the GEO payload development, the HEO payload development inherited the technical risks previously being worked in GEO development. The current zero margin HEO Flight Unit #1 delivery date assumes no further ICD changes (several ICD issues are still open), and no additional component or subsystem development problems. Critical Design Reviews (CDRs) have been completed for the Focal Plane Assembly and Signal Processor Assembly. Both subsystem designs meet requirements. The HEO payload and its subsystems CDRs are proceeding at risk, pending closure of the ICD requirements.

SPACECRAFT DEVELOPMENT STATUS: Critical Design Reviews have been successfully completed on all seven hardware subsystems: Structures; Electrical Power; Propulsion; Guidance and Navigation; Command and Data Handling; Communications; and Thermal Control. A small staff is being retained to close the CDR action items. All remaining work on the design packages has been frozen until the end of FY00, due to the JET program restructure.

SBIRS LOW

SBIRS LOW FLIGHT DEMONSTRATION SYSTEM (FDS) AND LOW ALTITUDE DEMONSTRATION SYSTEM (LADS): The SBIRS Low Flight Demonstrations were terminated on February 5, 1999, due to continued cost and schedule overruns. The Air Force Audit Agency (AFAA) conducted a Management Assistance Visit, February 17 - 19, 1999, to gather data on the demonstrations to support the Secretary of the Air Force (SECAF) testimony to Congress. The AFAA briefed SECAF on February 24, 1999. Applicable technical information and lessons learned are being applied to the SBIRS Low Program Definition Risk Reduction (PDRR) effort.

SBIRS LOW OPERATIONAL SYSTEM DEVELOPMENT: The Defense Acquisition Board (DAB) Readiness Meeting (DRM) and DAB following the January 7, 1999, Overarching Integrated Product Team (OIPT) were postponed because of SBIRS Low Demonstration cost growth and schedule slips leading to termination of the demonstrations on February 5, 1999. The updated PDRR strategy approved by SAF/AQ on March 8, 1999, includes emphasis on up-front continuous systems engineering and, in lieu of the flight demonstrations, additional contractor risk reduction activities. Significant changes included the following: period of performance extension from 36 to 38 months; increased funding from \$110M to \$275M; addition of a System Design Review (SDR); extension of PDRR competition to 30% Critical Design Review (CDR); Earned Value Management implementation planning; a Ground Demonstration Program; and an unfunded Not to Exceed Cost Plus Fixed Fee option for a flight experiment. The PDRR Request for Proposal was amended on March 9, 1999, and proposals were received on April 10, 1999. Per preliminary Defense Science Board (DSB) recommendations, SAF/AQ agreed to incorporate an accelerated schedule to System Requirements Review (SRR), and to focus on the requirements trade process on National and Theater Missile Defense requirements. The DRM was held on June 2, 1999. Release of the Acquisition Decision

Memorandum (ADM) was delayed until Director, Operational Test and Evaluation (DOT&E) concerns, regarding the lack of flight experiments in the PDRR contracts, could be resolved. The SPO briefed DOT&E, Director Defense Research and Engineering, and a representative of Assistant Secretary of Defense for Command, Control, Communications, Intelligence, Surveillance and Reconnaissance on July 6, 1999, resulting in the determination to designate approximately six satellites as pre-production satellites. The designs for the system will be flexible enough to accommodate on-board evaluation and experimentation, and will accommodate on-board equipment modification of future vehicles, based on the lessons learned during the on-orbit evaluation period. On August 13, 1999, the ADM was signed; directing that continuation of the SBIRS Low program past the SDR would be contingent upon the completion of a program review DAB.

To integrate the Air Force and Ballistic Missile Defense Organization (BMDO), National Missile Defense (NMD) and Theater Missile Defense (TMD) efforts, the Systems Integration Working Group has been strengthened in response to the USD/A&T direction. In the near term, this forum is being used to support the PDRR contractors efforts to clarify NMD and TMD requirements, and to support requirements trade studies between SBIRS and BMDO systems.

SBIRS LOW PDRR CONTRACT STATUS: Two \$275M PDRR contracts were awarded on August 16, 1999, to TRW, Redondo Beach, California, and Spectrum Astro, Gilbert, Arizona. The PDRR contracts were awarded based upon an evaluation of General Considerations, Performance Risk, Proposal Risk, and three specific factors (Mission Capability Systems Engineering, Ground Demonstration Program, and Affordability). The contracts contain provisions for special studies to incorporate additional requirements trades, the extension of the PDRR period of performance, an expanded ground demonstration program, and an unfunded flight experiment option. The contract emphasizes the NMD and TMD mission areas in the requirements definition process, and shortens the requirements definition period, as was recommended by the DSB. All PDRR activities are on schedule to support an FY06 first launch with a moderate to high schedule risk.

Threshold Breaches

SBIRS (High)

APB Breaches		
--------------	--	--

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

Explanation of Breach

Schedule and Cost breached due to Air Force two year delay to SBIRS High and SBIRS Low, and were previously reported in the December 31, 1998 SAR.

The SBIRS High data reflects the pre-slowdown position. The SBIRS High data and the SBIRS High APB will be updated when the program receives authorization to proceed with the two-year restructure.

Nunn-McCurdy Breaches		
-----------------------	--	--

Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

SBIRS (Low)

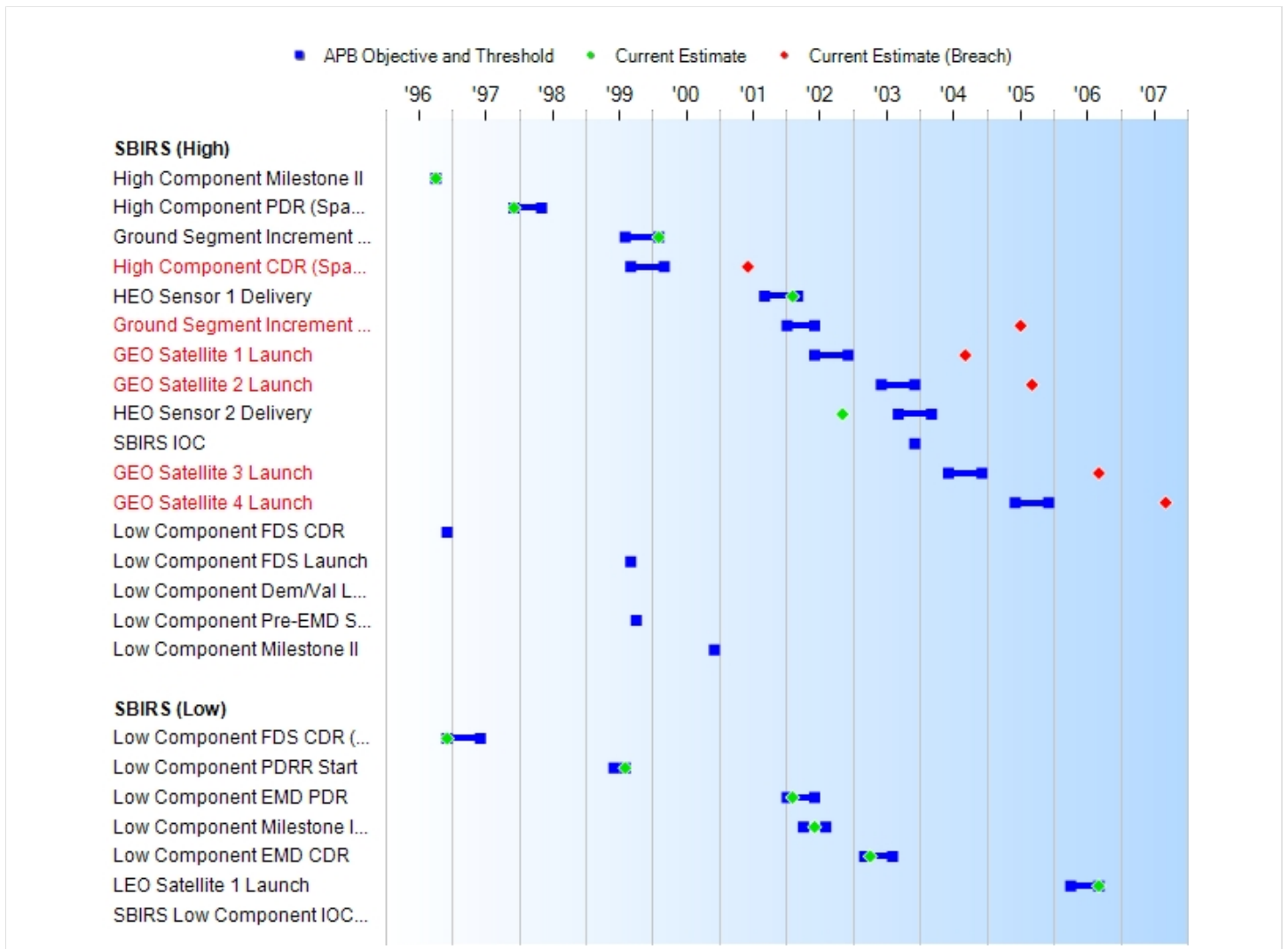
APB Breaches		
--------------	--	--

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

Nunn-McCurdy Breaches		
-----------------------	--	--

- | | | |
|------------------------------|------|------|
| Current UCR Baseline | | |
| | PAUC | None |
| | APUC | None |
| Original UCR Baseline | | |
| | PAUC | None |
| | APUC | None |

Schedule



SBIRS (High)				
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
Ground Segment Increment 1 Certification	AUG 1999	AUG 1999	FEB 2000	FEB 2000
High Component CDR (Space and Ground Increment 2)	SEP 1999	SEP 1999	MAR 2000	JUN 2001 ¹
HEO Sensor 1 Delivery	SEP 2001	SEP 2001	MAR 2002	FEB 2002
Ground Segment Increment 2 Certification	JAN 2002	JAN 2002	JUN 2002	JUL 2005 ¹
GEO Satellite 1 Launch	N/A	JUN 2002	DEC 2002	SEP 2004 ¹
GEO Satellite 2 Launch	JUN 2003	JUN 2003	DEC 2003	SEP 2005 ¹
HEO Sensor 2 Delivery	SEP 2003	SEP 2003	MAR 2004	NOV 2002
SBIRS IOC	DEC 2003	N/A	N/A	TBD
GEO Satellite 3 Launch	JUN 2004	JUN 2004	DEC 2004	SEP 2006 ¹
GEO Satellite 4 Launch	JUN 2005	JUN 2005	DEC 2005	SEP 2007 ¹
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

¹APB Breach

SBIRS (Low)				
Milestones	SAR Baseline Plan Est	Current APB Development Objective/Threshold		Current Estimate
Low Component FDS CDR (Complete)	DEC 1996	DEC 1996	JUN 1997	DEC 1996
Low Component PDRR Start	JUN 1999	JUN 1999	AUG 1999	AUG 1999
Low Component EMD PDR	JAN 2002	JAN 2002	JUN 2002	FEB 2002
Low Component Milestone II EMD ATP	APR 2002	APR 2002	AUG 2002	JUN 2002
Low Component EMD CDR	MAR 2003	MAR 2003	AUG 2003	APR 2003
LEO Satellite 1 Launch	APR 2006	APR 2006	SEP 2006	SEP 2006
SBIRS Low Component IOC (NMD C2)	TBD	TBD	TBD	TBD

Change Explanations

(Ch-1) The Current Estimate for Schedule reflects the JET approved program.

Memo

ACRONYMS:

GEO - Geosynchronous Earth Orbit

HEO - Highly Elliptical Orbit

Note: The SBIRS High Approved Program data reflect the pre-slowdown position, and will be updated when the program definitizes the restructure after receiving authorization to proceed.

ACRONYMS:

ATP - Authority to Proceed

EMD - Engineering and Manufacturing Development

FDS - Flight Demonstration System

LEO - Low Earth Orbits

NMD C2 - National Missile Defense Capability2

PDRR - Program Definition and Risk Reduction

Note: The differences between the Current Estimates and the Approved Program (APB) dates reflect the delay in PDRR approval (June 1999 to August 1999).

Note: It is intended that "SBIRS Low Component IOC" will be changed in the next revision of the APB to "SBIRS Increment 3 IOC."

Performance

Note: Classified and unclassified performance parameters are displayed in the Classified DAMIR.

Track To Budget**RDT&E**

APPN 3600	(Air Force)	Invalid program element code (0630441) removed.
	SBIR Low Element	
APPN 3600	(Air Force)	Invalid program element code (0640441) removed.
	SBIR High Element EMD	
APPN 3600	(Air Force)	Invalid program element code (0640442) removed.
	SBIR Low Element (new)	

Procurement

APPN 3020	(Air Force)	ICN MSSBIR
		SBIR High Missile Procurement

MILCON

APPN 3300	(Air Force)	Invalid program element code (0640441) removed.
	SBIRS ARCHI-EMD (SPACE)	Military Construction

Acq O&M

APPN 3400	(Air Force)	Invalid program element code (0350915) removed.
	SBIRS Operation and Maintenance	

Cost and Funding

SBIRS (High)

Cost Summary

Total Acquisition Cost and Quantity

Appropriation	BY1995 \$M				TY \$M		
	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	3016.6	3318.3	2900.5	3386.5	3386.5	3174.2
Procurement	496.7	496.7	546.4	564.3 ¹	584.5	584.5	668.0
Flyaway	496.7	--	--	--	--	--	--
Recurring	496.7	--	--	0.0	--	--	0.0
Non Recurring	0.0	--	--	0.0	--	--	0.0
Support	0.0	--	--	0.0	--	--	0.0
Other Support	0.0	--	--	0.0	--	--	0.0
Initial Spares	0.0	--	--	0.0	--	--	0.0
MILCON	26.0	26.0	28.6	42.7 ¹	28.5	28.5	46.6
Acq O&M	140.2	140.2	154.2	76.4	147.8	147.8	85.4
Total	3679.5	3679.5	N/A	3583.9	4147.3	4147.3	3974.2

¹ APB Breach

The Current Estimate totals include Pre-EMD and EMD costs for SBIRS High through FY08. It also includes Missile Procurement funds for Geosynchronous Satellites GEO 3 thru GEO 5.

Note: The SBIRS High Approved Program data reflect the pre-slowdown position, and will be updated when the program definitizes the restructure after receiving authorization to proceed.

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

While the SBIRS High Single Acquisition Management Plan (SAMP), Version 6, dated February 6, 1995, identified Satellite G-5 as a Low Rate Initial Production (LRIP) unit, the updated SAMP of August 26, 1996, identifies no LRIP.

Funding Summary

Appropriation and Quantity Summary

SEP 1999 Exception SAR (TY \$M)

Appropriation	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	To Complete	Total
RDT&E	807.9	511.3	328.7	475.3	376.2	247.6	123.1	95.9	208.2	3174.2
Procurement	0.0	0.0	0.0	12.0	55.2	174.4	225.9	188.2	12.3	668.0
MILCON	28.5	0.0	0.0	4.0	14.1	0.0	0.0	0.0	0.0	46.6
Acq O&M	10.4	19.6	6.6	8.6	7.9	8.5	5.7	4.4	13.7	85.4
SEP 1999 Total	846.8	530.9	335.3	499.9	453.4	430.5	354.7	288.5	234.2	3974.2
PB2000 Total	846.8	559.0	335.3	499.9	453.4	430.5	354.7	288.5	234.2	4002.3
Delta	0.0	-28.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-28.1

Quantity	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	2
Production	0	0	0	0	0	1	1	1	0	3
SEP 1999 Total	0	0	0	0	0	1	1	1	0	5
PB2000 Total	0	0	0	0	0	1	1	1	0	5
Delta	0	0	0	0	0	0	0	0	0	0

FY2000 President's Budget / December 1998 SAR (TY\$ M)

Appropriation	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	To Complete	Total
RDT&E	807.9	539.4	328.7	475.3	376.2	247.6	123.1	95.9	208.2	3202.3
Procurement	0.0	0.0	0.0	12.0	55.2	174.4	225.9	188.2	12.3	668.0
MILCON	28.5	0.0	0.0	4.0	14.1	0.0	0.0	0.0	0.0	46.6
Acq O&M	10.4	19.6	6.6	8.6	7.9	8.5	5.7	4.4	13.7	85.4
PB2000 Total	846.8	559.0	335.3	499.9	453.4	430.5	354.7	288.5	234.2	4002.3
PB1999 Total	835.2	559.6	572.5	439.6	493.4	348.9	52.4	44.1	33.4	3379.1
Delta	11.6	-0.6	-237.2	60.3	-40.0	81.6	302.3	244.4	200.8	623.2

Quantity	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	2
Production	0	0	0	0	0	1	1	1	0	3
PB2000 Total	0	0	0	0	0	1	1	1	0	5
PB1999 Total	0	0	0	0	1	1	0	0	0	5
Delta	0	0	0	0	-1	0	1	1	0	0

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	--	--	--	--	--	--	511.3
2000	--	--	--	--	--	--	328.7
2001	--	--	--	--	--	--	475.3
2002	--	--	--	--	--	--	376.2
2003	--	--	--	--	--	--	247.6
2004	--	--	--	--	--	--	123.1
2005	--	--	--	--	--	--	95.9
2006	--	--	--	--	--	--	98.2
2007	--	--	--	--	--	--	56.4
2008	--	--	--	--	--	--	53.6
Subtotal	2	--	--	--	--	--	3174.2

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	--	--	--	--	--	--	158.8
1997	--	--	--	--	--	--	184.3
1998	--	--	--	--	--	--	320.6
1999	--	--	--	--	--	--	479.6
2000	--	--	--	--	--	--	303.8
2001	--	--	--	--	--	--	432.1
2002	--	--	--	--	--	--	336.5
2003	--	--	--	--	--	--	217.6
2004	--	--	--	--	--	--	105.9
2005	--	--	--	--	--	--	80.9
2006	--	--	--	--	--	--	81.1
2007	--	--	--	--	--	--	45.6
2008	--	--	--	--	--	--	42.4
Subtotal	2	--	--	--	--	--	2900.5

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
2001	--	--	--	--	--	--	12.0
2002	--	--	--	--	--	--	24.0
2003	1	--	--	--	--	--	174.4
2004	1	--	--	--	--	--	225.9
2005	1	--	--	--	--	--	188.2
2006	--	--	--	--	--	--	--
2007	--	--	--	--	--	--	6.9
2008	--	--	--	--	--	--	5.4
Subtotal	3	--	--	--	--	--	636.8

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
2001	--	--	--	--	--	--	10.7
2002	--	--	--	--	--	--	21.1
2003	1	--	--	--	--	--	150.0
2004	1	--	--	--	--	--	190.3
2005	1	--	--	--	--	--	155.3
2006	--	--	--	--	--	--	--
2007	--	--	--	--	--	--	5.5
2008	--	--	--	--	--	--	4.2
Subtotal	3	--	--	--	--	--	537.1

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

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M
2001	--	--
2002	--	--
2003	1	151.8
2004	1	196.7
2005	1	188.6
2006	--	--
2007	--	--
2008	--	--
Subtotal	3	537.1

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
2002	--	--	--	--	--	--	31.2
Subtotal	--	--	--	--	--	--	31.2

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
2002	--	--	--	--	--	--	27.2
Subtotal	--	--	--	--	--	--	27.2

Annual Funding TY\$
3300 | MILCON | Military Construction, Air
Force

Fiscal Year	Total Program TY \$M
1997	14.5
1998	14.0
1999	--
2000	--
2001	4.0
2002	14.1
Subtotal	46.6

Annual Funding BY\$
3300 | MILCON | Military Construction, Air
Force

Fiscal Year	Total Program BY 1995 \$M
1997	13.6
1998	13.1
1999	--
2000	--
2001	3.6
2002	12.4
Subtotal	42.7

Annual Funding TY\$
3400 | Acq O&M | Operation and
Maintenance, Air Force

Fiscal Year	Total Program TY \$M
1998	10.4
1999	19.6
2000	6.6
2001	8.6
2002	7.9
2003	8.5
2004	5.7
2005	4.4
2006	4.5
2007	4.6
2008	4.6
Subtotal	85.4

Annual Funding BY\$
3400 | Acq O&M | Operation and
Maintenance, Air Force

Fiscal Year	Total Program BY 1995 \$M
1998	9.9
1999	18.4
2000	6.1
2001	7.8
2002	7.1
2003	7.5
2004	4.9
2005	3.7
2006	3.7
2007	3.7
2008	3.6
Subtotal	76.4

SBIRS (Low)**Cost Summary****Total Acquisition Cost and Quantity**

Appropriation	BY1995 \$M			TY \$M		
	SAR Baseline Plan Est	Current APB Concept Objective/Threshold	Current Estimate	SAR Baseline Plan Est	Current APB Concept Objective	Current Estimate
RDT&E	3745.9	3851.5	3745.9	4223.2	4223.2	4223.2
Procurement	--	--	--	--	--	--
MILCON	--	--	--	--	--	--
Acq O&M	--	--	--	--	--	--
Total	3745.9	3851.5	3745.9	4223.2	4223.2	4223.2

Note: The current APB is overstated in base year dollars due to an error in the calculation of the FY95 base year estimate. The SPO will provide the correct estimate as part of the SBIRS High APB approval process. The then year dollars are correct.

Quantity	SAR Baseline Plan Est	Current APB Concept	Current Estimate
RDT&E		3	0
Procurement		0	0
Total		3	0

Funding Summary

Appropriation and Quantity Summary

SEP 1999 Exception SAR (TY \$M)

Appropriation	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	To Complete	Total
RDT&E	847.5	192.2	229.0	243.2	309.1	623.8	772.2	492.6	513.6	4223.2
Procurement	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MILCON	0.0	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	0.0
SEP 1999 Total	847.5	192.2	229.0	243.2	309.1	623.8	772.2	492.6	513.6	4223.2
PB2000 Total	--	--	--	--	--	--	--	--	--	0.0
Delta	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4223.2

Quantity	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	0	0	0	0	0	0	0	0	0
SEP 1999 Total	0	0	0	0	0	0	0	0	0	0
PB2000 Total	0	0	0	0	0	0	0	0	0	0
Delta	0	0	0	0	0	0	0	0	0	0

FY2000 President's Budget / December 1998 SAR (TY\$ M)

Appropriation	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	To Complete	Total
RDT&E	--	--	--	--	--	--	--	--	--	0.0
Procurement	--	--	--	--	--	--	--	--	--	0.0
MILCON	--	--	--	--	--	--	--	--	--	0.0
Acq O&M	--	--	--	--	--	--	--	--	--	0.0
PB2000 Total	--	--	--	--	--	--	--	--	--	0.0
PB1999 Total	--	--	--	--	--	--	--	--	--	0.0
Delta	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Quantity	Prior	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	0	0	0	0	0	0	0	0	0
PB2000 Total	0	0	0	0	0	0	0	0	0	0
PB1999 Total	0	0	0	0	0	0	0	0	0	0
Delta	0	0	0	0	0	0	0	0	0	0

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	--	--	--	--	--	--	111.1
1996	--	--	--	--	--	--	246.6
1997	--	--	--	--	--	--	277.0
1998	--	--	--	--	--	--	212.8
1999	--	--	--	--	--	--	192.2
2000	--	--	--	--	--	--	229.0
2001	--	--	--	--	--	--	243.2
2002	--	--	--	--	--	--	309.1
2003	--	--	--	--	--	--	623.8
2004	--	--	--	--	--	--	772.2
2005	--	--	--	--	--	--	492.6
2006	--	--	--	--	--	--	193.6
2007	--	--	--	--	--	--	164.9
2008	--	--	--	--	--	--	84.1
2009	--	--	--	--	--	--	23.5
2010	--	--	--	--	--	--	23.7
2011	--	--	--	--	--	--	23.8
Subtotal	--	--	--	--	--	--	4223.2

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	--	--	--	--	--	--	109.5
1996	--	--	--	--	--	--	238.7
1997	--	--	--	--	--	--	264.6
1998	--	--	--	--	--	--	201.9
1999	--	--	--	--	--	--	180.3
2000	--	--	--	--	--	--	211.6
2001	--	--	--	--	--	--	221.1
2002	--	--	--	--	--	--	276.5
2003	--	--	--	--	--	--	548.2
2004	--	--	--	--	--	--	664.5
2005	--	--	--	--	--	--	415.3
2006	--	--	--	--	--	--	159.9
2007	--	--	--	--	--	--	133.3
2008	--	--	--	--	--	--	66.6
2009	--	--	--	--	--	--	18.2
2010	--	--	--	--	--	--	18.0
2011	--	--	--	--	--	--	17.7
Subtotal	--	--	--	--	--	--	3745.9

Low Rate Initial Production

SBIRS (High)

None

Low Rate Initial Production

SBIRS (Low)

None

Foreign Military Sales

SBIRS (High)

None

Foreign Military Sales

SBIRS (Low)

None

Nuclear Cost

SBIRS (High)

None

Nuclear Cost

SBIRS (Low)

None

Unit Cost**SBIRS (High)****Unit Cost Report**

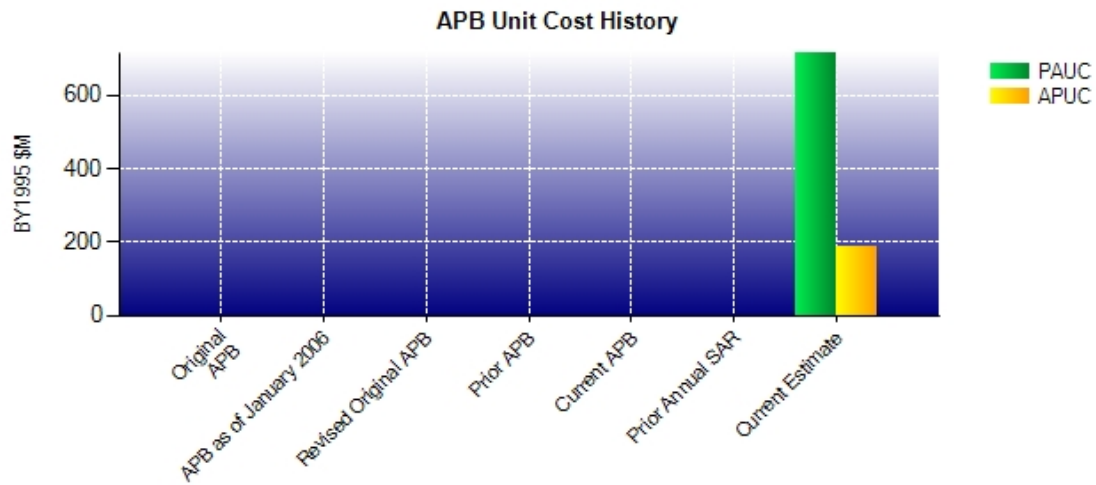
Unit Cost	BY1995 \$M		
	Current UCR Baseline (MAR 1998 APB)	Current Estimate (SEP 1999 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	3679.5	3583.9	
Quantity	5	5	
Unit Cost	735.900	716.780	-2.60
Average Procurement Unit Cost (APUC)			
Cost	496.7	564.3	
Quantity	2	3	
Unit Cost	248.350	188.100	-24.26

Unit Cost	BY1995 \$M		
	Original UCR Baseline	Current Estimate (SEP 1999 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost		3583.9	
Quantity		5	
Unit Cost		716.780	+0.00
Average Procurement Unit Cost (APUC)			
Cost		564.3	
Quantity		3	
Unit Cost		188.100	+0.00

Note: The SBIRS High Approved Program data reflect the pre-slowdown position, and will be updated when the program definitizes the restructure after receiving authorization to proceed.

SBIRS (High)

Unit Cost History



	Date	BY1995 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	N/A	N/A	N/A	N/A	N/A
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	N/A	N/A	N/A	N/A	N/A
Current APB	N/A	N/A	N/A	N/A	N/A
Prior Annual SAR	N/A	N/A	N/A	N/A	N/A
Current Estimate	SEP 1999	716.780	188.100	794.840	222.667

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	-25.360	11.100	98.840	0.000	-119.820	0.000	6.240	-29.000	794.840

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	-9.333	-37.383	3.033	0.000	-36.300	0.000	10.400	-69.583	222.667

SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Total Cost (TY \$M)	2670.3	4147.3	N/A	3974.2
Total Quantity	N/A	5	N/A	5
Prog. Acq. Unit Cost (PAUC)	N/A	829.460	N/A	794.840

Note: The SBIRS High Approved Program data reflect the pre-slowdown position, and will be updated when the program definitizes the restructure after receiving authorization to proceed.

SBIRS (Low)

Unit Cost Report

Not required for Pre-Milestone B programs in accordance with Section 2433, Title 10, USC.

SBIRS (Low)**Unit Cost History**

Not required for Pre-Milestone B programs in accordance with Section 2433, Title 10, USC.

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	4223.2
Total Quantity	N/A	N/A	N/A	0
Prog. Acq. Unit Cost (PAUC)	N/A	N/A	N/A	N/A

Cost Variance**SBIRS (High)**

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	-95.3	-28.0	-0.7	-2.8	-126.8
Quantity	-152.7	+180.1	0.0	0.0	+27.4
Schedule	+485.1	+9.1	0.0	0.0	+494.2
Engineering	0.0	0.0	0.0	0.0	0.0
Estimating	-421.3	-108.9	+18.8	-59.6	-571.0
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+31.2	0.0	0.0	+31.2
Subtotal	-184.2	+83.5	+18.1	-62.4	-145.0
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	-28.1	--	--	--	-28.1
Other	--	--	--	--	--
Support	--	--	--	--	--
Subtotal	-28.1	--	--	--	-28.1
Total Changes	-212.3	+83.5	+18.1	-62.4	-173.1
CE - Cost Variance	3174.2	668.0	46.6	85.4	3974.2
CE - Cost & Funding	3174.2	668.0	46.6	85.4	3974.2

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	0.0	0.0	0.0	0.0	0.0
Quantity	-128.4	+155.6	0.0	0.0	+27.2
Schedule	+416.6	0.0	0.0	0.0	+416.6
Engineering	0.0	0.0	0.0	0.0	0.0
Estimating	-377.9	-115.2	+16.7	-63.8	-540.2
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+27.2	0.0	0.0	+27.2
Subtotal	-89.7	+67.6	+16.7	-63.8	-69.2
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	-26.4	--	--	--	-26.4
Other	--	--	--	--	--
Support	--	--	--	--	--
Subtotal	-26.4	--	--	--	-26.4
Total Changes	-116.1	+67.6	+16.7	-63.8	-95.6
CE - Cost Variance	2900.5	564.3	42.7	76.4	3583.9
CE - Cost & Funding	2900.5	564.3	42.7	76.4	3583.9

Previous Estimate: December 1998

RDT&E	\$M	
	Base Year	Then Year
Current Change Explanations		
Approved below threshold reprogramming for current and prior year funding shortfalls in other programs (FY99) (Estimating)	-9.6	-10.2
Reflects general reduction to fund Small Business Innovative Research (SBIR) (FY99) (Estimating)	-16.8	-17.9
RDT&E Subtotal	-26.4	-28.1

Cost Variance**SBIRS (Low)**

Summary Then Year \$M						
	RDT&E	Proc	MILCON	Acq O&M	Total	
SAR Baseline (Plan Est)	4223.2	--	--	--	4223.2	
Previous Changes						
Economic	0.0	0.0	0.0	0.0	0.0	
Quantity	0.0	0.0	0.0	0.0	0.0	
Schedule	0.0	0.0	0.0	0.0	0.0	
Engineering	0.0	0.0	0.0	0.0	0.0	
Estimating	0.0	0.0	0.0	0.0	0.0	
Other	0.0	0.0	0.0	0.0	0.0	
Support	0.0	0.0	0.0	0.0	0.0	
Subtotal	0.0	0.0	0.0	0.0	0.0	
Current Changes						
Economic	--	--	--	--	--	
Quantity	--	--	--	--	--	
Schedule	--	--	--	--	--	
Engineering	--	--	--	--	--	
Estimating	--	--	--	--	--	
Other	--	--	--	--	--	
Support	--	--	--	--	--	
Subtotal	--	--	--	--	--	
Total Changes	0.0	0.0	0.0	0.0	0.0	
CE - Cost Variance	4223.2	--	--	--	4223.2	
CE - Cost & Funding	4223.2	--	--	--	4223.2	

Summary Base Year 1995 \$M					
	RDT&E	Proc	MILCON	Acq O&M	Total
SAR Baseline (Plan Est)	3745.9	--	--	--	3745.9
Previous Changes					
Economic	0.0	0.0	0.0	0.0	0.0
Quantity	0.0	0.0	0.0	0.0	0.0
Schedule	0.0	0.0	0.0	0.0	0.0
Engineering	0.0	0.0	0.0	0.0	0.0
Estimating	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.0	0.0
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	--	--	--	--	--
Other	--	--	--	--	--
Support	--	--	--	--	--
Subtotal	--	--	--	--	--
Total Changes	0.0	0.0	0.0	0.0	0.0
CE - Cost Variance	3745.9	--	--	--	3745.9
CE - Cost & Funding	3745.9	--	--	--	3745.9

Previous Estimate: December 1998

Contracts

Appropriation: RDT&E	
Contract Name	SBIRS High EMD Mod
Contractor	Lockheed-Martin Msl Sys
Contractor Location	Sunnyvale , CA
Contract Number, Type	F04701-95-C-0017, CPAF
Award Date	October 31, 1995
Definitization Date	October 31, 1995

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
80.0	80.0	0	1944.6	N/A	3	1943.4	1990.4

	Cost Variance	Schedule Variance
Previous Cumulative Variances	-12.6	-4.2
Cumulative Variances To Date	-20.3	-8.0
Net Change	-7.7	-3.8

Cost And Schedule Variance Explanations

The unfavorable cost variance change was due to the additional activities associated with weight/power reduction, retroactive overhead rate changes and preliminary design review activities. Increased staffing and higher skill mix was required to complete increment 1 tasks. Additionally, overruns resulted from GEO payload problems: Sensor Chip Assembly for scanner detector array fabrication yields and Readout Integrated Circuit design.

The unfavorable schedule variance was due to schedule delays in Mission Control Station Backup equipment design and procurement, Increment 2 design, Service software, Increment 1 documentation, GEO payload Sensor Chip Assembly detector processing, and pointing Control Assembly software design and analysis.

Contract Comments

Note: The SBIRS High Approved Program data reflect the pre-slowdown position, and will be updated when the program definitizes the restructure after receiving authorization to proceed.

Appropriation: RDT&E

Contract Name **SBIRS Low PDRR**
 Contractor TRW, Inc.
 Contractor Location Redondo Beach , CA
 Contract Number, Type F04701-99-C-0047, FFP
 Award Date August 16, 1999
 Definitization Date August 16, 1999

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
275.0	N/A	0	275.0	N/A	0	275.0	275.0

Cost And Schedule Variance Explanations

Cost and Schedule variance reporting is not required on this FFP contract.

Contract Comments

None

Appropriation: RDT&E

Contract Name **SBIRS Low PDRR**
 Contractor Spectrum Astro
 Contractor Location Gilbert , AZ
 Contract Number, Type F04701-99-C-0048, FFP
 Award Date August 16, 1999
 Definitization Date August 16, 1999

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
275.0	N/A	0	275.0	N/A	0	275.0	275.0

Cost And Schedule Variance Explanations

Cost and Schedule variance reporting is not required on this FFP contract.

Contract Comments

None

Deliveries and Expenditures**SBIRS (High)**

Deliveries To Date	Plan	Actual	Total Quantity	Percent Delivered
Development	0	0	2	0.00%
Production	0	0	3	0.00%
Total Program Quantities Delivered	0	0	5	0.00%

Expenditures and Appropriations (TY \$M)			
Total Acquisition Cost	3974.2	Years Appropriated	5
Expenditures To Date	1165.3	Percent Years Appropriated	35.71%
Percent Expended	29.32%	Appropriated to Date	1377.7
Total Funding Years	14	Percent Appropriated	34.67%

SBIRS (Low)

Deliveries To Date	Plan	Actual	Total Quantity	Percent Delivered
Development	0	0	0	--
Production	0	0	0	--
Total Program Quantities Delivered	0	0	0	--

Expenditures and Appropriations (TY \$M)			
Total Acquisition Cost	4223.2	Years Appropriated	5
Expenditures To Date	953.3	Percent Years Appropriated	29.41%
Percent Expended	22.57%	Appropriated to Date	1039.7
Total Funding Years	17	Percent Appropriated	24.62%

Operating and Support Cost

SBIRS (High)

Assumptions and Ground Rules

Costs BY1995 \$M

Cost Element	SBIRS (High) SBIR (High) system	Avg Annual Cost Per DSP System
Mission Pay & Allowance	--	--
Unit Level Consumption	6.9	12.3
Intermediate Maintenance	--	--
Depot Maintenance	--	--
Contractor Support	--	--
Sustaining Support	--	--
Indirect	--	--
Other	--	--
Total Unitized Cost (Base Year 1995 \$)	6.9	12.3

Total O&S Costs \$M	SBIRS (High)	Avg Annual Cost Per
Base Year	--	--
Then Year	--	--

SBIRS (Low)

Assumptions and Ground Rules

Cost Element		
Mission Pay & Allowance		
Unit Level Consumption		
Intermediate Maintenance		
Depot Maintenance		
Contractor Support		
Sustaining Support		
Indirect		
Other		
<hr/>		
Total Unitized Cost (Base Year \$)		

Total O&S Costs \$M		
Base Year		
Then Year		

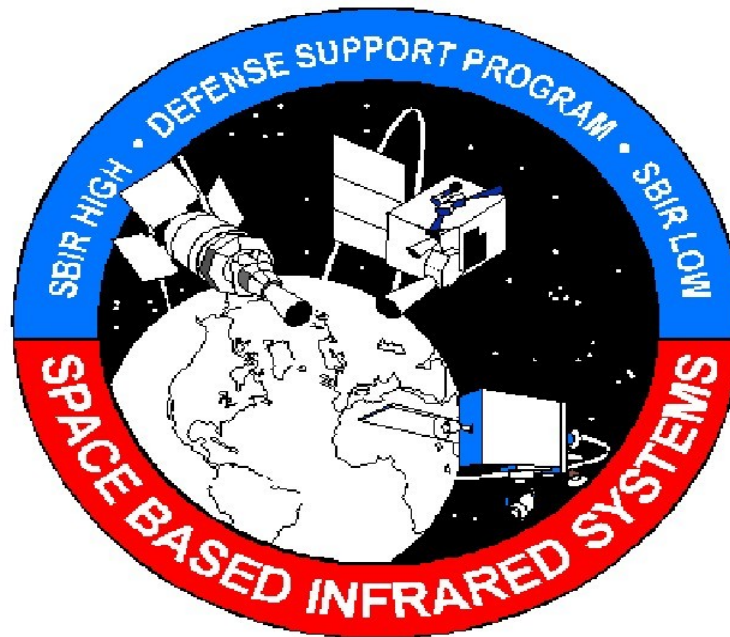


Defense Acquisition Management Information Retrieval (DAMIR)



Selected Acquisition Report (SAR)

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



SBIRS HIGH

As of December 31, 1999

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Program Information

Designation And Nomenclature (Popular Name)

Space Based Infrared System (SBIRS) Program

DoD Component

Air Force

Responsible Office

Responsible Office

Col Daniel L. Burkett, II
SMC/MT
185 Discoverer Blvd.
Suite 2512
Los Angeles, CA 90245-4695
daniel.burkett@losangeles.af.mil

Phone 310-363-1807

Fax --

DSN Phone 833-1807

DSN Fax --

Date Assigned July 3, 1997

References

SBIRS (High)

SAR Baseline (Development Estimate)

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

Approved APB

DAE Approved Acquisition Program Baseline (APB) dated August 13, 1999

SBIRS (Low)

SAR Baseline (Planning Estimate)

DAE Approved Acquisition Program Baseline (APB) dated August 13, 1999

Approved APB

DAE Approved Acquisition Program Baseline (APB) dated August 13, 1999

Mission and Description

The Space Based Infrared System (SBIRS) 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 is an integrated "system of systems", 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 Characterization. The baseline architecture for SBIRS includes space elements in Highly Elliptical Orbits (HEO), Geosynchronous Earth Orbits (GEO), and Low Earth Orbits (LEO), in addition to the following ground elements: a CONUS-based Mission Control Station (MCS) and backup (MCSB), overseas Remote Ground Stations (RGSs), Multi-Mission Mobile Processor (M3P), and associated communication links. The High Component consists of four satellites in GEO, two hosted sensors in HEO (platforms provided by another organization), and associated ground elements. The Low Component will consist of TBD satellites and will be integrated with the High Component through the SBIRS ground segment.

Executive Summary

SBIRS HIGH

(U) SBIRS HIGH ENGINEERING AND MANUFACTURING DEVELOPMENT (EMD): The SBIRS High EMD contract was awarded on November 8, 1996. Development and design contract work has progressed in accordance with the Integrated Master Plan.

SBIRS HIGH FUNDING: On December 17, 1999, the SBIRS System Program Office (SPO) issued a modification that reflected the contract restructure for delaying the first Geosynchronous Earth Orbit (GEO) satellite launch to FY04. At the same time, an Undefinitized Contract Action (UCA) option was issued for the block production buy for GEO satellites 3-5 in accordance with the guidance from the Under Secretary of Defense for Acquisition, Technology and Logistics (USD (AT&L)). Advanced Procurement for GEO 3-5 production units will be in FY02, with full funding for those three satellites in FY03. Accordingly, the current estimate columns for both cost and schedule now reflect the program manager's best estimate based on the December 17, 1999, contract modification and GEO 3-5 UCA.

The FY00 Appropriations Conference language limited obligations to no more than \$100M until the Secretary of Defense certified that the production program complied with all the DoD full funding policies, and that the program concurrency risk was reduced relative to the acquisition strategy proposed by the Joint Estimate Team. The Conferees further directed that, concurrent with the Secretary of Defense certification above, the Director of Operational Test and Evaluation (DOT&E) submit an assessment of whether the SBIRS High acquisition strategy allows for adequate testing to support a production decision. The DOT&E letter was submitted to Congress on December 6, 1999. With the Secretary of Defense sending the program certification letter to Congress on January 18, 2000, the Appropriations Conference requirements were met. As a result, additional funds over the \$100M limit have been released and obligated against SBIRS High efforts.

SBIRS HIGH SCHEDULE: The program will not meet the Increment 1 Integrated Tactical Warning/Attack Assessment (ITW/AA) certification by the February 2000 Acquisition Program Baseline (APB) threshold date. In accordance with DoD acquisition policy, the program office submitted the required Program Deviation Report through coordination to USD (AT&L). On December 17, 1999, the contractor proposed an Increment 1 program schedule that reflected a new ITW/AA Certification date in February 2001. Program office confidence in the contractor's schedule is pending demonstration of system stability anticipated in March 2000. The program office will not have sufficient data to assess corrective actions and schedule confidence until then.

INTERIM MISSION CONTROL STATION BACKUP (IMCS-B): The IMCS-B schedule is delayed by 14 months. Facility construction was essentially complete, with equipping continuing beyond the Joint Occupancy of the building on

November 12, 1999. There are no APB schedule milestones associated with IMCS-B activation.

HEO PAYLOAD DEVELOPMENT STATUS: Several payload design changes caused by Interface Control Document (ICD) requirement changes will require additional weight and power allocations. The host has sufficient power margin; however, the weight increases are being held as a lien until the host succeeds in baselining a heavier launch vehicle. Both programs are proceeding at risk awaiting a formal launch vehicle decision.

HEO PAYLOAD SCHEDULE: The HEO qualification and first flight unit delivery schedules are at high risk. Under the program restructure, the HEO payload schedule margin was eliminated to meet FY99 and FY00 funding targets. The deferral of the GEO payload development reassigned the risks to the HEO payload development. Lockheed Martin Missiles and Space (LMMS) has implemented approved options to buy back schedule margin in FY00/FY01 with earlier procurement of flight components and additional integration and test shifts. The cost of the earlier procurement and additional shifts is about \$4M.

SPACECRAFT DEVELOPMENT STATUS: Action items from subsystem Critical Design Reviews are being worked. Reusable Flight Software (RFSW), being developed in Independent Research & Development, continues in support of HEO Payload software development. All RFSW and documentation were delivered to the HEO Line of Sight computer team at the end of December 1999, in time for initial software integration efforts. GEO spacecraft electronic cards are being assembled for qualification unit testing.

FOCAL PLANE DEVELOPMENT STATUS: Readout Integrated Circuit (ROIC) problems were discovered during qualification testing of the scanner Sensor Chip Assemblies (SCA). A tiger team developed redesigns to address problems discovered. The designs were finalized December 15, 1999, and the new design started fabrication in January 2000. New ROICs will be available in time to support integrated HEO payload qualification testing.

GEO PAYLOAD DEVELOPMENT STATUS: The GEO payload development effort has been deferred, due to the two-year program restructure. The development efforts for the components common to the GEO and HEO payloads are continuing under the HEO payload development effort.

SBIRS KEY PERFORMANCE PARAMETERS (KPP): The following KPPs fall short of the design margin needed: Missile Warning-North America (MW/NA) Probability of Warning (Pw); MW/NA Initial Report Time (IRT); Theater Pw; Theater IRT. By relaxing the HEO scanner revisit time we solve the MW-NA IRT KPP with negligible effects on Technical Intelligence (TI) performance. Actions aimed at restoring design margins have been identified and will be pursued when GEO payload design activities pick up.

TECHNICAL INTELLIGENCE (TI) REAL TIME OPERATION: This capability is being put on contract as part of the program restructure modifications. It will primarily support TI mission areas to detect and acquire targets beyond the Operational Requirements Document thresholds.

SBIRS INCREMENT 3 SYSTEM OF SYSTEMS (SoS): LMMS was placed on contract to conduct SoS tasks in support of SBIRS Increment 3, and has been directed to conduct requirements analysis leading to requirements allocation between SBIRS High and Low components, develop the High component Increment 3 ground segment to a System Design Review level, and define SBIRS High/Low interfaces to a Preliminary Design level. LMMS also has been working closely with SBIRS Low contractors to develop SBIRS Increment 3 architectures in support of Increment 3 requirements closure process.

SBIRS LOW

SBIRS LOW CONTRACT AWARDS: Two competitive \$275M Program Definition/Risk Reduction (PDRR) contracts were awarded on August 16, 1999, to TRW, Redondo Beach, California, and Spectrum Astro, Gilbert, Arizona. All PDRR activities are on schedule to support a SBIRS Low Milestone II Defense Acquisition Board in Third Quarter FY02 and an EMD contract award in First Quarter FY03.

SBIRS LOW PDRR: Significant progress was made on requirements clarification since the September 30, 1999,

SAR. User representatives and the System Program Office (SPO) reviewed answers and closure plans for all of the issues/requests from the PDRR contractors and the System of Systems (SoS) contractor. Closure plans were implemented to obtain clarifications from National Missile Defense (NMD) and Theater Missile Defense (TMD) users, and the SPO, in conjunction with the users and the PDRR contractors, developed a set of assumptions to be used in the absence of official user clarifications. A Requirements Clarification Document (RCD) was created to capture these answers and assumptions. The SPO is using this document to provide interim guidance to the PDRR and SoS contractors until a new Operational Requirements Document is approved in the August 2000 time frame. A formal release of the RCD was sent to the users and contractors on November 24, 1999, and subsequently updated.

REQUIREMENTS REVIEW 1 (RR1): Substantial work was done in preparation for RR1. An interim review at TRW, and a series of technical interchange meetings held by the Spectrum Astro team, served to prepare both contractors for RR1. Air Force Space Command (AFSPC) conducted an initial Requirements Review Group (RRG) on December 14, 1999, with all the mission areas represented: NMD, TMD, Battlespace Characterization, Technical Intelligence, and Integrated Tactical Warning/Attack Assessment. The User representatives and the SPO discussed RR1 content, potential issues, and closure plans.

SBIRS Low Flight Demonstration System (FDS) and Low Altitude Demonstration System (LADS): The SPO continues to support the two Termination Contracting Officers (TCOs) on technical issues and property disposition associated with the February 5, 1999, termination of FDS and LADS. The FDS pathfinder and launch services issues will be addressed in the termination settlement proposals from TRW, which is expected not later than May 2000.

Threshold Breaches

SBIRS (High)

APB Breaches		
--------------	--	--

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

Explanation of Breach

Schedule and Cost breached due to Air Force two year delay to SBIRS High and were previously reported in both the December 31, 1998, and the September 30, 1999, SARs.

On December 17, 1999, The SBIRS Program Office issued a modification that reflected the contract restructure. At the same time, an Undefined Contract Action option was issued for the advanced production buy for GEO 3-5 beginning in FY02. The SBIRS High data now incorporates both of these actions. As a result, the SBIRS High Acquisition Program Baseline is being updated to reflect these events.

Nunn-McCurdy Breaches		
-----------------------	--	--

Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

SBIRS (Low)

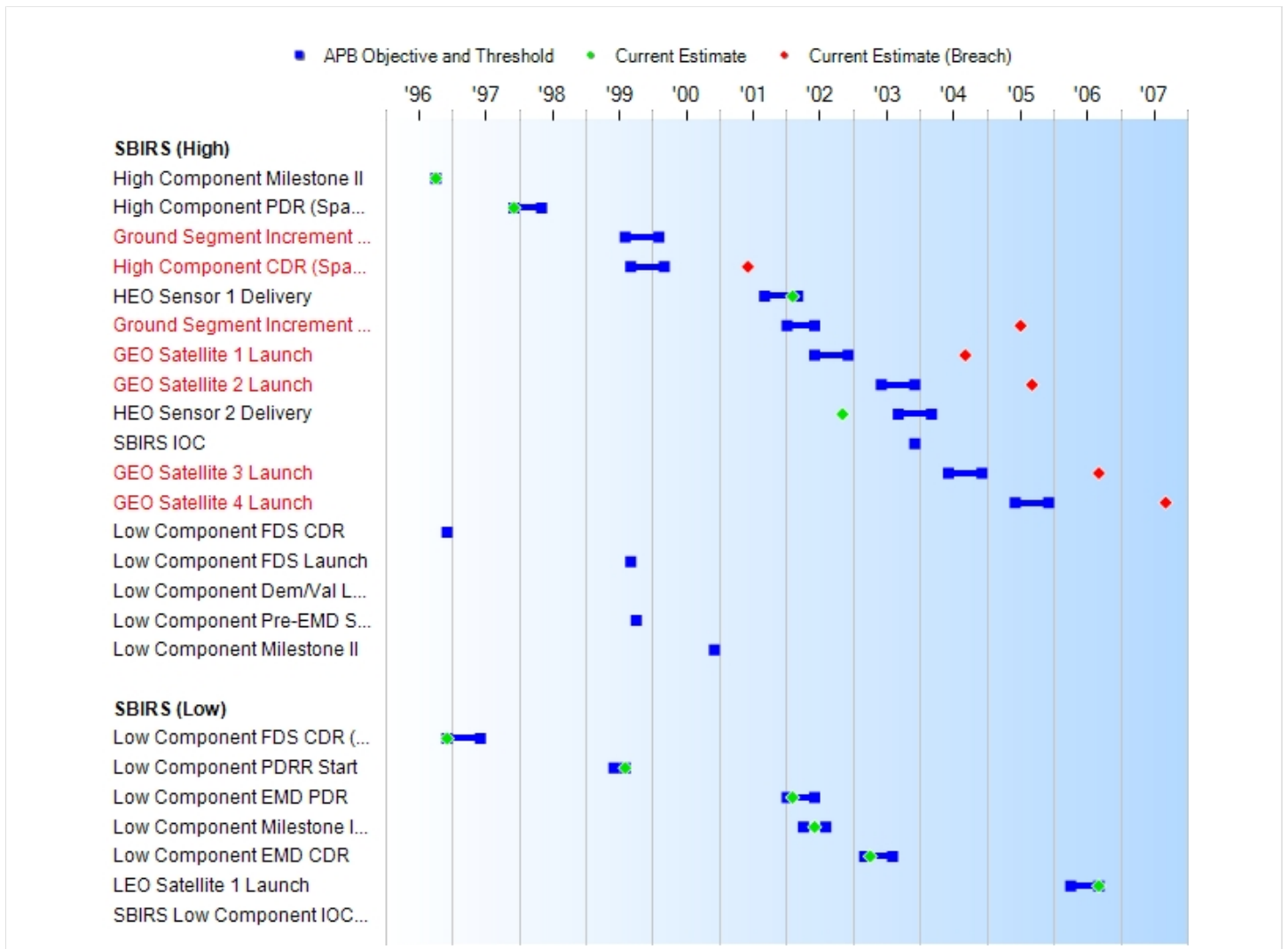
APB Breaches		
--------------	--	--

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

Nunn-McCurdy Breaches		
-----------------------	--	--

- | | | |
|------------------------------|------|------|
| Current UCR Baseline | | |
| | PAUC | None |
| | APUC | None |
| Original UCR Baseline | | |
| | PAUC | None |
| | APUC | None |

Schedule



SBIRS (High)				
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
Ground Segment Increment 1 Certification	AUG 1999	AUG 1999	FEB 2000	TBD ¹
High Component CDR (Space and Ground Increment 2)	SEP 1999	SEP 1999	MAR 2000	JUN 2001 ¹
HEO Sensor 1 Delivery	SEP 2001	SEP 2001	MAR 2002	FEB 2002
Ground Segment Increment 2 Certification	JAN 2002	JAN 2002	JUN 2002	JUL 2005 ¹
GEO Satellite 1 Launch	N/A	JUN 2002	DEC 2002	SEP 2004 ¹
GEO Satellite 2 Launch	JUN 2003	JUN 2003	DEC 2003	SEP 2005 ¹
HEO Sensor 2 Delivery	SEP 2003	SEP 2003	MAR 2004	NOV 2002
SBIRS IOC	DEC 2003	N/A	N/A	TBD
GEO Satellite 3 Launch	JUN 2004	JUN 2004	DEC 2004	SEP 2006 ¹
GEO Satellite 4 Launch	JUN 2005	JUN 2005	DEC 2005	SEP 2007 ¹
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

(Ch-1)

'APB Breach

SBIRS (Low)				
Milestones	SAR Baseline Plan Est	Current APB Development Objective/Threshold		Current Estimate
Low Component FDS CDR (Complete)	DEC 1996	DEC 1996	JUN 1997	DEC 1996
Low Component PDRR Start	JUN 1999	JUN 1999	AUG 1999	AUG 1999
Low Component EMD PDR	JAN 2002	JAN 2002	JUN 2002	FEB 2002
Low Component Milestone II EMD ATP	APR 2002	APR 2002	AUG 2002	JUN 2002
Low Component EMD CDR	MAR 2003	MAR 2003	AUG 2003	APR 2003
LEO Satellite 1 Launch	APR 2006	APR 2006	SEP 2006	SEP 2006
SBIRS Low Component IOC (NMD C2)	TBD	TBD	TBD	TBD

Change Explanations

(Ch-1) The program will not meet the Increment 1 Integrated Tactical Warning/Attack Assessment (ITW/AA) certification by the February 2000 Acquisition Program Baseline (APB) threshold date. On December 17, 1999, the contractor proposed an Increment 1 program schedule that reflected a new ITW/AA Certification date in February 2001. Program office confidence in the contractor's schedule is pending demonstration of system stability anticipated in March 2000. The program office will not have sufficient data to assess the corrective actions and schedule confidence until then. Therefore, the Ground Segment Increment 1 Certification date will remain TBD until the program office has assessed the effectiveness of the contractor's corrective actions.

Memo

ACRONYMS:

CDR - Critical Design Review
GEO - Geosynchronous Earth Orbit
HEO - Highly Elliptical Orbit
IOC - Initial Operational Capability
PDR - Preliminary Design Review

ACRONYMS:

ATP - Authority to Proceed
CDR - Critical Design Review
EMD - Engineering and Manufacturing Development
FDS - Flight Demonstration System
IOC - Initial Operational Capability
LEO - Low Earth Orbits
NMD C2 - National Missile Defense Capability2
PDR - Preliminary Design Review
PDRR - Program Definition/Risk Reduction

Note: The June 2002 date for the Low Component Milestone II EMD ATP reflects the projected successful completion of a SBIRS Low Milestone II Defense Acquisition Board. The EMD contract will not start until the PDRR contracts are complete. As a result, the EMD contract is projected to begin in October 2002.

Note: It is intended that "SBIRS Low Component IOC" will be changed in the next revision of the APB to "SBIRS Increment 3 IOC."

Performance

Note: Classified and unclassified performance parameters are displayed in the Classified DAMIR.

Track To Budget**RDT&E**

APPN 3600	(Air Force)	Invalid program element code (0630441) removed.
	SBIR Low Element	
APPN 3600	(Air Force)	Invalid program element code (0640441) removed.
	SBIR High Element EMD	
APPN 3600	(Air Force)	Invalid program element code (0640442) removed.
	SBIR Low Element (new)	

Procurement

APPN 3020	(Air Force)	ICN MSSBIR
		SBIR High Missile Procurement

MILCON

APPN 3300	(Air Force)	Invalid program element code (0640441) removed.
	SBIRS ARCHI-EMD (SPACE)	Military Construction

Acq O&M

APPN 3400	(Air Force)	Invalid program element code (0350915) removed.
	SBIRS Operation and Maintenance	

Cost and Funding

SBIRS (High)

Cost Summary

Total Acquisition Cost and Quantity

Appropriation	BY1995 \$M				TY \$M		
	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	3016.6	3318.3	3074.9	3386.5	3386.5	3350.4
Procurement	496.7	496.7	546.4	469.2	584.5	584.5	538.7
Flyaway	496.7	--	--	--	--	--	--
Recurring	496.7	--	--	0.0	--	--	0.0
Non Recurring	0.0	--	--	0.0	--	--	0.0
Support	0.0	--	--	0.0	--	--	0.0
Other Support	0.0	--	--	0.0	--	--	0.0
Initial Spares	0.0	--	--	0.0	--	--	0.0
MILCON	26.0	26.0	28.6	42.0 ¹	28.5	28.5	45.4
Acq O&M	140.2	140.2	154.2	101.7	147.8	147.8	113.4
Total	3679.5	3679.5	N/A	3687.8	4147.3	4147.3	4047.9

¹ APB Breach

The Current Estimate totals include Pre-EMD and EMD costs for SBIRS High through FY08. It also includes Missile Procurement funds for Geosynchronous Satellites GEO 3 thru GEO 5.

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

The SBIRS Single Acquisition Management Plan dated August 26, 1996, identifies no Low Rate Initial Production.

Funding Summary

Appropriation and Quantity Summary

FY2001 President's Budget / December 1999 SAR (TY\$ M)

Appropriation	Prior	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	To Complete	Total
RDT&E	1316.4	420.5	569.2	389.9	196.8	128.9	100.9	227.8	3350.4
Procurement	0.0	0.0	0.0	148.2	371.6	0.0	7.2	11.7	538.7
MILCON	28.5	0.0	2.8	14.1	0.0	0.0	0.0	0.0	45.4
Acq O&M	27.4	5.9	14.4	14.7	15.7	11.5	10.1	13.7	113.4
PB2001 Total	1372.3	426.4	586.4	566.9	584.1	140.4	118.2	253.2	4047.9
PB2000 Total	1405.8	335.3	499.9	453.4	430.5	354.7	288.5	234.2	4002.3
Delta	-33.5	91.1	86.5	113.5	153.6	-214.3	-170.3	19.0	45.6

Quantity	Prior	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	To Complete	Total
Development	0	0	0	0	0	0	0	0	2
Production	0	0	0	0	3	0	0	0	3
PB2001 Total	0	0	0	0	3	0	0	0	5
PB2000 Total	0	0	0	0	1	1	1	0	5
Delta	0	0	0	0	2	-1	-1	0	0

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	--	--	--	--	--	--	508.5
2000	--	--	--	--	--	--	420.5
2001	--	--	--	--	--	--	569.2
2002	--	--	--	--	--	--	389.9
2003	--	--	--	--	--	--	196.8
2004	--	--	--	--	--	--	128.9
2005	--	--	--	--	--	--	100.9
2006	--	--	--	--	--	--	76.9
2007	--	--	--	--	--	--	74.8
2008	--	--	--	--	--	--	76.1
Subtotal	2	--	--	--	--	--	3350.4

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	--	--	--	--	--	--	320.7
1999	--	--	--	--	--	--	478.1
2000	--	--	--	--	--	--	390.7
2001	--	--	--	--	--	--	520.9
2002	--	--	--	--	--	--	351.4
2003	--	--	--	--	--	--	174.4
2004	--	--	--	--	--	--	112.0
2005	--	--	--	--	--	--	85.9
2006	--	--	--	--	--	--	64.2
2007	--	--	--	--	--	--	61.2
2008	--	--	--	--	--	--	61.1
Subtotal	2	--	--	--	--	--	3074.9

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
2002	--	--	--	--	--	--	94.0
2003	3	--	--	--	--	--	371.6
2004	--	--	--	--	--	--	--
2005	--	--	--	--	--	--	7.2
2006	--	--	--	--	--	--	6.6
2007	--	--	--	--	--	--	5.1
Subtotal	3	--	--	--	--	--	484.5

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
2002	--	--	--	--	--	--	83.2
2003	3	--	--	--	--	--	322.8
2004	--	--	--	--	--	--	--
2005	--	--	--	--	--	--	6.0
2006	--	--	--	--	--	--	5.4
2007	--	--	--	--	--	--	4.1
Subtotal	3	--	--	--	--	--	421.5

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

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M
2002	--	--
2003	3	421.5
2004	--	--
2005	--	--
2006	--	--
2007	--	--
Subtotal	3	421.5

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
2002	--	--	--	--	--	--	54.2
Subtotal	--	--	--	--	--	--	54.2

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
2002	--	--	--	--	--	--	47.7
Subtotal	--	--	--	--	--	--	47.7

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	14.1
Subtotal	45.4

Annual Funding BY\$
3300 | MILCON | Military Construction, Air
Force

Fiscal Year	Total Program BY 1995 \$M
1997	13.8
1998	13.2
1999	--
2000	--
2001	2.5
2002	12.5
Subtotal	42.0

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	5.9
2001	14.4
2002	14.7
2003	15.7
2004	11.5
2005	10.1
2006	4.5
2007	4.6
2008	4.6
Subtotal	113.4

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	5.5
2001	13.2
2002	13.3
2003	13.9
2004	10.0
2005	8.6
2006	3.8
2007	3.8
2008	3.7
Subtotal	101.7

SBIRS (Low)**Cost Summary****Total Acquisition Cost and Quantity**

Appropriation	BY1995 \$M			TY \$M		
	SAR Baseline Plan Est	Current APB Concept Objective/Threshold	Current Estimate	SAR Baseline Plan Est	Current APB Concept Objective	Current Estimate
RDT&E	3745.9	3851.5	3851.5	4223.2	4223.2	4180.7
Procurement	--	--	--	--	--	--
MILCON	--	--	--	--	--	--
Acq O&M	--	--	--	--	--	--
Total	3745.9	3851.5	3851.5	4223.2	4223.2	4180.7

Note: The current APB is overstated in base year dollars due to an error in the calculation of the FY95 base year estimate. The SPO will provide the correct estimate as part of the SBIRS High APB approval process. The then year dollars are correct.

Quantity	SAR Baseline Plan Est	Current APB Concept	Current Estimate
RDT&E		3	3
Procurement		0	0
Total		3	3

Funding Summary

Appropriation and Quantity Summary

FY2001 President's Budget / December 1999 SAR (TY\$ M)

Appropriation	Prior	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	To Complete	Total
RDT&E	1026.1	225.6	241.0	306.5	617.7	763.4	486.8	513.6	4180.7
Procurement	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB2001 Total	1026.1	225.6	241.0	306.5	617.7	763.4	486.8	513.6	4180.7
PB2000 Total	--	--	--	--	--	--	--	--	0.0
Delta	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4180.7

Quantity	Prior	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	To Complete	Total
Development	0	0	0	0	0	0	0	0	3
Production	0	0	0	0	0	0	0	0	0
PB2001 Total	0	0	0	0	0	0	0	0	3
PB2000 Total	0	0	0	0	0	0	0	0	0
Delta	0	0	0	0	0	0	0	0	3

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	--	--	--	--	--	--	111.1
1996	--	--	--	--	--	--	246.6
1997	--	--	--	--	--	--	277.0
1998	--	--	--	--	--	--	210.0
1999	--	--	--	--	--	--	181.4
2000	--	--	--	--	--	--	225.6
2001	--	--	--	--	--	--	241.0
2002	--	--	--	--	--	--	306.5
2003	--	--	--	--	--	--	617.7
2004	--	--	--	--	--	--	763.4
2005	--	--	--	--	--	--	486.8
2006	--	--	--	--	--	--	193.6
2007	--	--	--	--	--	--	164.9
2008	--	--	--	--	--	--	84.1
2009	--	--	--	--	--	--	23.5
2010	--	--	--	--	--	--	23.7
2011	--	--	--	--	--	--	23.8
Subtotal	3	--	--	--	--	--	4180.7

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	--	--	--	--	--	--	109.5
1996	--	--	--	--	--	--	238.7
1997	--	--	--	--	--	--	264.6
1998	--	--	--	--	--	--	199.2
1999	--	--	--	--	--	--	170.6
2000	--	--	--	--	--	--	209.7
2001	--	--	--	--	--	--	220.5
2002	--	--	--	--	--	--	276.4
2003	--	--	--	--	--	--	547.6
2004	--	--	--	--	--	--	663.2
2005	--	--	--	--	--	--	414.7
2006	--	--	--	--	--	--	161.6
2007	--	--	--	--	--	--	135.1
2008	--	--	--	--	--	--	67.5
2009	--	--	--	--	--	--	18.5
2010	--	--	--	--	--	--	18.3
2011	--	--	--	--	--	--	18.0
Subtotal	3	--	--	--	--	--	3733.7

Low Rate Initial Production

SBIRS (High)

None

Low Rate Initial Production

SBIRS (Low)

None

Foreign Military Sales

SBIRS (High)

None

Foreign Military Sales

SBIRS (Low)

None

Nuclear Cost

SBIRS (High)

None

Nuclear Cost

SBIRS (Low)

None

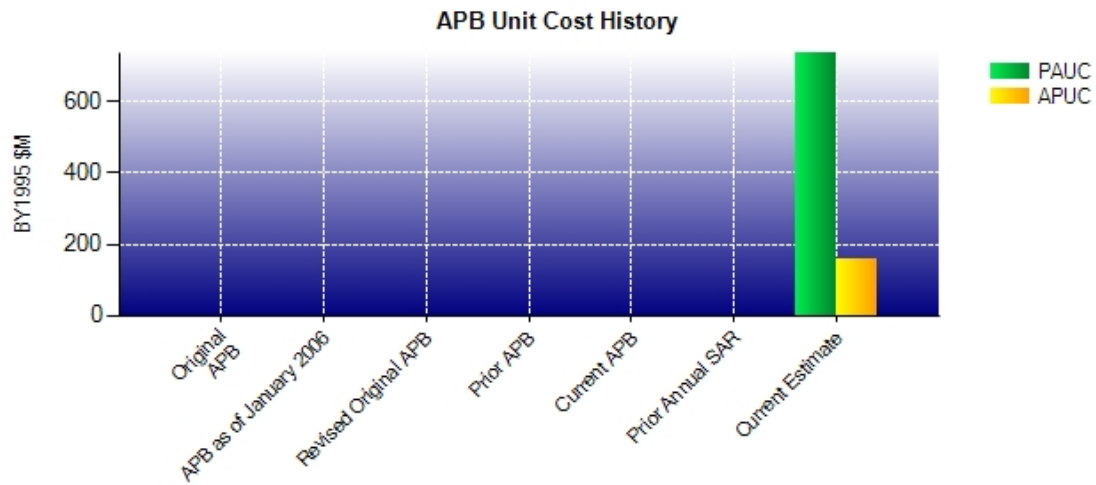
Unit Cost**SBIRS (High)****Unit Cost Report**

	BY1995 \$M		
Unit Cost	Current UCR Baseline (MAR 1998 APB)	Current Estimate (DEC 1999 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	3679.5	3687.8	
Quantity	5	5	
Unit Cost	735.900	737.560	+0.23
Average Procurement Unit Cost (APUC)			
Cost	496.7	469.2	
Quantity	2	3	
Unit Cost	248.350	156.400	-37.02

	BY1995 \$M		
Unit Cost	Original UCR Baseline	Current Estimate (DEC 1999 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost		3687.8	
Quantity		5	
Unit Cost		737.560	+0.00
Average Procurement Unit Cost (APUC)			
Cost		469.2	
Quantity		3	
Unit Cost		156.400	+0.00

SBIRS (High)

Unit Cost History



	Date	BY1995 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	N/A	N/A	N/A	N/A	N/A
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	N/A	N/A	N/A	N/A	N/A
Current APB	N/A	N/A	N/A	N/A	N/A
Prior Annual SAR	N/A	N/A	N/A	N/A	N/A
Current Estimate	DEC 1999	737.560	156.400	809.580	179.567

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	-28.100	5.480	67.820	16.420	-92.400	0.000	10.900	-19.880	809.580

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	-8.333	-37.383	-48.667	0.000	-36.467	0.000	18.167	-112.683	179.567

SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Total Cost (TY \$M)	2670.3	4147.3	N/A	4047.9
Total Quantity	N/A	5	N/A	5
Prog. Acq. Unit Cost (PAUC)	N/A	829.460	N/A	809.580

SBIRS (Low)

Unit Cost Report

Not required for Pre-Milestone B programs in accordance with Section 2433, Title 10, USC.

SBIRS (Low)**Unit Cost History**

Not required for Pre-Milestone B programs in accordance with Section 2433, Title 10, USC.

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	4180.7
Total Quantity	N/A	N/A	N/A	3
Prog. Acq. Unit Cost (PAUC)	N/A	N/A	N/A	1393.567

Cost Variance**SBIRS (High)**

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	-95.3	-28.0	-0.7	-2.8	-126.8
Quantity	-152.7	+180.1	0.0	0.0	+27.4
Schedule	+485.1	+9.1	0.0	0.0	+494.2
Engineering	0.0	0.0	0.0	0.0	0.0
Estimating	-449.4	-108.9	+18.8	-59.6	-599.1
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+31.2	0.0	0.0	+31.2
Subtotal	-212.3	+83.5	+18.1	-62.4	-173.1
Current Changes					
Economic	-15.7	+3.0	-0.5	-0.5	-13.7
Quantity	--	--	--	--	--
Schedule	--	-155.1	--	--	-155.1
Engineering	+82.1	--	--	--	+82.1
Estimating	+109.8	-0.5	-0.7	+28.5	+137.1
Other	--	--	--	--	--
Support	--	+23.3	--	--	+23.3
Subtotal	+176.2	-129.3	-1.2	+28.0	+73.7
Total Changes	-36.1	-45.8	+16.9	-34.4	-99.4
CE - Cost Variance	3350.4	538.7	45.4	113.4	4047.9
CE - Cost & Funding	3350.4	538.7	45.4	113.4	4047.9

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	0.0	0.0	0.0	0.0	0.0
Quantity	-128.4	+155.6	0.0	0.0	+27.2
Schedule	+416.6	0.0	0.0	0.0	+416.6
Engineering	0.0	0.0	0.0	0.0	0.0
Estimating	-404.3	-115.2	+16.7	-63.8	-566.6
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+27.2	0.0	0.0	+27.2
Subtotal	-116.1	+67.6	+16.7	-63.8	-95.6
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	--	-115.1	--	--	-115.1
Engineering	+73.0	--	--	--	+73.0
Estimating	+101.4	-0.5	-0.7	+25.3	+125.5
Other	--	--	--	--	--
Support	--	+20.5	--	--	+20.5
Subtotal	+174.4	-95.1	-0.7	+25.3	+103.9
Total Changes	+58.3	-27.5	+16.0	-38.5	+8.3
CE - Cost Variance	3074.9	469.2	42.0	101.7	3687.8
CE - Cost & Funding	3074.9	469.2	42.0	101.7	3687.8

Previous Estimate: September 1999

RDT&E	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	-15.7
Increase in scope as result of the program restructure. Items include, but are not limited to, addition of MCSB, Dual EELV capability and S-Band kits for M3P. (Engineering)	+73.0	+82.1
Adjustment for Current and Prior Inflation. (Estimating)	+2.7	+2.9
FY00 Congressional addition to accommodate program restructure. (Estimating)	+85.5	+92.0
Adjustment of program management cost estimate. (Estimating)	+13.2	+14.9
RDT&E Subtotal	+174.4	+176.2

Procurement	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	-7.3
Economic adjustment for negative program change. (Economic)	N/A	+10.3
Accelerated buy from 1 in FY03, 1 in FY04 and 1 in FY05, to 3 in FY05 (Long Lead in FY02). (Schedule)	0.0	-15.4
Reduction associated with block buy of GEO 3-5, vice purchasing each satellite individually. (Schedule)	-115.1	-139.7
Minor adjustment to Program Cost Estimate. (Estimating)	-0.5	-0.5
Increase to cost of Mission Control Station Backup as a result of bottom up review. (Support)	+20.5	+23.3
Procurement Subtotal	-95.1	-129.3

MILCON	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	-0.5
Adjustment for Current and Prior Inflation. (Estimating)	+0.3	+0.3
Reduced funding based on revised estimate. (Estimating)	-1.0	-1.0
MILCON Subtotal	-0.7	-1.2

Acq O&M	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	-0.5
Increase in contract support (System Engineering and Technical Assistance) for site activation. (Estimating)	+25.3	+28.5
Acq O&M Subtotal	+25.3	+28.0

Cost Variance**SBIRS (Low)**

Summary Then Year \$M						
	RDT&E	Proc	MILCON	Acq O&M	Total	
SAR Baseline (Plan Est)	4223.2	--	--	--	4223.2	
Previous Changes						
Economic	0.0	0.0	0.0	0.0	0.0	
Quantity	0.0	0.0	0.0	0.0	0.0	
Schedule	0.0	0.0	0.0	0.0	0.0	
Engineering	0.0	0.0	0.0	0.0	0.0	
Estimating	0.0	0.0	0.0	0.0	0.0	
Other	0.0	0.0	0.0	0.0	0.0	
Support	0.0	0.0	0.0	0.0	0.0	
Subtotal	0.0	0.0	0.0	0.0	0.0	
Current Changes						
Economic	-29.9	--	--	--	-29.9	
Quantity	--	--	--	--	--	
Schedule	--	--	--	--	--	
Engineering	--	--	--	--	--	
Estimating	-12.6	--	--	--	-12.6	
Other	--	--	--	--	--	
Support	--	--	--	--	--	
Subtotal	-42.5	--	--	--	-42.5	
Total Changes	-42.5	0.0	0.0	0.0	-42.5	
CE - Cost Variance	4180.7	--	--	--	4180.7	
CE - Cost & Funding	4180.7	--	--	--	4180.7	

Summary Base Year 1995 \$M					
	RDT&E	Proc	MILCON	Acq O&M	Total
SAR Baseline (Plan Est)	3745.9	--	--	--	3745.9
Previous Changes					
Economic	0.0	0.0	0.0	0.0	0.0
Quantity	0.0	0.0	0.0	0.0	0.0
Schedule	0.0	0.0	0.0	0.0	0.0
Engineering	0.0	0.0	0.0	0.0	0.0
Estimating	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	0.0	0.0	0.0	0.0
Subtotal	0.0	0.0	0.0	0.0	0.0
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	-12.2	--	--	--	-12.2
Other	--	--	--	--	--
Support	--	--	--	--	--
Subtotal	-12.2	--	--	--	-12.2
Total Changes	-12.2	0.0	0.0	0.0	-12.2
CE - Cost Variance	3733.7	--	--	--	3733.7
CE - Cost & Funding	3733.7	--	--	--	3733.7

Previous Estimate: September 1999

RDT&E	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	-29.9
Adjustment for Current and Prior Inflation. (Estimating)	+1.7	+1.8
FY98 return of unused funds and FY99 Congressional and Air Force reductions. (Estimating)	-13.9	-14.4
RDT&E Subtotal	-12.2	-42.5

Contracts

Appropriation: RDT&E	
Contract Name	SBIRS High EMD Mod
Contractor	Lockheed-Martin Msl Sys
Contractor Location	Sunnyvale , CA
Contract Number, Type	F04701-95-C-0017, CPAF
Award Date	October 31, 1995
Definitization Date	October 31, 1995

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
80.0	80.0	0	2335.2	N/A	3	2361.7	2425.2

	Cost Variance	Schedule Variance
Previous Cumulative Variances	-20.3	-8.0
Cumulative Variances To Date	-32.0	-14.1
Net Change	-11.7	-6.1

Cost And Schedule Variance Explanations

Cost Variance

Major contributors to the unfavorable cost variance were the GEO Payload and the Integrated Master Plan (IMP) A. The GEO Payload experienced additional costs associated with Payload Control Assembly (PCA) Critical Design Review preparation, as well as Litton Common Gyro Reference Assembly (CGRA) life testing failure issues and Litton rate increases. The IMP A variance is due to Systems Engineering Integrated Test unanticipated requirements, analysis and integration tasks. Additional contributors to the unfavorable cost variance were continuing payload Readout Integrated Circuit (ROIC) design problems and Optical Telescope Assembly test problems. In the Ground, variance is due to increased specialty engineering costs, Increment 2 increased non-Silicon Graphics, Inc., equipment costs, and increased cost due to continuing Increment 1 Deficiency Report resolution.

Schedule Variance

Major contributors to the unfavorable schedule variance were GEO Payload and Ground problems. The PCA in the GEO Payload is behind, due to payload ROIC design problems, Detector Array yield problems, and requirement changes to the CGRA. Additionally, the Focal Plane Array is behind due to the continued delay of the Sensor Chip Assembly. In the Ground, the Mission Control Station continues to experience delays due to focus on Increment 1. The variance is also due to increased specialty engineering costs and Increment 2 increased non-Silicon Graphics, Inc. equipment costs.

Contract Comments

On December 17, 1999, The SBIRS Program Office issued a modification that reflected the contract restructure for the Joint Estimate Team. At the same time, an Undefined Contract Action was issued that implemented the advanced production buy for GEO 3-5 beginning in FY02. The SBIRS High contract now incorporates both of these actions.

The SPO Estimate at Completion (EAC) was calculated using the Earned Value Management System formula Budget at Completion/Cost Performance Index.

The Estimate Price at Completion is based on the most likely estimate of cost at completion for all authorized contract work and the appropriate profit/fee, incentives and cost sharing.

Appropriation: RDT&E

Contract Name **SBIRS Low PDRR**
 Contractor TRW, Inc.
 Contractor Location Redondo Beach , CA
 Contract Number, Type F04701-99-C-0047, FFP
 Award Date August 16, 1999
 Definitization Date August 16, 1999

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
275.0	N/A	0	275.0	N/A	0	275.0	275.0

Cost And Schedule Variance Explanations

Cost and Schedule variance reporting is not required on this FFP contract.

Contract Comments

None

Appropriation: RDT&E

Contract Name **SBIRS Low PDRR**
 Contractor Spectrum Astro
 Contractor Location Gilbert , AZ
 Contract Number, Type F04701-99-C-0048, FFP
 Award Date August 16, 1999
 Definitization Date August 16, 1999

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
275.0	N/A	0	275.0	N/A	0	275.0	275.0

Cost And Schedule Variance Explanations

Cost and Schedule variance reporting is not required on this FFP contract.

Contract Comments

None

Deliveries and Expenditures**SBIRS (High)**

Deliveries To Date	Plan	Actual	Total Quantity	Percent Delivered
Development	0	0	2	0.00%
Production	0	0	3	0.00%
Total Program Quantities Delivered	0	0	5	0.00%

Expenditures and Appropriations (TY \$M)			
Total Acquisition Cost	4047.9	Years Appropriated	6
Expenditures To Date	1306.5	Percent Years Appropriated	42.86%
Percent Expended	32.28%	Appropriated to Date	1798.7
Total Funding Years	14	Percent Appropriated	44.44%

SBIRS (Low)

Deliveries To Date	Plan	Actual	Total Quantity	Percent Delivered
Development	0	0	3	0.00%
Production	0	0	0	--
Total Program Quantities Delivered	0	0	3	0.00%

Expenditures and Appropriations (TY \$M)

Total Acquisition Cost	4180.7	Years Appropriated	6
Expenditures To Date	984.9	Percent Years Appropriated	35.29%
Percent Expended	23.56%	Appropriated to Date	1251.7
Total Funding Years	17	Percent Appropriated	29.94%

Operating and Support Cost

SBIRS (High)

Assumptions and Ground Rules

Costs BY1995 \$M

Cost Element	SBIRS (High) SBIR (High) system	Avg Annual Cost Per DSP System
Mission Pay & Allowance	--	--
Unit Level Consumption	9.2	12.3
Intermediate Maintenance	--	--
Depot Maintenance	--	--
Contractor Support	--	--
Sustaining Support	--	--
Indirect	--	--
Other	--	--
Total Unitized Cost (Base Year 1995 \$)	9.2	12.3

Total O&S Costs \$M	SBIRS (High)	Avg Annual Cost Per
Base Year	--	--
Then Year	--	--

SBIRS (Low)

Assumptions and Ground Rules

Cost Element		
Mission Pay & Allowance		
Unit Level Consumption		
Intermediate Maintenance		
Depot Maintenance		
Contractor Support		
Sustaining Support		
Indirect		
Other		
<hr/>		
Total Unitized Cost (Base Year \$)		

Total O&S Costs \$M		
Base Year		
Then Year		



Defense Acquisition Management Information Retrieval (DAMIR)



Selected Acquisition Report (SAR)

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



SBIRS HIGH
As of December 31, 2001

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Program Information

Designation And Nomenclature (Popular Name)

Space Based Infrared System (SBIRS) Program

DoD Component

Air Force

Responsible Office

Responsible Office

Col Mark L. Borkowski	Phone	310-363-1807
SMC/MT	Fax	--
185 Discoverer Blvd.	DSN Phone	833-1807
Suite 2512	DSN Fax	--
El Segundo, CA 90245-4695	Date Assigned	June 25, 2001
mark.borkowski@losangeles.af.mil		

References

SAR Baseline (Development Estimate)

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

Approved APB

DAE Approved Acquisition Program Baseline (APB) dated August 13, 1999

Mission and Description

The Space Based Infrared System (SBIRS) 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 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 Characterization. The baseline architecture for SBIRS includes space elements in Highly Elliptical Orbits (HEO), Geosynchronous Earth Orbits (GEO), and Low Earth Orbits (LEO), in addition to the following ground elements: a CONUS-based Mission Control Station (MCS) and backup (MCSB), overseas Relay Ground Stations (RGSs), Multi-Mission Mobile Processor (M3P), and associated communication links. The High Component consists of four satellites in GEO, two hosted sensors in HEO (platforms provided by another organization), and associated ground elements.

Executive Summary

SBIRS Low

Secretary of Defense memorandum, "Missile Defense Program Direction," dated January 2, 2002, directed that Director, Missile Defense Agency, will have all management authority and funding responsibility for SBIRS Low. Therefore, SBIRS Low data is not included in this Selected Acquisition Report (SAR).

SBIRS High

The SBIRS High program made significant technical progress during calendar years 2000 and 2001 and experienced significant cost and schedule delays leading to a Nunn-McCurdy breach. After an Acquisition Program Baseline (APB) breach was declared in December 1999, for failure to meet the original Increment 1 Initial Operational Capability (IOC) schedule, SBIRS Increment 1 development successfully tracked to its re-plan and was declared operational in December 2001. This IOC declaration completed the consolidation of all Defense Support Program legacy ground processing into a single Mission Control Station (MCS) located at Buckley Air Force Base, Colorado. Additionally, a redesign of the operational concept and some features of the Geosynchronous Earth Orbit (GEO) spacecraft was completed to improve sensor performance; Increment 2 system critical design review was conducted; and the first Highly Elliptical Orbit (HEO) flight payload entered the assembly and test phase. A new organization, designated the Combined Task Force (CTF), was stood up to support testing and early operational checkout of new ground and space capabilities.

Along with these accomplishments, the program experienced significant cost growth and schedule delays. Driven by poor cost and schedule performance and the contractor's projection of a fiscal year 2002 funding shortfall, the System Program Office and Lockheed Martin Space Systems Company (LMSSC) completed a preliminary Estimate at Completion (EAC) exercise in October 2001. The preliminary EAC results indicated potential cost growth in excess of \$2B across the Engineering and Manufacturing Development contract and schedule delays of 12 to 36 months. The System Program Director (SPD) briefed the results to the Secretary of the Air Force (SECAF), the Chief of Staff of the Air Force, and the Under Secretary of Defense for Acquisition, Technology and Logistics (USD [AT&L]) during the week of November 5, 2001. The program office is reviewing restructure options to reduce the likely program costs but the SPD does not believe any restructure could completely mitigate a significant cost growth. On November 16, 2001, the SPD reported a Nunn-McCurdy breach was likely to occur. Additionally, many of the APB schedule milestones are likely to breach, as indicated by the Program Manager's current estimate in Section 9. On December 31, 2001, the SECAF notified Congress of a Program Acquisition Unit Cost (PAUC) breach above the 25 percent threshold.

Nunn-McCurdy Breach: In accordance with Title 10 USC 2433, the Service Secretary is required to notify Congress whenever a Major Defense Acquisition Program experiences a Program Acquisition Unit Cost (PAUC) increase of at least 15% in a given fiscal year. If the unit cost increase is at least 25%, USD (AT&L) must certify that 1) the program is essential to national security; 2) there are no alternatives to the program that provide the same military capability at less cost; 3) the new cost estimates are reasonable; and 4) program management is adequate to control costs. On December 31, 2001, the SECAF reported an estimated PAUC increase of 70%, exceeding both the 15% and 25% thresholds. Consequently, USD (AT&L) must provide congressional certification of the four items listed above by May 3, 2002, in order to continue to obligate funds.

Defense Acquisition Executive (DAE) Review: In preparation for the Nunn-McCurdy certification in May 2002, USD (AT&L) directed a DAE program review not later than April 26, 2002. The Single Acquisition Management Plan, the Cost Analysis Requirements Description, and the APB cost and schedule thresholds will be revised to support a program re-baseline. The National Reconnaissance Office will lead an investigation of technical alternatives to the SBIRS High program. Additionally, the Office of the Secretary of Defense (OSD) Cost Analysis Improvement Group will complete a cost assessment. The DAE has already conducted status reviews on December 14, 2001, and again on January 18, 2002; a third is scheduled on or about February 21, 2002. These status reviews are designed to ensure senior Department of Defense leaders have near real-time information about the program to support

deliberations in advance of certification.

Funding Adjustments: To support FY 2002 funding requirements, the Air Force solicited Congressional support for an RDT&E funding increase. The defense appropriations bill provided an additional \$40M in FY 2002. The Air Force is also pursuing an \$88M Above Threshold Reprogramming for FY 2002. Congress denied the SBIRS High procurement funding request for the advance procurement of GEO satellites 3-5 and the Mission Control Station Backup (MCSB). The loss of FY 2002 advanced procurement funding will result in a need to redevelop and requalify radiation-hardened parts due to industry obsolescence issues. During Congressional deliberations on the advanced procurement budget, we noted the cost impact for redevelopment and requalification could reach \$150 million. The program office is currently investigating alternatives to minimize the impact. We will provide a more detailed assessment of the impact during the EAC update activity in support of the April 2002 DAE review. To meet operational and developmental requirements, we will need to re-plan the MCSB budget. This re-plan will also be part of the EAC update activity. Additionally, OSD directed the Air Force to fully fund the program throughout the Future Years Defense Plan. The Air Force and OSD reached an agreement on out year funding, and it will be approved through normal procedures and, if necessary, updated with the final EAC.

Independent Review Team (IRT): At SECAF direction, and in concert with the prime contractor (LMSSC), an IRT was formed to review the program and diagnose the root causes and contributing factors of the significant cost growth. Findings from the IRT are that 1) the SBIRS program was too immature to enter System Design and Development; 2) the system requirements decomposition and flow down was not well understood as the program continued to evolve; and 3) there was a significant breakdown in execution management. The Air Force had already initiated several corrective actions to address the problems. The IRT recommended corrective actions that contribute to and are consistent with the Air Force initiatives.

Increment 1 IOC: Commander, Air Force Space Command declared the MCS operational and signed the Increment 1 IOC declaration on December 18, 2001. This initial deployment of SBIRS operational capability meets or exceeds our legacy system's performance. Some system shortfalls, with operational workarounds, exist. But by May 2002, the discrepancies will be resolved and the remaining legacy systems will be closed. Increment 1 capability will reduce manning for strategic and tactical warning. In addition to these savings, Increment 1 lays the foundation for Increment 2 ground capabilities.

Geosynchronous Earth Orbit Satellite Design Change: In early calendar year 2000, it became apparent that the initial GEO satellite design would not support many of the Key Performance Parameters (KPPs). Tests and analyses indicated sunlight in the telescope bore sight would degrade the sensor's capability much more than expected. The problem was resolved by reorienting the payload within the spacecraft, adding a 12-foot sunshade, and changing the spacecraft operations to a "solar flyer." A "solar flyer" design rotates the spacecraft slowly about its yaw-axis to ensure the sunshade is between the sun and payload aperture at all times. This major design change resolves the performance problems and ensures that all the SBIRS High KPPs are met.

Increment 2 Critical Design Review (CDR): The SBIRS High Increment 2 system CDR was conducted August 30-31, 2001. Additionally, GEO spacecraft and payload CDRs were held in May and June 2001. The CDRs demonstrated acceptable maturity in spacecraft hardware design. Although software design is less mature, the system CDR defined an adequate closure plan for its development. The CDRs demonstrated significant technical progress and provided confidence in the system's ability to meet operational needs. System maturity will receive continued emphasis through detailed closure plans of opened items and baseline design updates.

Highly Elliptical Orbit Payload Delivery Status: The first HEO payload flight unit was scheduled for delivery to the host contractor for space vehicle integration in February 2002. Host contract changes, as well as HEO payload development issues, have resulted in a new delivery date to the host of February 2003 to meet the host launch schedule. This change provides a high confidence SBIRS payload delivery schedule. All major elements of the flight sensor have been delivered to the payload integrator, and sensor characterization testing started in mid January 2002. Risk reduction work continues, using the HEO payload qualification unit as a pathfinder for the test program. Integration of the qualification unit sensor with the gimbal assembly is ongoing. Functional testing began in January 2002 on the HEO qualification unit, which is then scheduled for delivery to the host in late March 2002, for use in early

electrical interface testing.

Combined Task Force (CTF): A SBIRS CTF, co-located at the contractor's facility in Boulder, Colorado, was activated on March 29, 2001. The CTF is a joint government and industry team responsible for testing and activation of the evolving SBIRS ground capability, and conducting launch and early-on-orbit checkout of SBIRS spacecraft and payloads. The CTF will minimize perturbations to the operational activities. The CTF concept was developed to respond to a key lesson learned from Increment 1 experience.

Threshold Breaches

APB Breaches		
--------------	--	--

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

Explanation of Breach

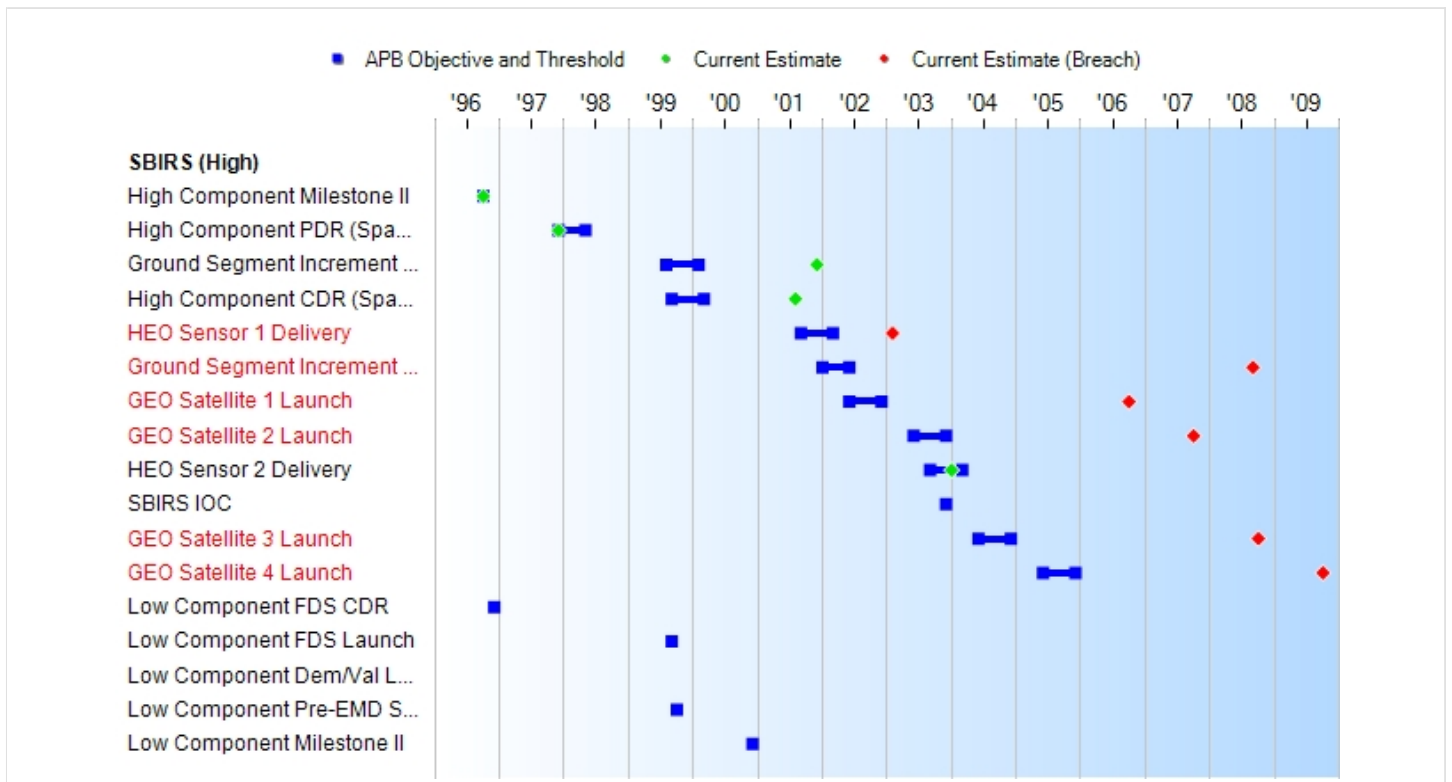
Initially, the Schedule and Cost breached due to Air Force two year delay to SBIRS High and were previously reported in both the December 31, 1998, and the September 30, 1999, Selected Acquisition Reports.

Subsequently, the program experienced significant cost growth and schedule delays. Driven by poor cost and schedule performance and the contractor's projection of a fiscal year 2002 funding shortfall, the System Program Office and Lockheed Martin Space Systems Company completed a preliminary Estimate at Completion (EAC) exercise in October 2001. The preliminary EAC results indicated potential cost growth in excess of \$2B across the Engineering and Manufacturing Development contract and schedule delays of 12 to 36 months. The System Program Director briefed the results to the Secretary of the Air Force, the Chief of Staff of the Air Force, and the Under Secretary of Defense for Acquisition, Technology and Logistics during the week of November 5, 2001. The program office is reviewing restructure options to reduce the likely program costs but the SPD does not believe any restructure could completely mitigate a significant cost growth. On November 16, 2001, the SPD reported a Nunn-McCurdy breach was likely to occur. Additionally, many of the APB schedule milestones are likely to breach, as indicated by the Program Manager's current estimate in Section 9. On December 31, 2001, the Secretary of the Air Force notified Congress of a PAUC breach above the 25 percent threshold.

Nunn-McCurdy Breaches		
-----------------------	--	--

Current UCR Baseline		
PAUC	Critical	
APUC	None	
Original UCR Baseline		
PAUC	None	
APUC	None	

Schedule



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
Ground Segment Increment 1 Certification	AUG 1999	AUG 1999	FEB 2000	DEC 2001
High Component CDR (Space and Ground Increment 2)	SEP 1999	SEP 1999	MAR 2000	AUG 2001
HEO Sensor 1 Delivery	SEP 2001	SEP 2001	MAR 2002	FEB 2003 ¹
Ground Segment Increment 2 Certification	JAN 2002	JAN 2002	JUN 2002	SEP 2008 ¹
GEO Satellite 1 Launch	N/A	JUN 2002	DEC 2002	OCT 2006 ¹
GEO Satellite 2 Launch	JUN 2003	JUN 2003	DEC 2003	OCT 2007 ¹
HEO Sensor 2 Delivery	SEP 2003	SEP 2003	MAR 2004	JAN 2004
SBIRS IOC	DEC 2003	N/A	N/A	TBD
GEO Satellite 3 Launch	JUN 2004	JUN 2004	DEC 2004	OCT 2008 ¹
GEO Satellite 4 Launch	JUN 2005	JUN 2005	DEC 2005	OCT 2009 ¹
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

¹APB Breach**Change Explanations**

None

Memo

ACRONYMS:

CDR - Critical Design Review
GEO - Geosynchronous Earth Orbit
HEO - High Elliptical Orbit
IOC - Initial Operational Capability
PDR - Preliminary Design Review

Performance

Note: Classified and unclassified performance parameters are displayed in the Classified DAMIR.

Track To Budget

RDT&E

APPN 3600 (Air Force) Invalid program element code (0640441) removed.
SBIR High Element EMD

Procurement

APPN 3020 (Air Force) ICN MSSBIR
SBIR High Missile Procurement

MILCON

APPN 3300 (Air Force) Invalid program element code (0640441) removed.
SBIRS ARCHI-EMD (SPACE) Military Construction

Acq O&M

APPN 3400 (Air Force) Invalid program element code (0350915) removed.
SBIRS Operation and Maintenance

General Memo

PE 63441 and PE 64442 (SBIRS Low) were deleted. SBIRS Low is not being reported in this SAR. Reference the SBIRS Low paragraph in the Executive Summary.

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

Appropriation	BY1995 \$M				TY \$M		
	SAR Baseline Dev Est	Current APB Development Objective/Threshold	Current Estimate	Current Estimate	SAR Baseline Dev Est	Current APB Development Objective	Current Estimate
RDT&E	3016.6	3016.6	3318.3	5111.0 ¹	3386.5	3386.5	5770.0
Procurement	496.7	496.7	546.4	538.4	584.5	584.5	640.3
Flyaway	496.7	--	--	--	584.5	--	--
Recurring	496.7	--	--	0.0	584.5	--	0.0
Non Recurring	0.0	--	--	0.0	0.0	--	0.0
Support	0.0	--	--	0.0	0.0	--	0.0
Other Support	0.0	--	--	0.0	0.0	--	0.0
Initial Spares	0.0	--	--	0.0	0.0	--	0.0
MILCON	26.0	26.0	28.6	51.9 ¹	28.5	28.5	57.0
Acq O&M	140.2	140.2	154.2	235.6 ¹	147.8	147.8	276.2
Total	3679.5	3679.5	N/A	5936.9	4147.3	4147.3	6743.5

¹ APB Breach

The Current Estimate totals include Pre-EMD and EMD costs for SBIRS High through FY09. It also includes Missile Procurement funds for Geosynchronous Satellites GEO 3 through GEO 5. The Current Estimate does not include potential increase to procurement costs that may be reflected in the EAC that is being prepared to support the Nunn-McCurdy breach certification.

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

The SBIRS Single Acquisition Management Plan dated August 26, 1996, identifies no Low Rate Initial Production.

Funding Summary

Appropriation and Quantity Summary

FY2003 President's Budget / December 2001 SAR (TY\$ M)

Appropriation	Prior	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	To Complete	Total
RDT&E	2260.6	438.7	814.9	620.3	445.6	303.0	308.1	578.8	5770.0
Procurement	0.0	0.0	0.0	97.5	500.8	0.7	8.5	32.8	640.3
MILCON	31.3	18.8	6.9	0.0	0.0	0.0	0.0	0.0	57.0
Acq O&M	60.6	22.2	15.5	19.0	22.6	20.0	30.3	86.0	276.2
PB2003 Total	2352.5	479.7	837.3	736.8	969.0	323.7	346.9	697.6	6743.5
PB2001 Total	2385.1	566.9	584.1	140.4	118.2	88.0	84.5	80.7	4047.9
Delta	-32.6	-87.2	253.2	596.4	850.8	235.7	262.4	616.9	2695.6

Quantity	Prior	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	To Complete	Total
Development	0	0	0	0	0	0	0	0	2
Production	0	0	0	0	3	0	0	0	3
PB2003 Total	0	0	0	0	3	0	0	0	5
PB2001 Total	0	0	3	0	0	0	0	0	5
Delta	0	0	-3	0	3	0	0	0	0

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	--	--	--	--	--	--	438.7
2003	--	--	--	--	--	--	814.9
2004	--	--	--	--	--	--	620.3
2005	--	--	--	--	--	--	445.6
2006	--	--	--	--	--	--	303.0
2007	--	--	--	--	--	--	308.1
2008	--	--	--	--	--	--	285.1
2009	--	--	--	--	--	--	293.7
Subtotal	2	--	--	--	--	--	5770.0

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	--	--	--	--	--	--	158.8
1997	--	--	--	--	--	--	184.3
1998	--	--	--	--	--	--	320.6
1999	--	--	--	--	--	--	471.9
2000	--	--	--	--	--	--	369.7
2001	--	--	--	--	--	--	500.1
2002	--	--	--	--	--	--	392.4
2003	--	--	--	--	--	--	718.6
2004	--	--	--	--	--	--	537.5
2005	--	--	--	--	--	--	379.2
2006	--	--	--	--	--	--	252.9
2007	--	--	--	--	--	--	252.5
2008	--	--	--	--	--	--	229.4
2009	--	--	--	--	--	--	231.8
Subtotal	2	--	--	--	--	--	5111.0

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
2004	--	--	--	--	--	--	97.5
2005	3	--	--	--	--	--	500.8
2006	--	--	--	--	--	--	--
2007	--	--	--	--	--	--	7.3
2008	--	--	--	--	--	--	16.4
2009	--	--	--	--	--	--	16.4
Subtotal	3	--	--	--	--	--	638.4

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
2004	--	--	--	--	--	--	83.6
2005	3	--	--	--	--	--	421.5
2006	--	--	--	--	--	--	--
2007	--	--	--	--	--	--	5.9
2008	--	--	--	--	--	--	13.0
2009	--	--	--	--	--	--	12.8
Subtotal	3	--	--	--	--	--	536.8

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

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M
2004	--	--
2005	3	536.8
2006	--	--
2007	--	--
2008	--	--
2009	--	--
Subtotal	3	536.8

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
2006	--	--	--	--	--	--	0.7
2007	--	--	--	--	--	--	1.2
Subtotal	--	--	--	--	--	--	1.9

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
2006	--	--	--	--	--	--	0.6
2007	--	--	--	--	--	--	1.0
Subtotal	--	--	--	--	--	--	1.6

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	16.6
2003	6.0
Subtotal	51.9

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	22.2
2003	15.5
2004	19.0
2005	22.6
2006	20.0
2007	30.3
2008	42.4
2009	43.6
Subtotal	276.2

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	16.0
2002	19.9
2003	13.7
2004	16.5
2005	19.2
2006	16.7
2007	24.8
2008	34.1
2009	34.4
Subtotal	235.6

Low Rate Initial Production

None

Foreign Military Sales

None

Nuclear Cost

None

Unit Cost

Unit Cost Report

Unit Cost	BY1995 \$M		
	Current UCR Baseline (AUG 1999 APB)	Current Estimate (DEC 2001 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	3679.5	5936.9	
Quantity	5	5	
Unit Cost	735.900	1187.380	+61.35 ¹
Average Procurement Unit Cost (APUC)			
Cost	496.7	538.4	
Quantity	2	3	
Unit Cost	248.350	179.467	-27.74

Unit Cost	BY1995 \$M		
	Original UCR Baseline	Current Estimate (DEC 2001 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost		5936.9	
Quantity		5	
Unit Cost		1187.380	+0.00
Average Procurement Unit Cost (APUC)			
Cost		538.4	
Quantity		3	
Unit Cost		179.467	+0.00

Unit Cost	TY \$M		
	Current UCR Baseline (AUG 1999 APB)	Current Estimate (DEC 2001 SAR)	TY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	4147.3	6743.5	
Unit Cost	829.460	1348.700	+62.60
Average Procurement Unit Cost (APUC)			
Cost	584.5	640.3	
Unit Cost	292.250	213.433	-26.97

Unit Cost	TY \$M		
	Original UCR Baseline	Current Estimate (DEC 2001 SAR)	TY % Change
Program Acquisition Unit Cost (PAUC)			
Cost		6743.5	
Unit Cost		1348.700	+0.00
Average Procurement Unit Cost (APUC)			
Cost		640.3	
Unit Cost		213.433	+0.00

¹ Nunn-McCurdy Breach

The difference between the percent change for the current PAUC of about 60% and the 70% amount reported to Congress by the Secretary of the Air Force on December 31, 2001, reflects the current funded program vice the preliminary Estimate at Completion (EAC) results. The program funding will be adjusted based on the final EAC and the Secretary of Defense's certification.

The Current Estimate does not include potential increase to procurement costs that may be reflected in the the EAC that is being prepared to support the Nunn-McCurdy breach certification.

Unit Cost Breach Data

Changes from Previous SAR	\$M/Qty.	Percent
PAUC (BY \$M)	449.820	+60.99
APUC (BY \$M)	23.066	+14.75
PAUC Quantity	5	0.00
PAUC (TY \$M)	539.120	+66.59
APUC (TY \$M)	33.866	+18.86

Initial SAR Information JUN 1995	BY1995 \$M	TY \$M
Program Aquisition Cost	2308.0	2670.3

Unit Cost PAUC Changes

At Secretary of the Air Force (SECAF) direction, and in concert with the prime contractor, Lockheed Martin Space Systems Company (LMSSC), an Independent Review Team (IRT) was formed to review the program and diagnose the root causes and contributing factors of the significant cost growth. Findings from the IRT are 1) the SBIRS program was too immature to enter System Design and Development; 2) the system decomposition and flow down was not well understood as the program continued to evolve; and 3) there was a significant breakdown in execution management.

Unit Cost APUC Changes

The APUC, as compared to the APB, has decreased primarily due to a change in estimating methodology for GEO 3-5 and Congressional action which denied the FY02 procurement funds for the Mission Control Station Backup.

The Current Estimate does not include potential increase to procurement costs that may be reflected in the the EAC that is being prepared to support the Nunn-McCurdy breach certification.

Impact of Performance or Schedule Changes

The preliminary EAC results indicated potential cost growth in excess of \$2B across the Engineering and Manufacturing Development contract and schedule delays of 12 to 36 months. In preparation for the Nunn-McCurdy certification in May 2002, the Under Secretary of Defense for Acquisition, Technology and Logistics (USD(AT&L)) directed a Defense Acquisition Executive (DAE) program review not later than April 26, 2002. The APB cost and schedule thresholds will be revised to support a program re-baseline.

Program Management or Control

Based on the recommendations of the IRT, the Air Force should initiate an independent expert risk assessment for programs entering system design and development. As part of this assessment, the Air Force will ask the warfighters, through the Commander in Chief's Senior Warfighter Forum process, to assess operational risk and prioritize the requirements to support an incremental, block approach to system fielding. Further, the Major Command should be responsible for the detailed description of the expectations associated with each of the top level requirements and assist the developer in producing a Technical Requirements Document to articulate user expectations for how the system will be employed to meet the system requirements. In the particular case of SBIRS High, which is well advanced into system design and development, the Air Force will work towards a final design review of the system in order to close out the liens from the Critical Design Review (CDR) and to ensure the maturity of the program to proceed further. The Air Force is on track to complete the CDR in the fall of 2002.

To stabilize the requirements baseline, the Air Force has established a flag-level executive committee consisting of acquisition and operational expertise from the government and contractor, that has oversight of execution and of requirements flow management. The activities of the executive committee are overseen by a tiered management structure including the Secretary of the Air Force, Undersecretary of the Air Force, Chief of Staff of the Air Force, and the contractor's Chief Executive Officers (CEOs). The executive committee has the authority to adjudicate cost, schedule and performance issues associated with requirements trades and includes all mission area stakeholders. In the past, there was no single forum empowered to adjudicate these issues below the level of the Joint Requirements Oversight Council. As a further corrective action to stabilize SBIRS High, the program will be restructured to embrace an evolutionary block modification strategy that will phase in prioritized requirements in a well-defined manner, controlled through the executive committee process. Of significant importance, the content baseline has been put under program office management control. The System Program Director (SPD) established a Program Management Board (PMB) that will ensure content, schedules, and costs are managed as an integrated baseline. This board has already been active in establishing a revised program baseline. Of particular note, is the implementation of a lower risk ground software approach that breaks up a single large development and transition to operations into multiple block deliveries in concert with mission needs and an achievable schedule. Such a "spiral" approach is consistent with the modern way of developing extremely complex, software-intensive weapons systems.

The most significant action is a wholesale change in the program management philosophy. Under acquisition reform the Air Force applied the concept of Total System Performance Responsibility (TSPR) to the SBIRS High program at contract award. Our assessment is that on highly complex, multi-mission programs such as SBIRS High, contractor TSPR is not an adequate mechanism for ensuring program success. As we restructure the program, we will remove the TSPR clause from the contract. The program office will resume leadership of functions that had been relinquished to the contractor under TSPR. The greatly increased government oversight and involvement should preclude further precipitous cost increases.

SBIRS management has been strengthened. The contractor has brought in new, experienced personnel to manage the program. LMSSC replaced its program director, and the new director reports directly to the President, LMSSC. Further, the program director's span of responsibility has been reduced so that his full attention is on the SBIRS program. Other major leadership changes have been made in the organization structure, bringing significant new experience and expertise to the program. Fundamental in our view, the contractor has committed to an integrated management approach and subcontract management improvements. The CEOs of LMSSC and Northrop Grumman, a major subcontractor, have jointly reaffirmed their commitment to the SBIRS program in a letter to USD(AT&L).

System engineering at the contractor, as well as within the government program office, has been significantly increased, and will continue to be upgraded both in terms of additional personnel and systems engineering management tools. For example, the contractor has instituted a Systems Engineering Review Board (SERB), chaired by the program manager, to manage the technical baseline (including cost and schedule impacts). The SERB will feed directly into the government's PMB process, which manages the overall program baseline in terms of cost, schedule, and technical risk.

Control of a disciplined process has been re-established. This includes periodic independent reviews, annual estimate at completion updates, a revised award fee structure, and new, meaningful metrics that measure program executability, for example, risk management, requirements verification, and software producibility.

Cost Control Actions

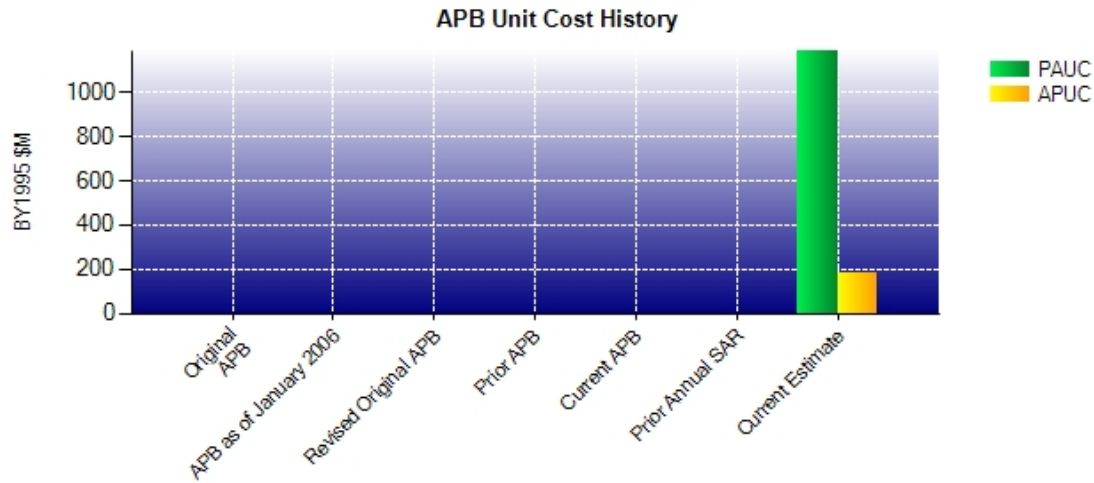
The most significant action is a wholesale change in the program management philosophy. Under acquisition reform the Air Force applied the concept of TSPR to the SBIRS High program at contract award. Our assessment is that on highly complex, multi-mission programs like SBIRS High, contractor TSPR is not an adequate mechanism for ensuring program success. We have removed the TSPR clause from the contract. The program office has resumed leadership of functions that had been relinquished to the contractor under TSPR. The greatly increased government oversight and involvement should preclude further precipitous cost increases.

Of significant importance, the content baseline has been put under program office management control. The SPD has established a PMB that will ensure content, schedules, and costs are managed as an integrated baseline. The newly implemented PMB acts as the decision gate and authority to approve content and implement changes and associated budgets for each change. Major program technical and schedule assumptions and decisions will be made at this forum with cost and available funding in mind. This process will help to contain and capture requirements to avoid the surprise growth factor seen previously. This board has already been active in establishing a revised program baseline.

Additional cost control measures include augmenting the Contract Funds Status Report with a detailed report of monthly budget, forecast and expenditure per product Integrated Product Team and total program. This report provides timely visibility of contract funds expenditure information at the appropriate level to enable proactive management. A schedule analysis tool will be implemented to analyze schedule performance. This tool links Cost Performance Report data and Integrated Master Schedule tasks to better correlate schedule and cost performance. Early detection of potential program issues provides the "headlight" metrics required for successful program execution.

Nunn-McCurdy Comments

Unit Cost History



	Date	BY1995 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	N/A	N/A	N/A	N/A	N/A
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	N/A	N/A	N/A	N/A	N/A
Current APB	N/A	N/A	N/A	N/A	N/A
Prior Annual SAR	N/A	N/A	N/A	N/A	N/A
Current Estimate	DEC 2001	1187.380	179.467	1348.700	213.433

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	-26.240	5.480	72.660	120.200	346.760	0.000	0.380	519.240	1348.700

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	-9.067	-37.383	-40.600	0.000	7.600	0.000	0.633	-78.817	213.433

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	TBD
Total Cost (TY \$M)	2670.3	4147.3	N/A	6743.5
Total Quantity	N/A	5	N/A	5
Prog. Acq. Unit Cost (PAUC)	N/A	829.460	N/A	1348.700

Cost Variance

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	-111.0	-25.0	-1.2	-3.3	-140.5
Quantity	-152.7	+180.1	0.0	0.0	+27.4
Schedule	+485.1	-146.0	0.0	0.0	+339.1
Engineering	+82.1	0.0	0.0	0.0	+82.1
Estimating	-339.6	-109.4	+18.1	-31.1	-462.0
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+54.5	0.0	0.0	+54.5
Subtotal	-36.1	-45.8	+16.9	-34.4	-99.4
Current Changes					
Economic	+10.8	-2.2	--	+0.7	+9.3
Quantity	--	--	--	--	--
Schedule	--	+24.2	--	--	+24.2
Engineering	+526.7	--	+7.8	-15.6	+518.9
Estimating	+1882.1	+132.2	+3.8	+177.7	+2195.8
Other	--	--	--	--	--
Support	--	-52.6	--	--	-52.6
Subtotal	+2419.6	+101.6	+11.6	+162.8	+2695.6
Total Changes	+2383.5	+55.8	+28.5	+128.4	+2596.2
CE - Cost Variance	5770.0	640.3	57.0	276.2	6743.5
CE - Cost & Funding	5770.0	640.3	57.0	276.2	6743.5

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	0.0	0.0	0.0	0.0	0.0
Quantity	-128.4	+155.6	0.0	0.0	+27.2
Schedule	+416.6	-115.1	0.0	0.0	+301.5
Engineering	+73.0	0.0	0.0	0.0	+73.0
Estimating	-302.9	-115.7	+16.0	-38.5	-441.1
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+47.7	0.0	0.0	+47.7
Subtotal	+58.3	-27.5	+16.0	-38.5	+8.3
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	--	0.0	--	--	0.0
Engineering	+431.3	--	+6.8	-13.5	+424.6
Estimating	+1604.8	+115.3	+3.1	+147.4	+1870.6
Other	--	--	--	--	--
Support	--	-46.1	--	--	-46.1
Subtotal	+2036.1	+69.2	+9.9	+133.9	+2249.1
Total Changes	+2094.4	+41.7	+25.9	+95.4	+2257.4
CE - Cost Variance	5111.0	538.4	51.9	235.6	5936.9
CE - Cost & Funding	5111.0	538.4	51.9	235.6	5936.9

Previous Estimate: December 1999

RDT&E	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	+10.8
Add Survivable Strategic Communications and delete SABRS requirement (Engineering)	+0.1	+0.6
Addition of CTF (November 00 EAC) (Engineering)	+44.5	+52.8
Addition of Block II re-design funds (Engineering)	+386.7	+473.3
Adjustment for Current and Prior Inflation. (Estimating)	-8.9	-9.7
Accounting adjustments - SBIRS Low/DSP funds transfer (Estimating)	+7.9	+11.2
November 2000 additional funds for EMD cost growth, less CTF (Estimating)	+297.7	+344.7
December 2001 additional funds for EMD contract cost growth. (Estimating)	+1241.9	+1452.2
Cost growth due to one-year contract extension (FY09) (Estimating)	+66.2	+83.7
RDT&E Subtotal	+2036.1	+2419.6

Procurement	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	-2.3
Economic adjustment for negative program change. (Economic)	N/A	+0.1
Addition of Survivable Strategic Communications (Support)	+1.6	+1.9
November 2000 additional funds for EMD contract cost growth (Estimating)	+91.6	+105.0
Deletion of MCSB (3080) (Support)	-47.7	-54.5
Accounting adjustments - SBIRS Low funds transfer (Estimating)	+23.7	+27.2
Slipped both G3-G5 procurement and G4-G5 launch support two years (Schedule)	0.0	+24.2
(Subtotal)	0.0	0.0
Procurement Subtotal	+69.2	+101.6

MILCON	\$M	
	Base Year	Then Year
Current Change Explanations		
Expand MCS to accommodate SBIRS High (FY02 and FY03) (Engineering)	+6.8	+7.8
Additional funds for MCS MILCON Project (Estimating)	+3.1	+3.8
MILCON Subtotal	+9.9	+11.6

Acq O&M	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	+0.3
Economic adjustment for negative program change. (Economic)	N/A	+0.4
SBIRS Low and SWORD Activation Deleted (Engineering)	-13.5	-15.6
Adjustment for Current and Prior Inflation. (Estimating)	-0.2	-0.2
Additional O&M costs for FY06 through FY08 (Estimating)	+43.5	+53.1
Refinement of estimates for RGS, MCSB activation costs and from other SPO (Estimating)	+30.8	+34.1
Add MCSB CLS (Estimating)	+39.0	+47.1
Add O&M costs for FY09 (Estimating)	+34.3	+43.6
Acq O&M Subtotal	+133.9	+162.8

Contracts

General Contract Memo

PM's price EAC includes negotiated August 2000 OTB amount and initial EAC results.

Appropriation: RDT&E

Contract Name	SBIRS High EMD Mod
Contractor	Lockheed Martin Space Sys
Contractor Location	Sunnyvale , CA
Contract Number, Type	F04701-95-C-0017, CPAF
Award Date	October 31, 1995
Definitization Date	October 31, 1995

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
80.0	80.0	0	2401.4	N/A	2	3415.1	4409.8

	Cost Variance	Schedule Variance
Previous Cumulative Variances	-32.0	-14.1
Cumulative Variances To Date	+0.2	+0.1
Net Change	+32.2	+14.2
Percent Variance		
Percent Complete		

Cost And Schedule Variance Explanations**Cost Variance**

Cumulative variances of +\$0.247M for cost and +\$0.130M for schedule reflect the Over Target Baseline (OTB) reset in July 2000 and another reset in November 2001. The OTB recognized that the pre-OTB plan was no longer valid and that a new plan was necessary to provide more realistic work packages to more accurately measure cost/schedule performance. The reset in November 2001 was to accommodate an interim plan as the SBIRS program proceeds to a Defense Acquisition Executive (DAE) review in April 2002. A final Earned Value Management (EVM) plan will be laid in after the DAE review. Details of the OTB and November 2001 reset are discussed below:

1. During July 2000, the SBIRS High program reset its cost baseline by implementing an OTB. The OTB allowed the contractor to re-plan work on contract and equalized Budgeted Cost of Work Schedule (BCWS), Budgeted Cost of Work Performed (BCWP) and Actual Cost of Work Performed (ACWP). This action zeroed out any cost/schedule variances through July 2000 and replanned future work to a revised baseline. Prior to the reset, the contractor experienced a cumulative negative Cost Variance (CV) of -\$66.5M and cumulative negative Schedule Variance (SV) of -\$18.7M.
2. Following the OTB, the program continued to experience cost/schedule difficulties - negative CV of -\$102.4M and negative SV of -\$59.1M as of end of November 2001. As the SPO proceeds to the April DAE review, and in order to accommodate an interim plan for performance evaluation, the baseline was reset in November 2001, again equalizing BCWS, BCWP and ACWP. All variances were once again zeroed out.
3. During December 2001, the program began measuring performance against the interim plan and experienced a favorable CV of \$0.247M and SV of \$0.130M. The December favorable cost variance is mainly due to a favorable one time retroactive adjustment FY01 fringe rate change (\$400K). This favorable variance was offset by an unfavorable variance in Highly Elliptical Orbit (HEO) Pointing Control Assembly (PCA) (-\$300K). The PCA variance was due to problems related to the simulation software within the PSTS and to higher costs to achieve Gimbal Drive Assembly Software Test Environment certification. The major contributor to the December period favorable schedule variance is the HEO Payload (\$172K). The PCA product team is ahead of schedule on the Motor Drive Electronics Flight #1 final acceptance testing.

Contract Comments

The current contract prices have been adjusted from \$2,335.2M to \$2,401.4M to incorporate modifications for Integrated Training Suite (\$28.6M) Combined Task Force (\$13.7M), National Missile Defense Capability 1 Analysis and Requirements (\$13.4M), Request for Equitable Adjustment (\$7.3M), CLIN 33 SBIRS Low Integration (\$7.0), Technical Intelligence Offline Processing (\$6.8M), HEO Preprocessing (\$6.0M), Geosynchronous Earth Orbit 3-5 Proposal Preparation (\$3.1M), HEO Contamination Shield (\$3.0M), Integrated Ground Testing 6 (IGT-6) SBIRS Tape Delivery, SBIRS Protection Guide, SBIRS Simulation, Scenario Development, Space and Atmospheric Burst Reporting System on SBIRS Integration, Interim Mission Control Station Backup 24/7 Front Desk Security. Target Fee was reduced from \$375.5M to \$348.2M.

Note: PM's price EAC includes negotiated August 00 OTB amount and initial EAC results.

Deliveries and Expenditures

Deliveries To Date	Plan	Actual	Total Quantity	Percent Delivered
Development	0	0	2	0.00%
Production	0	0	3	0.00%
Total Program Quantities Delivered	0	0	5	0.00%

Expenditures and Appropriations (TY \$M)

Total Acquisition Cost	6743.5	Years Appropriated	8
Expenditures To Date	2202.6	Percent Years Appropriated	53.33%
Percent Expended	32.66%	Appropriated to Date	2832.2
Total Funding Years	15	Percent Appropriated	42.00%

Operating and Support Cost

Assumptions and Ground Rules

These Operations and Maintenance funds support the activation of new SBIRS High Component ground operating and training facilities at four sites worldwide. SBIRS High Component Increment 1 consolidates operations from three Defense Support Program sites into one CONUS-based site. 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, two OCONUS Relay Ground Stations, and Initial Qualification Training facility in FY99. Also supported with these funds are the repair and transportation of Government Furnished Equipment and TDY for training of the initial cadre of operators.

The SBIRS High profile reflects a 25-year Life Cycle Cost and is based upon an October 2000 Program Office Estimate. The DSP costs is Acquisition O&M only.

Costs BY1995 \$M

Cost Element	SBIRS (High) Avg Annual Cost Per SBIRS High System	Avg Annual Cost Per DSP System
Mission Pay & Allowance	49.3	--
Unit Level Consumption	11.1	12.3
Intermediate Maintenance	17.2	--
Depot Maintenance	--	--
Contractor Support	23.0	--
Sustaining Support	15.7	--
Indirect	0.4	--
Other	--	--
Total Unitized Cost (Base Year 1995 \$)	116.7	12.3

Total O&S Costs \$M	SBIRS (High)	Avg Annual Cost Per
Base Year	2917.0	116.7
Then Year	3985.0	159.4



Defense Acquisition Management Information Retrieval (DAMIR)



Selected Acquisition Report (SAR)

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



SBIRS HIGH
As of June 30, 2002

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Program Information

Designation And Nomenclature (Popular Name)

Space Based Infrared System (SBIRS) Program

DoD Component

Air Force

Responsible Office

Responsible Office

Col Mark S. Borkowski	Phone	310-363-1807
SMC/MT	Fax	--
185 Discoverer Blvd.	DSN Phone	833-1807
Suite 2512	DSN Fax	--
El Segundo, CA 90245-4695	Date Assigned	June 25, 2001
mark.borkowski@losangeles.af.mil		

References

SAR Baseline (Development Estimate)

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

Approved APB

DAE Approved Acquisition Program Baseline (APB) dated August 13, 1999

Mission and Description

The Space Based Infrared System (SBIRS) 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 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 Characterization. The baseline architecture for SBIRS includes space elements in Highly Elliptical Orbits (HEO) and Geosynchronous Earth Orbits (GEO), in addition to the following ground elements: a CONUS-based Mission Control Station (MCS) and backup (MCSB), overseas Relay Ground Stations (RGSs), Multi-Mission Mobile Processor (M3P), and associated communication links. The High Component consists of four satellites in GEO, two hosted sensors in HEO (platforms provided by another organization), and associated ground elements.

Executive Summary

The previous SBIRS High Selected Acquisition Report (SAR) (as of date: December 31, 2001) identified an estimated Nunn-McCurdy breach of 70% for Program Acquisition Unit Cost. Additionally, the Average Procurement Unit Cost breach, declared in April 2002, became part of the Under Secretary of Defense for Acquisition, Technology and Logistics (USD[AT&L]) review and certification process. Following intensive program planning and independent review, USD (AT&L) reviewed the SBIRS High program for compliance with Section 2433, Title 10, United States Code, Unit Cost Reports, on April 26, 2002. In compliance with Nunn-McCurdy statutory requirements, USD(AT&L) certified that this acquisition program is essential to the national security; there are no alternatives to this acquisition program which will provide equal or greater military capability at less cost; the new estimates of the program acquisition unit cost and procurement unit cost for this program are reasonable; and the management structure for this acquisition program is adequate to manage and control program acquisition unit cost and procurement unit cost. Further, USD(AT&L) Acquisition Decision Memorandum (ADM) dated May 2, 2002, directed the Air Force to:

- fully fund the SBIRS High program to the Office of the Secretary of Defense (OSD) cost estimate in the FY 04-09 Program Objective Memorandum;
- baseline the SBIRS High program to the OSD schedule for Geosynchronous Earth Orbit (GEO) satellites 1 and 2 and the procurement of GEO satellites 3 through 5. However, the Air Force was also authorized to accelerate the schedule for these satellites, if technically feasible, within the resources made available by the OSD cost estimate;
- obtain, within 120 days of the date of the ADM, Under Secretary of the Air Force/Director, National Reconnaissance Office approval of a revised Acquisition Program Baseline (APB) and a revised acquisition strategy;
- submit a quarterly SAR with an as of date of June 30, 2002, no later than July 15, 2002;
- provide, by January 30, 2003, USD(AT&L) with an assessment of the program status in meeting the revised APB.

As a result of program certification and ADM direction, SBIRS High is in the midst of a contract restructure to incorporate a revised program baseline. A contractor proposal was received on May 28, 2002, that details program content, cost and schedule consistent with the certified program. The program office is proceeding with fact finding and negotiations; contract definitization is scheduled for the end of August 2002.

An Above Threshold Reprogramming request of \$88.3M was forwarded to Congress in May 2002 and approved in July.

Continuing Enhancements to Operational System: The first planned ground processing system enhancement was completed on April 11, 2002, and the user accepted the amended SBIRS Increment 1 system as fully operational without limitations. The system enhancement resolved several deficiencies and incorporated additional capabilities that allows the user to close both the stateside and the European legacy processing sites. In response to a Pacific Command requirement, this enhancement also updated the reference system for launch and impact point prediction to address a new Korean grid reference system. The second planned enhancement was installed on schedule on June 13, 2002. Operational acceptance is planned for August 2002, after system testing. Along with correcting most of the remaining discrepancies, this enhancement also provides some unique tactical functionality for exercise support and allows the user to close the theater missile warning ground station, which is the last remaining legacy ground processing facility.

Critical Design Review (CDR) Closure: The SBIRS High Increment 2 CDR conducted last August resulted in a number of open issues and closure plans. A Baseline Update (BLU-1) review, scheduled for September 19-20, 2002, is expected to close the issues and demonstrate continued design maturity. As of June 30, 2002, there were two open action items remaining from the August 2001 CDR; these action items are being actively managed. BLU-1 and BLU-2 will continue to refine and document the increased maturity of the program in line with SBIRS effectivities.

Highly Elliptical Orbit (HEO) Payload Delivery Status: The first SBIRS High payload to host bus integration test was completed in May 2002. The test confirmed the ability to pass vital health and checkout data between the host and the payload without problem. It also involved the first time use and checkout of payload test equipment at the host facility. This milestone significantly reduces future test and integration risk. Thermal vacuum testing of the unit was initiated in

June 2002, while initial functional testing of the HEO-1 flight unit is scheduled for August 2002. The final flight software build has been delivered and qualification will complete in October 2002. The first HEO payload is on schedule for delivery to the host in February 2003.

Interim Mission Control Station Backup (IMCSB): The IMCSB will provide the user an alternate facility certified to conduct the operational mission. The test events leading up to the operational certification are in progress and on schedule. The Day-In-The-Life test, the first comprehensive test of the IMCSB using Combined Task Force crews in a realistic environment, was completed on June 22, 2002. Completion of the combined Development Test/Operational Test 14-day scripted test of the entire system using operational software, databases, and procedures, is scheduled for August 2002. The Air Force Operational Test and Evaluation Center independent assessment includes a 40-day Operational Utility Evaluation and a 14-day Trial Period. The system will then be ready to begin the United States Space Command controlled certification process in October 2002; formal certification is planned for November 2002.

SBIRS Payload Orbital Test Station (SPOTS) Activation: On March 13, 2002, Northrop Grumman activated the SPOTS facility in Azusa, CA. The SPOTS facility will provide factory support for on-orbit testing of Defense Support Program, as well as SBIRS payloads, and all on-orbit support, anomaly resolution, and performance analysis for the SBIRS constellation. Northrop Grumman built the facility with \$1.9M in capital funds. It features a "mini" space operations center, a launch and anomaly resolution center, and space for support equipment.

Threshold Breaches

APB Breaches	
--------------	--

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

Explanation of Breach

Schedule and Cost breaches, due to Air Force two year delay to SBIRS High, were previously reported in both the December 31, 1998, and the September 30, 1999, Selected Acquisition Reports.

Subsequently, the program has experienced significant cost growth and schedule delays. Driven by poor cost and schedule performance and the contractor's projection of a fiscal year 2002 funding shortfall, the System Program Office and Lockheed Martin Space Systems Company completed a preliminary Estimate at Completion (EAC) exercise in October 2001. The preliminary EAC results indicated potential cost growth in excess of \$2B across the Engineering and Manufacturing Development contract and schedule delays of 12 to 36 months. The System Program Director (SPD) briefed the results to the Secretary of the Air Force, the Chief of Staff of the Air Force, and the Under Secretary of Defense for Acquisition, Technology and Logistics (USD[AT&L]) during the week of November 5, 2001. On November 16, 2001, the SPD reported a Nunn-McCurdy breach was likely to occur, as well as a breach of many of the APB schedule milestones. On December 31, 2001, the Secretary of the Air Force notified Congress of a PAUC breach above the 25 percent threshold.

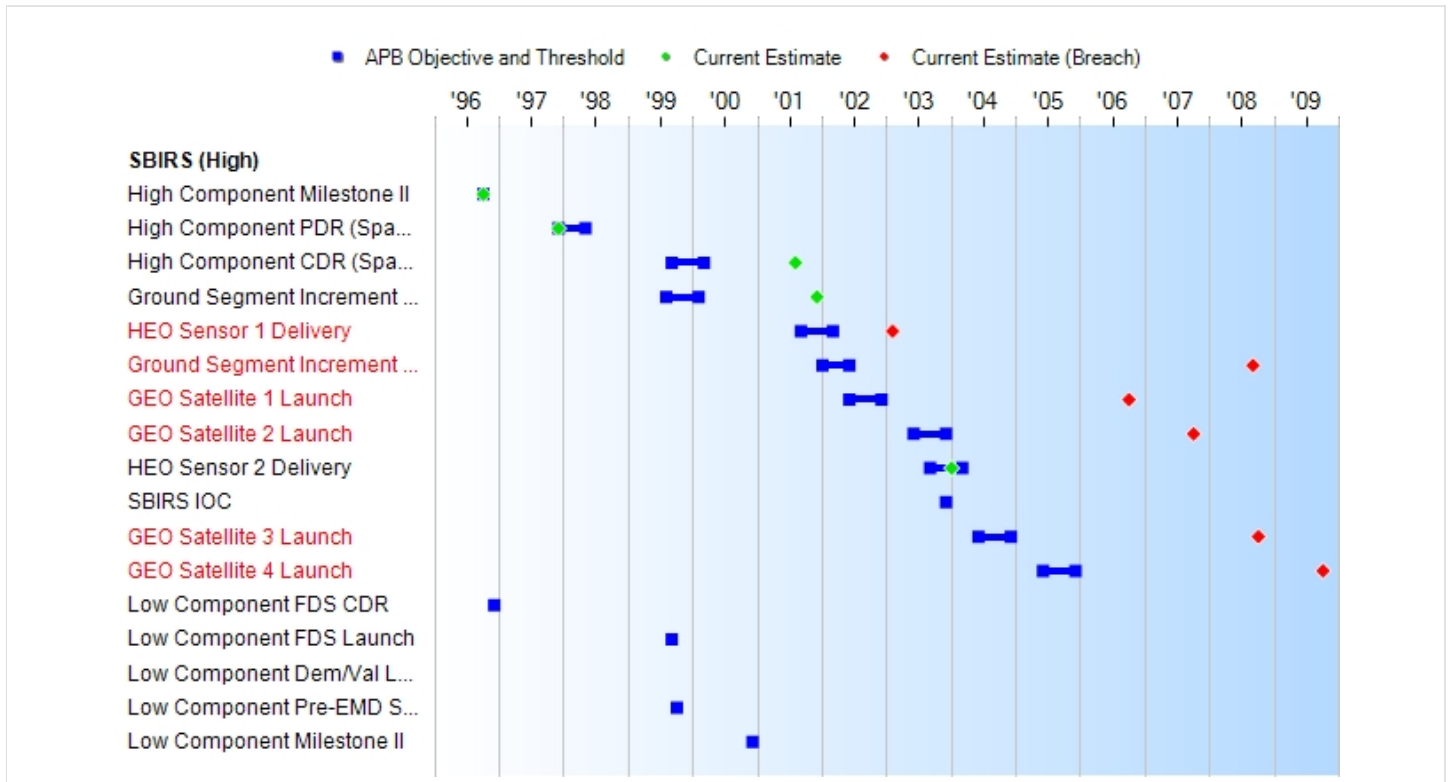
Nunn-McCurdy Breaches	
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Current UCR Baseline	
PAUC	Critical
APUC	Critical
Original UCR Baseline	
PAUC	None
APUC	None

As part of the Nunn-McCurdy certification process, the SBIRS program office completed a total program EAC, including the procurement satellites. The Office of the Secretary of Defense (OSD) Cost Analysis Improvement Group (CAIG) also developed an independent program estimate. Both estimates were presented to USD(AT&L) on April 26, 2002. The OSD estimate was selected as the basis for a new program baseline. The updated cost estimate resulted in an additional Nunn-McCurdy breach of the APUC. On April 26, 2002, the Secretary of the Air Force notified Congress of an APUC breach above the 25 percent threshold.

On May 2, 2002, USD(AT&L) sent the program certification letter, covering the PAUC and APUC breaches, to Congress.

Schedule



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	SEP 1999	MAR 2000	AUG 2001
Ground Segment Increment 1 Certification	AUG 1999	AUG 1999	FEB 2000	DEC 2001
HEO Sensor 1 Delivery	SEP 2001	SEP 2001	MAR 2002	FEB 2003 ¹
Ground Segment Increment 2 Certification	JAN 2002	JAN 2002	JUN 2002	SEP 2008 ¹
GEO Satellite 1 Launch	N/A	JUN 2002	DEC 2002	OCT 2006 ¹
GEO Satellite 2 Launch	JUN 2003	JUN 2003	DEC 2003	OCT 2007 ¹
HEO Sensor 2 Delivery	SEP 2003	SEP 2003	MAR 2004	JAN 2004
SBIRS IOC	DEC 2003	N/A	N/A	TBD
GEO Satellite 3 Launch	JUN 2004	JUN 2004	DEC 2004	OCT 2008 ¹
GEO Satellite 4 Launch	JUN 2005	JUN 2005	DEC 2005	OCT 2009 ¹
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

¹APB Breach**Change Explanations**

None

Memo

ACRONYMS:

CDR - Critical Design Review
GEO - Geosynchronous Earth Orbit
HEO - Highly Elliptical Orbit
IOC - Initial Operational Capability
MCS - Mission Control Station
PDR - Preliminary Design Review

Performance

Note: Classified and unclassified performance parameters are displayed in the Classified DAMIR.

Track To Budget**RDT&E**

APPN 3600 (Air Force) Invalid program element code (0640441) removed.
SBIR High Element EMD

Procurement

APPN 3020 (Air Force) ICN MSSBIR
SBIR High Missile Procurement

MILCON

APPN 3300 (Air Force) Invalid program element code (0640441) removed.
SBIRS ARCHI-EMD (SPACE) Military Construction

Acq O&M

APPN 3400 (Air Force) Invalid program element code (0350915) removed.
SBIRS Operation and Maintenance

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

Appropriation	BY1995 \$M				TY \$M		
	SAR Baseline Dev Est	Current APB Development Objective/Threshold	Current Estimate	Current Estimate	SAR Baseline Dev Est	Current APB Development Objective	Current Estimate
RDT&E	3016.6	3016.6	3318.3	5426.4 ¹	3386.5	3386.5	6151.3
Procurement	496.7	496.7	546.4	1261.5 ¹	584.5	584.5	1497.4
Flyaway	496.7	--	--	--	584.5	--	--
Recurring	496.7	--	--	0.0	584.5	--	0.0
Non Recurring	0.0	--	--	0.0	0.0	--	0.0
Support	0.0	--	--	0.0	0.0	--	0.0
Other Support	0.0	--	--	0.0	0.0	--	0.0
Initial Spares	0.0	--	--	0.0	0.0	--	0.0
MILCON	26.0	26.0	28.6	51.9 ¹	28.5	28.5	57.0
Acq O&M	140.2	140.2	154.2	598.4 ¹	147.8	147.8	715.2
Total	3679.5	3679.5	N/A	7338.2	4147.3	4147.3	8420.9

¹ APB Breach

The Current Estimate totals include Pre-Engineering and Manufacturing Development (EMD) and EMD costs for SBIRS High through FY10. It also includes Missile Procurement funds for Geosynchronous Satellites GEO 3 through GEO 5. The Current Estimate reflects the Office of the Secretary of Defense (OSD) Base Year unit cost estimate that was included in the Office of the OSD(AT&L) certification to Congress dated May 2, 2002. One minor adjustment was made to reflect the Air Force cost estimate for launch support activities, as agreed to with the OSD Cost Analysis Improvement Group.

The MILCON increase from the Approved Program to the Current Estimate captures the cost of the Mission Control Station Backup (MCSB) at Schriever AFB, Colorado (\$19.0M), and the Mission Control Station (MCS) expansion at Buckley AFB, Colorado (\$6.9). Ground breaking at the MCSB is July 19, 2002, and the MCS expansion will begin in FY03.

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

The SBIRS Single Acquisition Management Plan dated August 26, 1996, identifies no Low Rate Initial Production.

Funding Summary

Appropriation and Quantity Summary

JUN 2002 Exception SAR (TY \$M)

Appropriation	Prior	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	To Complete	Total
RDT&E	2260.6	533.4	792.1	627.3	518.2	386.2	321.2	712.3	6151.3
Procurement	0.0	0.0	0.0	362.4	1055.1	0.0	30.3	49.6	1497.4
MILCON	31.3	18.8	6.9	0.0	0.0	0.0	0.0	0.0	57.0
Acq O&M	60.6	43.7	56.9	63.4	71.6	82.4	85.2	251.4	715.2
JUN 2002 Total	2352.5	595.9	855.9	1053.1	1644.9	468.6	436.7	1013.3	8420.9
PB2003 Total	2352.5	479.7	837.3	736.8	969.0	323.7	346.9	697.6	6743.5
Delta	0.0	116.2	18.6	316.3	675.9	144.9	89.8	315.7	1677.4

Quantity	Prior	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	To Complete	Total
Development	0	0	0	0	0	0	0	0	2
Production	0	0	0	0	3	0	0	0	3
JUN 2002 Total	0	0	0	0	3	0	0	0	5
PB2003 Total	0	0	0	0	3	0	0	0	5
Delta	0	0	0	0	0	0	0	0	0

FY2003 President's Budget / December 2001 SAR (TY\$ M)

Appropriation	Prior	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	To Complete	Total
RDT&E	2260.6	438.7	814.9	620.3	445.6	303.0	308.1	578.8	5770.0
Procurement	0.0	0.0	0.0	97.5	500.8	0.7	8.5	32.8	640.3
MILCON	31.3	18.8	6.9	0.0	0.0	0.0	0.0	0.0	57.0
Acq O&M	60.6	22.2	15.5	19.0	22.6	20.0	30.3	86.0	276.2
PB2003 Total	2352.5	479.7	837.3	736.8	969.0	323.7	346.9	697.6	6743.5
PB2001 Total	2385.1	566.9	584.1	140.4	118.2	88.0	84.5	80.7	4047.9
Delta	-32.6	-87.2	253.2	596.4	850.8	235.7	262.4	616.9	2695.6

Quantity	Prior	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	To Complete	Total
Development	0	0	0	0	0	0	0	0	2
Production	0	0	0	0	3	0	0	0	3
PB2003 Total	0	0	0	0	3	0	0	0	5
PB2001 Total	0	0	3	0	0	0	0	0	5
Delta	0	0	-3	0	3	0	0	0	0

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	--	--	--	--	--	--	533.4
2003	--	--	--	--	--	--	792.1
2004	--	--	--	--	--	--	627.3
2005	--	--	--	--	--	--	518.2
2006	--	--	--	--	--	--	386.2
2007	--	--	--	--	--	--	321.2
2008	--	--	--	--	--	--	284.7
2009	--	--	--	--	--	--	241.6
2010	--	--	--	--	--	--	186.0
Subtotal	2	--	--	--	--	--	6151.3

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	--	--	--	--	--	--	158.8
1997	--	--	--	--	--	--	184.3
1998	--	--	--	--	--	--	320.6
1999	--	--	--	--	--	--	471.9
2000	--	--	--	--	--	--	369.7
2001	--	--	--	--	--	--	500.1
2002	--	--	--	--	--	--	477.1
2003	--	--	--	--	--	--	698.5
2004	--	--	--	--	--	--	543.6
2005	--	--	--	--	--	--	441.0
2006	--	--	--	--	--	--	322.4
2007	--	--	--	--	--	--	263.3
2008	--	--	--	--	--	--	229.0
2009	--	--	--	--	--	--	190.7
2010	--	--	--	--	--	--	144.1
Subtotal	2	--	--	--	--	--	5426.4

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
2004	--	--	--	--	--	--	263.9
2005	3	--	--	--	--	--	1055.1
2006	--	--	--	--	--	--	--
2007	--	--	--	--	--	--	30.3
2008	--	--	--	--	--	--	28.0
2009	--	--	--	--	--	--	21.6
Subtotal	3	--	--	--	--	--	1398.9

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
2004	--	--	--	--	--	--	226.3
2005	3	--	--	--	--	--	888.1
2006	--	--	--	--	--	--	--
2007	--	--	--	--	--	--	24.6
2008	--	--	--	--	--	--	22.3
2009	--	--	--	--	--	--	16.9
Subtotal	3	--	--	--	--	--	1178.2

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

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M
2004	--	--
2005	3	1178.2
2006	--	--
2007	--	--
2008	--	--
2009	--	--
Subtotal	3	1178.2

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	--	--	--	--	--	--	98.5
Subtotal	--	--	--	--	--	--	98.5

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	--	--	--	--	--	--	83.3
Subtotal	--	--	--	--	--	--	83.3

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	16.6
2003	6.0
Subtotal	51.9

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	43.7
2003	56.9
2004	63.4
2005	71.6
2006	82.4
2007	85.2
2008	82.6
2009	84.7
2010	84.1
Subtotal	715.2

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	16.0
2002	39.1
2003	50.2
2004	54.9
2005	60.9
2006	68.8
2007	69.8
2008	66.4
2009	66.9
2010	65.1
Subtotal	598.4

Low Rate Initial Production

None

Foreign Military Sales

None

Nuclear Cost

None

Unit Cost

Unit Cost Report

Unit Cost	BY1995 \$M		
	Current UCR Baseline (AUG 1999 APB)	Current Estimate (JUN 2002 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	3679.5	7338.2	
Quantity	5	5	
Unit Cost	735.900	1467.640	+99.43 ¹
Average Procurement Unit Cost (APUC)			
Cost	496.7	1261.5	
Quantity	2	3	
Unit Cost	248.350	420.500	+69.32 ¹

Unit Cost	BY1995 \$M		
	Original UCR Baseline	Current Estimate (JUN 2002 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost		7338.2	
Quantity		5	
Unit Cost		1467.640	+0.00
Average Procurement Unit Cost (APUC)			
Cost		1261.5	
Quantity		3	
Unit Cost		420.500	+0.00

Unit Cost	TY \$M		
	Current UCR Baseline (AUG 1999 APB)	Current Estimate (JUN 2002 SAR)	TY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	4147.3	8420.9	
Unit Cost	829.460	1684.180	+103.05
Average Procurement Unit Cost (APUC)			
Cost	584.5	1497.4	
Unit Cost	292.250	499.133	+70.79

Unit Cost	TY \$M		
	Original UCR Baseline	Current Estimate (JUN 2002 SAR)	TY % Change
Program Acquisition Unit Cost (PAUC)			
Cost		8420.9	
Unit Cost		1684.180	+0.00
Average Procurement Unit Cost (APUC)			
Cost		1497.4	
Unit Cost		499.133	+0.00

¹ Nunn-McCurdy Breach

The Current Estimate totals include Pre-Engineering and Manufacturing Development (EMD) and EMD costs for SBIRS High through FY10. It also includes Missile Procurement funds for Geosynchronous Satellites GEO 3 through GEO 5. The Current Estimate reflects the Office of the Secretary of Defense (OSD) Base Year unit cost estimate that was included in the Under Secretary of Defense for Acquisition, Technology and Logistics (OSD [AT&L]) certification to Congress dated May 2, 2002. One minor adjustment was made to reflect the Air Force cost estimate for launch support activities, as agreed to with the OSD Cost Analysis Improvement Group.

Unit Cost Breach Data

Changes from Previous SAR	\$M/Qty.	Percent
PAUC (BY \$M)	280.260	
APUC (BY \$M)	241.030	
PAUC Quantity	5	
PAUC (TY \$M)	335.480	
APUC (TY \$M)	285.700	

Initial SAR Information JUN 1995	BY1995 \$M	TY \$M
Program Acquisition Cost	2308.0	2670.3

Unit Cost PAUC Changes

The previous SBIRS High Selected Acquisition Report (SAR) (as of date: December 31, 2001) identified an estimated Nunn-McCurdy breach of 70% for PAUC. Following intensive program planning and independent review, the USD(AT&L) reviewed the SBIRS High program for compliance with Section 2433, Title 10, United States Code, Unit Cost Reports, on April 26, 2002. In compliance with Nunn-McCurdy statutory requirements, USD (AT&L) certified that this acquisition program is essential to the national security; there are no alternatives to this acquisition program which will provide equal or greater military capability at less cost; the new estimates of the program acquisition unit cost and procurement unit cost for this program are reasonable; and the management structure for this acquisition program is adequate to manage and control program acquisition unit cost and procurement unit cost. Further, USD(AT&L) Acquisition Decision Memorandum (ADM) dated May 2, 2002, directed the Air Force to:

- fully fund the SBIRS High program to the Office of the Secretary of Defense (OSD) cost estimates in the FY 04-09 Program Objective Memorandum;
- baseline the SBIRS High program to the OSD schedule for Geosynchronous Earth Orbit (GEO) satellites 1 and 2 and the procurement of GEO satellites 3 through 5. However, the Air Force was also authorized to accelerate the schedule for these satellites, if technically feasible, within the resources made available by the OSD cost estimate;
- obtain, within 120 days of the date of the ADM, Under Secretary of the Air Force/Director, National

Reconnaissance Office approval of a revised APB and a revised acquisition strategy;
d) submit a quarterly SAR with an as of date of June 30, 2002, no later than July 15, 2002;
e) provide, by January 30, 2003, USD (AT&L) with an assessment of the program status in meeting the revised APB.

As part of the Nunn-McCurdy certification process, the SBIRS program office completed a total program Estimate at Completion, including the procurement satellites. The OSD Cost Analysis Improvement Group (CAIG) also developed an independent program estimate. Both estimates were presented to USD (AT&L) on April 26, 2002. The OSD estimate was selected as the basis for a new program baseline. The updated cost estimate resulted in an additional Nunn-McCurdy breach of the APUC. On April 26, 2002, the Secretary of the Air Force notified Congress of an APUC breach above the 25 percent threshold.

At Secretary of the Air Force direction, and in concert with the prime contractor, Lockheed Martin Space Systems Company (LMSSC), an Independent Review Team (IRT) was formed to review the program and diagnose the root causes and contributing factors of the significant cost growth. Findings from the IRT are 1) the SBIRS program was too immature to enter System Design and Development; 2) the system requirements decomposition and flow down was not well understood as the program continued to evolve; and 3) there was a significant breakdown in execution management.

Unit Cost APUC Changes

The APUC, as compared to the APB, has increased due to a change in the estimating methodology, lessons learned from GEO 1-2, and a delay in the start-up of the GEO 3-5 effort due to the schedule slip.

Impact of Performance or Schedule Changes

The certified program cost estimate was the result of cost growth in excess of \$2B across the Engineering and Manufacturing Development contract and in excess of \$900M for all Procurement. Schedule delays of 12 to 36 months have been incurred. The APB cost and schedule thresholds will be revised to support the program re-baseline.

Program Management or Control

Based on the recommendations of the IRT, the Air Force should initiate an independent expert risk assessment for programs entering system design and development. In the particular case of SBIRS High, which is well advanced into system design and development, the Air Force will work towards a final design review of the system in order to close out the liens from the Critical Design Review (CDR) and to ensure the maturity of the program to proceed further. The Air Force is on track to close the CDR (through BLU-1) in the fall of 2002.

The SPO is implementing an improved Earned Value Management (EVM) process, combining traditional EVM metrics with Defense Contract Management Agency (DCMA), contractor, project officer, engineer and cost analyst assessments, and resulting in a "true" integrated EVM process with checks and balances in place to provide total program visibility for management control actions. The process seeks improved visibility through 1) analysis of cost account level and work package level performance data as necessary; 2) improved accuracy and timeliness with more in-depth reviews of recurring cost/schedule variance drivers and critical path drivers; 3) improved interaction among System Program Office (SPO), DCMA and LMSSC personnel to maximize feedback and implementation of timely cost-effective decisions.

This new EVM process not only utilizes monthly Cost Performance Report (CPR) data, but also relies on Real-Time Project (RTP) weekly data for a more up-to-date status of program schedule and performance. RTP allows for the integration of lower-level schedules from geographically separated Integrated Product Teams (IPTs) to create a program master schedule and critical path.

The contractor has made EVM a priority on the program. The LMSSC program director has instituted biweekly meetings to address cost and schedule variances, which have resulted in improved insight into cost performance

on the contract. Earned Value (EV) data trends and impacts are the focus of the monthly Program Management Reviews (PMRs) and, just as important, the focus of the monthly IPT level meetings.

In addition to efforts by the contractor, the SPO is working closely with DCMA to analyze performance data and provide timely feedback to program management and the contractor on EV process issues as well as analysis and projections of EV data. Monthly EV briefings keep SBIRS program management apprised of the latest cost and schedule performance issues prior to joint PMRs with LMSSC. Also, the SPO business operations and program control units meet with LMSSC counterparts, in tandem with the PMR, to provide a more focused feedback on EVM implementation and cost/schedule issues. Cost and schedule variances will be closely scrutinized and any Level 2 element from the Contract Work Breakdown Structure (CWBS) that exceeds 5% cumulative cost or schedule variance will be brought to the newly implemented Program Management Board (PMB) for high level review of root cause and proposed recovery plan. Cost containment is promoted by the SPO, contractor and user communities constantly looking at alternative technical, schedule, or risk trades, as appropriate. Additionally, the SPO is working with OSD earned value experts to gain feedback on current analyses and processes for continuous improvement.

The current FY02 Interim Baseline has been updated to reflect the contractor's restructure proposal. The road ahead includes 1) completed restructure proposal analysis, contract negotiation and definitization with improved cost Contract Data Requirements Lists by end of August 2002; 2) Integrated Baseline Review (IBR) of the restructured program kick-off by September 2002; and 3) CPR with restructured program baseline by end of month October 2002.

To better incentivize contractor performance, we are looking at restructuring our award fee plan and are modifying the contract to include an incentive fee. In the past, the award fee was based solely on the program office assessment of contractor technical performance and cost control. We have now significantly broadened our award fee approach to include contractor performance in the execution of the program baseline. First, program execution is incentivized through evaluation of risk management, system engineering, subcontract management, documentation and the execution of the sustainment program. Second, Mission Success Incentive provisions provide the proper emphasis for timely completion and acceptance of incrementally delivered warfighter capability. Third, the cost element will be evaluated in a contractual incentive fee arrangement. The incentive fee is structured around an achievable target cost and share line to emphasize, motivate and reward cost control. This revised award fee approach should provide the contractor maximum incentive to meet cost and schedule constraints while maintaining technical quality to assure mission success.

To stabilize the requirements baseline, the Air Force has established a flag-level executive committee consisting of acquisition and operational expertise from the government and contractor, that has oversight of execution and of requirements flow management. The activities of the executive committee are overseen by a tiered management structure. The executive committee has the authority to adjudicate cost, schedule and performance issues associated with requirements trades and includes all mission area stakeholders. In the past, there was no single forum empowered to adjudicate these issues below the level of the Joint Requirements Oversight Council. Of significant importance, the content baseline has been put under program office management control. The System Program Director (SPD) established a PMB that will ensure content, schedules, and costs are managed as an integrated baseline. As a further corrective action to stabilize SBIRS High, the program has embraced an evolutionary block modification strategy that phases in prioritized requirements in a well-defined manner, controlled through the executive committee process. This lower risk ground software approach breaks up the previous single large development into multiple block deliveries in concert with mission needs and an achievable schedule. Such a block approach is consistent with the modern way of developing extremely complex, software-intensive weapons systems.

The most significant action is a wholesale change in the program management philosophy. Under acquisition reform the Air Force applied the concept of Total System Performance Responsibility (TSPR) to the SBIRS High program at contract award. Our assessment is that on highly complex, multi-mission programs such as SBIRS High, contractor TSPR is not an adequate mechanism for ensuring program success. As part of the program restructure, we have removed the TSPR clause from the contract. The program office has resumed leadership of

functions that had been relinquished to the contractor under TSPR. The greatly increased government oversight and involvement should preclude further precipitous cost increases.

SBIRS management has been strengthened. The contractor has brought in new, experienced personnel to manage the program. LMSSC replaced its program director, and the new director reports directly to the President, LMSSC. Further, the LMSSC program director's span of responsibility has been reduced so that his full attention is on the SBIRS program. Other major leadership changes have been made in the organization structure, bringing significant new experience and expertise to the program. Fundamental in our view, the contractor has committed to an integrated management approach and subcontract management improvements. The Chief Executive Officers of LMSSC and Northrop Grumman, a major subcontractor, have jointly reaffirmed their commitment to the SBIRS program in a letter to USD(AT&L).

System engineering at the contractor, as well as within the government system program office, has been significantly increased, and will continue to be upgraded both in terms of additional personnel and systems engineering management tools. For example, the contractor has instituted a Systems Engineering Review Board (SERB), chaired by the program manager, to manage the technical baseline (including cost and schedule impacts). The SERB will feed directly into the government's PMB process, which manages the overall program baseline in terms of cost, schedule, and technical risk.

Control of a disciplined process is being established. This includes periodic independent reviews, annual estimate at completion updates, a revised award fee structure, and new, meaningful metrics that measure program executability.

Cost Control Actions

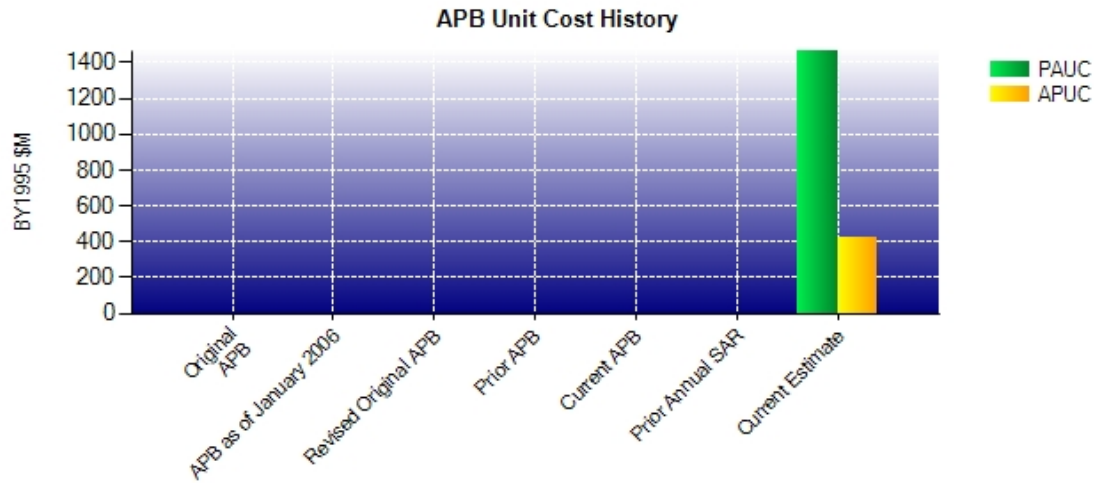
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Of significant importance, the content baseline has been put under program office management control. The SPD has established a PMB that will ensure content, schedules, and costs are managed as an integrated baseline. The newly implemented PMB acts as the decision gate and authority to approve content and disposition of cost and schedule variances. This process will help to contain requirements and content growth.

Additional cost control measures include augmenting the Contract Funds Status Report with a detailed report of monthly budget, forecast and expenditure per product IPT and total program. This report provides timely visibility of contract funds expenditure information at the appropriate level to enable proactive management. A new schedule analysis tool is being implemented that links CPR data and Integrated Master Schedule tasks to better correlate schedule and cost performance. Early detection of potential program issues provides the "headlight" metrics required for successful program execution.

Nunn-McCurdy Comments

Unit Cost History



	Date	BY1995 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	N/A	N/A	N/A	N/A	N/A
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	N/A	N/A	N/A	N/A	N/A
Current APB	N/A	N/A	N/A	N/A	N/A
Prior Annual SAR	N/A	N/A	N/A	N/A	N/A
Current Estimate	JUN 2002	1467.640	420.500	1684.180	499.133

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	-26.240	5.480	74.540	86.660	694.580	0.000	19.700	854.720	1684.180

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	-9.067	-37.383	-40.600	0.000	261.100	0.000	32.833	206.883	499.133

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	TBD
Total Cost (TY \$M)	2670.3	4147.3	N/A	8420.9
Total Quantity	N/A	5	N/A	5
Prog. Acq. Unit Cost (PAUC)	N/A	829.460	N/A	1684.180

Cost Variance

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	-100.2	-27.2	-1.2	-2.6	-131.2
Quantity	-152.7	+180.1	0.0	0.0	+27.4
Schedule	+485.1	-121.8	0.0	0.0	+363.3
Engineering	+608.8	0.0	+7.8	-15.6	+601.0
Estimating	+1542.5	+22.8	+21.9	+146.6	+1733.8
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+1.9	0.0	0.0	+1.9
Subtotal	+2383.5	+55.8	+28.5	+128.4	+2596.2
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	+9.4	--	--	--	+9.4
Engineering	-167.7	--	--	--	-167.7
Estimating	+539.6	+760.5	--	+439.0	+1739.1
Other	--	--	--	--	--
Support	--	+96.6	--	--	+96.6
Subtotal	+381.3	+857.1	--	+439.0	+1677.4
Total Changes	+2764.8	+912.9	+28.5	+567.4	+4273.6
CE - Cost Variance	6151.3	1497.4	57.0	715.2	8420.9
CE - Cost & Funding	6151.3	1497.4	57.0	715.2	8420.9

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	0.0	0.0	0.0	0.0	0.0
Quantity	-128.4	+155.6	0.0	0.0	+27.2
Schedule	+416.6	-115.1	0.0	0.0	+301.5
Engineering	+504.3	0.0	+6.8	-13.5	+497.6
Estimating	+1301.9	-0.4	+19.1	+108.9	+1429.5
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+1.6	0.0	0.0	+1.6
Subtotal	+2094.4	+41.7	+25.9	+95.4	+2257.4
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	0.0	--	--	--	0.0
Engineering	-116.4	--	--	--	-116.4
Estimating	+431.8	+641.4	--	+362.8	+1436.0
Other	--	--	--	--	--
Support	--	+81.7	--	--	+81.7
Subtotal	+315.4	+723.1	--	+362.8	+1401.3
Total Changes	+2409.8	+764.8	+25.9	+458.2	+3658.7
CE - Cost Variance	5426.4	1261.5	51.9	598.4	7338.2
CE - Cost & Funding	5426.4	1261.5	51.9	598.4	7338.2

Previous Estimate: December 2001

RDT&E	\$M	
	Base Year	Then Year
Current Change Explanations		
Slipped GEO 1 launch one year (2007) (Schedule)	0.0	+9.4
April 02 EAC additional funds for new scope: SEIT, SPOTS test facility (Engineering)	+263.0	+305.6
Deleted Block II redesign funds (Engineering)	-379.4	-473.3
April 02 EAC additional funds for EMD contract cost growth (Estimating)	+346.0	+422.3
April 02 EAC decreased funds for Other Government Costs (Estimating)	-39.1	-43.9
One-year contract extension (FY2010) (Estimating)	+124.9	+161.2
RDT&E Subtotal	+315.4	+381.3

Procurement	\$M	
	Base Year	Then Year
Current Change Explanations		
April 02 EAC additional funds for production cost growth (Estimating)	+641.4	+760.5
Addition of MCSB requirement (Support)	+81.7	+96.6
Procurement Subtotal	+723.1	+857.1

Acq O&M	\$M	
	Base Year	Then Year
Current Change Explanations		
April 02 EAC additional funds for operational support (Estimating)	+120.3	+140.5
April 02 EAC additional funds for cost growth (Estimating)	+177.4	+214.4
Add O&M cost for FY2010 (Estimating)	+65.1	+84.1
Acq O&M Subtotal	+362.8	+439.0

Contracts

Appropriation: RDT&E	
Contract Name	SBIRS High EMD Mod
Contractor	Lockheed Martin Space Sys
Contractor Location	Sunnyvale , CA
Contract Number, Type	F04701-95-C-0017, CPAF
Award Date	October 31, 1995
Definitization Date	October 31, 1995

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
80.0	80.0	0	3691.6	N/A	2	4744.9	4744.9

	Cost Variance	Schedule Variance
Previous Cumulative Variances	+0.2	+0.1
Cumulative Variances To Date (5/30/2002)	+0.7	-9.7
Net Change	+0.5	-9.8
Percent Variance		
Percent Complete		

Cost And Schedule Variance Explanations

Cost Variance

Favorable cumulative variances of \$0.708M for cost and unfavorable of \$9.688M for schedule reflect the Over Target Baseline (OTB) reset in July 2000 and another reset in November 2001. The OTB recognized that the pre-OTB plan was no longer valid and that a new plan was necessary to provide more realistic work packages to more accurately measure cost/schedule performance. The reset in November 2001 was to accommodate an interim plan as the SBIRS program proceeded to a Defense Acquisition Executive (DAE) review in April 2002. A final Earned Value Management (EVM) plan will be laid in within six months of contract definitization. Details of the July 2000 OTB, November 2001 reset and performance under the interim plan are discussed below:

1. During July 2000, the SBIRS High program reset its cost baseline by implementing an OTB. The OTB allowed the contractor to re-plan work on contract and equalized Budgeted Cost of Work Schedule (BCWS), Budgeted Cost of Work Performed (BCWP) and Actual Cost of Work Performed (ACWP). This action zeroed out any cost/schedule variances through July 2000 and replanned future work to a revised baseline. Prior to the reset, the contractor experienced a cumulative unfavorable Cost Variance (CV) of \$66.5M and cumulative unfavorable Schedule Variance (SV) of \$18.7M.
2. Following the OTB, the program continued to experience cost/schedule difficulties - unfavorable CV of \$102.4M and unfavorable SV of \$59.1M as of end of November 2001. As the System Program Office (SPO) proceeded to the April 2002 DAE review, and in order to realistically assess performance, the baseline was reset in November 2001, again equalizing BCWS, BCWP and ACWP. All variances were once again zeroed out.
3. The program began measuring performance against the interim plan in December 2001 and currently experiences a favorable CV of \$.708M and an unfavorable SV of \$9.688M. The positive CV is due to efficiencies in labor, delayed manpower ramp-up, lower non-labor expenditures in Program Management and Systems Engineering, Integration and Test, underruns in Level of Effort management tasks, and lower-tier subcontractors in Geosynchronous Earth Orbit

(GEO) payload. Negative SV is primarily due to under-performance in the High Orbit Space Vehicle (HOSV) element of the Work Breakdown Structure. This is due to late deliveries in the Pointing Control Assembly and issues with the Signal Processing Assembly software in GEO (-\$4,945K) and Highly Elliptical Orbit (-\$2,748.7). The current negative SV is not on the critical path and is not expected to impact overall program schedule.

Contract Comments

The current Engineering and Manufacturing Development contract Estimated Price, as reported in the end of May Cost Performance Report is \$4,744,950K. This reflects a negotiated cost of \$2,089,251K, estimated proposal cost of Authorized Unpriced Work of \$1,248,379K, estimated target fee of \$353,987K, and current contract overrun of \$1,107,621K.

Note: PM's price Estimate at Completion (EAC) does not reflect final negotiated fee position.

Deliveries and Expenditures

Deliveries To Date	Plan	Actual	Total Quantity	Percent Delivered
Development	0	0	2	0.00%
Production	0	0	3	0.00%
Total Program Quantities Delivered	0	0	5	0.00%

Expenditures and Appropriations (TY \$M)

Total Acquisition Cost	8420.9	Years Appropriated	8
Expenditures To Date	2523.3	Percent Years Appropriated	50.00%
Percent Expended	29.96%	Appropriated to Date	2948.4
Total Funding Years	16	Percent Appropriated	35.01%

Operating and Support Cost

Assumptions and Ground Rules

These Operations and Maintenance funds support the activation of new SBIRS High Component ground operating and training facilities at worldwide sites. 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, OCONUS Relay Ground Stations, and Initial Qualification Training facility. Also supported with these funds are the repair and transportation of Government Furnished Equipment and TDY for training of the initial cadre of operators.

The SBIRS High profile reflects a 25-year Life Cycle Cost and is based upon the Estimate at Completion dated April 2002.

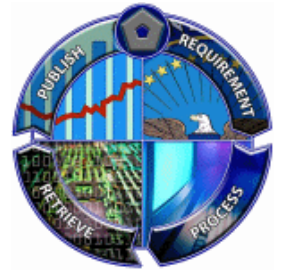
Costs BY1995 \$M

Cost Element	SBIRS (High) Avg Annual Cost Per SBIRS High System	Avg Annual Cost Per DSP System
Mission Pay & Allowance	49.3	--
Unit Level Consumption	11.1	12.3
Intermediate Maintenance	17.2	--
Depot Maintenance	--	--
Contractor Support	23.0	--
Sustaining Support	15.7	--
Indirect	0.4	--
Other	--	--
Total Unitized Cost (Base Year 1995 \$)	116.7	12.3

Total O&S Costs \$M	SBIRS (High)	Avg Annual Cost Per
Base Year	2917.0	116.7
Then Year	3985.0	159.4



Defense Acquisition Management Information Retrieval (DAMIR)



Selected Acquisition Report (SAR)

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



SBIRS HIGH

As of December 31, 2002

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Program Information

Designation And Nomenclature (Popular Name)

Space Based Infrared System (SBIRS) High Program

DoD Component

Air Force

Responsible Office

Responsible Office

Col Mark S. Borkowski	Phone	310-363-1807
SMC/MT	Fax	--
185 Discoverer Blvd.	DSN Phone	833-1807
Suite 2512	DSN Fax	--
El Segundo, CA 90245-4695		
mark.borkowski@losangeles.af.mil	Date Assigned	June 25, 2001

References

SAR Baseline (Development Estimate)

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

Approved APB

USecAF Approved Acquisition Program Baseline (APB) dated September 2, 2002

Mission and Description

The Space Based Infrared System (SBIRS) 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 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 Characterization. The baseline architecture for SBIRS includes space elements in Highly Elliptical Orbits (HEO) and Geosynchronous Earth Orbits (GEO), in addition to the following ground elements: a CONUS-based Mission Control Station (MCS) and backup (MCSB), overseas Relay Ground Stations, Multi-Mission Mobile Processor, and associated communication links. The High Component consists of four satellites in GEO, two hosted sensors in HEO (platforms provided by another organization), and associated ground elements.

Executive Summary

Program Restructure: The SBIRS restructure activities are complete. The Under Secretary of the Air Force (USecAF) approved the Acquisition Program Baseline and the Single Acquisition Management Plan on September 2, 2002, and September 13, 2002, respectively. The FY04 President's Budget fully funds the restructured SBIRS program and directs the Geosynchronous Earth Orbit (GEO) 3-5 procurement to slip two years, from FY04 to FY06. The slip of GEO 3-5 will require the System Program Office (SPO) to reassess and replan the sparing strategy for GEO 2. On September 5, 2002, the government and Lockheed Martin Space Systems Company (LMSSC) signed a contract restructure modification that definitized the program technical content and incentive structure. The contract face value is \$4.4B; the total potential value, including unexercised options, is \$4.86B. LMSSC completed negotiations with its major subcontractor, Northrop Grumman (NG), in December 2002. The negotiations encompassed all three segments of the program (space, ground, systems engineering), as well as a restructured fee plan that is substantially similar to the revised incentive structure between LMSSC and the government. LMSSC and NG defined a work scope for each segment that ensures accountability and removes ambiguity.

SBIRS High Executive Committee (EXCOM): Lt Gen Arnold, Air Force Space and Missile Center (AF/SMC) Commander and Program Executive Officer for Space, chaired an EXCOM on July 2, 2002, to review SBIRS progress toward implementing the May 2, 2002, Acquisition Decision Memorandum, and again on October 23, 2002, to review SBIRS progress in executing the restructured program and maintaining baseline control. Senior leaders from LMSSC and NG, as well as representatives from USecAF, United States Space Command (USSPACECOM), Air Force Space Command (AFSPC), Air Force Materiel Command, Air Force Directorate of Operations and Integration, Office of the Assistant Secretary of Defense for Command, Control, Communications and Intelligence, Central Measurement and Signature Intelligence Office, National Reconnaissance Office, Defense Contract Management Agency (Sunnyvale), United States Strategic Command (USSTRATCOM), Missile Defense Agency, AF/SMC, and the Aerospace Corporation attended the meetings.

SBIRS Presidents' Meeting: The USecAF, Mr. Teets, chaired SBIRS program reviews with government and industry leaders on August 15, 2002, at Peterson AFB, CO, and on November 15, 2002, at Los Angeles, CA. Mr. Teets reviewed program cost, schedule, and technical progress. Participants confirmed their commitment to the success of the program.

Baseline Update 1 (BLU1): The SPO and contractor conducted a successful BLU1 on September 19-20, 2002. The event demonstrated to the attendees that the program maturity is at the appropriate level and that the system complies with the High component specification and user requirements. The review updated the technical baseline consistent with the Nunn-McCurdy certified program; incorporated the incremental development approach; and resolved the Critical Design Review action items.

Integrated Baseline Review (IBR): The program office completed an IBR on November 26, 2002. Approximately 100 project officers, engineers, Aerospace professionals and business operations personnel conducted a comprehensive review of the detailed contractor work plans for FY03. The IBR focused on current year work scope and schedule, but also reviewed the work plans for future years. Detailed work plans were scrutinized through data review and interviews with contractor cost account managers. In total, over \$2B of planned effort, throughout the life of the contract, was reviewed.

Attack and Launch Early Reporting to Theater (ALERT) Closure: The second sustainment release of Increment 1 hardware and software was installed at the Mission Control Station (MCS) and the Survivable MCS. This release provides the theater commanders with tactical warning and complies with the stringent Integrated Tactical Warning and Attack Assessment criteria. Subsequently, USSPACECOM issued the order for the 11th Missile Warning Squadron to cease operations at the ALERT facility in Colorado Springs. The SBIRS MCS at Buckley AFB, CO, is now the primary peacetime missile-warning site for the President and his Combatant Commanders. This completes the closure of legacy Defense Support Program fixed site facilities.

SBIRS Mission Control Station Backup (MCSB) Ground Breaking:

On July 19, 2002, SPO representatives participated in a ground-breaking ceremony held at Schriever AFB, CO, for the MCSB. Construction will be complete in September 2003 and equipment installation and test will begin in FY04. When certified for operational use, this facility will serve as a fully functional backup to the MCS at Buckley AFB, CO, and the Interim Mission Control Station Backup (IMCSB) will revert to a dedicated development and testing facility.

Interim Mission Control Station Backup Certification: The SBIRS team successfully completed the first program effectivity under the restructured program. The Air Force Operational Test and Evaluation Center (AFOTEC) 40-day Operational Utility Evaluation and 14-day Joint AFSPC and North American Aerospace Defense Command/USSTRATCOM Trial Period concluded on October 29, 2002. The USSTRATCOM Operational Approval Board granted conditional operational acceptance on October 31, 2002. The final AFOTEC test report rated the IMCSB "Effective and Suitable" on December 16, 2002. HQ AFSPC formally certified the site for operational use on January 22, 2003.

Status on Highly Elliptical Orbit (HEO) Message Certification: This effectivity is scheduled for completion in November 2004 and requires both on-orbit and ground processing assets. As a result of earlier FY02 hardware test failures, the Common Gyro Reference Assembly (CGRA) was redesigned and successfully passed qualification testing. The flight CGRA unit was integrated into the payload on December 23, 2002. The HEO 1 payload is now fully integrated and undergoing system level testing. Initial Electromagnetic Interference (EMI) testing revealed radiated emission levels that were significantly over the limits prescribed by the host. Root cause analysis, correction and retest are in progress. The EMI emission levels and other hardware related issues are manifestations of first time integration challenges. In addition to the EMI levels, we are also trying to close a few other liens, such as a clock circuit failure that we saw on HEO 2 (but not HEO 1), and a redesigned bonding process for the optical solar reflectors that the contractor has demonstrated but that the SPO has not yet validated. While we believe the liens are minor, we cannot confirm that until our analyses are complete. Resolution is slower than expected, putting pressure on the HEO Sensor 1 delivery date and the HEO Sensor 1 Delivery Acquisition Program Baseline threshold date of May 2003. We are working with the host to understand the latest need date and to mitigate schedule impacts. The ground team successfully executed System Segment Test 3701-1 (space/ground compatibility) on December 5, 2002, demonstrating the ground system could communicate with the payload. Execution of the ground software development plan continues to remain on schedule for the delivery of the HEO Early Orbit Test (EOT) software product for system test on April 30, 2003. Construction and fit up of the Interim Test Center, used for HEO EOT and initial flight operations, began in January 2003.

Threshold Breaches

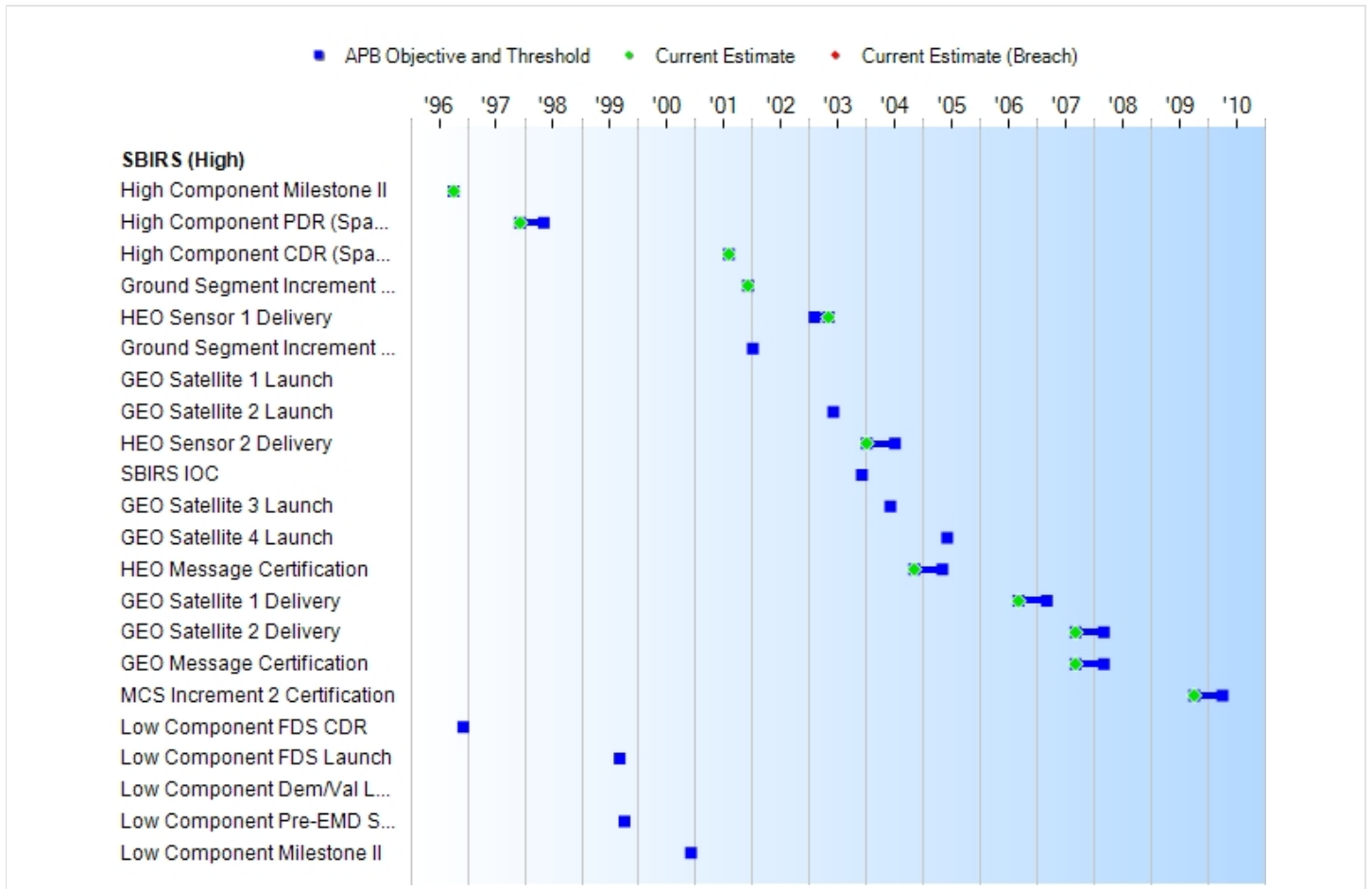
APB Breaches		
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- Schedule
- Performance
- Cost
 - RDT&E
 - Procurement
 - MILCON
 - Acq O&M
- Unit Cost
 - PAUC
 - APUC

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

Schedule



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	FEB 2003	MAY 2003	MAY 2003
Ground Segment Increment 2 Certification	JAN 2002	N/A	N/A	N/A
GEO Satellite 1 Launch	N/A	N/A	N/A	N/A
GEO Satellite 2 Launch	JUN 2003	N/A	N/A	N/A
HEO Sensor 2 Delivery	SEP 2003	JAN 2004	JUL 2004	JAN 2004
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
HEO Message Certification	N/A	NOV 2004	MAY 2005	NOV 2004
GEO Satellite 1 Delivery	N/A	SEP 2006	MAR 2007	SEP 2006
GEO Satellite 2 Delivery	N/A	SEP 2007	MAR 2008	SEP 2007
GEO Message Certification	N/A	SEP 2007	MAR 2008	SEP 2007
MCS Increment 2 Certification	N/A	OCT 2009	APR 2010	OCT 2009
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

Change Explanations

None

Memo

Note: IOC is currently being determined by AFSPC.

ACRONYMS:

CDR - Critical Design Review
 GEO - Geosynchronous Earth Orbit
 HEO - Highly Elliptical Orbit
 IOC - Initial Operational Capability
 MCS - Mission Control Station
 PDR - Preliminary Design Review

Performance

Note: Classified and unclassified performance parameters are displayed in the Classified DAMIR.

Track To Budget**RDT&E**

APPN 3600 (Air Force) Invalid program element code (0640441) removed.
SBIR High Element EMD

Procurement

APPN 3020 (Air Force) ICN MSSBIR
SBIR High Missile Procurement

MILCON

APPN 3300 (Air Force) Invalid program element code (0640441) removed.
SBIRS ARCHI-EMD (SPACE) Military Construction

Acq O&M

APPN 3400 (Air Force) Invalid program element code (0350915) removed.
SBIRS Operation and Maintenance

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

Appropriation	BY1995 \$M				TY \$M		
	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	5426.4	5969.0	5670.2	3386.5	6151.3	6380.4
Procurement	496.7	1261.5	1387.6	1209.4	584.5	1497.4	1453.7
Flyaway	496.7	--	--	--	584.5	--	--
Recurring	496.7	--	--	0.0	584.5	--	0.0
Non Recurring	0.0	--	--	0.0	0.0	--	0.0
Support	0.0	--	--	0.0	0.0	--	0.0
Other Support	0.0	--	--	0.0	0.0	--	0.0
Initial Spares	0.0	--	--	0.0	0.0	--	0.0
MILCON	26.0	51.9	57.1	52.2	28.5	57.0	57.0
Acq O&M	140.2	598.4	658.2	603.4	147.8	715.2	715.2
Total	3679.5	7338.2	N/A	7535.2	4147.3	8420.9	8606.3

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

The SBIRS Single Acquisition Management Plan approved on September 13, 2002, identifies no Low Rate Initial Production.

Funding Summary

Appropriation and Quantity Summary

FY2004 President's Budget / December 2002 SAR (TY\$ M)

Appropriation	Prior	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	To Complete	Total
RDT&E	2785.1	775.4	617.2	508.9	375.6	311.9	381.9	342.0	282.4	6380.4
Procurement	0.0	0.0	95.4	0.0	273.7	1052.7	0.0	0.0	31.9	1453.7
MILCON	50.1	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.0
Acq O&M	78.8	27.9	59.2	62.5	69.7	76.8	80.5	130.6	129.2	715.2
PB2004 Total	2914.0	810.2	771.8	571.4	719.0	1441.4	462.4	472.6	443.5	8606.3
PB2003 Total	2832.2	837.3	736.8	969.0	323.7	346.9	343.9	353.7	0.0	6743.5
Delta	81.8	-27.1	35.0	-397.6	395.3	1094.5	118.5	118.9	443.5	1862.8

Quantity	Prior	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	2
Production	0	0	0	0	0	3	0	0	0	3
PB2004 Total	0	0	0	0	0	3	0	0	0	5
PB2003 Total	0	0	0	3	0	0	0	0	0	5
Delta	0	0	0	-3	0	3	0	0	0	0

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	--	--	--	--	--	--	775.4
2004	--	--	--	--	--	--	617.2
2005	--	--	--	--	--	--	508.9
2006	--	--	--	--	--	--	375.6
2007	--	--	--	--	--	--	311.9
2008	--	--	--	--	--	--	381.9
2009	--	--	--	--	--	--	342.0
2010	--	--	--	--	--	--	282.4
Subtotal	2	--	--	--	--	--	6380.4

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	--	--	--	--	--	--	158.8
1997	--	--	--	--	--	--	184.3
1998	--	--	--	--	--	--	320.6
1999	--	--	--	--	--	--	471.9
2000	--	--	--	--	--	--	370.0
2001	--	--	--	--	--	--	501.9
2002	--	--	--	--	--	--	474.2
2003	--	--	--	--	--	--	693.6
2004	--	--	--	--	--	--	543.8
2005	--	--	--	--	--	--	441.4
2006	--	--	--	--	--	--	320.5
2007	--	--	--	--	--	--	261.7
2008	--	--	--	--	--	--	314.8
2009	--	--	--	--	--	--	276.9
2010	--	--	--	--	--	--	224.5
Subtotal	2	--	--	--	--	--	5670.2

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
2006	--	--	--	--	--	--	273.0
2007	3	--	--	--	--	--	1051.6
2008	--	--	--	--	--	--	--
2009	--	--	--	--	--	--	--
2010	--	--	--	--	--	--	31.9
Subtotal	3	--	--	--	--	--	1356.5

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
2006	--	--	--	--	--	--	230.0
2007	3	--	--	--	--	--	870.5
2008	--	--	--	--	--	--	--
2009	--	--	--	--	--	--	--
2010	--	--	--	--	--	--	25.0
Subtotal	3	--	--	--	--	--	1125.5

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

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M
2006	--	--
2007	3	1125.5
2008	--	--
2009	--	--
2010	--	--
Subtotal	3	1125.5

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	--	--	--	--	--	--	95.4
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	--	0.7
2007	--	--	--	--	--	--	1.1
Subtotal	--	--	--	--	--	--	97.2

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	--	--	--	--	--	--	82.4
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	--	0.6
2007	--	--	--	--	--	--	0.9
Subtotal	--	--	--	--	--	--	83.9

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	16.8
2003	6.1
Subtotal	52.2

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	27.9
2004	59.2
2005	62.5
2006	69.7
2007	76.8
2008	80.5
2009	130.6
2010	129.2
Subtotal	715.2

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	16.5
2003	25.0
2004	52.2
2005	54.3
2006	59.5
2007	64.5
2008	66.4
2009	105.8
2010	102.8
Subtotal	603.4

Low Rate Initial Production

None

Foreign Military Sales

None

Nuclear Cost

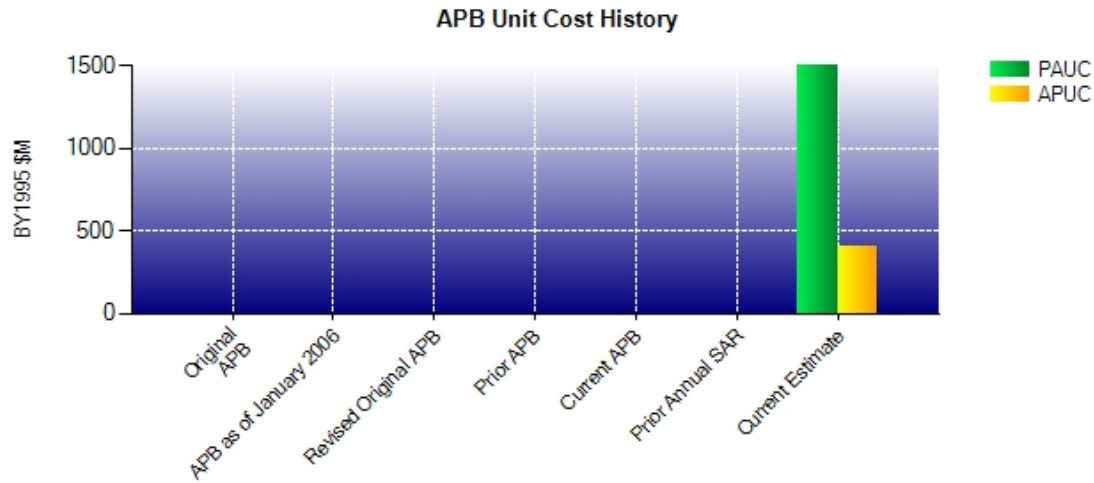
None

Unit Cost**Unit Cost Report**

Unit Cost	BY1995 \$M		
	Current UCR Baseline (SEP 2002 APB)	Current Estimate (DEC 2002 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	7338.2	7535.2	
Quantity	5	5	
Unit Cost	1467.640	1507.040	+2.68
Average Procurement Unit Cost (APUC)			
Cost	1261.5	1209.4	
Quantity	3	3	
Unit Cost	420.500	403.133	-4.13

Unit Cost	BY1995 \$M		
	Original UCR Baseline	Current Estimate (DEC 2002 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost		7535.2	
Quantity		5	
Unit Cost		1507.040	+0.00
Average Procurement Unit Cost (APUC)			
Cost		1209.4	
Quantity		3	
Unit Cost		403.133	+0.00

Unit Cost History



	Date	BY1995 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	N/A	N/A	N/A	N/A	N/A
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	N/A	N/A	N/A	N/A	N/A
Current APB	N/A	N/A	N/A	N/A	N/A
Prior Annual SAR	N/A	N/A	N/A	N/A	N/A
Current Estimate	DEC 2002	1507.040	403.133	1721.260	484.567

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	-47.260	5.480	84.180	165.980	663.500	0.000	19.920	891.800	1721.260

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	-16.633	-37.384	-24.533	0.000	237.667	0.000	33.200	192.317	484.567

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	8606.3
Total Quantity	N/A	5	N/A	5
Prog. Acq. Unit Cost (PAUC)	N/A	829.460	N/A	1721.260

Cost Variance

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	-100.2	-27.2	-1.2	-2.6	-131.2
Quantity	-152.7	+180.1	0.0	0.0	+27.4
Schedule	+494.5	-121.8	0.0	0.0	+372.7
Engineering	+441.1	0.0	+7.8	-15.6	+433.3
Estimating	+2082.1	+783.3	+21.9	+585.6	+3472.9
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+98.5	0.0	0.0	+98.5
Subtotal	+2764.8	+912.9	+28.5	+567.4	+4273.6
Current Changes					
Economic	-67.7	-22.7	-0.4	-14.3	-105.1
Quantity	--	--	--	--	--
Schedule	--	+48.2	--	--	+48.2
Engineering	+396.6	--	--	--	+396.6
Estimating	-99.8	-70.3	+0.4	+14.3	-155.4
Other	--	--	--	--	--
Support	--	+1.1	--	--	+1.1
Subtotal	+229.1	-43.7	0.0	0.0	+185.4
Total Changes	+2993.9	+869.2	+28.5	+567.4	+4459.0
CE - Cost Variance	6380.4	1453.7	57.0	715.2	8606.3
CE - Cost & Funding	6380.4	1453.7	57.0	715.2	8606.3

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	0.0	0.0	0.0	0.0	0.0
Quantity	-128.4	+155.6	0.0	0.0	+27.2
Schedule	+416.6	-115.1	0.0	0.0	+301.5
Engineering	+387.9	0.0	+6.8	-13.5	+381.2
Estimating	+1733.7	+641.0	+19.1	+471.7	+2865.5
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+83.3	0.0	0.0	+83.3
Subtotal	+2409.8	+764.8	+25.9	+458.2	+3658.7
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	--	0.0	--	--	0.0
Engineering	+320.5	--	--	--	+320.5
Estimating	-76.7	-52.7	+0.3	+5.0	-124.1
Other	--	--	--	--	--
Support	--	+0.6	--	--	+0.6
Subtotal	+243.8	-52.1	+0.3	+5.0	+197.0
Total Changes	+2653.6	+712.7	+26.2	+463.2	+3855.7
CE - Cost Variance	5670.2	1209.4	52.2	603.4	7535.2
CE - Cost & Funding	5670.2	1209.4	52.2	603.4	7535.2

Previous Estimate: June 2002

RDT&E	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices (Economic)	N/A	-72.5
Economic adjustment for negative program change (Economic)	N/A	+4.8
Addition of Block II redesign funds, beginning in FY08 (Engineering)	+317.8	+393.5
Addition of Common Defense Support Program /SBIRS Telemetry, Tracking and Commanding (Engineering)	+2.7	+3.1
Adjustment for Current and Prior Inflation (Estimating)	+17.4	+20.3
Revised estimate due to Congressional concerns that the ground development Budget Request was too aggressive (Estimating)	-38.8	-45.6
Estimate at Completion change due to successful definitization of Restructured EMD Contract (Estimating)	-56.8	-76.2
Air Force/National Reconnaissance Organization National Program Cooperation funds added to SBIRS estimate (Estimating)	+1.5	+1.7
RDT&E Subtotal	+243.8	+229.1

Procurement	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices (Economic)	N/A	-26.3
Economic adjustment for negative program change (Economic)	N/A	+3.6
Slip G3-G5 procurement two years, from FY05 to FY07 (Schedule)	0.0	+48.2
Revised estimate due to inflation adjustments (Estimating)	-36.8	-48.9
G3 through G5 Launch Support deleted from FY07-FY09 (Estimating)	-39.9	-53.6
G5 Launch Support added in FY10 (Estimating)	+25.0	+33.6
Minor adjustment to Program Cost Estimate (Estimating)	-1.0	-1.4
Add Survivable Strategic Communications (Support)	+0.6	+1.1
Procurement Subtotal	-52.1	-43.7

MILCON	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices (Economic)	N/A	-0.4
Adjustment for Current and Prior Inflation. (Estimating)	+0.3	+0.4
MILCON Subtotal	+0.3	0.0

Acq O&M	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	-14.3
Adjustment for Current and Prior Inflation. (Estimating)	+1.3	+1.4
Increased estimate due to rephasing of sustainment requirements (Estimating)	+3.7	+12.9
Acq O&M Subtotal	+5.0	0.0

Contracts

Appropriation: RDT&E	
Contract Name	SBIRS High EMD Mod
Contractor	Lockheed Martin Space Sys
Contractor Location	Sunnyvale , CA
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	1590.1	2	4414.8	N/A	2	4414.8	4757.2

	Cost Variance	Schedule Variance
Previous Cumulative Variances	+0.7	-9.7
Cumulative Variances To Date	+1.3	-11.5
Net Change	+0.6	-1.8

Cost And Schedule Variance Explanations

The interim plan referenced in the June 2002 SAR was formally incorporated into the contract budget baseline effective September 2002. Subsequently, an Integrated Baseline Review was successfully conducted in late 2002 to assess program technical work scope, schedule and cost at the level work was being performed. As a result, the Program Office Estimate of cost at completion is being updated with minor adjustments.

Performance against the Performance Measurement Baseline (previously known as the interim plan) reflects a favorable cumulative cost variance of \$1.3M compared to \$0.7M reported in the previous SAR. The net change of \$0.6M is mainly due to better than planned performance in System Engineering, Integration, and Test (SEIT) and Ground segments. The unfavorable Schedule Variance continued to erode and has reached \$11.5M, compared to \$9.7M reported in the previous SAR. The net Schedule Variance of \$1.8M since the previous SAR falls within the Highly Elliptical Orbit (\$3.8M) and Geosynchronous Earth Orbit (\$8.0M) payload areas. SEIT also has contributed an unfavorable cumulative Schedule Variance of \$1.9M, primarily in the areas of Requirements Allocations and Systems Integration. The Schedule Variance can be accommodated within program reserves. Program personnel are working closely with the contractor to mitigate any potential critical path schedule impacts to the program.

Contract Comments

Note: Initial Contract Price of \$80M reported in the previous SAR reflected only the Pre-EMD Contract Target Price. The revised Initial Contract Price reflects the EMD contract.

The current Engineering and Manufacturing Development contract Estimated Price, as reported in the December 2002 Cost Performance Report, is \$4,414.8M. This reflects adjustments to the previous Estimated Price of \$4,744.9M, resulting from negotiations completed on August 23, 2002, and contract definitization on September 6, 2002.

The Program Manager's Estimated Price at Completion of \$4757.2M, a net increase of \$12.3M from the previous SAR submission, is a result of contract negotiations and program restructure.

Deliveries and Expenditures

Deliveries To Date	Plan	Actual	Total Quantity	Percent Delivered
Development	0	0	2	0.00%
Production	0	0	3	0.00%
Total Program Quantities Delivered	0	0	5	0.00%

Expenditures and Appropriations (TY \$M)

Total Acquisition Cost	8606.3	Years Appropriated	9
Expenditures To Date	2972.3	Percent Years Appropriated	56.25%
Percent Expended	34.54%	Appropriated to Date	3724.2
Total Funding Years	16	Percent Appropriated	43.27%

Operating and Support Cost

Assumptions and Ground Rules

These Operations and Maintenance funds support the activation of new SBIRS High Component ground operating and training facilities at world wide sites. 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, OCONUS 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 25-year Life Cycle Cost and is based upon the Estimate at Completion dated April 2002.

There is no antecedent system for this program.

Costs BY1995 \$M

Cost Element	SBIRS (High)	
	Avg Annual Cost Per SBIRS High System	No Antecedent System
Mission Pay & Allowance	49.3	--
Unit Level Consumption	11.1	--
Intermediate Maintenance	17.2	--
Depot Maintenance	--	--
Contractor Support	23.0	--
Sustaining Support	15.7	--
Indirect	0.4	--
Other	--	--
Total Unitized Cost (Base Year 1995 \$)	116.7	--

Total O&S Costs \$M	SBIRS (High)	No Antecedent System
Base Year	2917.0	--
Then Year	3985.0	--



Defense Acquisition Management Information Retrieval (DAMIR)



Selected Acquisition Report (SAR)

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



SBIRS HIGH

As of September 30, 2003

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Program Information

Designation And Nomenclature (Popular Name)

Space Based Infrared System (SBIRS) High Program

DoD Component

Air Force

Responsible Office

Responsible Office

Col Mark S. Borkowski	Phone	310-363-1807
SMC/IS	Fax	--
185 Discoverer Blvd.	DSN Phone	833-1807
Suite 2512	DSN Fax	--
El Segundo, CA 90245-4695	Date Assigned	June 25, 2001
mark.borkowski@losangeles.af.mil		

References

SAR Baseline (Development Estimate)

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

Approved APB

USecAF Approved Acquisition Program Baseline (APB) dated September 2, 2002

Mission and Description

The Space Based Infrared System (SBIRS) 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 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 Characterization. The baseline architecture for SBIRS includes space elements in Highly Elliptical Orbits (HEO) and Geosynchronous Earth Orbits (GEO), in addition to the following ground elements: a CONUS-based Mission Control Station and Mission Control Station Backup, overseas Relay Ground Stations, Multi-Mission Mobile Processor, and associated communication links. The High Component consists of five satellites (four operational and one spare) in GEO, two hosted sensors in HEO (platforms provided by another organization), and associated ground elements.

Executive Summary

Program Status: The efforts to resolve the remaining Highly Elliptical Orbit (HEO) payload technical issues are continuing. As a result of payload delays and challenges in software development, we are realizing impacts to HEO ground software development. While overall cumulative cost and schedule performance indicators remain within a nominal range, we are focusing on near term contract execution and assessing the ripple effects of the HEO Sensor 1 delivery delay. Our overall budget is adequate to satisfy our cost overruns, which were projected during the restructure. At this point, we believe our Geosynchronous Earth Orbit (GEO) schedule milestones are achievable. We have increased our scrutiny of the SBIRS program subcontract performance and have implemented additional oversight controls. Industry reaction has been positive, but it is too early to assess the effectiveness of the initiatives. The revised Acquisition Program Baseline (APB) was submitted and will be signed after HEO Sensor 1 delivery. The FY04 program plan, developed to recover adequate FY04 flex funding, per Under Secretary of the Air Force direction, is being finalized and reviewed in early October 2004, with continued emphasis on prudent risk reduction activities.

Highly Elliptical Orbit Payload: HEO Sensor 1 is completing integrated system test and is projected for delivery to the host in November 2003. During the past quarter, HEO 1 completed several critical test milestones: final Electromagnetic Interference (EMI), weight and center of gravity, and Thermal Vacuum (TVAC) payload performance testing. Sensor performance remains outstanding, at over twice the specification requirement. We intentionally added TVAC test cycles to rigorously characterize sensor performance and increase mission assurance. As a result, we uncovered six anomalies; four have been resolved and two are still in work. Root cause is being identified and we are projecting closure within the next several weeks. The projected November delivery date will meet the host need date. HEO Sensor 2 is in the final assembly and integration phase, in preparation for initial payload level functional testing, with initial EMI testing planned for December 2003 and delivery in June 2004.

Highly Elliptical Orbit Message Certification: As mentioned above, this effectivity is an APB Schedule Milestone event that has been affected by the late delivery of HEO 1. Consequently, the new effectivity delivery date is projected for September 2005. Delivery of this effectivity requires both on-orbit and ground processing assets. The status of the HEO payload was discussed previously. The latest ground software delivery, HEO Early Orbit Test (HEOT) Block 2, is entering verification testing. The HEO Combined Task Force, flight operations support, and ground sustainment team executed a three-day exercise in July 2003. This early exercise successfully "wrung out" the Interim Test Center and SBIRS Performance Evaluation Team facilities for operations support by exercising scripts and procedures prior to the formal exercises and rehearsals. The program recently completed the first HEO payload ground-to-ground interface test that included a demonstration of payload commanding, telemetry processing, and data archival subsystem capabilities. The test to verify the SBIRS-host interface is scheduled for early November 2003.

Geosynchronous Earth Orbit Status: We have adjusted the GEO program plan to incorporate knowledge gained from HEO payload testing. Despite these schedule adjustments, the GEO program contains sufficient margin to meet the forecasted launch date. The critical path on GEO remains the Signal Processing Assembly software, which is currently under replan. While there will certainly be some impact to the overall GEO schedule, separate HEO and GEO teams mitigate the schedule compression. GEO spacecraft Integration, Assembly, Test and Checkout teams are continuing the development of test requirements, detailed test plans, and facility preparation. The Mechanical Ground Support Equipment (MGSE) and Electrical Ground Support Equipment (EGSE) test infrastructure is maturing. MGSE devices to position the spacecraft have been fabricated and will be delivered by December 2003. Console checkouts are on schedule to support testing scheduled for January - May 2004. The Functional Test Assembly certification plan is in work and additional end-to-end tests, component level tests and methods are being identified to resolve software fidelity concerns. In addition, the GEO 1 core space vehicle was delivered to the Stennis facility early this month for propulsion system integration.

Integrated Training Suite (ITS) Availability: The ITS is a state-of-the-art SBIRS training system that provides both positional and interactive crew training with operational system realism. The ITS is the next significant addition to warfighter capability, or program effectivity, and was delivered on September 30, 2003. In October 2004, we will

deliver a planned upgrade that replicates the operational baseline, making the system fully capable for training. During this period, the contractor development effort concluded with ITS software delivery on September 10, 2003. This software was installed at both the Unit Qualification Training (UQT) at Buckley AFB, Colorado, and the Initial Qualification Training (IQT) at Vandenberg AFB, California. The UQT/IQT SBIRS instructors have completed ITS training and are prepared to instruct the operational crews.

Multi-Mission Mobile Processor (M3P): Lockheed Martin Space Systems Company and Northrop Grumman completed a key program milestone, integration of the first Defense Support Program M3P unit on August 21, 2003. This phase of the SBIRS/M3P ground terminal program will lead to testing and fielding of five mobile systems to replace the current Army Joint Tactical Ground Stations in the 2005-2006 time frame. The successful integration of the M3P includes SBIRS baselined software, common hardware, and user interfaces, based on the operational SBIRS Fixed Mission Control Station at Buckley AFB. M3Ps will evolve to become SBIRS GEO and Milstar compatible. Ultimately, nine M3Ps (4 Air Force, 5 Army) will fulfill multi-service roles to execute strategic and theater mobile missile warning missions across the spectrum of conflict.

Test & Evaluation Master Plan (TEMP): The current TEMP draft is in System Program Office (SPO) coordination. We have incorporated or resolved inputs from members of the Test and Evaluation community, including both operational and development test agencies, using commands, and staff offices at all levels. Our current FY04 program plan includes continued development of the Simulation Over Recorded Data tool to support Air Force Operational Test and Evaluation Center certification testing. We will submit the revised TEMP for SBIRS community coordination by mid-October 2003. Final comments will be resolved and incorporated prior to submission for component and final approval in November 2003.

Design Adequacy Assessment (DAA): The SBIRS Ground Segment successfully conducted a Lockheed Martin Mission and Data Systems 50% DAA August 4-8, 2003. This Preliminary Design Review-like assessment was a necessary precursor to the High-Level Design Checkpoint-0 (HDC0) that will be held September 29-30, 2003. A ten-member contractor team, comprised of senior systems engineers, software engineers, and data architects, participated with SPO and Aerospace personnel on this detailed assessment. Using a 225-item checklist, based on lessons learned from a number of programs, the team recommended improvements to HDC0 and the GEO ground software program in general. For block architecture such as SBIRS, the DAA process is used serially, with the next assessment planned for late January 2004.

High-Level Design Checkpoint-0: The SBIRS Ground Segment team completed preparations for the for GEO HDC0, which was held September 29-30, 2003. HDC0 represents a segment-level milestone that demonstrates Ground Segment readiness to enter the high level design phase of the software development cycle. A joint SPO and contractor team conducted a readiness review, September 15-16, 2003, and evaluated the entrance criteria for each of the 82 products. The majority of the criteria were satisfied, but some liens existed. Because there were appropriate closure plans, we proceeded with the HDC0 review. The successful completion of the HDC0 allows the ground software development effort to continue in accordance with the incremental development schedule.

Mission Control Station Backup (MCSB) Construction: MCSB facility is located at Schriever AFB, Colorado. When completed, the MCSB will provide the user with a fully capable backup facility to perform the SBIRS mission, in the event of a catastrophic failure at the primary operational facility at Buckley AFB. The facility construction is on schedule and will be available for the next phase of equipment installation. Procurement funds are programmed in FY04 to design the facility layout and procure the computer and communications equipment needed for operations. We received the contractor's proposal for "fitup" and are currently evaluating the proposed cost and content. Current projections indicate the facility will be ready for operations in late FY07.

SBIRS Oversight Structure: Several senior level oversight meetings were accomplished January - September 2003: an Under Secretary of Defense for Acquisition, Technology and Logistics review in January 2003; a SBIRS Presidents' meeting in June 2003; and two SBIRS Executive Committee meetings in February and August 2003. The meetings focused on program execution since the restructure in 2002 and particularly the progress of the HEO payload and subcontract effectiveness. The meetings assessed program status against the plan, reinforced program management discipline, provided a forum for issue resolution at the senior executive level, and ensured

communication among SBIRS High stakeholders. In addition, there were two General Officer Summit meetings that provided a forum for resolution of user issues and provided resolution on competing requirements and direction for the Multi Mission Mobile Processor (M3P) segment development.

Threshold Breaches

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

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

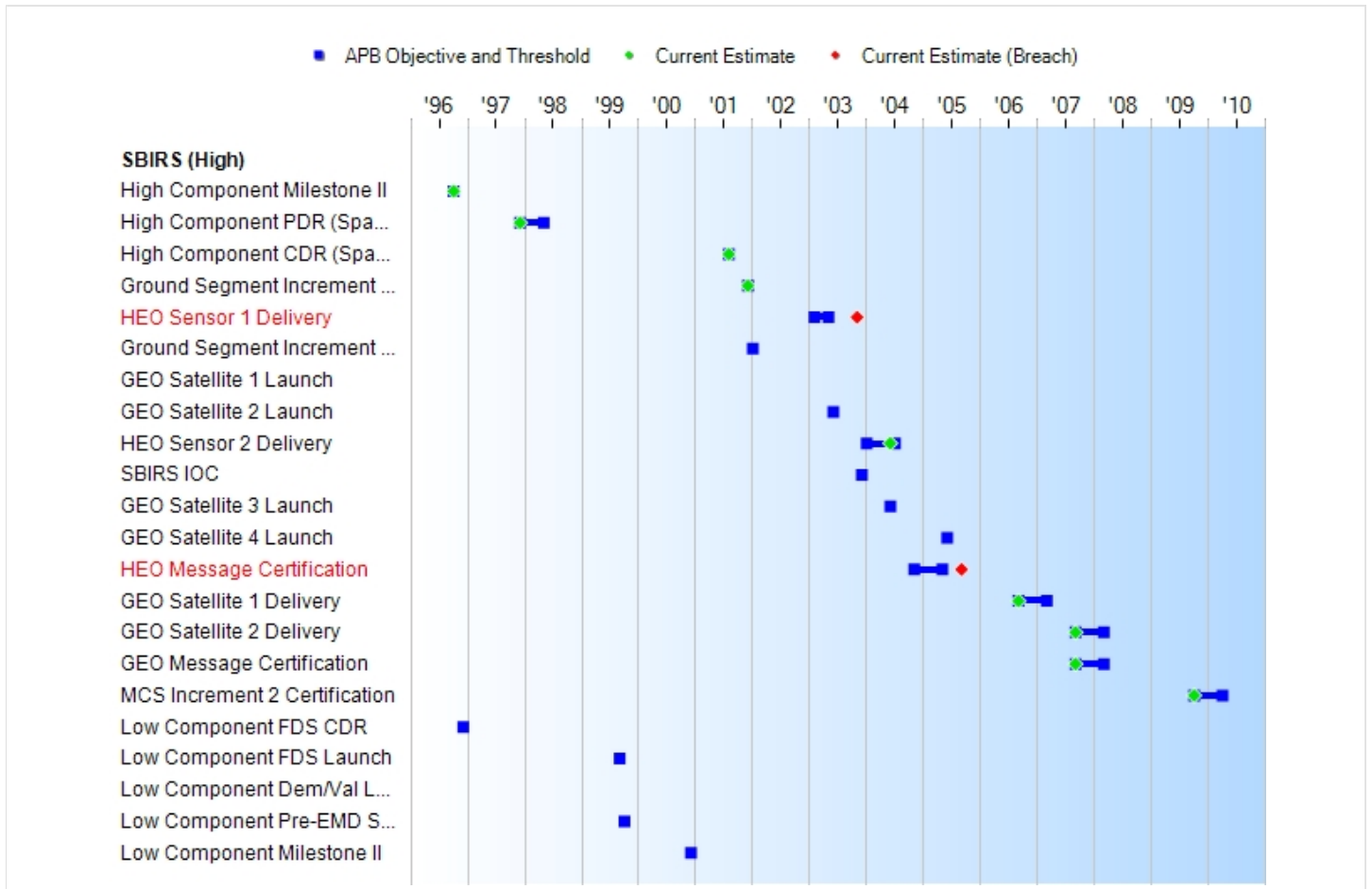
Explanation of Breach

The current SAR reflects two schedule breaches: Highly Elliptical Orbit (HEO) Sensor 1 Delivery and HEO Message Certification. A Program Deviation Report was submitted and a revised Acquisition Program Baseline is in coordination, with final approval to follow HEO Sensor 1 delivery.

HEO Sensor 1 Delivery: The HEO 1 May 2003 delivery date was not achieved due to a series of design deficiencies, technical issues identified during final performance testing, and Electromagnetic Interference specification exceedances. Additionally, residual management deficiencies - subcontract management that was not yet fully mature, a risk management process that was not comprehensive, and some immaturity in our detailed program scheduling tools - aggravated the impacts of the HEO Sensor 1 Delivery technical challenges. Management controls and processes are in place to resolve the deficiencies but they are still maturing. In resolving these technical issues, we selected a design solution alternative that provides the highest mission assurance, at the expense of schedule. The selected approach impacted host integration activities and resulted in increased funding to the host System Program Office. The HEO 1 payload delivery is now projected for November 2003, which supports the host need date.

HEO Message Certification: This Milestone Schedule event is affected by the late delivery of the HEO 1 sensor payload and launch delays. Consequently, the HEO Message Certification delivery date is now projected for September 2005. As the delivery of this effectivity will potentially earn award fee, delays caused by contractor performance will be reflected in the fee determination. Delivery of this effectivity requires both on-orbit and ground processing assets. The integration and test readiness schedules have been coordinated with the host, and ground activities are on track to support this effectivity. Critical test execution and flight support readiness reviews have been successfully completed. Specifically, the latest ground software delivery, the HEO Early Orbit Test Block 2, is entering verification testing. The test to verify the SBIRS-host interface (ground-to-ground) is scheduled for early November 2003. The team continues to execute the space-to-ground risk reduction tests in preparation for the run for record verification test scheduled for early 2004.

Schedule



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	FEB 2003	MAY 2003	NOV 2003 ¹
Ground Segment Increment 2 Certification	JAN 2002	N/A	N/A	N/A
GEO Satellite 1 Launch	N/A	N/A	N/A	N/A
GEO Satellite 2 Launch	JUN 2003	N/A	N/A	N/A
HEO Sensor 2 Delivery	SEP 2003	JAN 2004	JUL 2004	JUN 2004
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
HEO Message Certification	N/A	NOV 2004	MAY 2005	SEP 2005 ¹
GEO Satellite 1 Delivery	N/A	SEP 2006	MAR 2007	SEP 2006
GEO Satellite 2 Delivery	N/A	SEP 2007	MAR 2008	SEP 2007
GEO Message Certification	N/A	SEP 2007	MAR 2008	SEP 2007
MCS Increment 2 Certification	N/A	OCT 2009	APR 2010	OCT 2009
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

¹APB Breach**Change Explanations**

None

Memo

Note: IOC is currently being determined by AFSPC.

ACRONYMS:

CDR - Critical Design Review
GEO - Geosynchronous Earth Orbit
HEO - Highly Elliptical Orbit
IOC - Initial Operational Capability
MCS - Mission Control Station
PDR - Preliminary Design Review

Performance

Note: Classified and unclassified performance parameters are displayed in the Classified DAMIR.

Track To Budget**RDT&E**

APPN 3600 (Air Force) Invalid program element code (0640441) removed.
SBIR High Element EMD

Procurement

APPN 3020 (Air Force) ICN MSSBIR
SBIR High Missile Procurement

MILCON

APPN 3300 (Air Force) Invalid program element code (0640441) removed.
SBIRS ARCHI-EMD (SPACE) Military Construction

Acq O&M

APPN 3400 (Air Force) Invalid program element code (0350915) removed.
SBIRS Operation and Maintenance

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

Appropriation	BY1995 \$M				TY \$M		
	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	5426.4	5969.0	5670.2	3386.5	6151.3	6380.4
Procurement	496.7	1261.5	1387.6	1209.4	584.5	1497.4	1453.7
Flyaway	496.7	--	--	--	584.5	--	--
Recurring	496.7	--	--	0.0	584.5	--	0.0
Non Recurring	0.0	--	--	0.0	0.0	--	0.0
Support	0.0	--	--	0.0	0.0	--	0.0
Other Support	0.0	--	--	0.0	0.0	--	0.0
Initial Spares	0.0	--	--	0.0	0.0	--	0.0
MILCON	26.0	51.9	57.1	52.2	28.5	57.0	57.0
Acq O&M	140.2	598.4	658.2	603.4	147.8	715.2	715.2
Total	3679.5	7338.2	N/A	7535.2	4147.3	8420.9	8606.3

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

Unit of measure for SBIRS is GEO satellites.

The SBIRS Single Acquisition Management Plan approved on September 13, 2002, identifies no Low Rate Initial Production.

Funding Summary

Appropriation and Quantity Summary

SEP 2003 Exception SAR (TY \$M)

Appropriation	Prior	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	To Complete	Total
RDT&E	2785.1	775.4	617.2	508.9	375.6	311.9	381.9	342.0	282.4	6380.4
Procurement	0.0	0.0	95.4	0.0	273.7	1052.7	0.0	0.0	31.9	1453.7
MILCON	50.1	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.0
Acq O&M	78.8	27.9	59.2	62.5	69.7	76.8	80.5	130.6	129.2	715.2
SEP 2003 Total	2914.0	810.2	771.8	571.4	719.0	1441.4	462.4	472.6	443.5	8606.3
PB2004 Total	2914.0	810.2	771.8	571.4	719.0	1441.4	462.4	472.6	443.5	8606.3
Delta	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Quantity	Prior	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	2
Production	0	0	0	0	0	3	0	0	0	3
SEP 2003 Total	0	0	0	0	0	3	0	0	0	5
PB2004 Total	0	0	0	0	0	3	0	0	0	5
Delta	0	0	0	0	0	0	0	0	0	0

FY2004 President's Budget / December 2002 SAR (TY\$ M)

Appropriation	Prior	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	To Complete	Total
RDT&E	2785.1	775.4	617.2	508.9	375.6	311.9	381.9	342.0	282.4	6380.4
Procurement	0.0	0.0	95.4	0.0	273.7	1052.7	0.0	0.0	31.9	1453.7
MILCON	50.1	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.0
Acq O&M	78.8	27.9	59.2	62.5	69.7	76.8	80.5	130.6	129.2	715.2
PB2004 Total	2914.0	810.2	771.8	571.4	719.0	1441.4	462.4	472.6	443.5	8606.3
PB2003 Total	2832.2	837.3	736.8	969.0	323.7	346.9	343.9	353.7	0.0	6743.5
Delta	81.8	-27.1	35.0	-397.6	395.3	1094.5	118.5	118.9	443.5	1862.8

Quantity	Prior	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	2
Production	0	0	0	0	0	3	0	0	0	3
PB2004 Total	0	0	0	0	0	3	0	0	0	5
PB2003 Total	0	0	0	3	0	0	0	0	0	5
Delta	0	0	0	-3	0	3	0	0	0	0

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	--	--	--	--	--	--	775.4
2004	--	--	--	--	--	--	617.2
2005	--	--	--	--	--	--	508.9
2006	--	--	--	--	--	--	375.6
2007	--	--	--	--	--	--	311.9
2008	--	--	--	--	--	--	381.9
2009	--	--	--	--	--	--	342.0
2010	--	--	--	--	--	--	282.4
Subtotal	2	--	--	--	--	--	6380.4

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	--	--	--	--	--	--	158.8
1997	--	--	--	--	--	--	184.3
1998	--	--	--	--	--	--	320.6
1999	--	--	--	--	--	--	471.9
2000	--	--	--	--	--	--	370.0
2001	--	--	--	--	--	--	501.9
2002	--	--	--	--	--	--	474.2
2003	--	--	--	--	--	--	693.6
2004	--	--	--	--	--	--	543.8
2005	--	--	--	--	--	--	441.4
2006	--	--	--	--	--	--	320.5
2007	--	--	--	--	--	--	261.7
2008	--	--	--	--	--	--	314.8
2009	--	--	--	--	--	--	276.9
2010	--	--	--	--	--	--	224.5
Subtotal	2	--	--	--	--	--	5670.2

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
2006	--	--	--	--	--	--	273.0
2007	3	--	--	--	--	--	1051.6
2008	--	--	--	--	--	--	--
2009	--	--	--	--	--	--	--
2010	--	--	--	--	--	--	31.9
Subtotal	3	--	--	--	--	--	1356.5

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
2006	--	--	--	--	--	--	230.0
2007	3	--	--	--	--	--	870.5
2008	--	--	--	--	--	--	--
2009	--	--	--	--	--	--	--
2010	--	--	--	--	--	--	25.0
Subtotal	3	--	--	--	--	--	1125.5

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

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M
2006	--	--
2007	3	1125.5
2008	--	--
2009	--	--
2010	--	--
Subtotal	3	1125.5

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	--	--	--	--	--	--	95.4
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	--	0.7
2007	--	--	--	--	--	--	1.1
Subtotal	--	--	--	--	--	--	97.2

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	--	--	--	--	--	--	82.4
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	--	0.6
2007	--	--	--	--	--	--	0.9
Subtotal	--	--	--	--	--	--	83.9

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	16.8
2003	6.1
Subtotal	52.2

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	27.9
2004	59.2
2005	62.5
2006	69.7
2007	76.8
2008	80.5
2009	130.6
2010	129.2
Subtotal	715.2

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	16.5
2003	25.0
2004	52.2
2005	54.3
2006	59.5
2007	64.5
2008	66.4
2009	105.8
2010	102.8
Subtotal	603.4

Low Rate Initial Production

None

Foreign Military Sales

None

Nuclear Cost

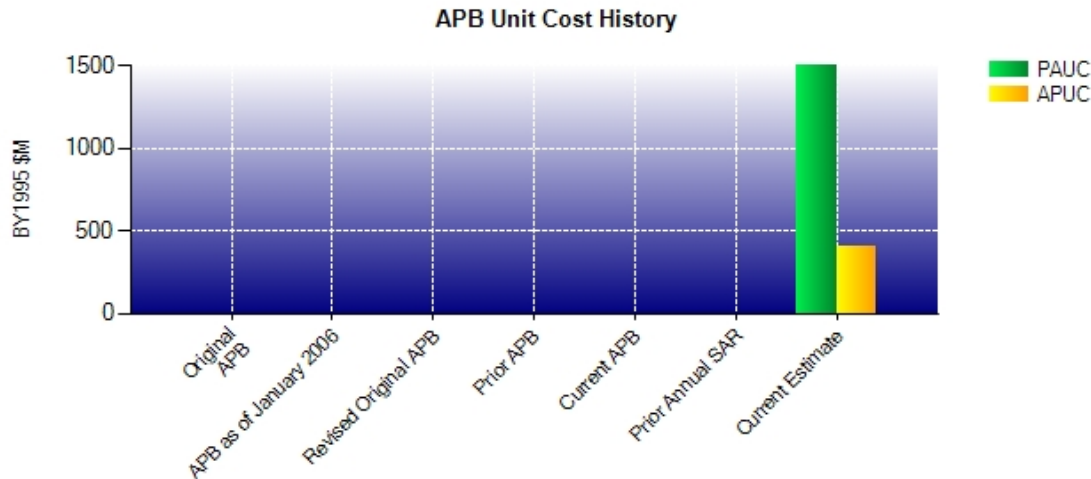
None

Unit Cost**Unit Cost Report**

Unit Cost	BY1995 \$M		
	Current UCR Baseline (SEP 2002 APB)	Current Estimate (SEP 2003 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	7338.2	7535.2	
Quantity	5	5	
Unit Cost	1467.640	1507.040	+2.68
Average Procurement Unit Cost (APUC)			
Cost	1261.5	1209.4	
Quantity	3	3	
Unit Cost	420.500	403.133	-4.13

Unit Cost	BY1995 \$M		
	Original UCR Baseline	Current Estimate (SEP 2003 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost		7535.2	
Quantity		5	
Unit Cost		1507.040	+0.00
Average Procurement Unit Cost (APUC)			
Cost		1209.4	
Quantity		3	
Unit Cost		403.133	+0.00

Unit Cost History



	Date	BY1995 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	N/A	N/A	N/A	N/A	N/A
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	N/A	N/A	N/A	N/A	N/A
Current APB	N/A	N/A	N/A	N/A	N/A
Prior Annual SAR	N/A	N/A	N/A	N/A	N/A
Current Estimate	SEP 2003	1507.040	403.133	1721.260	484.567

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	-47.260	5.480	84.180	165.980	663.500	0.000	19.920	891.800	1721.260

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	-16.633	-37.384	-24.533	0.000	237.667	0.000	33.200	192.317	484.567

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	8606.3
Total Quantity	N/A	5	N/A	5
Prog. Acq. Unit Cost (PAUC)	N/A	829.460	N/A	1721.260

Cost Variance

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	-167.9	-49.9	-1.6	-16.9	-236.3
Quantity	-152.7	+180.1	0.0	0.0	+27.4
Schedule	+494.5	-73.6	0.0	0.0	+420.9
Engineering	+837.7	0.0	+7.8	-15.6	+829.9
Estimating	+1982.3	+713.0	+22.3	+599.9	+3317.5
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+99.6	0.0	0.0	+99.6
Subtotal	+2993.9	+869.2	+28.5	+567.4	+4459.0
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	--	--	--	--	--
Other	--	--	--	--	--
Support	--	--	--	--	--
Subtotal	--	--	--	--	--
Total Changes	+2993.9	+869.2	+28.5	+567.4	+4459.0
CE - Cost Variance	6380.4	1453.7	57.0	715.2	8606.3
CE - Cost & Funding	6380.4	1453.7	57.0	715.2	8606.3

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	0.0	0.0	0.0	0.0	0.0
Quantity	-128.4	+155.6	0.0	0.0	+27.2
Schedule	+416.6	-115.1	0.0	0.0	+301.5
Engineering	+708.4	0.0	+6.8	-13.5	+701.7
Estimating	+1657.0	+588.3	+19.4	+476.7	+2741.4
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+83.9	0.0	0.0	+83.9
Subtotal	+2653.6	+712.7	+26.2	+463.2	+3855.7
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	--	--	--	--	--
Other	--	--	--	--	--
Support	--	--	--	--	--
Subtotal	--	--	--	--	--
Total Changes	+2653.6	+712.7	+26.2	+463.2	+3855.7
CE - Cost Variance	5670.2	1209.4	52.2	603.4	7535.2
CE - Cost & Funding	5670.2	1209.4	52.2	603.4	7535.2

Previous Estimate: December 2002

Contracts

Appropriation: RDT&E	
Contract Name	SBIRS High EMD Mod
Contractor	Lockheed Martin Space Sys
Contractor Location	Sunnyvale , CA
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	1590.1	2	4553.9	N/A	2	4414.8	4757.2

	Cost Variance	Schedule Variance
Previous Cumulative Variances	+1.3	-11.5
Cumulative Variances To Date	-43.5	-38.7
Net Change	-44.8	-27.2

Cost And Schedule Variance Explanations

Performance against the Performance Measurement Baseline reflects an unfavorable cumulative Cost Variance of \$43.5M, compared to a favorable \$1.3M reported in the previous SAR. The net change of \$44.8M is mainly experienced in Space Segment (\$47.9M): Highly Elliptical Orbit (HEO) Sensor 1, \$24.0M; Geosynchronous Earth Orbit (GEO) Payload, \$12.0M; Spacecraft, \$6.0M; and Integration, Assembly Test and Checkout, \$3.3M. The Cost Variance can be accommodated within program reserves.

The unfavorable Schedule Variance continued to erode to \$38.7M, compared to \$11.5M reported in the previous SAR. The net Schedule Variance of \$27.2M is mainly experienced in Space Segment (\$14.5M) and Ground Segment (\$13.3M). The Schedule Variance can be accommodated within the program schedule. Program personnel continue to work closely with the contractor to mitigate critical path schedule impacts to the program.

Contract Comments

The current Engineering and Manufacturing Development contract Estimated Price, as reported in the July 2003 Cost Performance Report, is \$4,553.9M. This reflects adjustments to the previous Estimated Price of \$4,414.8M. The increase results largely from realigning factory support work that was inappropriately included in out year Contractor Logistics Support unexercised options. Other additions include scope of work associated with the GEO spacecraft battery replacement, Mission Control Station Backup proposal preparation, and HEO-1 risk mitigation efforts.

Approved program funding is sufficient to cover the Program Manager's Estimated Price at Completion of \$4757.2M.

Deliveries and Expenditures

Deliveries To Date	Plan	Actual	Total Quantity	Percent Delivered
Development	0	0	2	0.00%
Production	0	0	3	0.00%
Total Program Quantities Delivered	0	0	5	0.00%

Expenditures and Appropriations (TY \$M)

Total Acquisition Cost	8606.3	Years Appropriated	9
Expenditures To Date	3355.3	Percent Years Appropriated	56.25%
Percent Expended	38.99%	Appropriated to Date	3724.2
Total Funding Years	16	Percent Appropriated	43.27%

Operating and Support Cost

Assumptions and Ground Rules

These Operations and Maintenance funds support the activation of new SBIRS High Component ground operating and training facilities at world wide sites. 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, OCONUS 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 25-year Life Cycle Cost and is based upon the Estimate at Completion dated April 2002.

Comparable Operating and Support cost estimates for the legacy DSP system are not available.

Costs BY1995 \$M

Cost Element	SBIRS (High) Avg Annual Cost for SBIRS High System	Defense Support Prog
Mission Pay & Allowance	49.3	--
Unit Level Consumption	11.1	--
Intermediate Maintenance	17.2	--
Depot Maintenance	--	--
Contractor Support	23.0	--
Sustaining Support	15.7	--
Indirect	0.4	--
Other	--	--
Total Unitized Cost (Base Year 1995 \$)	116.7	--

Total O&S Costs \$M	SBIRS (High)	Defense Support Prog
Base Year	2917.0	--
Then Year	3985.0	--



Defense Acquisition Management Information Retrieval (DAMIR)



Selected Acquisition Report (SAR)

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



SBIRS HIGH

As of December 31, 2003

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Program Information

Designation And Nomenclature (Popular Name)

Space Based Infrared System (SBIRS) High Program

DoD Component

Air Force

Responsible Office

Responsible Office

Col Randall S. Weidenheimer	Phone	310-363-1807
SMC/IS	Fax	--
185 Discoverer Blvd.	DSN Phone	833-1807
Suite 2512	DSN Fax	--
El Segundo, CA 90245-4695	Date Assigned	February 3, 2004
randall.weidenheimer@losangeles.af.mil		

References

SAR Baseline (Development Estimate)

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

Approved APB

USecAF Approved Acquisition Program Baseline (APB) dated September 2, 2002

Mission and Description

The Space Based Infrared System (SBIRS) 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 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 Characterization. The baseline architecture for SBIRS includes space elements in Highly Elliptical Orbits (HEO) and Geosynchronous Earth Orbits (GEO), in addition to the following ground elements: a CONUS-based Mission Control Station and Mission Control Station Backup, overseas Relay Ground Stations, Multi-Mission Mobile Processor, and associated communication links. The High Component consists of five satellites (four operational and one spare) in GEO, two hosted sensors in HEO (platforms provided by another organization), and associated ground elements.

Executive Summary

Office of the Secretary of Defense (OSD) Program Review: The Under Secretary of Defense for Acquisition, Technology and Logistics (USD[AT&L]) conducted a review of the SBIRS program on December 12, 2003. The review focused on program schedule, space and ground segment status, cost performance and contract management. Directed follow on actions include: a current assessment of program cost, schedule, and status of space and ground segments; evaluation of Electromagnetic Interference (EMI) testing procedures; evaluation of Signal Processing Assembly (SPA) software architecture; and an operational assessment of program alternatives. The results of these actions will be presented at the USD(AT&L) program review in April 2004.

SBIRS President's Meeting: The Under Secretary of the Air Force (USecAF) chaired SBIRS quarterly president's meetings on November 21, 2003, and February 27, 2004. The purpose of these meetings is to assess program status against plan, to ensure communication among SBIRS High stakeholders and to provide a forum for issue resolution at the senior level. Most recent discussions centered on closure of Highly Elliptical Orbit (HEO) 1 payload delivery, the Geosynchronous Earth Orbit (GEO) SPA software re-plan and the detailed success criteria for satisfactory mission success incentives on the SBIRS High development contract.

Highly Elliptical Orbit Delivery: The EMI testing conducted during December 2003 exhibited significantly more EMI exceedances than the test results in March 2003. Investigation revealed that new EMI measurement equipment was improperly configured. A fundamental design issue with the first HEO payload resulted in unacceptable EMI levels. The SBIRS team has been analyzing and resolving these out-of-specification conditions. Currently, the SBIRS program is working toward a July 2004 delivery for HEO 1 and a November 2004 delivery for HEO 2. The contractor is transferring successfully demonstrated HEO 2 EMI fixes to HEO 1 in preparation for the July 2004 delivery. In the event the remaining HEO 1 EMI exceedances cannot be resolved, the government has a backup plan. This backup plan would not change HEO 2 Delivery but would deliver HEO 1 in June 2005.

Highly Elliptical Orbit Message Certification: The Combined Task Force executed a formal readiness rehearsal in October 2003. This rehearsal and a crew training event in November 2003 exercised scripts, procedures and payload command sequences, as well as initial interfaces with the Satellite Payload On-orbit Test Station. SBIRS Ground to Host system test was completed and met all objectives. The ground segment completed work on the final release for the HEO Early Orbit Test software block. The team continues integration of late changes and deficiency corrections to support the payload.

Geosynchronous Earth Orbit: The integration of the first scanning sensor (focal plane and optical telescope), radiometric testing and staring sensor integration is complete. Completion of integration and radiometric testing of both sensors represents the retirement of a significant program technical risk. GEO satellites 1 and 2 core structures are currently at the Lockheed Martin Mississippi Space and Technology Center at the John C. Stennis Space Center for integration of the propulsion subsystem and fuel tanks. Communication subsystem testing has also begun on GEO 1. The SBIRS team is focusing on a comprehensive and successful SPA Preliminary Design Review planned for April 2004.

SBIRS Baseline Update (BLU) 2003 Status: In November 2003, the SBIRS High program office conducted the BLU-2003 review, a system level assessment of the program's maturity and execution to the acquisition baseline. The review included discussions of risk management, mission assurance-mission success, product assurance, system safety, system design and performance, and transition activities, as well as an update to the operational components of SBIRS High.

Test and Evaluation Master Plan (TEMP): The System Program Director signed the revised TEMP on October 31, 2003, and submitted the document for SBIRS test community coordination. After resolution of comments from Air Force Space Command Director of Requirements and Air Force Operational Test and Evaluation Center, the plan will be forwarded to the OSD for review and approval.

Threshold Breaches

APB Breaches	
--------------	--

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

Explanation of Breach

The current SAR reflects three schedule breaches: Highly Elliptical Orbit (HEO) Sensor 1 Delivery, HEO Sensor 2 Delivery and HEO Message Certification. A Program Deviation Report was submitted and a revised APB will be approved following HEO Sensor 1 delivery.

Highly Elliptical Orbit Sensor 1 Delivery: The HEO Sensor 1 February 2003 delivery date was not achieved due to a series of design deficiencies, technical issues identified during final performance testing, Electromagnetic Interference (EMI) specification exceedances and management deficiencies.

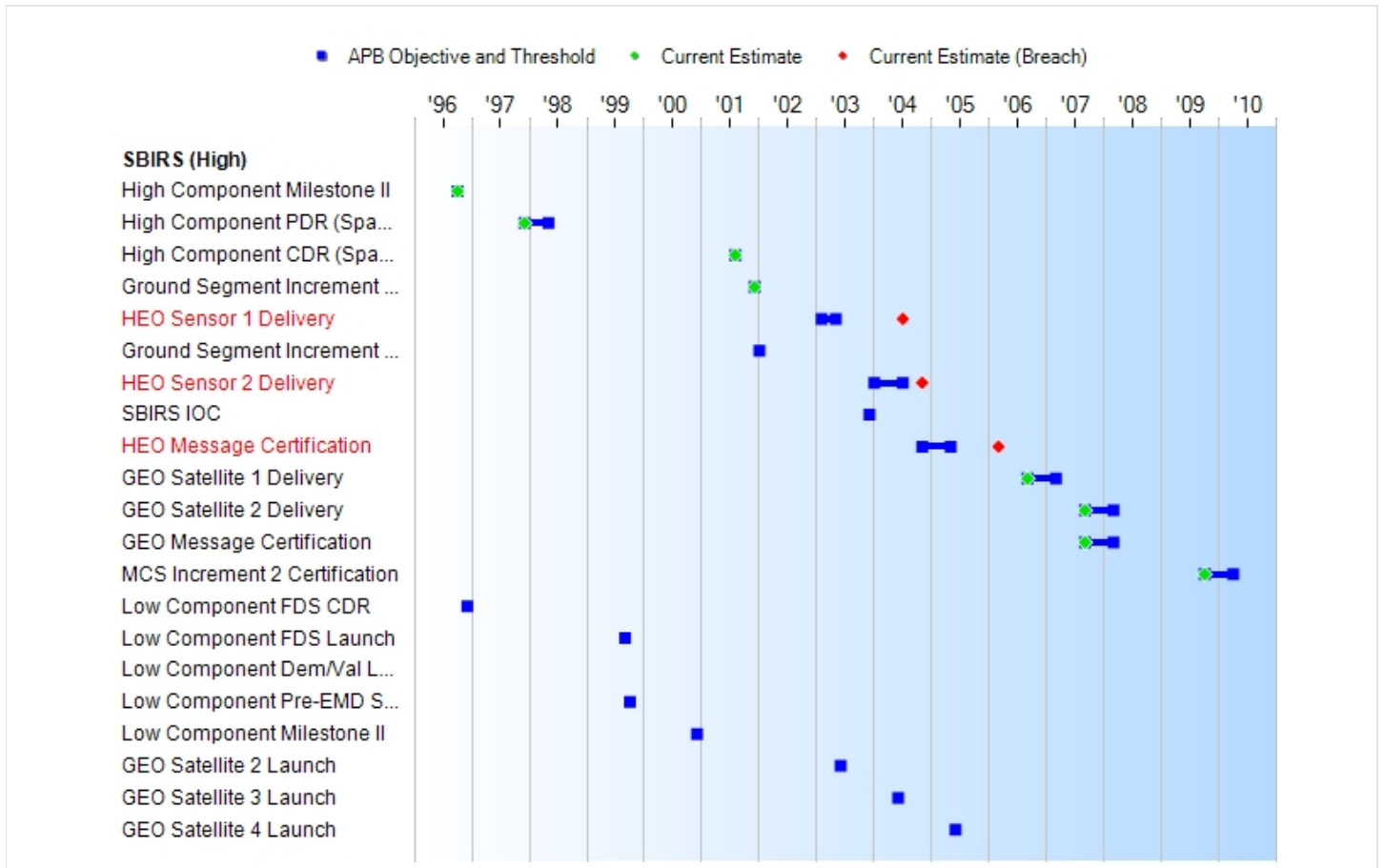
Nunn-McCurdy Breaches	
-----------------------	--

Current UCR Baseline	
PAUC	None
APUC	None
Original UCR Baseline	
PAUC	None
APUC	None

Highly Elliptical Orbit Sensor 2 Delivery: Schedule impacts of the HEO 1 campaign and implementation of EMI corrective actions have delayed the integration, test and delivery of HEO 2. When delivered, the payload will exhibit significant reductions in EMI emission levels.

Highly Elliptical Orbit Message Certification: This schedule event is affected by the late delivery of the HEO 1 sensor payload and launch delays. Delivery of this effectivity requires both on-orbit and ground processing assets. Formal readiness rehearsal, crew training and initial interfaces with the Satellite Payload On-orbit Test Station were completed in October and November 2003. The Ground to Host test met all objectives. The team is integrating late changes and deficiency corrections to support the payload.

Schedule



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	FEB 2003	MAY 2003	JUL 2004 ¹
Ground Segment Increment 2 Certification	JAN 2002	N/A	N/A	N/A
HEO Sensor 2 Delivery	SEP 2003	JAN 2004	JUL 2004	NOV 2004 ¹
SBIRS IOC	DEC 2003	N/A	N/A	N/A
HEO Message Certification	N/A	NOV 2004	MAY 2005	MAR 2006 ¹
GEO Satellite 1 Delivery	N/A	SEP 2006	MAR 2007	SEP 2006
GEO Satellite 2 Delivery	N/A	SEP 2007	MAR 2008	SEP 2007
GEO Message Certification	N/A	SEP 2007	MAR 2008	SEP 2007
MCS Increment 2 Certification	N/A	OCT 2009	APR 2010	OCT 2009
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

¹APB Breach**Change Explanations**

None

Memo

Note: IOC is currently being determined by Air Force Space Command.

ACRONYMS:

CDR - Critical Design Review
 GEO - Geosynchronous Earth Orbit
 HEO - Highly Elliptical Orbit
 IOC - Initial Operational Capability
 MCS - Mission Control Station
 PDR - Preliminary Design Review

Performance

Note: Classified and unclassified performance parameters are displayed in the Classified DAMIR.

Track To Budget**RDT&E**

APPN 3600 (Air Force) Invalid program element code (0640441) removed.
SBIR High Element EMD

Procurement

APPN 3020 (Air Force) ICN MSSBIR
SBIR High Missile Procurement

MILCON

APPN 3300 (Air Force) Invalid program element code (0640441) removed.
SBIRS ARCHI-EMD (SPACE) Military Construction

Acq O&M

APPN 3400 (Air Force) Invalid program element code (0350915) removed.
SBIRS Operation and Maintenance

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

Appropriation	BY1995 \$M				TY \$M		
	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	5426.4	5969.0	5664.2	3386.5	6151.3	6369.8
Procurement	496.7	1261.5	1387.6	1217.5	584.5	1497.4	1451.3
Flyaway	496.7	--	--	--	584.5	--	--
Recurring	496.7	--	--	0.0	584.5	--	0.0
Non Recurring	0.0	--	--	0.0	0.0	--	0.0
Support	0.0	--	--	0.0	0.0	--	0.0
Other Support	0.0	--	--	0.0	0.0	--	0.0
Initial Spares	0.0	--	--	0.0	0.0	--	0.0
MILCON	26.0	51.9	57.1	52.2	28.5	57.0	57.0
Acq O&M	140.2	598.4	658.2	635.4	147.8	715.2	753.1
Total	3679.5	7338.2	N/A	7569.3	4147.3	8420.9	8631.2

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

Unit of measure for SBIRS is Geosynchronous Earth Orbit satellites.

The SBIRS Single Acquisition Management Plan approved on September 13, 2002, identifies no Low Rate Initial Production.

Funding Summary

Appropriation and Quantity Summary

FY2005 President's Budget / December 2003 SAR (TY\$ M)

Appropriation	Prior	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	To Complete	Total
RDT&E	3560.5	610.2	508.4	373.4	310.6	381.6	342.7	282.4	6369.8
Procurement	0.0	94.7	0.0	273.1	1051.6	0.0	0.0	31.9	1451.3
MILCON	57.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.0
Acq O&M	111.5	61.0	64.5	70.2	84.6	89.8	142.3	129.2	753.1
PB2005 Total	3729.0	765.9	572.9	716.7	1446.8	471.4	485.0	443.5	8631.2
PB2004 Total	3724.2	771.8	571.4	719.0	1441.4	462.4	472.6	443.5	8606.3
Delta	4.8	-5.9	1.5	-2.3	5.4	9.0	12.4	0.0	24.9

Quantity	Prior	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	To Complete	Total
Development	0	0	0	0	0	0	0	0	2
Production	0	0	0	0	3	0	0	0	3
PB2005 Total	0	0	0	0	3	0	0	0	5
PB2004 Total	0	0	0	0	3	0	0	0	5
Delta	0	0	0	0	0	0	0	0	0

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	--	--	--	--	--	--	775.4
2004	--	--	--	--	--	--	610.2
2005	--	--	--	--	--	--	508.4
2006	--	--	--	--	--	--	373.4
2007	--	--	--	--	--	--	310.6
2008	--	--	--	--	--	--	381.6
2009	--	--	--	--	--	--	342.7
2010	--	--	--	--	--	--	282.4
Subtotal	2	--	--	--	--	--	6369.8

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	--	--	--	--	--	--	158.8
1997	--	--	--	--	--	--	184.3
1998	--	--	--	--	--	--	320.6
1999	--	--	--	--	--	--	471.9
2000	--	--	--	--	--	--	370.0
2001	--	--	--	--	--	--	501.9
2002	--	--	--	--	--	--	473.8
2003	--	--	--	--	--	--	692.9
2004	--	--	--	--	--	--	538.6
2005	--	--	--	--	--	--	442.5
2006	--	--	--	--	--	--	319.7
2007	--	--	--	--	--	--	261.4
2008	--	--	--	--	--	--	315.1
2009	--	--	--	--	--	--	277.3
2010	--	--	--	--	--	--	224.1
Subtotal	2	--	--	--	--	--	5664.2

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
2006	--	--	--	--	--	--	272.4
2007	3	--	--	--	--	--	1050.5
2008	--	--	--	--	--	--	--
2009	--	--	--	--	--	--	--
2010	--	--	--	--	--	--	31.9
Subtotal	3	--	--	--	--	--	1354.8

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
2006	--	--	--	--	--	--	231.2
2007	3	--	--	--	--	--	876.1
2008	--	--	--	--	--	--	--
2009	--	--	--	--	--	--	--
2010	--	--	--	--	--	--	25.1
Subtotal	3	--	--	--	--	--	1132.4

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

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M
2006	--	--
2007	3	1132.4
2008	--	--
2009	--	--
2010	--	--
Subtotal	3	1132.4

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	--	--	--	--	--	--	94.7
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	--	0.7
2007	--	--	--	--	--	--	1.1
Subtotal	--	--	--	--	--	--	96.5

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	--	--	--	--	--	--	83.6
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	--	0.6
2007	--	--	--	--	--	--	0.9
Subtotal	--	--	--	--	--	--	85.1

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	16.8
2003	6.1
Subtotal	52.2

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	32.7
2004	61.0
2005	64.5
2006	70.2
2007	84.6
2008	89.8
2009	142.3
2010	129.2
Subtotal	753.1

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	16.5
2003	29.2
2004	53.8
2005	56.2
2006	60.2
2007	71.2
2008	74.2
2009	115.2
2010	102.5
Subtotal	635.4

Low Rate Initial Production

None

Foreign Military Sales

None

Nuclear Cost

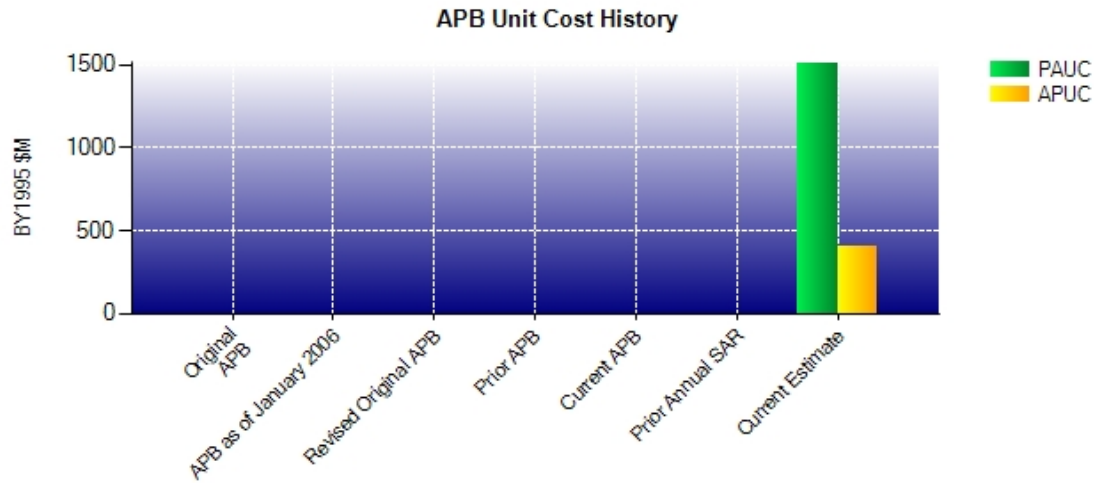
None

Unit Cost**Unit Cost Report**

Unit Cost	BY1995 \$M		
	Current UCR Baseline (SEP 2002 APB)	Current Estimate (DEC 2003 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	7338.2	7569.3	
Quantity	5	5	
Unit Cost	1467.640	1513.860	+3.15
Average Procurement Unit Cost (APUC)			
Cost	1261.5	1217.5	
Quantity	3	3	
Unit Cost	420.500	405.833	-3.49

Unit Cost	BY1995 \$M		
	Original UCR Baseline	Current Estimate (DEC 2003 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost		7569.3	
Quantity		5	
Unit Cost		1513.860	+0.00
Average Procurement Unit Cost (APUC)			
Cost		1217.5	
Quantity		3	
Unit Cost		405.833	+0.00

Unit Cost History



	Date	BY1995 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	N/A	N/A	N/A	N/A	N/A
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	N/A	N/A	N/A	N/A	N/A
Current APB	N/A	N/A	N/A	N/A	N/A
Prior Annual SAR	N/A	N/A	N/A	N/A	N/A
Current Estimate	DEC 2003	1513.860	405.833	1726.240	483.767

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	-50.560	20.060	84.180	165.980	671.500	0.000	20.200	911.360	1726.240	

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	-20.667	-37.383	-24.533	0.000	240.433	0.000	33.667	191.517	483.767	

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	8631.2
Total Quantity	N/A	5	N/A	5
Prog. Acq. Unit Cost (PAUC)	N/A	829.460	N/A	1726.240

Cost Variance

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	-167.9	-49.9	-1.6	-16.9	-236.3
Quantity	-152.7	+180.1	0.0	0.0	+27.4
Schedule	+494.5	-73.6	0.0	0.0	+420.9
Engineering	+837.7	0.0	+7.8	-15.6	+829.9
Estimating	+1982.3	+713.0	+22.3	+599.9	+3317.5
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+99.6	0.0	0.0	+99.6
Subtotal	+2993.9	+869.2	+28.5	+567.4	+4459.0
Current Changes					
Economic	-3.9	-12.1	--	-0.5	-16.5
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	-6.7	+8.3	--	+38.4	+40.0
Other	--	--	--	--	--
Support	--	+1.4	--	--	+1.4
Subtotal	-10.6	-2.4	--	+37.9	+24.9
Total Changes	+2983.3	+866.8	+28.5	+605.3	+4483.9
CE - Cost Variance	6369.8	1451.3	57.0	753.1	8631.2
CE - Cost & Funding	6369.8	1451.3	57.0	753.1	8631.2

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	0.0	0.0	0.0	0.0	0.0
Quantity	-128.4	+155.6	0.0	0.0	+27.2
Schedule	+416.6	-115.1	0.0	0.0	+301.5
Engineering	+708.4	0.0	+6.8	-13.5	+701.7
Estimating	+1657.0	+588.3	+19.4	+476.7	+2741.4
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+83.9	0.0	0.0	+83.9
Subtotal	+2653.6	+712.7	+26.2	+463.2	+3855.7
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	-6.0	+6.9	--	+32.0	+32.9
Other	--	--	--	--	--
Support	--	+1.2	--	--	+1.2
Subtotal	-6.0	+8.1	--	+32.0	+34.1
Total Changes	+2647.6	+720.8	+26.2	+495.2	+3889.8
CE - Cost Variance	5664.2	1217.5	52.2	635.4	7569.3
CE - Cost & Funding	5664.2	1217.5	52.2	635.4	7569.3

Previous Estimate: September 2003

RDT&E	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	-3.9
Estimate revised due to General Congressional reduction (Estimating)	-6.0	-6.7
RDT&E Subtotal	-6.0	-10.6

Procurement	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	-12.1
Adjustment for Current and Prior Inflation (Estimating)	+6.9	+8.4
Revised Estimate (Estimating)	0.0	-0.1
Adjustment for Current and Prior Inflation. (Support)	+1.8	+2.0
Estimate Revised for Mission Control Station Backup (Support)	-0.6	-0.6
Procurement Subtotal	+8.1	-2.4

Acq O&M	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	-0.5
Communications Network Requirement Increase Between Host and SBIRS Network (Estimating)	+7.9	+9.6
Addition of Mission Control Station Post Expansion (Estimating)	+3.6	+4.0
Revised Estimate of Mission Control Station Backup Contract Logistics Support (Estimating)	+16.8	+20.5
Addition of SBIRS Communication Package (Estimating)	+3.7	+4.3
Acq O&M Subtotal	+32.0	+37.9

Contracts

Appropriation: RDT&E	
Contract Name	SBIRS High EMD Mod
Contractor	Lockheed Martin Space Sys
Contractor Location	Sunnyvale , CA
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	1590.1	2	4599.9	N/A	2	4641.4	4757.2

	Cost Variance	Schedule Variance
Previous Cumulative Variances	-43.5	-38.7
Cumulative Variances To Date (11/30/2003)	-74.9	-31.6
Net Change	-31.4	+7.1

Cost And Schedule Variance Explanations

Performance against the Performance Measurement Baseline reflects an unfavorable cumulative Cost Variance (CV) of \$74.9M, compared to an unfavorable \$43.5M reported in the previous SAR. The net change of \$31.4M is mainly experienced in the space segment. The ground and Systems Engineering, Integration, and Test (SEIT) segments experienced unfavorable CVs of \$3.4M and \$1.8M, respectively.

The unfavorable Schedule Variance (SV) has been reduced to \$31.6M, compared to \$38.7M reported in the previous SAR. The net improvement of \$7.1M is mainly due to schedule recovery in Ground, Spacecraft and SEIT. The Payload effort experienced an unfavorable SV of \$2.6M in the same period.

Contract Comments

The current Engineering and Manufacturing Development Contract Target Price is \$4,599.9M, compared to \$4,418.8M reported in the December 2002 SAR. The increase results largely from realigning factory support work that was inappropriately included in out-year Contractor Logistics Support unexercised options. Other additions include work scope associated with Geosynchronous Earth Orbit spacecraft battery change, Mission Control Station Backup preparations, Highly Elliptical Orbit Sensor 1 risk mitigation efforts, support of Missile Defense Agency activities, and initial compliance with the National Industrial Security Program Operating Manual.

Deliveries and Expenditures

Deliveries To Date	Plan	Actual	Total Quantity	Percent Delivered
Development	0	0	2	0.00%
Production	0	0	3	0.00%
Total Program Quantities Delivered	0	0	5	0.00%

Expenditures and Appropriations (TY \$M)

Total Acquisition Cost	8631.2	Years Appropriated	10
Expenditures To Date	3621.3	Percent Years Appropriated	62.50%
Percent Expended	41.96%	Appropriated to Date	4494.9
Total Funding Years	16	Percent Appropriated	52.08%

Operating and Support Cost

Assumptions and Ground Rules

These Operations and Maintenance funds support the activation of new SBIRS High Component ground operating and training facilities at world wide sites. 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, OCONUS 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 25-year Life Cycle Cost and is based upon the Estimate at Completion dated April 2002.

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
Mission Pay & Allowance	49.3	--
Unit Level Consumption	11.1	--
Intermediate Maintenance	17.2	--
Depot Maintenance	--	--
Contractor Support	23.0	--
Sustaining Support	15.7	--
Indirect	0.4	--
Other	--	--
Total Unitized Cost (Base Year 1995 \$)	116.7	--

Total O&S Costs \$M	SBIRS (High)	Defense Support Prog
Base Year	2917.0	--
Then Year	3985.0	--



Defense Acquisition Management Information Retrieval (DAMIR)



Selected Acquisition Report (SAR)

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



SBIRS HIGH
As of June 30, 2004

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Program Information

Designation And Nomenclature (Popular Name)

Space Based Infrared System (SBIRS) High Program

DoD Component

Air Force

Responsible Office

Responsible Office

Col Randall S. Weidenheimer	Phone	310-363-1807
SMC/IS	Fax	--
185 Discoverer Blvd.	DSN Phone	833-1807
Suite 2512	DSN Fax	--
El Segundo, CA 90245-4695	Date Assigned	February 3, 2004
randall.weidenheimer@losangeles.af.mil		

References

SAR Baseline (Development Estimate)

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

Approved APB

USecAF Approved Acquisition Program Baseline (APB) dated September 2, 2002

Mission and Description

The Space Based Infrared System (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 Characterization. The baseline architecture for SBIRS High includes two Highly Elliptical Orbit (HEO) sensors and five Geosynchronous Earth Orbit (GEO) satellites (four operational and one spare), in addition to the following ground elements: a CONUS-based Mission Control Station and Mission Control Station Backup, overseas Relay Ground Stations, Multi-Mission Mobile Processor, and associated communication links.

Executive Summary

The SBIRS Program Office is submitting a quarterly exception SAR due to Nunn-McCurdy Unit Cost and schedule breaches. The breaches were identified as a result of the 2004 replan.

2004 Replan: The Program Office and contractor teams are finalizing the cost and schedule of the SBIRS High 'to go' program. The SBIRS System Program Director (SPD) briefed replan progress to The Under Secretary of Defense for Acquisition, Technology and Logistics (USD[AT&L]) at Defense Acquisition Executive (DAE) program reviews on April 20, 2004, and May 24, 2004. The Program Office replan assumes the Highly Elliptical Orbit (HEO) payloads will be delivered in August and December 2004, while the Geosynchronous Earth Orbit (GEO) program, including almost all GEO segment deliveries, will slip at least one year. Most of the SBIRS effectivities, i.e. functional capabilities delivered to the user, are delayed longer than one year. The Program Office replan cost and schedule estimates include cost growth inherent with program delays; poor performance and resolution of technical issues; increased test content and durations; increased software development time spans; the addition of prudent mission assurance tasks; and contract extension through 2013 to complete the delivery of the Multi-Mission Mobile Processors (M3Ps).

Nunn-McCurdy Unit Cost Breach: The SPD determined that the total growth is greater than the 15% Congressional notification threshold, and advised the Under Secretary of the Air Force (USecAF) on May 26, 2004. The Secretary of the Air Force signed the Nunn-McCurdy Unit Cost breach notification letter to Congress on June 17, 2004. USecAF has discussed the schedule and cost implications with key Congressional members and staffers to solicit support for an increase to the SBIRS RDT&E FY05 President's Budget (PB) request. The FY05 shortfall is significant and, if unresolved, will result in additional program delays. USD(AT&L) directed the Program Office to submit a revised Acquisition Program Baseline (APB) updating schedule and cost thresholds by August 31, 2004. The revised APB will be based on the June 30, 2004, SAR cost and schedule assumptions.

Highly Elliptical Orbit (HEO) Payload Status: HEO Payloads are currently scheduled for delivery in August and December 2004. The last group of Electromagnetic Interference (EMI) fixes were installed and tested on HEO 1 during February-March 2004, and testing demonstrated a significant decrease in EMI emissions. The host agency believes that HEO 1 will be granted a waiver for EMI performance and accepted for integration and launch. HEO 2 successfully completed payload integration, initial functional testing, initial engineering EMI testing and Workmanship Thermal Vacuum testing. HEO 2 is currently in the final stages of EMI fixes. One significant EMI issue remains within the internal wiring harness running from the electronics pallet to the sensor on the gimbal.

HEO Message Certification: The date for completion of this capability has been revised consistent with the replanned schedule. Current estimates indicate this capability will be available to the user in March 2007. The Combined Task Force, flight operations support, and ground sustainment teams continue to execute HEO rehearsals in the Interim Test Center. Readiness Activity 5 (RA 5), which exercises Early On-orbit Testing, was conducted June 14-18, 2004. The exercise included payload deployment and initialization.

Geosynchronous Earth Orbit Status: GEO spacecraft and payload hardware qualification and deliveries are progressing. The signal processor assembly (SPA) software replan was completed in March 2004, and a successful preliminary design review was held on April 28-29, 2004. The starer sensor (focal plane integrated with the telescope) successfully completed characterization testing in March 2004. Test results were repeatable and demonstrated the sensor can be calibrated on orbit. However, the post test data analysis revealed a flaw in the stability of one of the detector chips on the starer focal plane. A plan to build a new focal plane and swap out the parts prior to the first integrated payload thermal vacuum test is in work. The first step in the GEO payload integration, a production readiness review, is complete. The scanning sensor is ready to be installed onto the payload reference bench. The spacecraft Early Bus Test (EBT) Phase 1 completed in late February 2004 and successfully demonstrated harness connections and low power turn-on. EBT Phase 2 is in progress and will test the engineering version of the flight software on flight-like engineering hardware. The SPA hardware and power and signal distribution system deliveries slipped due to test failures. Likewise, several hardware components on the spacecraft have delayed deliveries.

Multi-Mission Mobile Processor (M3P): The Defense Support Program(DSP)-capable M3P (DM3P effort) program is

progressing toward final development and fielding. Integration on all five Army shelters, qualification testing for the Army DSP-only units, and external interfaces testing (SST-5000) are complete. Shelter Number 2 is currently undergoing climatic/environmental testing at White Sands Missile Range, with scheduled completion in September 2004. High Altitude Electromagnetic Pulse testing will be conducted on unit Number 3 beginning June 2004. Due to delayed delivery of software and electronic technical manuals, the final delivery of the DSP-only M3Ps was delayed; the new effectivity date is December 2005. As part of the one-year overall SBIRS program delay, the GEO-capable M3P schedule has been reassessed. The final delivery date for the nine units is projected for 2013.

Test and Evaluation Master Plan (TEMP): The revised TEMP was signed by USecAF on July 16, 2004, and has been forwarded to the OSD staff for final review and approval.

Threshold Breaches

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

Explanation of Breach

The previous SAR addressed three schedule breaches: Highly Elliptical Orbit (HEO) Sensor 1 Delivery, HEO Sensor 2 Delivery and HEO Message Certification. The current SAR reflects four additional schedule breaches resulting from the Program Office Estimate replan: Geosynchronous Earth Orbit (GEO) Satellite 1 Delivery, GEO Satellite 2 Delivery, GEO Message Certification and Mission Control Station (MCS) Increment 2 Certification. The Program Office will submit a revised APB by August 31, 2004. The revised APB will be based on the June 30, 2004, SAR cost and schedule assumptions.

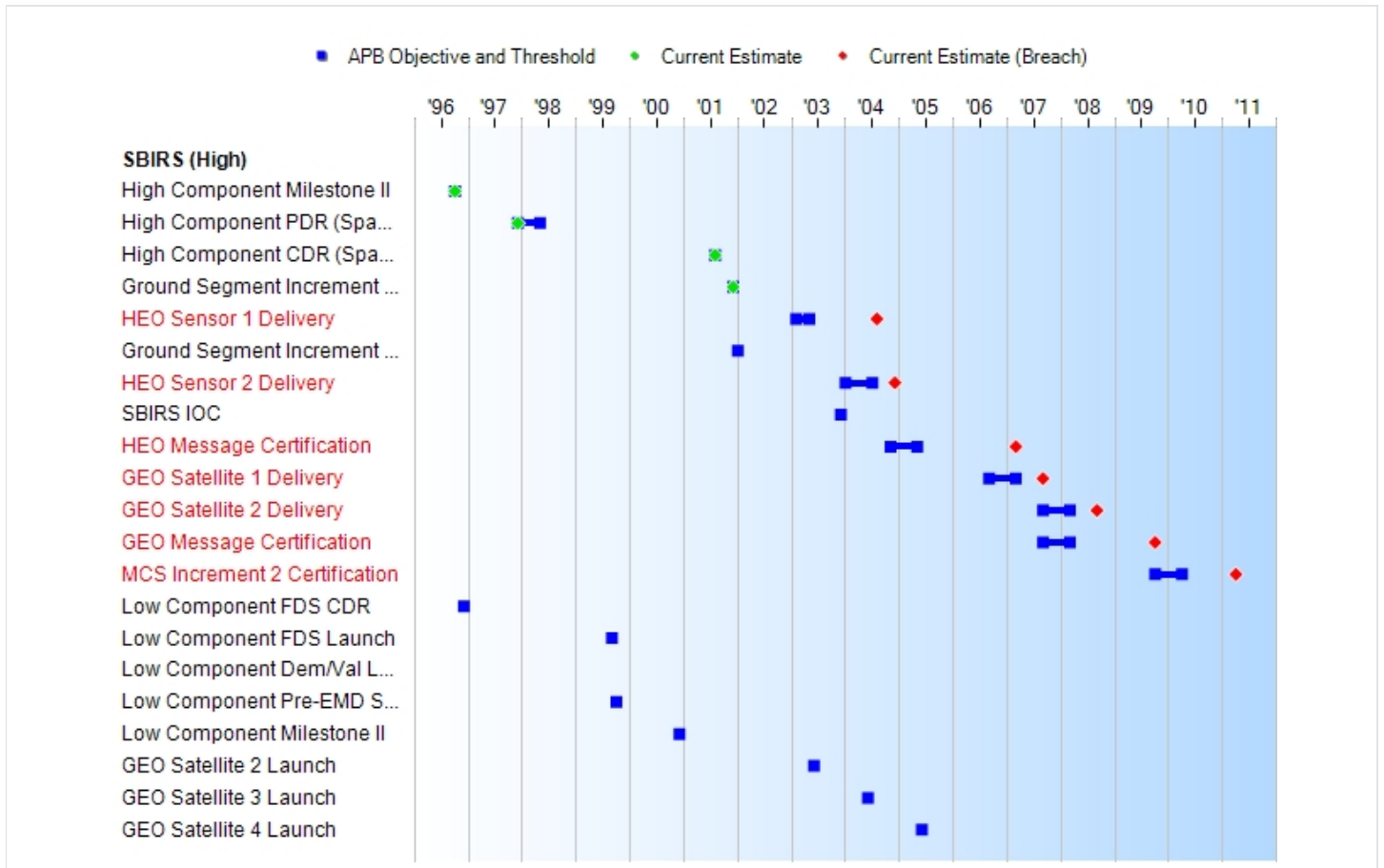
Nunn-McCurdy Breaches		
Current UCR Baseline		
PAUC	Significant	
APUC	None	
Original UCR Baseline		
PAUC	None	
APUC	None	

HEO Message Certification: This schedule event was affected by the late delivery of the HEO payloads and ground software development.

GEO Message Certification/MCS Increment 2 Certification: These schedule events were affected by the late delivery of the GEO satellites and ground software development.

APB Cost (RDT&E, O&M, and PAUC) and Nunn-McCurdy Unit Cost (PAUC) were breached; additional GEO 1 and 2 hardware delivery and Signal Processing Assembly software development delays have extended the procurement time, resulting in cost growth to the RDT&E, O&M and PAUC of the SBIRS program.

Schedule



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	FEB 2003	MAY 2003	AUG 2004 ¹	(Ch-1)
Ground Segment Increment 2 Certification	JAN 2002	N/A	N/A	N/A	
HEO Sensor 2 Delivery	SEP 2003	JAN 2004	JUL 2004	DEC 2004 ¹	(Ch-1)
SBIRS IOC	DEC 2003	N/A	N/A	N/A	
HEO Message Certification	N/A	NOV 2004	MAY 2005	MAR 2007 ¹	(Ch-1)
GEO Satellite 1 Delivery	N/A	SEP 2006	MAR 2007	SEP 2007 ¹	(Ch-1)
GEO Satellite 2 Delivery	N/A	SEP 2007	MAR 2008	SEP 2008 ¹	(Ch-1)
GEO Message Certification	N/A	SEP 2007	MAR 2008	OCT 2009 ¹	(Ch-1)
MCS Increment 2 Certification	N/A	OCT 2009	APR 2010	APR 2011 ¹	(Ch-1)
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	

¹APB Breach

Change Explanations

(Ch-1) : Due to the program replan, all Acquisition Program Baseline (APB) milestones will be reset. The replan encompassed adding additional content, time and funding to the program. Also included is a viable closure schedule for the Multi-Mission Mobile Processor program that was an open item in the 2002 restructure. The replan has established new delivery dates for virtually every ground and space product/sub-segment, as well as redefining the interdependencies at both the product and system level. Because of the increased time spans and program content, all of the effectivity dates will be re-established as the replan content and schedules are finalized. The new dates are the Program Manager's best estimate and may be adjusted when the reviews are completed.

HEO Sensor 1 Delivery changed from July 2004 to August 2004.

HEO Sensor 2 Delivery changed from November 2004 to December 2004.

HEO Message Certification changed from March 2006 to March 2007.

GEO Satellite 1 Delivery changed from September 2006 to September 2007.

GEO Satellite 2 Delivery changed from September 2007 to September 2008.

GEO Message Certification changed from September 2007 to October 2009.

MCS Increment 2 Certification changed from October 2009 to April 2011.

Memo

Notes: IOC will be determined by Air Force Space Command.

GEO Satellite Delivery is defined as a System Program Office accepted satellite ready for shipment to the launch facility.

ACRONYMS:

CDR - Critical Design Review

GEO - Geosynchronous Earth Orbit

HEO - Highly Elliptical Orbit

IOC - Initial Operational Capability

MCS - Mission Control Station

PDR - Preliminary Design Review

Performance

Note: Classified and unclassified performance parameters are displayed in the Classified DAMIR.

Track To Budget**RDT&E**

APPN 3600 (Air Force) Invalid program element code (0640441) removed.
SBIR High Element EMD

Procurement

APPN 3020 (Air Force) ICN MSSBIR
SBIR High Missile Procurement

MILCON

APPN 3300 (Air Force) Invalid program element code (0640441) removed.
SBIRS ARCHI-EMD (SPACE) Military Construction

Acq O&M

APPN 3400 (Air Force) Invalid program element code (0350915) removed.
SBIRS Operation and Maintenance

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

Appropriation	BY1995 \$M				TY \$M		
	SAR Baseline Dev Est	Current APB Development Objective/Threshold	Current Estimate	Current Estimate	SAR Baseline Dev Est	Current APB Development Objective	Current Estimate
RDT&E	3016.6	5426.4	5969.0	6589.5 ¹	3386.5	6151.3	7473.9
Procurement	496.7	1261.5	1387.6	1333.3	584.5	1497.4	1621.5
Flyaway	496.7	--	--	--	584.5	--	--
Recurring	496.7	--	--	0.0	584.5	--	0.0
Non Recurring	0.0	--	--	0.0	0.0	--	0.0
Support	0.0	--	--	0.0	0.0	--	0.0
Other Support	0.0	--	--	0.0	0.0	--	0.0
Initial Spares	0.0	--	--	0.0	0.0	--	0.0
MILCON	26.0	51.9	57.1	52.2	28.5	57.0	57.0
Acq O&M	140.2	598.4	658.2	696.8 ¹	147.8	715.2	833.2
Total	3679.5	7338.2	N/A	8671.8	4147.3	8420.9	9985.6

¹ APB Breach

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

Unit of measure for SBIRS is Geosynchronous Earth Orbit satellites.

The SBIRS Single Acquisition Management Plan approved on September 13, 2002, identifies no Low Rate Initial Production.

Funding Summary

Appropriation and Quantity Summary

JUN 2004 Exception SAR (TY \$M)

Appropriation	Prior	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	To Complete	Total
RDT&E	3568.5	622.0	608.5	734.2	633.3	525.0	375.4	407.0	7473.9
Procurement	0.0	95.4	0.0	58.2	223.9	1102.8	47.9	93.3	1621.5
MILCON	57.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.0
Acq O&M	111.5	59.6	60.7	78.1	82.3	94.2	108.3	238.5	833.2
JUN 2004 Total	3737.0	777.0	669.2	870.5	939.5	1722.0	531.6	738.8	9985.6
PB2005 Total	3729.0	765.9	572.9	716.7	1446.8	471.4	485.0	443.5	8631.2
Delta	8.0	11.1	96.3	153.8	-507.3	1250.6	46.6	295.3	1354.4

Quantity	Prior	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	To Complete	Total
Development	0	0	0	0	0	0	0	0	2
Production	0	0	0	0	0	3	0	0	3
JUN 2004 Total	0	0	0	0	0	3	0	0	5
PB2005 Total	0	0	0	0	3	0	0	0	5
Delta	0	0	0	0	-3	3	0	0	0

FY2005 President's Budget / December 2003 SAR (TY\$ M)

Appropriation	Prior	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	To Complete	Total
RDT&E	3560.5	610.2	508.4	373.4	310.6	381.6	342.7	282.4	6369.8
Procurement	0.0	94.7	0.0	273.1	1051.6	0.0	0.0	31.9	1451.3
MILCON	57.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.0
Acq O&M	111.5	61.0	64.5	70.2	84.6	89.8	142.3	129.2	753.1
PB2005 Total	3729.0	765.9	572.9	716.7	1446.8	471.4	485.0	443.5	8631.2
PB2004 Total	3724.2	771.8	571.4	719.0	1441.4	462.4	472.6	443.5	8606.3
Delta	4.8	-5.9	1.5	-2.3	5.4	9.0	12.4	0.0	24.9

Quantity	Prior	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	To Complete	Total
Development	0	0	0	0	0	0	0	0	2
Production	0	0	0	0	3	0	0	0	3
PB2005 Total	0	0	0	0	3	0	0	0	5
PB2004 Total	0	0	0	0	3	0	0	0	5
Delta	0	0	0	0	0	0	0	0	0

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	--	--	--	--	--	--	783.4
2004	--	--	--	--	--	--	622.0
2005	--	--	--	--	--	--	608.5
2006	--	--	--	--	--	--	734.2
2007	--	--	--	--	--	--	633.3
2008	--	--	--	--	--	--	525.0
2009	--	--	--	--	--	--	375.4
2010	--	--	--	--	--	--	213.6
2011	--	--	--	--	--	--	162.0
2012	--	--	--	--	--	--	21.5
2013	--	--	--	--	--	--	9.9
Subtotal	2	--	--	--	--	--	7473.9

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	--	--	--	--	--	--	158.8
1997	--	--	--	--	--	--	184.3
1998	--	--	--	--	--	--	320.6
1999	--	--	--	--	--	--	471.9
2000	--	--	--	--	--	--	370.0
2001	--	--	--	--	--	--	501.9
2002	--	--	--	--	--	--	473.8
2003	--	--	--	--	--	--	700.1
2004	--	--	--	--	--	--	549.0
2005	--	--	--	--	--	--	529.6
2006	--	--	--	--	--	--	628.6
2007	--	--	--	--	--	--	533.1
2008	--	--	--	--	--	--	433.5
2009	--	--	--	--	--	--	303.7
2010	--	--	--	--	--	--	169.5
2011	--	--	--	--	--	--	126.0
2012	--	--	--	--	--	--	16.4
2013	--	--	--	--	--	--	7.4
Subtotal	2	--	--	--	--	--	6589.5

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
2006	--	--	--	--	--	--	54.5
2007	--	--	--	--	--	--	219.8
2008	3	--	--	--	--	--	1098.9
2009	--	--	--	--	--	--	46.0
2010	--	--	--	--	--	--	46.9
2011	--	--	--	--	--	--	42.6
Subtotal	3	--	--	--	--	--	1508.7

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
2006	--	--	--	--	--	--	46.3
2007	--	--	--	--	--	--	183.3
2008	3	--	--	--	--	--	898.5
2009	--	--	--	--	--	--	36.9
2010	--	--	--	--	--	--	36.9
2011	--	--	--	--	--	--	32.8
Subtotal	3	--	--	--	--	--	1234.7

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

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M
2006	--	--
2007	--	--
2008	3	1234.7
2009	--	--
2010	--	--
2011	--	--
Subtotal	3	1234.7

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	--	--	--	--	--	--	95.4
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	--	3.7
2007	--	--	--	--	--	--	4.1
2008	--	--	--	--	--	--	3.9
2009	--	--	--	--	--	--	1.9
2010	--	--	--	--	--	--	1.9
2011	--	--	--	--	--	--	1.9
Subtotal	--	--	--	--	--	--	112.8

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	--	--	--	--	--	--	84.2
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	--	3.2
2007	--	--	--	--	--	--	3.5
2008	--	--	--	--	--	--	3.2
2009	--	--	--	--	--	--	1.5
2010	--	--	--	--	--	--	1.5
2011	--	--	--	--	--	--	1.5
Subtotal	--	--	--	--	--	--	98.6

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	16.8
2003	6.1
Subtotal	52.2

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	32.7
2004	59.6
2005	60.7
2006	78.1
2007	82.3
2008	94.2
2009	108.3
2010	126.9
2011	111.6
Subtotal	833.2

**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	16.5
2003	29.2
2004	52.6
2005	52.9
2006	66.9
2007	69.3
2008	77.8
2009	87.7
2010	100.7
2011	86.8
Subtotal	696.8

Low Rate Initial Production

None

Foreign Military Sales

None

Nuclear Cost

None

Unit Cost

Unit Cost Report

Unit Cost	BY1995 \$M		
	Current UCR Baseline (SEP 2002 APB)	Current Estimate (JUN 2004 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	7338.2	8671.8	
Quantity	5	5	
Unit Cost	1467.640	1734.360	+18.17 ¹
Average Procurement Unit Cost (APUC)			
Cost	1261.5	1333.3	
Quantity	3	3	
Unit Cost	420.500	444.433	+5.69

Unit Cost	BY1995 \$M		
	Original UCR Baseline	Current Estimate (JUN 2004 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost		8671.8	
Quantity		5	
Unit Cost		1734.360	+0.00
Average Procurement Unit Cost (APUC)			
Cost		1333.3	
Quantity		3	
Unit Cost		444.433	+0.00

Unit Cost	TY \$M		
	Current UCR Baseline (SEP 2002 APB)	Current Estimate (JUN 2004 SAR)	TY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	8420.9	9985.6	
Unit Cost	1684.180	1997.120	+18.58
Average Procurement Unit Cost (APUC)			
Cost	1497.4	1621.5	
Unit Cost	499.133	540.500	+8.29

Unit Cost	TY \$M		
	Original UCR Baseline	Current Estimate (JUN 2004 SAR)	TY % Change
Program Acquisition Unit Cost (PAUC)			
Cost		9985.6	
Unit Cost		1997.120	+0.00
Average Procurement Unit Cost (APUC)			
Cost		1621.5	
Unit Cost		540.500	+0.00

¹ Nunn-McCurdy Breach

Unit Cost Breach Data

Changes from Previous SAR	\$M/Qty.	Percent
PAUC (BY \$M)	220.500	
APUC (BY \$M)	38.600	
PAUC Quantity		
PAUC (TY \$M)	256.300	
APUC (TY \$M)	56.730	
Initial SAR Information JUN 1995		
Program Acquisition Cost	2308.0	2670.3

Unit Cost PAUC Changes

The Program Office replan cost and schedule estimates include cost growth inherent with program delays; poor performance and resolution of technical issues; increased test content and durations; increased software development time spans; the addition of prudent mission assurance tasks; and contract extension through 2013 to complete the delivery of the Multi Mission Mobile Processors.

Unit Cost APUC Changes

The Program Office replan cost and schedule estimates include procurement cost growth attributable to development program delays.

Impact of Performance or Schedule Changes

The current Program Office Estimate is a result of cost growth and schedule delays to the Engineering, Manufacturing and Development contract and the delay to the Geosynchronous Earth Orbit (GEO) 3-5 acquisition profile. Schedule delays of 12-24 months have been incurred. The APB cost and schedule thresholds will be revised to support the program replan.

Program Management or Control

The magnitude of the cost growth and schedule delays was unexpected and disappointing. The risk to the "to go" program has been reduced by adding resources to the high risk elements and addressing the high risk elements earlier in the development phase. In addition, the Program Office is addressing the key technical risks by adding earlier and more robust testing, as well as investigating parallel technology paths. A charter is in draft for an Independent Review Team (IRT) to assess the program performance three times a year and report to the Air Force Program Executive Officer for Space (AFPEO/Space) on progress achieved and future risks. The membership of

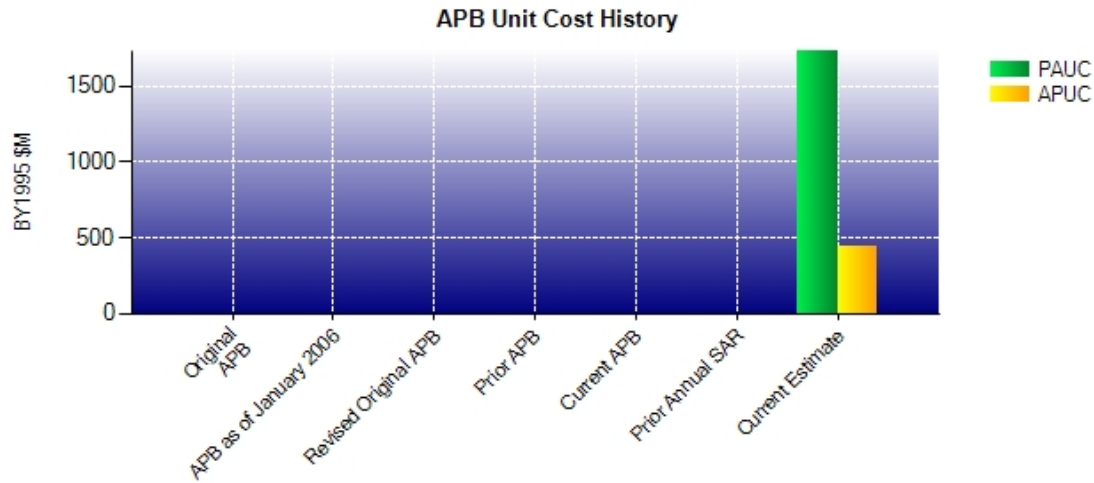
the IRT has not yet been finalized; the first meeting will be in the fall of 2004. AFPEO/Space will be receiving monthly written reports from the contractor executives addressing program progress, future risk areas and mitigation plans. It is anticipated that this senior level involvement will drive early issue resolution. The monthly program reviews attended by the SBIRS team will also be refocused. The key change will be an increased emphasis on business operations, predictive metrics and trending. Additionally, the Program Office is taking aggressive action to increase technical and managerial skills through increased training, as well as acquiring additional senior level staff.

Cost Control Actions

Several significant cost control enhancements are being implemented in the program. Among these are the transformation of the contractor Program Performance Management Process (PPMP) and Program Office initiatives to increase government insight and influence, including restructuring the joint government-contractor surveillance program. Highlights of the Lockheed Martin Missiles and Space Company (LMMSC) PPMP include mandated integration of program cost and schedule systems; weekly comprehensive segment and program reviews of all elements with schedule slips; 60-day limit on most task durations to enhance performance visibility; monthly internal earned value reviews to monitor reporting and projection discipline; increased rigor in baseline control; and new processes for quarterly audits by independent central organizations and Defense Contract Management Agency. The PPMP and its program-tailored initiatives represent the LMMSC corporate commitment to establish common best practices among business units across the enterprise. Implementation of these initiatives has been given very high priority and is being accomplished under the charge of central organizations in each business unit that reports directly to senior leadership. Program Office personnel will be participating in the newly established contractor weekly and monthly reviews. Government project officers will be reporting current technical performance status, causes, impacts, remedies and projections to the System Program Director at least monthly. Work elements with performance challenges and/or earned value issues will be reviewed at the joint government-contractor monthly program reviews. These enhancements to contractor and Program Office processes will improve performance monitoring and controls.

Nunn-McCurdy Comments

Unit Cost History



	Date	BY1995 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	N/A	N/A	N/A	N/A	N/A
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	N/A	N/A	N/A	N/A	N/A
Current APB	N/A	N/A	N/A	N/A	N/A
Prior Annual SAR	N/A	N/A	N/A	N/A	N/A
Current Estimate	JUN 2004	1734.360	444.433	1997.120	540.500

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	-46.860	5.480	98.600	83.580	1003.400	0.000	23.460	1167.660	1997.120	

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	-20.667	-37.383	-15.667	0.000	282.867	0.000	39.100	248.250	540.500	

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	9985.6
Total Quantity	N/A	5	5	5
Prog. Acq. Unit Cost (PAUC)	N/A	829.460	N/A	1997.120

Cost Variance

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	-171.8	-62.0	-1.6	-17.4	-252.8
Quantity	-152.7	+180.1	0.0	0.0	+27.4
Schedule	+494.5	-73.6	0.0	0.0	+420.9
Engineering	+837.7	0.0	+7.8	-15.6	+829.9
Estimating	+1975.6	+721.3	+22.3	+638.3	+3357.5
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+101.0	0.0	0.0	+101.0
Subtotal	+2983.3	+866.8	+28.5	+605.3	+4483.9
Current Changes					
Economic	+18.5	--	--	--	+18.5
Quantity	--	--	--	--	--
Schedule	+45.5	+26.6	--	--	+72.1
Engineering	-412.0	--	--	--	-412.0
Estimating	+1452.1	+127.3	--	+80.1	+1659.5
Other	--	--	--	--	--
Support	--	+16.3	--	--	+16.3
Subtotal	+1104.1	+170.2	--	+80.1	+1354.4
Total Changes	+4087.4	+1037.0	+28.5	+685.4	+5838.3
CE - Cost Variance	7473.9	1621.5	57.0	833.2	9985.6
CE - Cost & Funding	7473.9	1621.5	57.0	833.2	9985.6

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	0.0	0.0	0.0	0.0	0.0
Quantity	-128.4	+155.6	0.0	0.0	+27.2
Schedule	+416.6	-115.1	0.0	0.0	+301.5
Engineering	+708.4	0.0	+6.8	-13.5	+701.7
Estimating	+1651.0	+595.2	+19.4	+508.7	+2774.3
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+85.1	0.0	0.0	+85.1
Subtotal	+2647.6	+720.8	+26.2	+495.2	+3889.8
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	0.0	0.0	--	--	0.0
Engineering	-317.6	--	--	--	-317.6
Estimating	+1242.9	+102.3	--	+61.4	+1406.6
Other	--	--	--	--	--
Support	--	+13.5	--	--	+13.5
Subtotal	+925.3	+115.8	--	+61.4	+1102.5
Total Changes	+3572.9	+836.6	+26.2	+556.6	+4992.3
CE - Cost Variance	6589.5	1333.3	52.2	696.8	8671.8
CE - Cost & Funding	6589.5	1333.3	52.2	696.8	8671.8

Previous Estimate: December 2003

RDT&E	\$M	
	Base Year	Then Year
Current Change Explanations		
Economic adjustment for negative program change (Economic)	N/A	+18.5
Slipped Geosynchronous Earth Orbit (GEO) Satellites 1 and 2 deliveries one year due to technical performance challenges (Schedule)	0.0	+45.5
Removed previously reported Block II redesign funds from FY08-10 (not included in approved Acquisition Program Baseline) (Engineering)	-317.6	-412.0
Below Threshold Reprogramming, June 2004 (Estimating)	+17.5	+19.8
Increased Engineering and Manufacturing Development estimate due to technical performance challenges (Estimating)	+972.1	+1118.4
Extend contract past FY10 due to technical performance challenges (Estimating)	+101.9	+131.8
Increased GEO 3-5 Parts Obsolescence requirement due to program delays (Estimating)	+151.4	+182.1
RDT&E Subtotal	+925.3	+1104.1

Procurement	\$M	
	Base Year	Then Year
Current Change Explanations		
Slip of procurement (Block Buy) profile from FY06-07 to FY06-08 (Schedule)	0.0	+26.6
Additional funds for production cost growth due to technical performance challenges (Estimating)	+24.6	+27.8
GEO 4 (FY12) and GEO 5 (FY13) funds added due to restoration of launch support capability (Estimating)	+51.5	+66.2
Range support added for GEO 3-5 (FY11-13) due to estimating error (Estimating)	+26.2	+33.3
Procure additional replacement components to assure continuing operations support of Mobile Ground Terminals as they near end of design life (Support)	+13.5	+16.3
Procurement Subtotal	+115.8	+170.2

Acq O&M	\$M	
	Base Year	Then Year
Current Change Explanations		
Increased O&M sustainment costs (FY11) due to program delays (Estimating)	+86.7	+111.6
O&M cost estimate refined due to a net reduction of Contractor Logistics Support consistent with contract negotiations between prime and sub-contractors. (Estimating)	-25.3	-31.5
Acq O&M Subtotal	+61.4	+80.1

Contracts

Appropriation: RDT&E	
Contract Name	SBIRS High EMD Mod
Contractor	Lockheed Martin Space Sys
Contractor Location	Sunnyvale , CA
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	1590.1	2	4937.4	N/A	2	5558.4	6095.4

	Cost Variance	Schedule Variance
Previous Cumulative Variances	-74.9	-31.6
Cumulative Variances To Date (4/25/2004)	-136.5	-50.4
Net Change	-61.6	-18.8
Percent Variance		
Percent Complete		

Cost And Schedule Variance Explanations

Performance against the current Performance Measurement Baseline reflects an unfavorable cumulative Cost Variance of \$136.5, compared to an unfavorable \$74.9M reported in the previous SAR. The net change of \$61.6M is mainly experienced in the space segment (\$49.9M): Geosynchronous Earth Orbit (GEO) Payload (\$29.6M), Highly Elliptical Orbit (HEO) Sensor 1 (\$7.9M), Spacecraft (\$6.5M), as well as Integration, Assembly, Test and Checkout (IAT&C) (\$5.9M). Ground and Systems Engineering, Integration, and Test (SEIT) segments each experienced unfavorable Cost Variances of \$3.7M. Cost Variances will be reset to reflect the program replan, which is currently underway.

The unfavorable Schedule Variance has increased to \$50.4M, compared to \$31.6M reported in the previous SAR. The net increase of \$18.8M is mainly in the Space segment (\$15.9M) and associated with the technical difficulties experienced with the Spacecraft (\$7.7M) and GEO Payload (\$9M). Ground and SEIT segments experienced unfavorable Schedule Variances of \$2M and \$1.8M, respectively. Schedule Variances will be reset to reflect the program replan, which is currently underway.

Contract Comments

The current Engineering and Manufacturing Development contract Estimated Price, as reported in the April 2004 Cost Performance Report, is \$5,558.4M, compared to \$4,641.4M reported in the previous SAR. The increase results from the program replan that is currently underway. The anticipated level of cost growth and Estimated Price may be adjusted as the current replanning process and contract negotiation are completed.

Note: The contractor and Program Manager's preliminary Estimated Price at Completion will not be finalized until contract replan negotiations are completed.

Deliveries and Expenditures

Deliveries To Date	Plan	Actual	Total Quantity	Percent Delivered
Development	0	0	2	0.00%
Production	0	0	3	0.00%
Total Program Quantities Delivered	0	0	5	0.00%

Expenditures and Appropriations (TY \$M)

Total Acquisition Cost	9985.6	Years Appropriated	10
Expenditures To Date	3873.1	Percent Years Appropriated	52.63%
Percent Expended	38.79%	Appropriated to Date	4514.0
Total Funding Years	19	Percent Appropriated	45.21%

Operating and Support Cost

Assumptions and Ground Rules

These Operations and Maintenance funds support the activation of new SBIRS High Component ground operating and training facilities at world wide sites. 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, OCONUS 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 25-year Life Cycle Cost, is based upon the Estimate at Completion dated April 2002 and is consistent with the 2004 replan.

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
Mission Pay & Allowance	49.3	--
Unit Level Consumption	11.1	--
Intermediate Maintenance	17.2	--
Depot Maintenance	--	--
Contractor Support	23.0	--
Sustaining Support	15.7	--
Indirect	0.4	--
Other	--	--
Total Unitized Cost (Base Year 1995 \$)	116.7	--

Total O&S Costs \$M	SBIRS (High)	Defense Support Prog
Base Year	2917.0	--
Then Year	3985.0	--



Defense Acquisition Management Information Retrieval (DAMIR)



Selected Acquisition Report (SAR)

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



SBIRS HIGH

As of December 31, 2004

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Program Information

Designation And Nomenclature (Popular Name)

Space Based Infrared System (SBIRS) High Program

DoD Component

Air Force

Responsible Office

Responsible Office

Col Randall S. Weidenheimer	Phone	310-363-1807
SMC/IS	Fax	--
185 Discoverer Blvd.	DSN Phone	833-1807
Suite 2512	DSN Fax	--
El Segundo, CA 90245-4695	Date Assigned	February 3, 2004
randall.weidenheimer@losangeles.af.mil		

References

SAR Baseline (Development Estimate)

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

Approved APB

USecAF Approved Acquisition Program Baseline (APB) dated September 2, 2002

Mission and Description

The Space Based Infrared System (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 Characterization. The baseline architecture for SBIRS High includes two Highly Elliptical Orbit (HEO) sensors and five Geosynchronous Earth Orbit (GEO) satellites (four operational and one spare), in addition to the following ground elements: a CONUS-based Mission Control Station and Mission Control Station Backup, overseas Relay Ground Stations, Multi-Mission Mobile Processor, 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.

Executive Summary

Nunn-McCurdy Unit Cost Breach: The Under Secretary of the Air Force (USecAF) memorandum dated January 19, 2005, indicated the current program of record would not be executed and directed that the configuration of the Geosynchronous Earth Orbit (GEO) 3-5 block upgrade would be determined after the results of the Acquisition Decision Memorandum-directed Technology Insertion study and the Program Budget Decision-directed Requirements Examination are available. Based on the study results, a revised Procurement estimate will be incorporated in a later revised Acquisition Program Baseline (APB). The System Program Director (SPD) identified total Average Program Unit Cost (APUC) growth greater than the 15% Congressional notification threshold, and advised USecAF on January 27, 2005. Acting Secretary of the Air Force letters dated March 10, 2005, notified Congress of a 15% and a possible 25% APUC breach of the APB. The Acting Secretary directed an independent program assessment to be performed.

Congressional Report: The SBIRS status report to the Defense and Intelligence Committees was completed and is in coordination. The report responds to Congressional direction to detail the cause of the most recent SBIRS cost increases, schedule delays, and technical problems; the most recent Defense Support Program gap analysis and any effect that further delays will have on United States early warning, technical intelligence, and missile defense capabilities; steps taken to address the most recent SBIRS technical difficulties; any adjustments in management and contract arrangements with the contractor to reflect the most recent program challenges; remaining risk areas; and an assessment of the confidence level in the SBIRS schedule and cost estimates for the remainder of the program.

SBIRS Operations and Sustainment: The SBIRS Integrated Training Suite, providing initial and unit qualification training for all crew members, was operationally accepted. The warfighter received improved situational awareness with the implementation of a stand-alone classified capability. Both the operator workstation displays and overhead monitors were replaced, providing significant improvements as well as decreased maintenance time due to increased reliability. In a few limited cases, SBIRS was the first and only real-time source of warning data during Operation Iraqi Freedom (OIF). The SBIRS information provided during OIF improved the overall combat effectiveness of the in-theater warfighter. SBIRS major contribution during OIF was providing situational awareness information through the SBIRS Mission Control Station (MCS). The MCS sent real-time electronic messages to the in-theater command centers that used this data to advise other units of potential activity that required immediate attention.

Highly Elliptical Orbit (HEO) Payload Status: The program office delivered the HEO 1 payload to the host on August 5, 2004. The flight software is completing qualification testing and the resolution of the single board computer anomaly for HEO is complete. The HEO 2 payload successfully completed final thermal vacuum testing on December 22, 2004. The final Electromagnetic Interference (EMI) Run for Record was completed January 9, 2005. The HEO 2 radiometric performance is better than HEO 1, and the EMI emissions, while still requiring a minor waiver from the mission partner, are also significantly improved. The program office is currently investigating potential hardware issues with nichrome resistors and completing qualification testing of flight software. As flight software qualification testing has recently slipped, the HEO 2 payload delivery will slip until all formal software qualification testing dry runs are complete. This is expected to occur in late April-early May 2005, still well before the host need date of mid-June 2005.

Geosynchronous Earth Orbit Status: GEO spacecraft and payload hardware qualification and deliveries are progressing. A successful Signal Processing Assembly (SPA) software Critical Design Review in October 2004 validated the redesign of the system architecture. A critical GEO spacecraft risk reduction activity, i.e., the early bus test, has entered the third of five phases, integrating flight hardware to a surrogate bus structure. This testing has been very successful in the early identification and mitigation of hardware/software integration issues. The GEO 1 payload infrared sensor completed performance testing and was integrated onto the payload structure along with the SPA power supply and the Common Gyro Reference Assemblies.

Interim SBIRS Missile Defense Capability (ISMDC): ISMDC was declared ready to support Limited Defensive Operations (LDO) by the Director, Ground-based Midcourse Defense (GMD), on September 13, 2004, during his

readiness inspection at Buckley Air Force Base, Colorado. ISMDC has been capable of supporting LDO since mid-June 2004, and was the first mission capable GMD element. SBIRS is the "bell ringer" that enables the GMD system to acquire and engage incoming enemy warheads. Work to fully integrate the ISDMC mission into the operational SBIRS MCS software is on-going, with completion anticipated by April 2005.

Defense Support Program-Capable Multi-Mission Mobile Processor (DM3P): The DM3P program is progressing toward fielding and operational acceptance in December 2005. High Altitude Electromagnetic Pulse testing on various units was conducted throughout October-December 2004 at White Sands Missile Range (WSMR), New Mexico. M3P communications links tests were completed at WSMR and the electronic technical manuals verification testing continued during that same period. The contractor completed a system test in December 2004 that verified the majority of the remaining system requirements. Formal development testing and operational testing will occur in 2005.

Test and Evaluation Master Plan (TEMP): The SBIRS TEMP was approved on December 8, 2004. The DM3P annex to the SBIRS TEMP is with USecAF for coordination and will be forwarded to the Office of the Secretary of Defense staff for coordination in late February 2005.

Software Cost, Schedule and Performance: There are no significant software issues in this program at this time.

Threshold Breaches

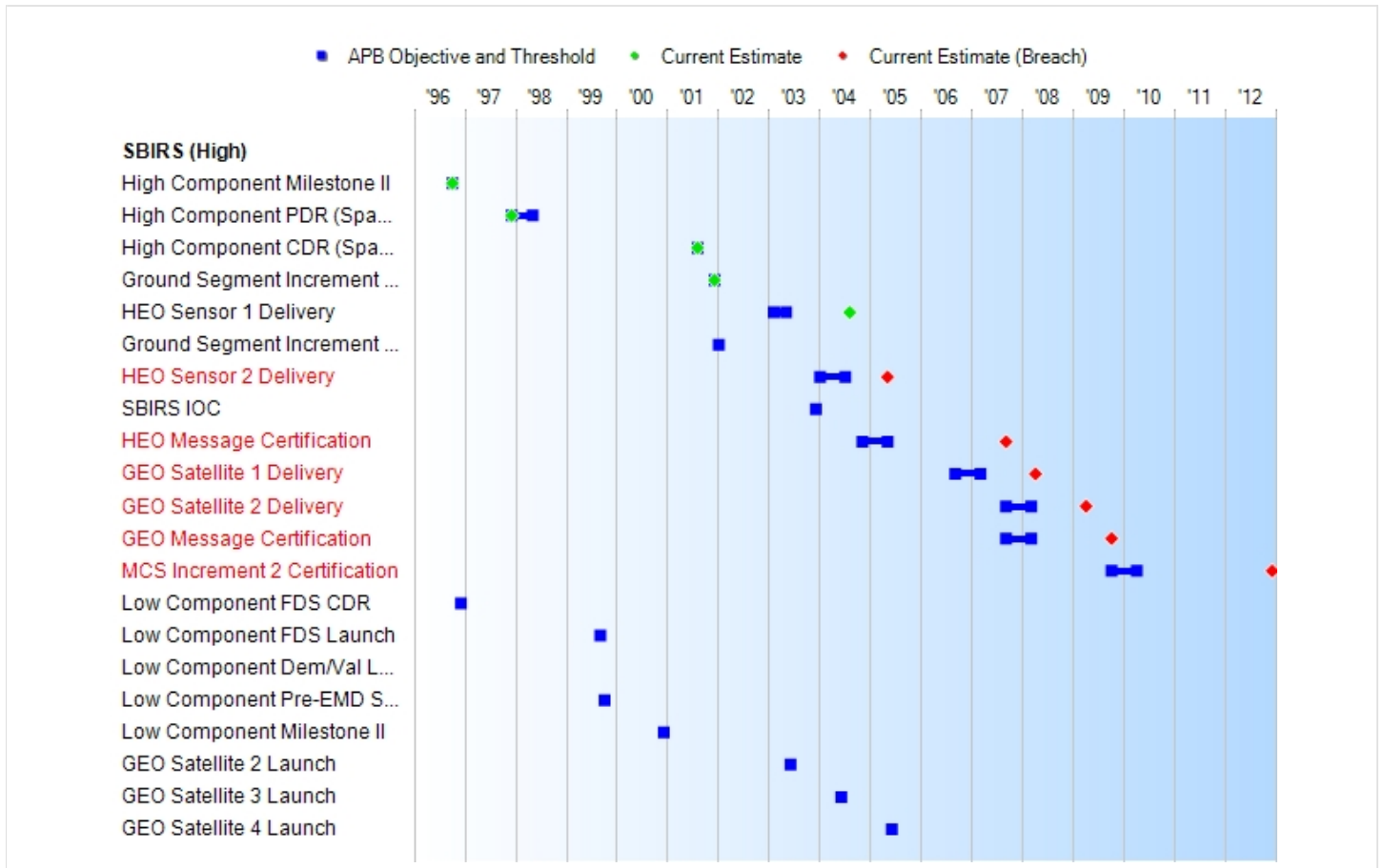
APB Breaches	
Schedule	<input checked="" type="checkbox"/>
Performance	<input type="checkbox"/>
Cost	
RDT&E	<input checked="" type="checkbox"/>
Procurement	<input checked="" type="checkbox"/>
MILCON	<input type="checkbox"/>
Acq O&M	<input type="checkbox"/>
Unit Cost	
PAUC	<input checked="" type="checkbox"/>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

Explanation of Breach

The quarterly exception SAR dated June 30, 2005, addressed all current schedule breaches, the RDT&E breach and the Program Acquisition Unit Cost breach. This report reflects additional Procurement and Average Procurement Unit Cost (APUC) breaches due to a change in acquisition strategy and the 2004 replan impact on the Procurement Cost Estimate. Acting Secretary of the Air Force letters dated March 10, 2005, notified Congress of a 15% and a possible 25% APUC breach of the Acquisition Program Baseline (APB). A revised APB is in development.

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

Schedule



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	FEB 2003	MAY 2003	AUG 2004
Ground Segment Increment 2 Certification	JAN 2002	N/A	N/A	N/A
HEO Sensor 2 Delivery	SEP 2003	JAN 2004	JUL 2004	MAY 2005 ¹ (Ch-1)
SBIRS IOC	DEC 2003	N/A	N/A	N/A
HEO Message Certification	N/A	NOV 2004	MAY 2005	SEP 2007 ¹ (Ch-1)
GEO Satellite 1 Delivery	N/A	SEP 2006	MAR 2007	APR 2008 ¹ (Ch-1)
GEO Satellite 2 Delivery	N/A	SEP 2007	MAR 2008	APR 2009 ¹ (Ch-1)
GEO Message Certification	N/A	SEP 2007	MAR 2008	OCT 2009 ¹
MCS Increment 2 Certification	N/A	OCT 2009	APR 2010	DEC 2012 ¹ (Ch-1)
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

¹APB Breach

Change Explanations

(Ch-1) : The schedule changes are consistent with the government assessment of the 2004 replan and reflect realistic delivery dates. These new schedule dates, with the exception of HEO Sensor 2 Delivery, will be included in a revised SBIRS Acquisition Program Baseline. HEO Sensor 2 Delivery has recently been revised due to flight software qualification testing slips.

HEO Sensor 2 Delivery changed from December 2004 to May 2005.

HEO Message Certification changed from March 2007 to September 2007.

GEO Satellite 1 Delivery changed from September 2007 to April 2008.

GEO Satellite 2 Delivery changed from September 2008 to April 2009.

MCS Increment 2 Certification changed from April 2011 to December 2012.

Memo

Acronyms:

CDR - Critical Design Review

GEO - Geosynchronous Earth Orbit

HEO - Highly Elliptical Orbit

IOC - Initial Operational Capability

MCS - Mission Control Station

PDR - Preliminary Design Review

Notes:

1. IOC will be determined by Air Force Space Command.
2. GEO Satellite Delivery is defined as a System Program Office accepted satellite ready for shipment to the launch facility.

Performance

Note: Classified and unclassified performance parameters are displayed in the Classified DAMIR.

Track To Budget**RDT&E**

APPN 3600 (Air Force) Invalid program element code (0640441) removed.
SBIR High Element EMD

Procurement

APPN 3020 (Air Force) ICN MSSBIR
SBIR High Missile Procurement

MILCON

APPN 3300 (Air Force) Invalid program element code (0640441) removed.
SBIRS ARCHI-EMD (SPACE) Military Construction

Acq O&M

APPN 3400 (Air Force) Invalid program element code (0350915) removed.
SBIRS Operation and Maintenance

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

Appropriation	BY1995 \$M				TY \$M		
	SAR Baseline Dev Est	Current APB Development Objective/Threshold	Current Estimate	Current Estimate	SAR Baseline Dev Est	Current APB Development Objective	Current Estimate
RDT&E	3016.6	5426.4	5969.0	6551.1 ¹	3386.5	6151.3	7516.1
Procurement	496.7	1261.5	1387.6	1499.4 ¹	584.5	1497.4	1898.6
Flyaway	496.7	--	--	--	584.5	--	--
Recurring	496.7	--	--	0.0	584.5	--	0.0
Non Recurring	0.0	--	--	0.0	0.0	--	0.0
Support	0.0	--	--	0.0	0.0	--	0.0
Other Support	0.0	--	--	0.0	0.0	--	0.0
Initial Spares	0.0	--	--	0.0	0.0	--	0.0
MILCON	26.0	51.9	57.1	52.1	28.5	57.0	57.0
Acq O&M	140.2	598.4	658.2	125.1	147.8	715.2	141.6
Total	3679.5	7338.2	N/A	8227.7	4147.3	8420.9	9613.3

¹ APB Breach

The Current Estimate is based upon the FY06 President's Budget and excludes FY10 and FY11 funds to support follow-on development work.

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

Unit of measure for SBIRS is Geosynchronous Earth Orbit satellites.

The SBIRS Single Acquisition Management Plan approved on September 13, 2002, identifies no Low Rate Initial Production.

Funding Summary

Appropriation and Quantity Summary

FY2006 President's Budget / December 2004 SAR (TY\$ M)

Appropriation	Prior	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	To Complete	Total
RDT&E	4189.9	594.2	756.6	653.7	532.6	382.1	213.6	162.0	31.4	7516.1
Procurement	94.7	0.0	3.7	120.2	596.4	572.0	466.4	45.2	0.0	1898.6
MILCON	57.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.0
Acq O&M	87.5	10.4	12.0	13.5	14.3	3.5	0.4	0.0	0.0	141.6
PB2006 Total	4429.1	604.6	772.3	787.4	1143.3	957.6	680.4	207.2	31.4	9613.3
PB2005 Total	4494.9	572.9	716.7	1446.8	471.4	485.0	443.5	0.0	0.0	8631.2
Delta	-65.8	31.7	55.6	-659.4	671.9	472.6	236.9	207.2	31.4	982.1

Quantity	Prior	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	2
Production	0	0	0	0	1	1	1	0	0	3
PB2006 Total	0	0	0	0	1	1	1	0	0	5
PB2005 Total	0	0	0	3	0	0	0	0	0	5
Delta	0	0	0	-3	1	1	1	0	0	0

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	--	--	--	--	--	--	524.6
2003	--	--	--	--	--	--	782.9
2004	--	--	--	--	--	--	621.8
2005	--	--	--	--	--	--	594.2
2006	--	--	--	--	--	--	756.6
2007	--	--	--	--	--	--	653.7
2008	--	--	--	--	--	--	532.6
2009	--	--	--	--	--	--	382.1
2010	--	--	--	--	--	--	213.6
2011	--	--	--	--	--	--	162.0
2012	--	--	--	--	--	--	21.5
2013	--	--	--	--	--	--	9.9
Subtotal	2	--	--	--	--	--	7516.1

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	--	--	--	--	--	--	158.8
1997	--	--	--	--	--	--	184.3
1998	--	--	--	--	--	--	320.6
1999	--	--	--	--	--	--	471.9
2000	--	--	--	--	--	--	370.0
2001	--	--	--	--	--	--	501.9
2002	--	--	--	--	--	--	473.5
2003	--	--	--	--	--	--	697.8
2004	--	--	--	--	--	--	542.6
2005	--	--	--	--	--	--	508.3
2006	--	--	--	--	--	--	634.2
2007	--	--	--	--	--	--	536.7
2008	--	--	--	--	--	--	428.1
2009	--	--	--	--	--	--	300.9
2010	--	--	--	--	--	--	164.7
2011	--	--	--	--	--	--	122.4
2012	--	--	--	--	--	--	15.9
2013	--	--	--	--	--	--	7.2
Subtotal	2	--	--	--	--	--	6551.1

The Current Estimate is based upon the FY06 President's Budget (PB) and excludes FY10 and FY11 funds to support follow-on development work.

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
2007	--	--	--	--	--	--	116.0
2008	1	--	--	--	--	--	592.4
2009	1	--	--	--	--	--	570.1
2010	1	--	--	--	--	--	464.4
2011	--	--	--	--	--	--	43.3
Subtotal	3	--	--	--	--	--	1786.2

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
2007	--	--	--	--	--	--	94.6
2008	1	--	--	--	--	--	473.2
2009	1	--	--	--	--	--	446.1
2010	1	--	--	--	--	--	355.9
2011	--	--	--	--	--	--	32.5
Subtotal	3	--	--	--	--	--	1402.3

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

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M
2007	--	--
2008	1	520.4
2009	1	490.6
2010	1	391.3
2011	--	--
Subtotal	3	1402.3

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	--	--	--	--	--	--	94.7
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	--	3.7
2007	--	--	--	--	--	--	4.2
2008	--	--	--	--	--	--	4.0
2009	--	--	--	--	--	--	1.9
2010	--	--	--	--	--	--	2.0
2011	--	--	--	--	--	--	1.9
Subtotal	--	--	--	--	--	--	112.4

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	--	--	--	--	--	--	82.9
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	--	3.1
2007	--	--	--	--	--	--	3.5
2008	--	--	--	--	--	--	3.2
2009	--	--	--	--	--	--	1.5
2010	--	--	--	--	--	--	1.5
2011	--	--	--	--	--	--	1.4
Subtotal	--	--	--	--	--	--	97.1

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	16.8
2003	6.0
Subtotal	52.1

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	--
2004	8.7
2005	10.4
2006	12.0
2007	13.5
2008	14.3
2009	3.5
2010	0.4
Subtotal	141.6

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	--
2004	7.6
2005	8.9
2006	10.1
2007	11.1
2008	11.5
2009	2.8
2010	0.3
Subtotal	125.1

Low Rate Initial Production

None

Foreign Military Sales

None

Nuclear Cost

None

Unit Cost

Unit Cost Report

Unit Cost	BY1995 \$M		
	Current UCR Baseline (SEP 2002 APB)	Current Estimate (DEC 2004 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	7338.2	8227.7	
Quantity	5	5	
Unit Cost	1467.640	1645.540	+12.12
Average Procurement Unit Cost (APUC)			
Cost	1261.5	1499.4	
Quantity	3	3	
Unit Cost	420.500	499.800	+18.86 ¹

Unit Cost	BY1995 \$M		
	Original UCR Baseline	Current Estimate (DEC 2004 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost		8227.7	
Quantity		5	
Unit Cost		1645.540	+0.00
Average Procurement Unit Cost (APUC)			
Cost		1499.4	
Quantity		3	
Unit Cost		499.800	+0.00

Unit Cost	TY \$M		
	Current UCR Baseline (SEP 2002 APB)	Current Estimate (DEC 2004 SAR)	TY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	8420.9	9613.3	
Unit Cost	1684.180	1922.660	+14.16
Average Procurement Unit Cost (APUC)			
Cost	1497.4	1898.6	
Unit Cost	499.133	632.867	+26.79

Unit Cost	TY \$M		
	Original UCR Baseline	Current Estimate (DEC 2004 SAR)	TY % Change
Program Acquisition Unit Cost (PAUC)			
Cost		9613.3	
Unit Cost		1922.660	+0.00
Average Procurement Unit Cost (APUC)			
Cost		1898.6	
Unit Cost		632.867	+0.00

¹ Nunn-McCurdy Breach

1. The PAUC percent change of +12.1% includes the change to an annual buy estimate (1+1+1) for Geosynchronous Earth Orbit (GEO) 3-5, and the separation of Acquisition Operations and Maintenance (O&M) and Operations and Support (O&S) costs following Increment 1 Initial Operational Capability (IOC) in FY02. The PAUC percent change against the September 2002 Acquisition Program Baseline (APB) would be +19.6% if these changes were not included.

2. The APUC percent change of +18.86% includes the change to an annual buy estimate (1+1+1) for GEO 3-5, while the approved APB (September 2002) reflects a block buy of these three satellites. The percent increase would be +13.7% if the block buy of these satellites (instead of the 1+1+1 profile) is used. Thus, the annual buy impact makes up the difference between cost growth of +13.7% and +18.86%. An additional factor impacting growth against the September 2002 APB is content that has been reidentified as RDT&E and thus no longer contained in the Procurement Current Estimate. Without this change, the percent change would be +22.2%. See Section 12.g for further explanation.

Unit Cost Breach Data

Changes from Previous SAR	\$M/Qty.	Percent
PAUC (BY \$M)	-88.820	-5.12
APUC (BY \$M)	55.367	+12.46
PAUC Quantity		0.00
PAUC (TY \$M)	-74.460	-3.73
APUC (TY \$M)	92.367	+17.09

Initial SAR Information JUN 1995	BY1995 \$M	TY \$M
Program Acquisition Cost	2308.0	2670.3

Unit Cost PAUC Changes

The PAUC decrease reflects the programmatic change in acquisition strategy for GEO 3-5 and incorporates the separation of Acquisition O&M and O&S costs following Increment 1 IOC in FY02. As various SBIRS products reached operational status - Mission Control Station Buckley, Interim Mission Control Station Backup Boulder, Integrated Training Suite - the O&S costs were never removed from the O&M account. This report corrects this error back to FY03. This bookkeeping methodology is consistent with other space programs.

Unit Cost APUC Changes

The APUC increase reflects the programmatic change in acquisition strategy for GEO 3-5 and the reclassification of content to 3600.

Impact of Performance or Schedule Changes

The schedule changes are consistent with the government assessment of the 2004 replan and reflect realistic delivery dates. These new schedule dates, with the exception of HEO Sensor 2 Delivery, are included in the revised SBIRS Acquisition Program Baseline that is currently in coordination at Headquarters, Air Force. HEO Sensor 2 Delivery has recently been revised due to flight software qualification testing slips.

Program Management or Control

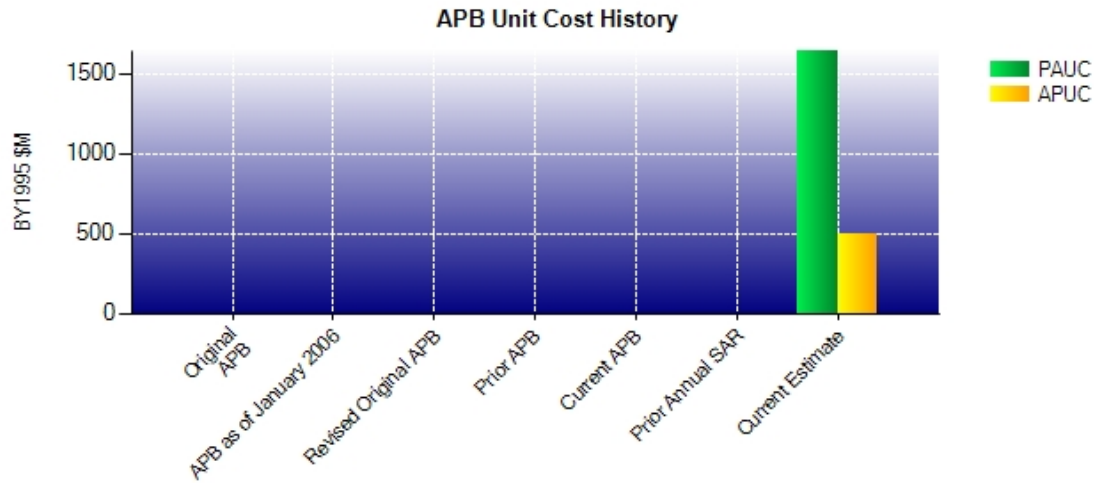
Adjustments to program management include adopting an 'event-driven' approach, with both entrance and exit criteria for key events; adjusting the program business rhythm to enable more rapid information exchange to identify and address problems faster; increasing government participation in program test activities; and more rigorous and disciplined tracking of earned value progress.

Cost Control Actions

Each month, the contractor's Earned Value Management System information is reviewed and analyzed by the program office cost analysis and technical staff. Results are briefed to the System Program Director and program managers and are also reported in the Monthly Acquisition Report to the Air Force Program Executive Officer for Space. Recently the contractor implemented a more disciplined system requiring business manager approval to implement baseline changes that affect any other element of the program. It also requires the working project managers to complete a quarterly review of their Estimate At Completion. The 2004 replan baseline was implemented in Real Time Project, a scheduling tool that identifies critical paths and links interdependencies across the program. This tool is very beneficial in conducting 'what if' analyses to understand the effects of delayed milestones on future planned work. Early detection of potential program issues and future impacts provides the forward-looking insight required for successful program execution.

Nunn-McCurdy Comments

Unit Cost History



	Date	BY1995 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	N/A	N/A	N/A	N/A	N/A
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	N/A	N/A	N/A	N/A	N/A
Current APB	N/A	N/A	N/A	N/A	N/A
Prior Annual SAR	N/A	N/A	N/A	N/A	N/A
Current Estimate	DEC 2004	1645.540	499.800	1922.660	632.867

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	-18.500	5.480	104.700	83.580	894.800	0.000	23.140	1093.200	1922.660

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	-8.933	-37.384	-5.500	0.000	353.867	0.000	38.567	340.617	632.867

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	9613.3
Total Quantity	N/A	5	5	5
Prog. Acq. Unit Cost (PAUC)	N/A	829.460	N/A	1922.660

Cost Variance

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	-153.3	-62.0	-1.6	-17.4	-234.3
Quantity	-152.7	+180.1	0.0	0.0	+27.4
Schedule	+540.0	-47.0	0.0	0.0	+493.0
Engineering	+425.7	0.0	+7.8	-15.6	+417.9
Estimating	+3427.7	+848.6	+22.3	+718.4	+5017.0
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+117.3	0.0	0.0	+117.3
Subtotal	+4087.4	+1037.0	+28.5	+685.4	+5838.3
Current Changes					
Economic	+88.7	+35.2	+0.1	+17.8	+141.8
Quantity	--	--	--	--	--
Schedule	--	+30.5	--	--	+30.5
Engineering	--	--	--	--	--
Estimating	-46.5	+213.0	-0.1	-709.4	-543.0
Other	--	--	--	--	--
Support	--	-1.6	--	--	-1.6
Subtotal	+42.2	+277.1	0.0	-691.6	-372.3
Total Changes	+4129.6	+1314.1	+28.5	-6.2	+5466.0
CE - Cost Variance	7516.1	1898.6	57.0	141.6	9613.3
CE - Cost & Funding	7516.1	1898.6	57.0	141.6	9613.3

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	0.0	0.0	0.0	0.0	0.0
Quantity	-128.4	+155.6	0.0	0.0	+27.2
Schedule	+416.6	-115.1	0.0	0.0	+301.5
Engineering	+390.8	0.0	+6.8	-13.5	+384.1
Estimating	+2893.9	+697.5	+19.4	+570.1	+4180.9
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+98.6	0.0	0.0	+98.6
Subtotal	+3572.9	+836.6	+26.2	+556.6	+4992.3
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	--	0.0	--	--	0.0
Engineering	--	--	--	--	--
Estimating	-38.4	+167.6	-0.1	-571.7	-442.6
Other	--	--	--	--	--
Support	--	-1.5	--	--	-1.5
Subtotal	-38.4	+166.1	-0.1	-571.7	-444.1
Total Changes	+3534.5	+1002.7	+26.1	-15.1	+4548.2
CE - Cost Variance	6551.1	1499.4	52.1	125.1	8227.7
CE - Cost & Funding	6551.1	1499.4	52.1	125.1	8227.7

Previous Estimate: June 2004

RDT&E	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices (Economic)	N/A	+88.7
Adjustment for Current and Prior Inflation (Estimating)	-17.8	-20.4
Estimate revised due to Congressional reduction (Estimating)	-12.2	-14.3
Updated actuals for FY03 and FY04 (Estimating)	-0.5	-0.6
Transfer test range overhead funds to actual Test Range Program Element (Estimating)	-4.4	-5.5
FY06 President's Budget reduction (Estimating)	-14.9	-18.9
Estimate adjusted for Multi-Mission Mobile Processor fielding delays (Estimating)	+3.9	+4.2
Geosynchronous Earth Orbit 1-2 launch range support funding (Estimating)	+7.5	+9.0
RDT&E Subtotal	-38.4	+42.2

Procurement	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices (Economic)	N/A	+35.2
Additional funds for production cost growth (Estimating)	+65.1	+83.6
Changed Block Buy in FY08 to Annual Buy in FY08, FY09 and FY10 (Schedule)	0.0	+30.5
Acquisition strategy change from block buy to annual buy (Estimating)	+104.5	+132.0
Estimate revised for launch support (Estimating)	-2.3	-2.9
Estimate revised for range support (Estimating)	+0.3	+0.3
Estimate revised for Mission Control Station Backup (Support)	-0.8	-0.8
Adjustment for Current and Prior Inflation (Support)	-0.7	-0.8
Procurement Subtotal	+166.1	+277.1

MILCON	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices (Economic)	N/A	+0.1
Adjustment for Current and Prior Inflation (Estimating)	-0.1	-0.1
MILCON Subtotal	-0.1	0.0

Acq O&M	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices (Economic)	N/A	+17.8
Adjustment for Current and Prior Inflation (Estimating)	-1.7	-2.0
Reclassification of Acquisition O&M costs as Operations and Support to sustain operational components (Estimating)	-570.0	-707.4
Acq O&M Subtotal	-571.7	-691.6

Contracts

Appropriation: RDT&E	
Contract Name	SBIRS High EMD Mod
Contractor	Lockheed Martin Space Sys
Contractor Location	Sunnyvale , CA
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	1590.1	2	4759.5	N/A	2	5864.3	6033.2

	Cost Variance	Schedule Variance
Previous Cumulative Variances	-136.5	-50.4
Cumulative Variances To Date	+0.2	-7.9
Net Change	+136.7	+42.5
Percent Variance		
Percent Complete		

Cost And Schedule Variance Explanations

As indicated in the previous Selected Acquisition Report (SAR), the program initiated a replan which is essentially complete. Cost and schedule variances were set to zero as part of the replan. Performance against the rebaselined Performance Measurement Baseline reflects a cumulative favorable Cost Variance of \$0.2M. As a result of the Over Target Baseline (OTB), the previous cumulative cost variance of \$(136.5)M was set to zero. Therefore, the net change to cost variance is \$136.7M: $-\$136.5 + \$0.2M$.

Since the replan, the program has experienced a cumulative unfavorable Schedule Variance of \$7.9M. The erosion is mainly due to challenges associated with the Geosynchronous Earth Orbit payload (\$3.6M), ground software (\$2.3M), and Highly Elliptical Orbit payload (\$1.6M). As the result of the OTB, the previous cumulative schedule variance of \$50.4M was set to zero. Therefore, the net change to schedule variance is \$42.5M: $\$50.4 - \$7.9M$.

Contract Comments

The current Engineering and Manufacturing Development contract Estimated Price, as reported in the December 2004 Cost Performance Report, is \$5,864.3M, compared to \$5,558.4M reported in the previous SAR. The increase results from the recently completed replan. The contractor and Program Manager's Estimated Price at Completion will not be finalized until contract replan negotiations are completed.

Deliveries and Expenditures

Deliveries To Date	Plan	Actual	Total Quantity	Percent Delivered
Development	0	0	2	0.00%
Production	0	0	3	0.00%
Total Program Quantities Delivered	0	0	5	0.00%

Expenditures and Appropriations (TY \$M)

Total Acquisition Cost	9613.3	Years Appropriated	11
Expenditures To Date	4456.7	Percent Years Appropriated	57.89%
Percent Expended	46.36%	Appropriated to Date	5033.7
Total Funding Years	19	Percent Appropriated	52.36%

Operating and Support Cost

Assumptions and Ground Rules

These Operations and Maintenance funds support the activation of new SBIRS High Component ground operating and training facilities at world wide sites. 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, OCONUS 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 25-year Life Cycle Cost, is based upon the Estimate at Completion dated April 2002 and is consistent with the 2004 replan.

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
Mission Pay & Allowance	49.3	--
Unit Level Consumption	11.1	--
Intermediate Maintenance	17.2	--
Depot Maintenance	--	--
Contractor Support	23.0	--
Sustaining Support	15.7	--
Indirect	0.4	--
Other	--	--
Total Unitized Cost (Base Year 1995 \$)	116.7	--

Total O&S Costs \$M	SBIRS (High)	Defense Support Prog
Base Year	2917.0	--
Then Year	3985.0	--



Defense Acquisition Management Information Retrieval (DAMIR)



Selected Acquisition Report (SAR)

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



SBIRS HIGH

As of September 30, 2005

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Program Information

Designation And Nomenclature (Popular Name)

Space Based Infrared System (SBIRS) High Program

DoD Component

Air Force

Responsible Office

Responsible Office

Col Randall S. Weidenheimer

SMC/IS

185 Discoverer Blvd.

Suite 2512

El Segundo, CA 90245-4695

randall.weidenheimer@losangeles.af.mil

Phone 310-363-1807

Fax --

DSN Phone 833-1807

DSN Fax --

Date Assigned February 3, 2004

References

SAR Baseline (Development Estimate)

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

Approved APB

USecAF Approved Acquisition Program Baseline (APB) dated September 2, 2002

Mission and Description

The Space Based Infrared System (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 Characterization. The baseline architecture for SBIRS High includes two Highly Elliptical Orbit (HEO) sensors and five Geosynchronous Earth Orbit (GEO) satellites (four operational and one spare), in addition to the following ground elements: a CONUS-based Mission Control Station and Mission Control Station Backup, overseas Relay Ground Stations, Multi-Mission Mobile Processors, 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.

Executive Summary

The SBIRS High program is submitting a quarterly exception SAR due to Nunn-McCurdy Program Acquisition Unit Cost and Average Procurement Unit Cost breaches.

Nunn-McCurdy Unit Cost Breach: On March 10, 2005, the Acting Secretary of the Air Force (SecAF) notified Congress that the SBIRS program had identified an Average Procurement Unit Cost (APUC) growth greater than 15%, and possibly greater than 25%. In the same letter, he directed the establishment of an Independent Program Assessment (IPA) and later directed an Independent Cost Assessment (ICA) to review the technical baseline and validate the program cost baseline. The ICA team activities, consisting of contractor site visits and cost data analysis, were held during the months of April through June 2005. The IPA team activities were held during June 2005 and included System Program Office (SPO) and contractor site visits; meetings with SBIRS users; and program cost, schedule and technical data analysis. The IPA team out-briefed the Air Force and Office of the Secretary of Defense in early July 2005. Based on the results of these assessments, the SecAF sent a Nunn-McCurdy notification to Congress on July 28, 2005, announcing both a 25% Program Acquisition Unit Cost and APUC certification threshold breach. The SBIRS HIGH System Program Office (SPO) is developing supporting documentation for a Defense Acquisition Executive certification of the program by December 13, 2005.

System Program Office Initiatives: The Air Force Program Executive Officer for Space (AFPEO/SP) endorsed additional staffing for the program office and has directed organizational changes consistent with recommendations from the IPA team. He also directed the immediate 'stand-up' of an operating location at the Lockheed Martin Space Systems Company (LMSSC) facility in Sunnyvale, California. A cadre of government program office personnel will form the nucleus of an in-plant factory presence and the program office is investigating an increase in non-organic expertise. In addition, the System Program Director established an organic, independent scheduling analysis function within the SPO. Its mission is to analyze the contractor's program schedule, assess credibility and completeness, identify missing or improper linkages, and provide periodic reports to the senior program office staff. The program office also requested that the Air Force Cost Analysis Agency (AFCAA) develop a cost model for the SBIRS program. The cost model was delivered in September 2005 and user training is underway. This model will give the program office a capability to develop cost projections independent of the contractor for both the Engineering and Manufacturing Development activity and future procurements. Lastly, the AFPEO/SP has reallocated Space and Missile Center resources to the program office to establish a team dedicated to Geosynchronous Earth Orbit (GEO) 3-5 acquisition activities.

SBIRS Operation and Sustainment: The SBIRS team provided significant improvements to the operational mission this year. Improvements and upgrades to the ground communications network and Mission Control Station (MCS) brought the program closer to readiness of the operational system for multi-satellite capability. Major software releases were fielded and operationally accepted for the Interim Mission Control Station Back-up and the MCS in January, May, and June 2005. These releases allow SBIRS operators to report events to the Ballistic Missile Defense System, providing early warning to interceptor missiles in support of the Presidentially mandated Homeland Defense capability. The software releases also modified the ground control and mission management software to allow SBIRS Highly Elliptical Orbit (HEO) data to be fused with the Defense Support Program satellite data to provide the warfighter an enhanced missile warning capability.

Highly Elliptical Orbit Payload Status: The HEO 2 payload successfully completed formal environmental and performance testing in February 2005. The Consent to Ship Review was approved by the PEO and the payload was shipped on September 27, meeting the host need date of mid-December 2005. Formal Software Item Qualification Testing is underway and scheduled to complete in March 2006.

Geosynchronous Earth Orbit Status: Significant progress has been made on the GEO 1 payload and spacecraft. In February 2005, Phase 3 of the satellite early bus testing was completed, successfully 'commanding' the flight software to communicate and power on all spacecraft subsystems and, later, successfully demonstrating hardware-software

connectivity between the two spacecraft processors. The GEO 1 flight communications subsystem was delivered to the contractor in February 2005. Payload mechanical integration was also completed in February 2005, and the payload ambient functional testing completed in August 2005. The spacecraft early integration tests successfully demonstrated the initial communication of the two payload computers. Payload early electrical check-out was completed and successfully powered on to stand-by on the primary side and redundant side. The first commanded motions of the Pointing Control Assembly (PCA) were achieved. The GEO core module propulsion subsystem was completed and delivered to the contractor for integration with the spacecraft. The GEO 1 payload thermal vacuum test is scheduled to start in October 2005. Current issues with PCA software schedules are under review.

Mission Control Station: MCS Expansion Phase 2 contract was awarded on August 31, 2005. The MCS, located at Buckley Air Force Base, Colorado, was expanded in Phase 1 to provide the user with an additional 24,000 square feet for operations and training activities. The next step, the facility preparation and utilization stage in Phase 2, provides equipment and supporting infrastructure such as network communications and modular furniture relocation. This phase will also relocate the training function to a larger area to facilitate integrated crew training and expand the launch and anomaly resolution center in preparation for the full SBIRS constellation. It will also provide increased floor space for the technical intelligence activities. The period of performance is 350 days from Authority to Proceed.

Ground Software: The SBIRS ground team delivered the first release of the HEO Interim Operations (HIO) software block. This release provides the Combined Task Force operators increased HEO capabilities. Building on the earlier HEO Early On-orbit Test (EOT) software, this first HIO release supports two spacecraft processing Telemetry, Tracking and Control and Mission Management and provides processing for one space asset. Later releases, scheduled for October 2005 and February 2006, will provide the software and updated databases with full capabilities for two space assets. The GEO ground software schedule is being coordinated with space segment activities as we work with the contractors to achieve a "one voice" schedule for the GEO 1 launch. GEO EOT Block C is progressing and is on track for delivery ahead of the early 2006 schedule date.

Test and Evaluation Management Plan (TEMP): The core TEMP document was signed by Director Operational Test and Evaluation in December 2004. The TEMP annex covering Effectivity 3 (HEO Message Certification) was drafted and a preliminary community review conducted at the last Integrated Test Team meeting on July 19, 2005. The next draft of this document is not planned until late October 2005 because it must include updates on any program changes resulting from the realignment of Effectivity 11 (Mission Control Station Backup-HEO) and Effectivity 3 milestones.

Software Cost, Schedule and Performance: Software status is addressed above.

Threshold Breaches

APB Breaches	
--------------	--

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

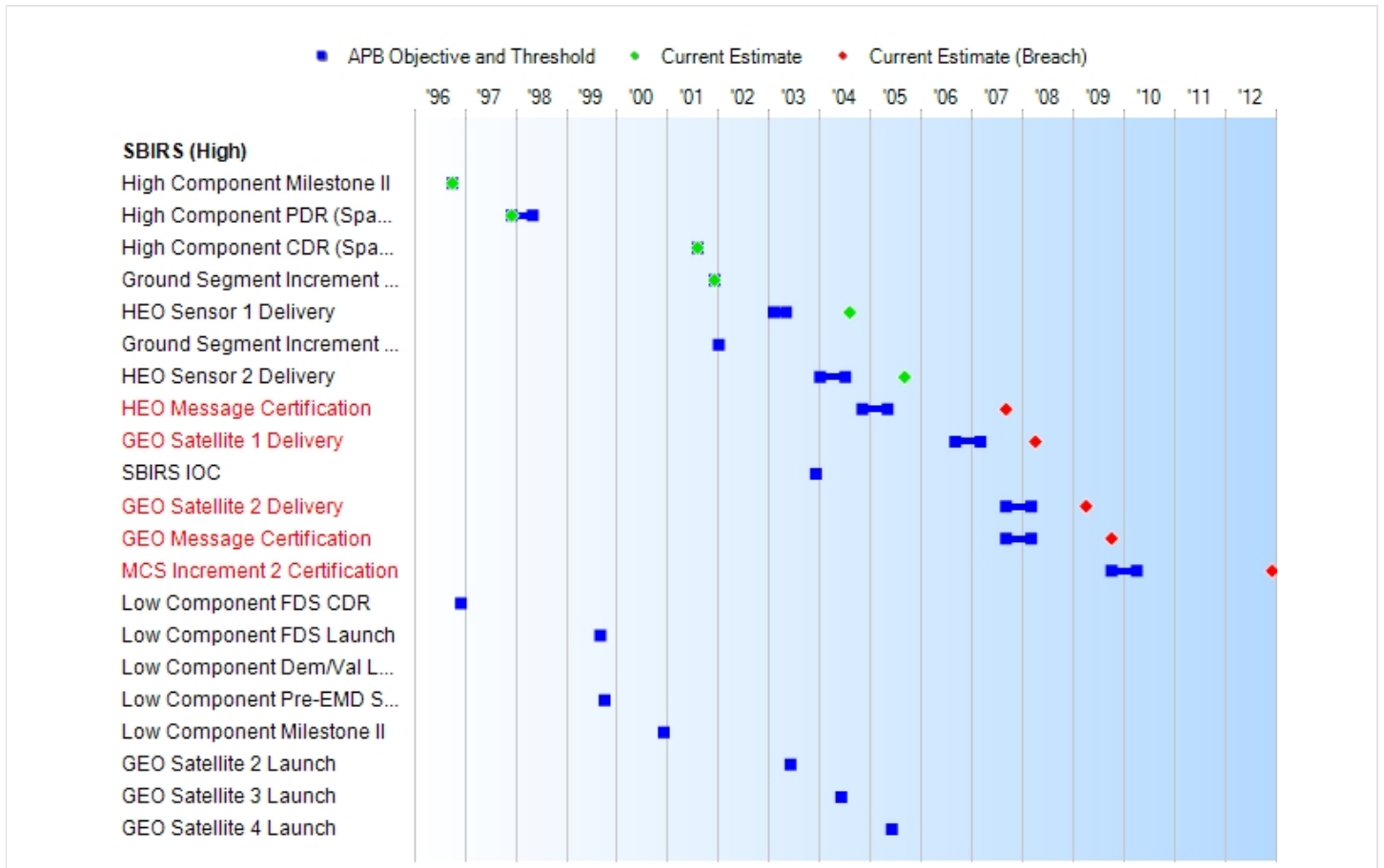
Explanation of Breach

The December 2004 Selected Acquisition Report addressed all current APB threshold breaches and both Nunn-McCurdy unit cost breaches exceeding 15% growth. This report maintains the previous threshold breaches and identifies both Nunn-McCurdy unit cost breaches exceeding 25% growth. Current Engineering and Manufacturing Development (EMD) cost growth is attributed to overcoming first time development issues, fixing design and manufacturing mistakes built into the hardware earlier in the program, and correcting recent process escapes and deficiencies due to human error. Some of this cost growth, in recurring areas such as hardware development, integration, and test time, subsequently transfers into the cost estimate for the Geosynchronous Earth Orbit 3-5 follow-on production satellites, which are already incorporated into the SBIRS APB, and drives up the Nunn-McCurdy APUC growth. This APUC increase, coupled with the additional EMD cost growth, drives the Nunn-McCurdy PAUC growth.

Nunn-McCurdy Breaches	
-----------------------	--

Current UCR Baseline	
PAUC	Significant
APUC	Critical
Original UCR Baseline	
PAUC	None
APUC	None

Schedule



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	FEB 2003	MAY 2003	AUG 2004
Ground Segment Increment 2 Certification	JAN 2002	N/A	N/A	N/A
HEO Sensor 2 Delivery	SEP 2003	JAN 2004	JUL 2004	SEP 2005 (Ch-1)
HEO Message Certification	N/A	NOV 2004	MAY 2005	SEP 2007 ¹
GEO Satellite 1 Delivery	N/A	SEP 2006	MAR 2007	APR 2008 ¹
SBIRS IOC	DEC 2003	N/A	N/A	N/A
GEO Satellite 2 Delivery	N/A	SEP 2007	MAR 2008	APR 2009 ¹
GEO Message Certification	N/A	SEP 2007	MAR 2008	OCT 2009 ¹
MCS Increment 2 Certification	N/A	OCT 2009	APR 2010	DEC 2012 ¹
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

¹APB Breach**Change Explanations**

(Ch-1) : HEO Sensor 2 Delivery changed from May 2005 to September 2005 due to an anomaly that has since been resolved. HEO 2 was delivered on September 27, 2005.

Memo

Acronyms:

CDR - Critical Design Review

GEO - Geosynchronous Earth Orbit

HEO - Highly Elliptical Orbit

IOC - Initial Operational Capability

MCS - Mission Control Station

PDR - Preliminary Design Review

Notes:

1. IOC is determined by Air Force Space Command - not an acquisition milestone decision.

2. GEO Satellite Delivery is defined as a System Program Office accepted satellite ready for shipment to the launch facility.

Performance

Note: Classified and unclassified performance parameters are displayed in the Classified DAMIR.

Track To Budget**RDT&E**

APPN 3600 (Air Force) Invalid program element code (0640441) removed.
SBIR High Element EMD

Procurement

APPN 3080 (Air Force) ICN 836720
SBIRS High Other Procurement
APPN 3020 (Air Force) ICN MSSBIR
SBIR High Missile Procurement

MILCON

APPN 3300 (Air Force) Invalid program element code (0640441) removed.
SBIRS ARCHI-EMD (SPACE) Military Contruction

Acq O&M

APPN 3400 (Air Force) Invalid program element code (0350915) removed.
SBIRS Operation and Maintenance

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

Appropriation	BY1995 \$M				TY \$M		
	SAR Baseline Dev Est	Current APB Development Objective/Threshold	Current Estimate	Current Estimate	SAR Baseline Dev Est	Current APB Development Objective	Current Estimate
RDT&E	3016.6	5426.4	5969.0	7130.4 ¹	3386.5	6151.3	8276.3
Procurement	496.7	1261.5	1387.6	1683.1 ¹	584.5	1497.4	2139.4
Flyaway	496.7	--	--	--	584.5	--	--
Recurring	496.7	--	--	0.0	584.5	--	0.0
Non Recurring	0.0	--	--	0.0	0.0	--	0.0
Support	0.0	--	--	0.0	0.0	--	0.0
Other Support	0.0	--	--	0.0	0.0	--	0.0
Initial Spares	0.0	--	--	0.0	0.0	--	0.0
MILCON	26.0	51.9	57.1	52.1	28.5	57.0	57.0
Acq O&M	140.2	598.4	658.2	143.7	147.8	715.2	165.4
Total	3679.5	7338.2	N/A	9009.3	4147.3	8420.9	10638.1

¹ APB Breach

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

Unit of measure for SBIRS is Geosynchronous Earth Orbit satellites.

The SBIRS Single Acquisition Management Plan approved on September 13, 2002, identifies no Low Rate Initial Production.

Funding Summary

Appropriation and Quantity Summary

SEP 2005 Exception SAR (TY \$M)

Appropriation	Prior	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	To Complete	Total
RDT&E	4189.8	587.1	756.6	653.0	645.0	501.1	401.7	308.2	233.8	8276.3
Procurement	94.7	0.0	3.7	154.8	713.0	560.3	442.3	26.1	144.5	2139.4
MILCON	57.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.0
Acq O&M	86.0	7.0	15.8	16.8	18.3	13.2	8.3	0.0	0.0	165.4
SEP 2005 Total	4427.5	594.1	776.1	824.6	1376.3	1074.6	852.3	334.3	378.3	10638.1
PB2006 Total	4429.1	604.6	772.3	787.4	1143.3	957.6	680.4	207.2	31.4	9613.3
Delta	-1.6	-10.5	3.8	37.2	233.0	117.0	171.9	127.1	346.9	1024.8

Quantity	Prior	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	2
Production	0	0	0	0	1	1	1	0	0	3
SEP 2005 Total	0	0	0	0	1	1	1	0	0	5
PB2006 Total	0	0	0	0	1	1	1	0	0	5
Delta	0	0	0	0	0	0	0	0	0	0

FY2006 President's Budget / December 2004 SAR (TY\$ M)

Appropriation	Prior	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	To Complete	Total
RDT&E	4189.9	594.2	756.6	653.7	532.6	382.1	213.6	162.0	31.4	7516.1
Procurement	94.7	0.0	3.7	120.2	596.4	572.0	466.4	45.2	0.0	1898.6
MILCON	57.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.0
Acq O&M	87.5	10.4	12.0	13.5	14.3	3.5	0.4	0.0	0.0	141.6
PB2006 Total	4429.1	604.6	772.3	787.4	1143.3	957.6	680.4	207.2	31.4	9613.3
PB2005 Total	4494.9	572.9	716.7	1446.8	471.4	485.0	443.5	0.0	0.0	8631.2
Delta	-65.8	31.7	55.6	-659.4	671.9	472.6	236.9	207.2	31.4	982.1

Quantity	Prior	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	2
Production	0	0	0	0	1	1	1	0	0	3
PB2006 Total	0	0	0	0	1	1	1	0	0	5
PB2005 Total	0	0	0	3	0	0	0	0	0	5
Delta	0	0	0	-3	1	1	1	0	0	0

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	--	--	--	--	--	--	756.6
2007	--	--	--	--	--	--	653.0
2008	--	--	--	--	--	--	645.0
2009	--	--	--	--	--	--	501.1
2010	--	--	--	--	--	--	401.7
2011	--	--	--	--	--	--	308.2
2012	--	--	--	--	--	--	88.6
2013	--	--	--	--	--	--	73.4
2014	--	--	--	--	--	--	71.8
Subtotal	2	--	--	--	--	--	8276.3

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	--	--	--	--	--	--	158.8
1997	--	--	--	--	--	--	184.3
1998	--	--	--	--	--	--	320.6
1999	--	--	--	--	--	--	471.9
2000	--	--	--	--	--	--	370.0
2001	--	--	--	--	--	--	501.9
2002	--	--	--	--	--	--	473.4
2003	--	--	--	--	--	--	697.8
2004	--	--	--	--	--	--	542.6
2005	--	--	--	--	--	--	502.2
2006	--	--	--	--	--	--	634.2
2007	--	--	--	--	--	--	536.1
2008	--	--	--	--	--	--	518.5
2009	--	--	--	--	--	--	394.6
2010	--	--	--	--	--	--	309.7
2011	--	--	--	--	--	--	232.8
2012	--	--	--	--	--	--	65.5
2013	--	--	--	--	--	--	53.2
2014	--	--	--	--	--	--	51.0
Subtotal	2	--	--	--	--	--	7130.4

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
2007	--	--	--	--	--	--	150.6
2008	1	--	--	--	--	--	709.1
2009	1	--	--	--	--	--	558.4
2010	1	--	--	--	--	--	440.3
2011	--	--	--	--	--	--	24.2
2012	--	--	--	--	--	--	60.8
2013	--	--	--	--	--	--	46.1
2014	--	--	--	--	--	--	37.6
Subtotal	3	--	--	--	--	--	2027.1

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
2007	--	--	--	--	--	--	122.8
2008	1	--	--	--	--	--	566.4
2009	1	--	--	--	--	--	436.9
2010	1	--	--	--	--	--	337.4
2011	--	--	--	--	--	--	18.2
2012	--	--	--	--	--	--	44.7
2013	--	--	--	--	--	--	33.2
2014	--	--	--	--	--	--	26.5
Subtotal	3	--	--	--	--	--	1586.1

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

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 1995 \$M
2007	--	--
2008	1	662.5
2009	1	473.5
2010	1	450.1
2011	--	--
2012	--	--
2013	--	--
2014	--	--
Subtotal	3	1586.1

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	--	--	--	--	--	--	94.7
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	--	3.7
2007	--	--	--	--	--	--	4.2
2008	--	--	--	--	--	--	3.9
2009	--	--	--	--	--	--	1.9
2010	--	--	--	--	--	--	2.0
2011	--	--	--	--	--	--	1.9
Subtotal	--	--	--	--	--	--	112.3

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	--	--	--	--	--	--	82.9
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	--	3.1
2007	--	--	--	--	--	--	3.5
2008	--	--	--	--	--	--	3.1
2009	--	--	--	--	--	--	1.5
2010	--	--	--	--	--	--	1.5
2011	--	--	--	--	--	--	1.4
Subtotal	--	--	--	--	--	--	97.0

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	16.8
2003	6.0
Subtotal	52.1

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	15.8
2007	16.8
2008	18.3
2009	13.2
2010	8.3
Subtotal	165.4

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	6.0
2006	13.3
2007	13.8
2008	14.7
2009	10.4
2010	6.4
Subtotal	143.7

Low Rate Initial Production

None

Foreign Military Sales

None

Nuclear Cost

None

Unit Cost

Unit Cost Report

Unit Cost	BY1995 \$M		
	Current UCR Baseline (SEP 2002 APB)	Current Estimate (SEP 2005 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	7338.2	9009.3	
Quantity	5	5	
Unit Cost	1467.640	1801.860	+22.77 ¹
Average Procurement Unit Cost (APUC)			
Cost	1261.5	1683.1	
Quantity	3	3	
Unit Cost	420.500	561.033	+33.42 ¹

Unit Cost	BY1995 \$M		
	Original UCR Baseline	Current Estimate (SEP 2005 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost		9009.3	
Quantity		5	
Unit Cost		1801.860	+0.00
Average Procurement Unit Cost (APUC)			
Cost		1683.1	
Quantity		3	
Unit Cost		561.033	+0.00

Unit Cost	TY \$M		
	Current UCR Baseline (SEP 2002 APB)	Current Estimate (SEP 2005 SAR)	TY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	8420.9	10638.1	
Unit Cost	1684.180	2127.620	+26.33
Average Procurement Unit Cost (APUC)			
Cost	1497.4	2139.4	
Unit Cost	499.133	713.133	+42.87

Unit Cost	TY \$M		
	Original UCR Baseline	Current Estimate (SEP 2005 SAR)	TY % Change
Program Acquisition Unit Cost (PAUC)			
Cost		10638.1	
Unit Cost		2127.620	+0.00
Average Procurement Unit Cost (APUC)			
Cost		2139.4	
Unit Cost		713.133	+0.00

¹ Nunn-McCurdy Breach

1. The APUC reflects a Geosynchronous Earth Orbit (GEO) 3-5 annual buy (1+1+1) strategy, but excludes parts obsolescence funding that was reprogrammed to RDT&E. If the added cost for the 1+1+1 buy is subtracted out, and the cost for parts obsolescence is included, then the comparable APUC estimate to the 2002 Acquisition Program Baseline (APB) equates to 40.72% Nunn-McCurdy cost growth. On July 28, 2005, the Acting Secretary of the Air Force (SecAF) notified Congress that the SBIRS program had a greater than 25% APUC Nunn-McCurdy breach.

2. The PAUC reflects the 1+1+1 estimate for GEO 3-5 and also incorporates the separation of Acquisition O&M and O&S costs following Increment 1 Initial Operational Capability in FY02. The comparable PAUC estimate to the 2002 APB (which did not include the added costs for the 1+1+1 buy, but did include some extra Acquisition O&M costs) equates to 27.30% Nunn-McCurdy cost growth. Externally directed production schedule delays caused an increase in parts obsolescence and extended SPO support. There is no clear policy on whether or not this should be included in our cost growth; however, we have included these additional costs to ensure a comprehensive estimate. On July 28, 2005, SecAF notified Congress that the SBIRS program had a greater than 25% PAUC Nunn-McCurdy breach.

Unit Cost Breach Data

Changes from Previous SAR	\$M/Qty.	Percent
PAUC (BY \$M)	156.320	
APUC (BY \$M)	61.233	
<hr/>		
PAUC Quantity		
PAUC (TY \$M)	204.960	
APUC (TY \$M)	80.266	
<hr/>		
Initial SAR Information JUN 1995	BY1995 \$M	TY \$M
Program Aquisition Cost	2308.0	2670.3

Unit Cost PAUC Changes

The PAUC increase is attributed to several factors associated with the current development effort and future production satellites (GEO 3-5). First, the System Program Office (SPO) has incorporated new cost estimates for the GEO Multi-Mission Mobile Processors, GEO 3-5, and parts obsolescence/parts redesign associated with GEO 3-5. Second, additional SPO operating costs have been included in FY12-FY14 to complete production of GEO 3-5. Finally, additional increases have occurred due to manufacturing, schedule, and risk issues with the current Engineering and Manufacturing Development (EMD) contract.

Unit Cost APUC Changes

The APUC increase is attributed to two factors associated with the future production satellites (GEO 3-5). First, the SPO has incorporated a new cost estimate for the GEO 3-5 satellites based on the recurring costs of the GEO 1-2 satellites that are currently on the EMD contract. Second, a new cost estimate was developed to mitigate the parts obsolescence/parts redesign risk associated with the gap between GEO 2 and GEO 3.

Impact of Performance or Schedule Changes

Performance requirements have remained stable; however, schedule extensions resulting from manufacturing problems and insufficient forecasts have contributed to the unit cost breaches. We are in the process of developing a one-voice schedule. We anticipate preparing a new APB consistent with Department of Defense direction resulting from the Nunn-McCurdy certification activity.

Program Management or Control

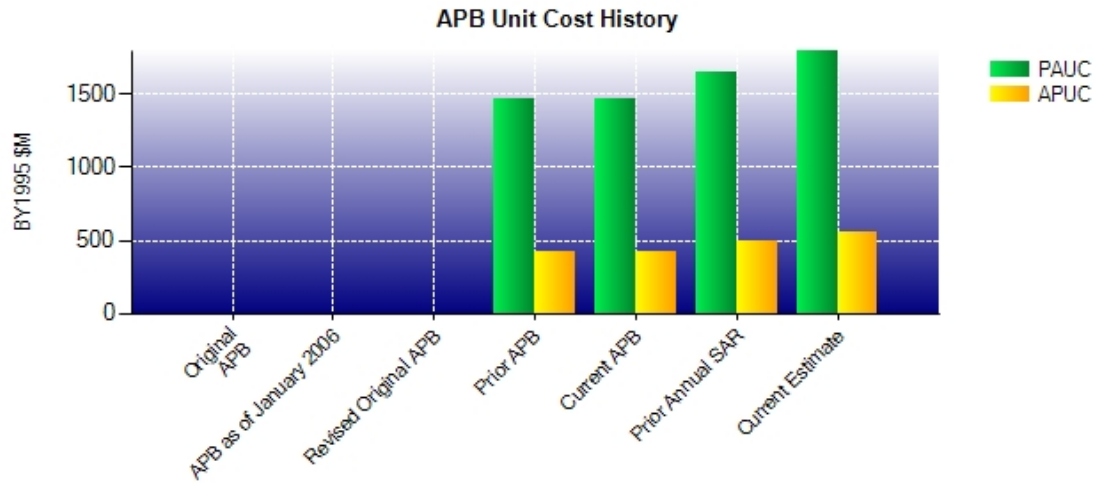
Since September 2004, the new Lockheed Martin Space Systems Company (LMSSC) management information system, Program Performance Management Process Description, has improved the insight and understanding of cost and schedule performance. The weekly Integrated Product Team (IPT)/Segment reviews, monthly Earned Value Management (EVM) meeting and monthly Program Management Review (PMR) include LMSSC and the program office staff to review current issues, schedule performance, head count data and business risks/opportunities. The Air Force Program Executive Officer for Space endorsed additional staffing for the program office and directed organizational changes, consistent with the Independent Program Assessment recommendations. He directed the immediate 'stand-up' of an operating location at the LMSSC facility in Sunnyvale, California. A cadre of government program office personnel will form the nucleus of an in-plant factory presence and the program office is investigating an increase in non-organic expertise. The System Program Director (SPD) established an independent scheduling analysis function. Its mission is to analyze the program schedule, assess credibility and completeness, identify missing or improper linkages, and provide periodic reports to the senior program office staff. The program office requested that the Air Force Cost Analysis Agency develop a cost model for the SBIRS program. The cost model was delivered in September 2005 and user training is underway. This model will give the program office a capability to develop cost projections independent of the contractor for both the EMD activity and future procurements.

Cost Control Actions

Each month, the EVM System (EVMS) information is reviewed and analyzed by both technical and EVM analysts in the program office. Results are briefed to the Segment Program Managers and SPD, and reported in the Monthly Acquisition Report and the Defense Acquisition Executive Summary. The contractor team also has weekly IPT/Segment status reviews and monthly PMR and EVM reviews. The weekly IPT/Segment meetings focus on current issues, schedule and cost performance, head count data, and business risks and opportunities. The monthly PMR addresses EVM data, schedule performance and technical issues. The monthly EVM meeting addresses the earned value performance for the month, which includes Schedule Performance Index and Cost Performance Index data, variance explanations and corrective actions.

Nunn-McCurdy Comments

Unit Cost History



	Date	BY1995 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	N/A	N/A	N/A	N/A	N/A
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	AUG 1999	1467.640	420.500	1684.180	499.133
Current APB	SEP 2002	1467.640	420.500	1684.180	499.133
Prior Annual SAR	DEC 2004	1645.540	499.800	1922.660	632.867
Current Estimate	SEP 2005	1801.860	561.033	2127.620	713.133

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	-18.500	5.480	104.700	83.580	1099.780	0.000	23.120	1298.160	2127.620

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	-8.933	-37.384	-5.500	0.000	434.167	0.000	38.533	420.883	713.133

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	10638.1
Total Quantity	N/A	5	N/A	5
Prog. Acq. Unit Cost (PAUC)	N/A	829.460	N/A	2127.620

Cost Variance

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	-64.6	-26.8	-1.5	+0.4	-92.5
Quantity	-152.7	+180.1	0.0	0.0	+27.4
Schedule	+540.0	-16.5	0.0	0.0	+523.5
Engineering	+425.7	0.0	+7.8	-15.6	+417.9
Estimating	+3381.2	+1061.6	+22.2	+9.0	+4474.0
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+115.7	0.0	0.0	+115.7
Subtotal	+4129.6	+1314.1	+28.5	-6.2	+5466.0
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	+760.2	+240.9	--	+23.8	+1024.9
Other	--	--	--	--	--
Support	--	-0.1	--	--	-0.1
Subtotal	+760.2	+240.8	--	+23.8	+1024.8
Total Changes	+4889.8	+1554.9	+28.5	+17.6	+6490.8
CE - Cost Variance	8276.3	2139.4	57.0	165.4	10638.1
CE - Cost & Funding	8276.3	2139.4	57.0	165.4	10638.1

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	0.0	0.0	0.0	0.0	0.0
Quantity	-128.4	+155.6	0.0	0.0	+27.2
Schedule	+416.6	-115.1	0.0	0.0	+301.5
Engineering	+390.8	0.0	+6.8	-13.5	+384.1
Estimating	+2855.5	+865.1	+19.3	-1.6	+3738.3
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+97.1	0.0	0.0	+97.1
Subtotal	+3534.5	+1002.7	+26.1	-15.1	+4548.2
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	+579.3	+183.8	--	+18.6	+781.7
Other	--	--	--	--	--
Support	--	-0.1	--	--	-0.1
Subtotal	+579.3	+183.7	--	+18.6	+781.6
Total Changes	+4113.8	+1186.4	+26.1	+3.5	+5329.8
CE - Cost Variance	7130.4	1683.1	52.1	143.7	9009.3
CE - Cost & Funding	7130.4	1683.1	52.1	143.7	9009.3

Previous Estimate: December 2004

RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Contractor Comprehensive Estimate at Completion (CEAC) (Estimating)	+298.0	+387.3
Revised Estimate for OGC (Estimating)	+229.1	+308.2
GEO 3 - 5 Parts Obsolescence Replan Increase (Estimating)	+52.2	+64.7
RDT&E Subtotal	+579.3	+760.2

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised Estimate for Production Cost Growth (Estimating)	+134.1	+167.6
Revised Estimate for Launch and Flight Support (Estimating)	+49.7	+73.3
Revised Estimate for Mobile and Fixed Site Upgrades (Support)	-0.1	-0.1
Procurement Subtotal	+183.7	+240.8

Acq O&M	\$M	
Current Change Explanations	Base Year	Then Year
O&M Cost Estimate Refined (August 2004 CEAC) (Estimating)	+18.6	+23.8
Acq O&M Subtotal	+18.6	+23.8

Contracts

Appropriation: RDT&E	
Contract Name	SBIRS High EMD Mod
Contractor	Lockheed Martin Space Sys
Contractor Location	Sunnyvale , CA
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	1590.1	2	4767.5	N/A	2	5989.3	6343.2

	Cost Variance	Schedule Variance
Previous Cumulative Variances	+0.2	-7.9
Cumulative Variances To Date (7/31/2005)	-12.3	-28.4
Net Change	-12.5	-20.5
Percent Variance		
Percent Complete		

Cost And Schedule Variance Explanations

As indicated in the previous Selected Acquisition Report (SAR), the program completed the replan in September 2004, and an Over Target Baseline was implemented on contract. Since the replan, the program experienced an unfavorable cumulative Cost Variance (CV) of \$12.3M. The main contributors are due to problems associated with Lockheed Martin Space Systems Company (LMSSC) Payload (\$16.1M), Northrop Grumman (NG) Payload (\$5.9M), and Space Vehicle (\$4.8M). The unfavorable CV was offset by favorable performances in System Engineering Integration and Test (SEIT) (\$5.9M), Ground (\$4.7M), and Program Management (\$3.2M). Therefore, the net change to CV is an unfavorable \$12.5M.

Since the replan, the program experienced an unfavorable cumulative Schedule Variance (SV) of \$28.4M. The erosion is mainly due to difficulties and challenges with Space Vehicle (\$9.6M), LMSSC Payload (\$5.6M), Ground (\$4.4M), NG Payload (\$4.1M), and SEIT (\$2.4M). Therefore, the net change to SV is an unfavorable \$20.5M.

Contract Comments

The current Engineering and Manufacturing Development contract Estimated Price At Completion, as reported in the July 2005 Cost Performance Report, is \$5,989.3M, compared to \$5,864.3M reported in the previous SAR. The increase of \$125M results from added tasks for major efforts such as Command Control Battle Management Center, Highly Elliptical Orbit (HEO) Mission Management, HEO Impact Proposal, and Sustainment. The increase also includes additional cost overruns of \$49.5M. The Contractor and Program Manager's Estimated Price At Completion will not be finalized until contract replan negotiations are completed.

NOTE:

Total Contract Budget Base as of July 2005 is \$4,472.9M, of which \$67.5M is from external sources (Missile Defense Agency and Army)

Deliveries and Expenditures

Deliveries To Date	Plan	Actual	Total Quantity	Percent Delivered
Development	0	0	2	0.00%
Production	0	0	3	0.00%
Total Program Quantities Delivered	0	0	5	0.00%

Expenditures and Appropriations (TY \$M)

Total Acquisition Cost	10638.1	Years Appropriated	11
Expenditures To Date	4790.0	Percent Years Appropriated	55.00%
Percent Expended	45.03%	Appropriated to Date	5021.6
Total Funding Years	20	Percent Appropriated	47.20%

Operating and Support Cost

Assumptions and Ground Rules

These Operations and Maintenance funds support the activation of new SBIRS High Component ground operating and training facilities at world wide sites. 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 26-year Life Cycle Cost and is based upon the Estimate at Completion dated April 2005.

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

Cost Element	Costs BY1995 \$M	
	SBIRS (High) Avg Annual Cost for SBIRS High System	Defense Support Prog
Mission Pay & Allowance	27.1	--
Unit Level Consumption	6.5	--
Intermediate Maintenance	1.6	--
Depot Maintenance	3.3	--
Contractor Support	85.6	--
Sustaining Support	19.1	--
Indirect	11.3	--
Other	--	--
Total Unitized Cost (Base Year 1995 \$)	154.5	--

Total O&S Costs \$M	SBIRS (High)	Defense Support Prog
Base Year	4017.4	--
Then Year	6068.3	--



Defense Acquisition Management Information Retrieval (DAMIR)



Selected Acquisition Report (SAR)

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



SBIRS HIGH

As of December 31, 2005

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Program Information

Designation And Nomenclature (Popular Name)

Space Based Infrared System (SBIRS) High Program

DoD Component

Air Force

Responsible Office

Responsible Office

Col Randall S. Weidenheimer

SMC/IS

335 E. Orbital Loop

Los Angeles AFB

El Segundo, CA 90245-4695

randall.weidenheimer@losangeles.af.mil

Phone 310-653-3018

Fax --

DSN Phone 633-3018

DSN Fax --

Date Assigned February 3, 2004

References

SAR Baseline (Development Estimate)

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

Approved APB

DAE Approved Acquisition Program Baseline (APB) dated March 31, 2006

Mission and Description

The Space Based Infrared System (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 Characterization. The constellation architecture for SBIRS High includes two Highly Elliptical Orbit (HEO) sensors and four Geosynchronous Earth Orbit (GEO) satellites, in addition to the following ground elements: a CONUS-based Mission Control Station and Mission Control Station Backup, overseas Relay Ground Stations, Multi-Mission Mobile Processors, 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.

Executive Summary

Nunn-McCurdy Certification Process: The SBIRS program office provided support and documentation to the appointed Nunn-McCurdy Integrated Product Teams and to the Independent Program Assessment Red Team in support of the Nunn-McCurdy certification activities. Notification was sent to Congress by the Defense Acquisition Executive (DAE) on December 12, 2005, certifying that the restructured SBIRS program:

1. Is essential to national security;
2. There are no alternatives to the acquisition program which will provide equal or greater military capability at less cost;
3. The new estimates of the program acquisition unit cost or procurement unit cost for the program are reasonable; and
4. The management structure for the acquisition program is adequate to manage and control program unit acquisition cost or procurement unit cost.

The restructured program will include completion of the development program (two Geosynchronous Earth Orbit satellites, two Highly Elliptical Orbit payloads, and associated ground system) and procurement of one geosynchronous satellite.

An Acquisition Decision Memorandum (ADM) restructuring the SBIRS program and providing specific tasking was signed by the DAE on December 15, 2005. The SBIRS team is currently working to satisfy this tasking. The first of a series of quarterly program status reviews with the DAE occurred on January 18, 2006.

Mission Control Station (MCS) Expansion: The Control Station Expansion Phase 2 Contract was awarded August 31, 2005. The MCS, located at Buckley Air Force Base, Colorado, was expanded in Phase 1 to provide the user with an additional 24,000 square feet for operations and training activities. The next step, the facility preparation and utilization stage in Phase 2, is underway and provides the equipment and supporting infrastructure such as network communications and modular furniture relocation. This phase will also relocate the training function to a larger area to facilitate integrated crew training and expand the launch and anomaly resolution center in preparation for the full SBIRS constellation. It will provide increased floor space for the technical intelligence activities. The period of performance for the MCS expansion effort is 350 days.

Software Modification Version 5-1A for the MCS: This software mod was operationally accepted on September 30, 2005. The mod included the Operator Manual Override-Feature 4 which provides the Early Missile Warning operator the capability to override an automatically generated Ballistic Missile Defense System report with a manually generated report based on additional information available to the operator at the time an event occurs. This gives the warfighter additional real-time information that can be used in an ever changing environment. Additionally, the Variable Message Format was updated in the 5-1A software to provide the operator the option to select two different message formats. The ability to select either format will be used by the Missile Defense Agency (MDA) to mitigate problems during MDA software development, test and evaluation.

Geosynchronous Earth Orbit Payload: The GEO 1 payload began its first engineering thermal vacuum testing (TV-1) in mid-November 2005 at the Northrop Grumman plant in Azusa, California. The purpose of TV-1 is to demonstrate payload functionality and preliminary performance characterization. This is an early risk reduction activity designed to check out all flight hardware and test equipment issues prior to formal thermal vacuum acceptance testing (TV-2), planned for early FY07. The payload completed TV-1 testing on January 6, 2006, with data analysis continuing until mid-February. Initial "quick-look" data review confirms both scanner and starrer sensors demonstrate all expected functionality. In addition, the Early Bus Testing (EBT) continues with good results at the Lockheed Martin Space Systems Company in Sunnyvale, California. Similar to engineering thermal vacuum testing for the payload, EBT is an early risk reduction activity for the spacecraft. In this testing, spacecraft power, safe to mate, interface, communication and guidance navigation and control is tested in a distributed vehicle assembly configuration. This will occur prior to final spacecraft bus assembly and spacecraft bus testing in the thermal vacuum chamber beginning in October 2006. GEO payload/spacecraft bus mate is scheduled for July 2007, leading to a GEO 1 launch date of October 2008.

GEO Early On-orbit Test (GEOT) Software: Significant progress was made on the software during this period. Prior planning combined the first three software releases into a single block, GEOT-C. When completed in February 2006, this block will be used for the initial GEO Systems Integration Tests. Code and unit test, intra-segment integration, and requirements verification were completed by the development team. The software is on schedule for a "soak" (test of software in a simulated environment) at Lockheed Martin's Software Test Environment in Boulder, Colorado. Detailed planning was completed on the remaining GEOT software blocks, GEOT-D and GEOT-E including early releases to support continued Systems Integration Tests. When complete, the GEOT-D software block will serve as the initial launch baseline. An intensive evaluation of the entire GEO ground software development schedule was completed and re-synchronized to the system needs in the certified program schedule.

Highly Elliptical Orbit (HEO) Payload Status: The HEO 2 payload was shipped to the Host for integration on September 27, 2005. HEO flight software qualification testing is still in progress. The run-for-record testing of all high priority payload commanding, safety of flight and host interface software began December 21, 2005, and is expected to be complete in March 2006. The remaining software elements designed to capture mission data will then begin qualification testing, and are scheduled to be complete in FY07. The team is evaluating alternatives for earlier completion of the final mission software qualification effort.

Highly Elliptical Orbit Interim Operations (HIO) Ground Software Build 12.10: In October 2005, the software build 12.10 was installed in the Interim Test Center in Boulder, Colorado, to support the Ground and System Day-in-the-Life (DITL) evaluations, which ran from November 9-21, 2005. The DITL was accomplished in two sections: Ground-level (Part 1) and System-level (Part 2). The Ground DITL focused on distinct objectives to validate software functionality in the target (operations-like) environment, as well as on continuous operations; the System DITL stressed crew use of the software in integrated system operations. Objectives for the System DITL were: assess readiness of the HIO software to replace the HEO Early On-Orbit Test software for HEO operations and for use in subsequent system tests; assess mission maturity of the HIO software; and assess impacts on SBIRS Increment 1 at Effectivity 3 (E3), and HEO Message Certification. The final HIO development build, 12.11.x. is in work, with projected completion in April 2006.

Unified Program Plan (UPP): Program office scheduling group and contractor team have developed the UPP to document and capture interdependencies, government functions, and other items not previously included in the SBIRS Integrated Master Schedule (IMS). The UPP represents the most accurate and perceptive schedule for the SBIRS program to date. Work is ongoing to transition the UPP into a more comprehensive IMS via careful shoulder-to-shoulder work between the program office and contractor team and the established configuration control process. Changes are in work to make the IMS a contractually deliverable item.

Test and Evaluation Master Plan (TEMP): As part of the SBIRS High ADM tasking following the Nunn-McCurdy certification, the SPO is required to submit a new core TEMP to the DAE for signature. This updated TEMP will document that the operational test approach for SBIRS High will be consistent with the 1996 SBIRS Operational Requirements Document, which forms the basis of the program's requirements set. This effort is underway. The TEMP annexes for the Effectivity-3 and Effectivity-11 milestones are still in work.

Program Cost Model: The SPO is continuing to work with the Air Force Cost Analysis Agency to develop an Independent Cost Model for SBIRS. The Engineering and Manufacturing Development Cost Model was validated at system and subsystem levels in December 2005. Full model estimating capabilities will be complete in January 2006.

Threshold Breaches

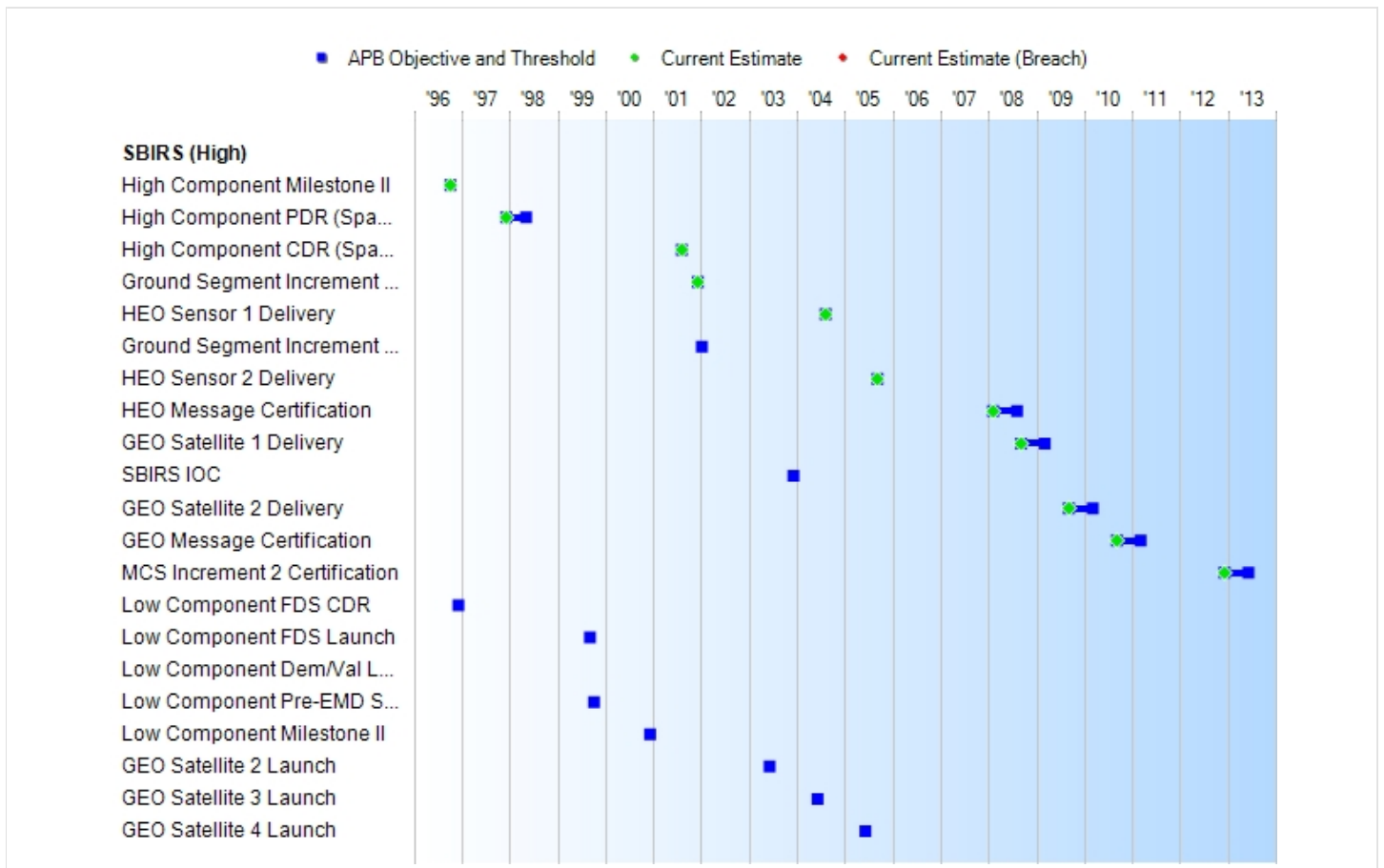
APB Breaches		
--------------	--	--

- 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

Schedule



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	FEB 2008	(Ch-1)
GEO Satellite 1 Delivery	N/A	SEP 2008	MAR 2009	SEP 2008	(Ch-1)
SBIRS IOC	DEC 2003	N/A	N/A	N/A	
GEO Satellite 2 Delivery	N/A	SEP 2009	MAR 2010	SEP 2009	(Ch-1)
GEO Message Certification	N/A	SEP 2010	MAR 2011	SEP 2010	(Ch-1)
MCS Increment 2 Certification	N/A	DEC 2012	JUN 2013	DEC 2012	
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	

Acronyms

CDR - Critical Design Review
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 changes reflect refined schedule estimates from the SBIRS master schedule.

HEO Message Certification changed from September 2007 to February 2008.
GEO Satellite 1 Delivery changed from April 2008 to September 2008.
GEO Satellite 2 Delivery changed from April 2009 to September 2009.
GEO Message Certification changed from October 2009 to September 2010

Memo

Notes:

IOC is determined by Air Force Space Command - not an acquisition milestone decision.

GEO Satellite Delivery is defined as a System Program Office accepted satellite ready for shipment to the launch facility.

Performance

Note: Classified and unclassified performance parameters are displayed in the Classified DAMIR.

Track To Budget**RDT&E**

APPN 3600 PE 0640441F (Air Force) Project 3616
SBIR High Element EMD/SBIRS High EMD

Procurement

APPN 3080 BA 03 (Air Force) ICN 836720
SBIR High Other Procurement
APPN 3020 (Air Force) ICN MSSBIR
SBIR High Missile Procurement

MILCON

APPN 3300 PE 0640441F (Air Force)
SBIRS ARCHI-EMD (SPACE) Military Construction

Acq O&M

APPN 3400 PE 0350915F (Air Force)
SBIRS Operation and Maintenance

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

Appropriation	BY1995 \$M				TY \$M		
	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	7018.1	3386.5	8192.5	8192.5
Procurement	496.7	1342.8	1477.1	1342.8	584.5	1723.2	1723.2
Flyaway	496.7	--	--	--	584.5	--	--
Recurring	496.7	--	--	0.0	584.5	--	0.0
Non Recurring	0.0	--	--	0.0	0.0	--	0.0
Support	0.0	--	--	0.0	0.0	--	0.0
Other Support	0.0	--	--	0.0	0.0	--	0.0
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	156.4	172.0	156.4	147.8	185.9	185.9
Total	3679.5	8569.3	N/A	8569.3	4147.3	10158.6	10158.6

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

Unit of measure for SBIRS is Geosynchronous Earth Orbit satellites.

The SBIRS Single Acquisition Management Plan approved on September 13, 2002, identifies no Low Rate Initial Production.

Funding Summary

Appropriation and Quantity Summary

FY2007 President's Budget / December 2005 SAR (TY\$ M)

Appropriation	Prior	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	To Complete	Total
RDT&E	4776.9	696.6	668.9	579.4	486.3	380.3	260.5	343.6	8192.5
Procurement	93.6	3.7	4.2	320.9	1296.9	2.0	1.9	0.0	1723.2
MILCON	57.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.0
Acq O&M	93.0	7.5	11.1	13.8	16.1	16.5	14.4	13.5	185.9
PB2007 Total	5020.5	707.8	684.2	914.1	1799.3	398.8	276.8	357.1	10158.6
PB2006 Total	5033.7	772.3	787.4	1143.3	957.6	680.4	207.2	31.4	9613.3
Delta	-13.2	-64.5	-103.2	-229.2	841.7	-281.6	69.6	325.7	545.3

Quantity	Prior	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	To Complete	Total
Development	0	0	0	0	0	0	0	0	2
Production	0	0	0	0	1	0	0	0	1
PB2007 Total	0	0	0	0	1	0	0	0	3
PB2006 Total	0	0	0	1	1	1	0	0	5
Delta	0	0	0	-1	0	-1	0	0	-2

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	--	--	--	--	--	--	696.6
2007	--	--	--	--	--	--	668.9
2008	--	--	--	--	--	--	579.4
2009	--	--	--	--	--	--	486.3
2010	--	--	--	--	--	--	380.3
2011	--	--	--	--	--	--	260.5
2012	--	--	--	--	--	--	187.3
2013	--	--	--	--	--	--	156.3
Subtotal	2	--	--	--	--	--	8192.5

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	--	--	--	--	--	--	158.8
1997	--	--	--	--	--	--	184.3
1998	--	--	--	--	--	--	320.6
1999	--	--	--	--	--	--	471.9
2000	--	--	--	--	--	--	370.0
2001	--	--	--	--	--	--	501.5
2002	--	--	--	--	--	--	473.4
2003	--	--	--	--	--	--	697.2
2004	--	--	--	--	--	--	540.2
2005	--	--	--	--	--	--	498.4
2006	--	--	--	--	--	--	577.6
2007	--	--	--	--	--	--	542.5
2008	--	--	--	--	--	--	460.2
2009	--	--	--	--	--	--	378.1
2010	--	--	--	--	--	--	289.6
2011	--	--	--	--	--	--	194.3
2012	--	--	--	--	--	--	136.6
2013	--	--	--	--	--	--	111.6
Subtotal	2	--	--	--	--	--	7018.1

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	--	--	--	--	--	--	317.0
2009	1	--	--	--	--	--	1295.0
Subtotal	1	--	--	--	--	--	1612.0

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	--	--	--	--	--	--	249.4
2009	1	--	--	--	--	--	997.7
Subtotal	1	--	--	--	--	--	1247.1

Funding is for GEO 3 production and the following nonrecurring costs that would not apply to subsequent units: qualification unit, full spares, and production infrastructure.

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	1247.1
Subtotal	1	1247.1

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	--	--	--	--	--	--	93.6
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	--	3.7
2007	--	--	--	--	--	--	4.2
2008	--	--	--	--	--	--	3.9
2009	--	--	--	--	--	--	1.9
2010	--	--	--	--	--	--	2.0
2011	--	--	--	--	--	--	1.9
Subtotal	--	--	--	--	--	--	111.2

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	--	--	--	--	--	--	81.7
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	--	3.1
2007	--	--	--	--	--	--	3.4
2008	--	--	--	--	--	--	3.1
2009	--	--	--	--	--	--	1.5
2010	--	--	--	--	--	--	1.5
2011	--	--	--	--	--	--	1.4
Subtotal	--	--	--	--	--	--	95.7

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	7.5
2007	11.1
2008	13.8
2009	16.1
2010	16.5
2011	14.4
2012	13.5
Subtotal	185.9

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	6.2
2007	8.9
2008	10.9
2009	12.4
2010	12.5
2011	10.7
2012	9.8
Subtotal	156.4

Low Rate Initial Production

None

Foreign Military Sales

None

Nuclear Cost

None

Unit Cost**Unit Cost Report**

Unit Cost	BY1995 \$M		
	Current UCR Baseline (MAR 2006 APB)	Current Estimate (DEC 2005 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	8569.3	8569.3	
Quantity	3	3	
Unit Cost	2856.433	2856.433	+0.00
Average Procurement Unit Cost (APUC)			
Cost	1342.8	1342.8	
Quantity	1	1	
Unit Cost	1342.800	1342.800	+0.00

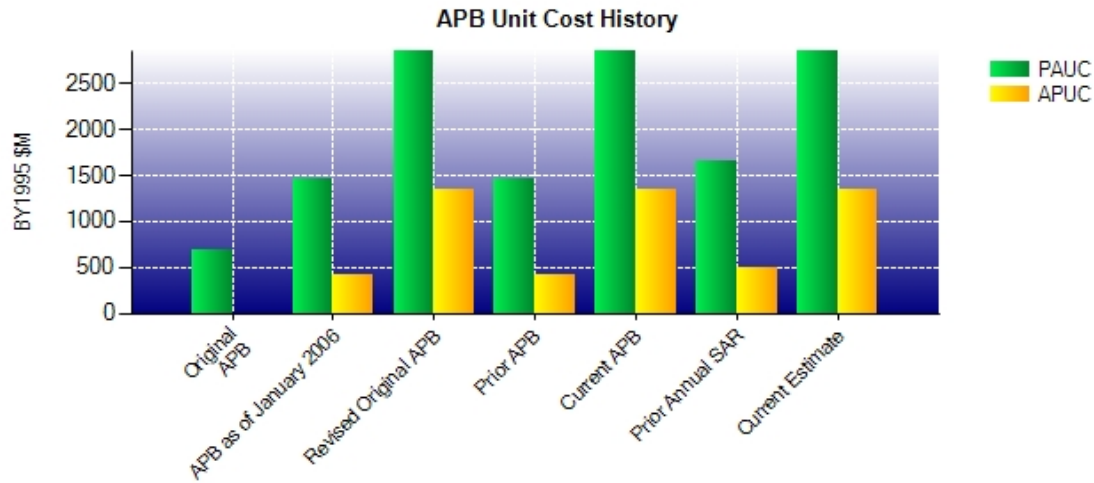
Unit Cost	BY1995 \$M		
	Revised Original UCR Baseline (MAR 2006 APB)	Current Estimate (DEC 2005 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	8569.3	8569.3	
Quantity	3	3	
Unit Cost	2856.433	2856.433	+0.00
Average Procurement Unit Cost (APUC)			
Cost	1342.8	1342.8	
Quantity	1	1	
Unit Cost	1342.800	1342.800	+0.00

Pursuant to the FY 2006 National Defense Authorization Act, changes to Section 2433, Title 10, United States Code, the Original UCR Baseline has been revised to the Current UCR Baseline because the unit cost increase exceeds 50 percent.

There are no breaches to the current Acquisition Program Baseline. Notification of Adjustment to the SBIRS Original Baseline Estimate. The Under Secretary of Defense for Acquisition, Technology, and Logistics (USD/AT&L) certified a restructured SBIRS High program to Congress on 12 December 2005.

With the Nunn McCurdy certification accomplished prior to FY06 NDAA's enactment and the approval of updated Acquisition Program Baseline (APB) which rebaselined the restructured SBIRS High program included in this SAR, the "original baseline estimate" of the SBIRS program has been adjusted to the new approved APB. This adjustment is required because the SBIRS High program quantities were reduced in the program restructure. The SBIRS program is now baselined to acquire two geosynchronous earth orbit satellites in development and one in the follow-on procurement. Thus PAUC will be calculated with three satellites and APUC with one satellite.

Unit Cost History



	Date	BY1995 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	OCT 1996	693.980	N/A	732.340	N/A
APB as of January 2006	SEP 2002	1467.640	420.500	1684.180	499.133
Revised Original APB	MAR 2006	2856.433	1342.800	3386.200	1723.200
Prior APB	SEP 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 2004	1645.540	499.800	1922.660	632.867
Current Estimate	DEC 2005	2856.433	1342.800	3386.200	1723.200

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	-2.667	179.507	186.767	168.133	1987.000	0.000	38.000	2556.740	3386.200

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	5.100	-675.450	-0.700	0.000	1988.000	0.000	114.000	1430.950	1723.200

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	10158.6
Total Quantity	N/A	5	N/A	3
Prog. Acq. Unit Cost (PAUC)	N/A	829.460	N/A	3386.200

Cost Variance

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	-64.6	-26.8	-1.5	+0.4	-92.5
Quantity	-152.7	+180.1	0.0	0.0	+27.4
Schedule	+540.0	-16.5	0.0	0.0	+523.5
Engineering	+425.7	0.0	+7.8	-15.6	+417.9
Estimating	+4141.4	+1302.5	+22.2	+32.8	+5498.9
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+115.6	0.0	0.0	+115.6
Subtotal	+4889.8	+1554.9	+28.5	+17.6	+6490.8
Current Changes					
Economic	+51.1	+31.9	+0.1	+1.4	+84.5
Quantity	--	-1147.8	--	--	-1147.8
Schedule	+21.0	+15.8	--	--	+36.8
Engineering	+86.5	--	--	--	+86.5
Estimating	-242.4	+685.5	-0.1	+19.1	+462.1
Other	--	--	--	--	--
Support	--	-1.6	--	--	-1.6
Subtotal	-83.8	-416.2	0.0	+20.5	-479.5
Total Changes	+4806.0	+1138.7	+28.5	+38.1	+6011.3
CE - Cost Variance	8192.5	1723.2	57.0	185.9	10158.6
CE - Cost & Funding	8192.5	1723.2	57.0	185.9	10158.6

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	0.0	0.0	0.0	0.0	0.0
Quantity	-128.4	+155.6	0.0	0.0	+27.2
Schedule	+416.6	-115.1	0.0	0.0	+301.5
Engineering	+390.8	0.0	+6.8	-13.5	+384.1
Estimating	+3434.8	+1048.9	+19.3	+17.0	+4520.0
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+97.0	0.0	0.0	+97.0
Subtotal	+4113.8	+1186.4	+26.1	+3.5	+5329.8
Current Changes					
Economic	--	--	--	--	--
Quantity	--	-875.8	--	--	-875.8
Schedule	0.0	0.0	--	--	0.0
Engineering	+68.1	--	--	--	+68.1
Estimating	-180.4	+536.8	-0.1	+12.7	+369.0
Other	--	--	--	--	--
Support	--	-1.3	--	--	-1.3
Subtotal	-112.3	-340.3	-0.1	+12.7	-440.0
Total Changes	+4001.5	+846.1	+26.0	+16.2	+4889.8
CE - Cost Variance	7018.1	1342.8	52.0	156.4	8569.3
CE - Cost & Funding	7018.1	1342.8	52.0	156.4	8569.3

Previous Estimate: September 2005

RDT&E	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	+51.1
Program moving toward common schedule resulted in contract slip to FY2012 (Schedule)	0.0	+21.0
Additional funds for new scope: Anomally Resolution Unit, Critical Spares (Engineering)	+36.0	+45.3
Allocate Government Management Reserve to fund Out of Scope for Engineering and Manufacturing Development contract - Interim Mission Control Station Backup--phase 2 upgrade - Combined Task Force Expansion - Mobile Requirements (Engineering)	+32.1	+41.2
Adjustment for Current and Prior Inflation. (Estimating)	-14.0	-16.6
Program moving toward a restructured schedule. (Estimating)	+317.9	+378.7
Delete Ground Multi-Mission Mobile Processor Replan from Acquisition Program Baseline (Estimating)	-127.3	-165.3
Revised estimate for Other Government Costs (Estimating)	-37.6	-54.5
Revised estimate for System Program Office held risk (Estimating)	-121.9	-137.9
Use Geosynchronous Earth Orbit satellites 3-5 parts obsolescence funds to fund the contract cost growth (Estimating)	-197.5	-246.8
RDT&E Subtotal	-112.3	-83.8

Procurement	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	+31.9
Removed Geosynchronous Earth Orbit 4-5 satellites from production acquisition strategy, per December 15, 2005, Acquisition Decision Memorandum (Quantity) (QR)	-875.8	-1147.8
Delay Geosynchronous Earth Orbit satellite 3 launch one year to FY2013, per December 15, 2005, Acquisition Decision Memorandum (Schedule)	0.0	+15.8
Nunn-McCurdy certification estimate increased for Geosynchronous Earth Orbit satellite 3 production cost growth, qualification unit, and full spares (Estimating)	+536.8	+685.5
Adjustment for Current and Prior Inflation. (Support)	-0.2	-0.2
Revised estimate for Mission Control Station Backup (Support)	-1.1	-1.4
Procurement Subtotal	-340.3	-416.2

(QR) Quantity Related

MILCON	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	+0.1
Adjustment for Current and Prior Inflation. (Estimating)	-0.1	-0.1
MILCON Subtotal	-0.1	0.0

Acq O&M	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	+1.4
Adjustment for Current and Prior Inflation. (Estimating)	-0.3	-0.3

Revised O&M Cost Estimate (Estimating)	+13.0	+19.4
Acq O&M Subtotal	+12.7	+20.5

Contracts

Appropriation: RDT&E	
Contract Name	SBIRS High EMD Mod
Contractor	Lockheed Martin Space Sys
Contractor Location	Sunnyvale , CA
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	1590.1	2	4906.3	N/A	2	6428.7	6906.2

	Cost Variance	Schedule Variance
Previous Cumulative Variances	-12.3	-28.4
Cumulative Variances To Date	-35.6	-34.1
Net Change	-23.3	-5.7

Cost And Schedule Variance Explanations

Since the previous SAR, the program continued to experience an unfavorable cumulative Cost Variance (CV) of \$35.6M. The main contributors are problems associated with Lockheed Martin Space Systems Company (LMSSC) Payload (\$24.4M), Northrop Grumman (NG) Payload (\$13.3M), and Space Vehicle (\$11.4M). The CV is offset by favorable performances in System Engineering Integration and Test (SEIT) (\$5.4M), Program Management (\$3.3M), and Ground (\$3.1M). The net change to cost variance is an unfavorable \$23.3M.

The program continued to experience an unfavorable cumulative Schedule Variance of \$34.1M. The erosion is mainly due to difficulties and challenges with Space Vehicle (\$14.6M), NG Payload (\$6.2M), LMSSC Payload (\$5.1M), Ground (\$3.0M), and SEIT (\$2.4M). The net change to schedule variance is an unfavorable \$5.7M.

Contract Comments

The SBIRS High program office completed the Comprehensive Estimate at Completion effort and updated the Program Office Estimate (POE) in August 2005. The contractor will implement an Over Target Baseline in February 2006, incorporating the new Unified Program Plan schedule. The program office is in-process of preparing for the Integrated Baseline Review (IBR), scheduled in April 2006. The POE will be updated after the IBR completion.

The current Engineering and Manufacturing Development contract Estimated Price At Completion, as reported in the December 2005 Cost Performance Report, is \$6,428.7M, compared to \$5,989.3M reported in the previous SAR. The increase of \$439.4M results from added scope for major efforts such as Phase II Contractor Logistics Support, Expansion Tasks for FY06, Highly Elliptical Orbit Training Center, and Sustainment tasks. The increase also includes additional cost overruns of \$344M. The Program Manager's Estimated Price at Completion is based upon the contractor's Estimated Price at Completion and assumes all program risks are realized. The Contractor and Program Manager's Estimated Price at Completion will not be finalized until contract replan negotiations are completed.

Note: Total Contract Budget Base as of December 2005 is \$4,610.8M, of which \$68.4M came from external sources (Army and Missile Defense Agency).

Deliveries and Expenditures

Deliveries To Date	Plan	Actual	Total Quantity	Percent Delivered
Development	0	0	2	0.00%
Production	0	0	1	0.00%
Total Program Quantities Delivered	0	0	3	0.00%

Expenditures and Appropriations (TY \$M)

Total Acquisition Cost	10158.6	Years Appropriated	12
Expenditures To Date	5091.9	Percent Years Appropriated	63.16%
Percent Expended	50.12%	Appropriated to Date	5728.3
Total Funding Years	19	Percent Appropriated	56.39%

Operating and Support Cost

Assumptions and Ground Rules

These Operations and Maintenance funds support the activation of new SBIRS High Component ground operating and training facilities at world wide sites. 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 26-year Life Cycle Cost and is based upon the Estimate at Completion dated April 2005.

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
Mission Pay & Allowance	27.1	--
Unit Level Consumption	6.5	--
Intermediate Maintenance	1.6	--
Depot Maintenance	3.3	--
Contractor Support	85.6	--
Sustaining Support	19.1	--
Indirect	11.3	--
Other	--	--
Total Unitized Cost (Base Year 1995 \$)	154.5	--

Total O&S Costs \$M	SBIRS (High)	Defense Support Prog
Base Year	4017.4	--
Then Year	6068.3	--



Defense Acquisition Management Information Retrieval (DAMIR)



Selected Acquisition Report (SAR)

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



SBIRS HIGH
As of December 31, 2006

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Program Information

Designation And Nomenclature (Popular Name)

Space Based Infrared System (SBIRS) High Program

DoD Component

Air Force

Responsible Office

Responsible Office

Col Randall S. Weidenheimer	Phone	310-653-3018
SMC/IS	Fax	--
483 N Aviation Blvd Bldg 271	DSN Phone	633-3018
LOS ANGELES AIR FORCE BASE (LAAFB)	DSN Fax	--
El Segundo, CA 90245-2808		
randall.weidenheimer@losangeles.af.mil	Date Assigned	February 3, 2004

References

SAR Baseline (Development Estimate)

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

Approved APB

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 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 two Highly Elliptical Orbit (HEO) sensors and four 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, Multi-Mission Mobile Processors, 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.

Executive Summary

Since the December 15, 2005 Nunn-McCurdy Certification, the restructured program includes completion of the development program (two GEO satellites, two HEO payloads, and associated ground system) and procurement of one GEO satellite. The certified program is not authorized to procure the full constellation of satellites.

Highly Elliptical Orbit-1 (HEO-1) Status: In November 2006, the Under Secretary of the Air Force announced that the HEO-1 payload is on-orbit and operating nominally. The deployment, checkout, and testing of the HEO payload, focusing on calibration of the infrared detectors as well as line-of-sight testing, has been confirmed. Performance is meeting or exceeding all specified mission requirements. The Program Executive Officer for Space stated, "Performance is well beyond its specified performance levels...this is a revalidation of the design and gives us confidence in the GEO [Geosynchronous Earth Orbit] sensors and spacecraft." The payload will be operationally certified by summer of 2008. Currently, the SBIRS team is exploring options to accelerate data to the user.

Acquisition Decision Memorandum (ADM) Taskings Status: Significant progress was made in satisfying the December 2005 Certification ADM taskings. The remaining ADM-directed documentation is currently in coordination with various external organizations.

The SBIRS team presented the third program review since the 2005 Nunn-McCurdy Certification to USD (AT&L) on program progress, cost, schedule performance, and various technical issues in November 2006. Improvement was noted over the last 10 months, specifically in the progress and delivery of key milestones and in Wing/contractor communications.

GEO Integration, Assembly, and Test: The SBIRS team completed several key risk reduction and integration events in calendar year 2006. The GEO-1 payload completed the engineering Thermal Vacuum (TVac) test early in the year and has been configured for its formal TVac testing, which is required for requirements verification. In October 2006, the GEO-1 Star Tracker assemblies were integrated with the GEO-1 payload. The payload has completed 2 of the 3 planned phases of full functional ambient testing in preparation for its second Thermal Vacuum (TVac2) test. The test is scheduled to complete in May 2007; when complete, the payload will be ready for integration with the GEO-1 spacecraft.

The GEO-1 spacecraft's 'Early Bus Test' risk reduction activity completed in January 2006 and demonstrated the functionality and compatibility of the individual spacecraft subsystems. Other key activities that were completed in 2006 included: Early Pyroshock Test, Spacecraft Functional Test (SCFT), Payload Ambient Functional Test, GEO Intersegment Test, GEO-1 Payload Mechanical Integration, and GEO-1 Payload Acoustic Test. These activities validated various design and workmanship aspects and also demonstrated intersegment connectivity. The Spacecraft Bus has been integrated for TVac configuration and all software test scripts needed for the Spacecraft Bus TVac test have been completed.

GEO Flight Software: Progress on GEO software is continuing at a slower pace than anticipated, particularly in the Pointing Control Assembly (PCA) software. However, the software required for the payload's TVac testing is complete; as well as the Flight Software System (FSS) software that controls space vehicle functions, and contains all core functionality to support the GEO-1 Space Vehicle TVac Test. These efforts, including PCA Software Integration Qualification Test (SIQT) efforts, have been, and will continue to be, an area of special focus for the government.

Ground Software: The HEO Interim Operations software delivery completed ahead of schedule, and contains all the necessary functionality to support planned HEO activities. This delivery forms the foundation for future ground software, and performance has been satisfactory to date. The next major block is GEO Early-On-Orbit Test software, which combines Telemetry, Tracking and Commanding, Mission Management, and Ground Control functionality with a merge of the HEO ground software. A build including basic launch functionality is nearing completion.

Ground Infrastructure: At the Mission Control Station (MCS), the Remote SBIRS Display and Remote Other Viewer

were installed and turned over to operations successfully. These displays allow for the enhanced technical intelligence interchange and collaboration between SBIRS and the technical intelligence community. Mission Control Station Backup (MCSB) hardware installation and checkout completed in July. With this activity complete, on-site integration and verification testing can begin. The ground development is scheduled to finish in 2007. The HEO Training Center (HTC) was delivered in September 2006 to the 460th SW, completing the transition from development to sustainment. Training originally planned for the Interim Test Center (ITC) will now occur at the HTC.

Operational System Upgrade: Two Ground software updates were integrated into the operational system. These enhancements provided significant operational improvements in both Telemetry, Tracking, and Commanding (TT&C), and Ground Control software items and updates, constellation management, and enhanced mission performance.

Program Cost Model: Full Engineering and Manufacturing Development (EMD) cost estimating capabilities are complete. The model documentation and manual were delivered in March 2006. These documents give the cost estimators the autonomy to use the newly developed tool without relying on the developers (Air Force Cost Analysis Agency).

Highly Elliptical Orbit-3 and 4 (HEO-3&4): The department has funded the HEO 3 and 4 payloads to replenish the SBIRS HEO constellation, required due to the extension of the original mission. This block acquisition is not part of the original SBIRS High program baseline, and is now required because the SBIRS Low program will not be acquired to provide polar missile warning coverage after the SBIRS HEO 1 and 2 payloads expire. The funding is included in the FY08 President's Budget. Planning is underway to procure the payloads as a "derivative" of the HEO 1 and 2 payloads. The payloads are nearly identical to those procured under the SBIRS EMD contract. Design changes will be limited to those required to overcome parts and material obsolescence, and to correct known deficiencies. The Wing is preparing a separate Acquisition Program Baseline (APB) to define the cost, schedule, and performance parameters of the payloads.

Threshold Breaches

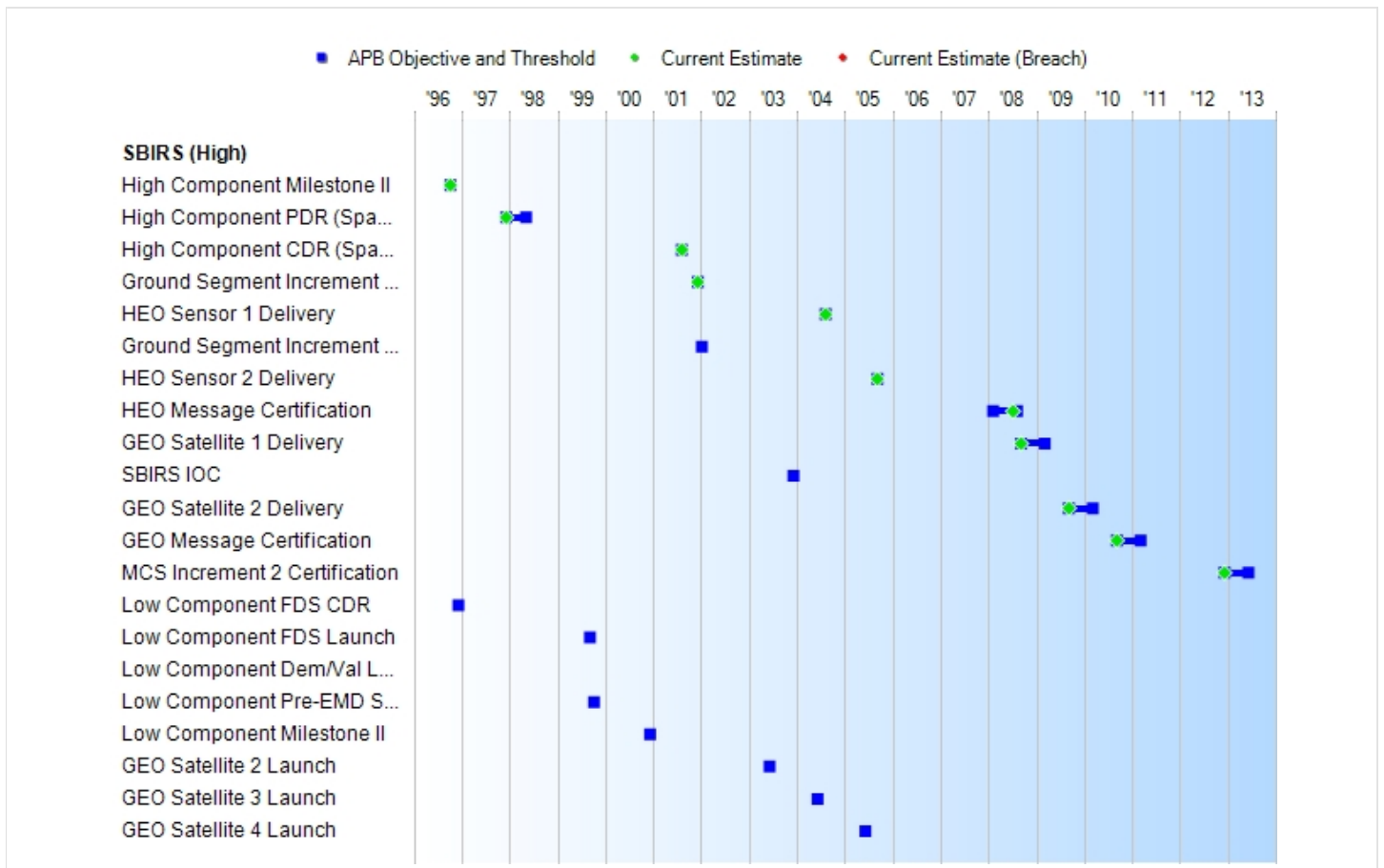
APB Breaches		
--------------	--	--

- Schedule
- Performance
- Cost
 - RDT&E
 - Procurement
 - MILCON
 - Acq O&M
- Unit Cost
 - PAUC
 - APUC

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

Schedule



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	JUL 2008
GEO Satellite 1 Delivery	N/A	SEP 2008	MAR 2009	SEP 2008
SBIRS IOC	DEC 2003	N/A	N/A	N/A
GEO Satellite 2 Delivery	N/A	SEP 2009	MAR 2010	SEP 2009
GEO Message Certification	N/A	SEP 2010	MAR 2011	SEP 2010
MCS Increment 2 Certification	N/A	DEC 2012	JUN 2013	DEC 2012
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

(Ch-1)

Acronyms

CDR - Critical Design Review
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 Wing Commander's current estimate for HEO Message Certification completion has changed from February 2008 to July 2008, which is still ahead of the APB threshold date of August 2008, due to better definition of the test and certification process, and deconfliction of ground resources.

Memo

IOC is determined by Air Force Space Command - not an acquisition milestone decision.

GEO Satellite Delivery is defined as a System Program Office accepted satellite ready for shipment to the launch facility.

Performance

Note: Classified and unclassified performance parameters are displayed in the Classified DAMIR.

Track To Budget**RDT&E**

APPN 3600 BA 05 PE 0640441F (Air Force) Project 3616
SBIR High Element EMD/SBIRS High EMD

Procurement

APPN 3080 BA 03 (Air Force) ICN 836720
SBIR High Other Procurement
APPN 3020 BA 23 (Air Force) ICN MSSBIR
SBIR High Missile Procurement

MILCON

APPN 3300 PE 0640441F (Air Force)
SBIRS ARCHI-EMD (SPACE) Military Construction

Acq O&M

APPN 3400 PE 0350915F (Air Force)
SBIRS Operation and Maintenance

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

Appropriation	BY1995 \$M			TY \$M			
	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	6790.6	3386.5	8192.5	7914.2
Procurement	496.7	1342.8	1477.1	1337.6	584.5	1723.2	1739.1
Flyaway	496.7	--	--	1239.3	584.5	--	1623.8
Recurring	496.7	--	--	1239.3	584.5	--	1623.8
Non Recurring	0.0	--	--	0.0	0.0	--	0.0
Support	0.0	--	--	98.3	0.0	--	115.3
Other Support	0.0	--	--	98.3	0.0	--	115.3
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	156.4	172.0	142.7	147.8	185.9	169.2
Total	3679.5	8569.3	N/A	8322.9	4147.3	10158.6	9879.5

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

Funding Summary

Appropriation and Quantity Summary

FY2008 President's Budget / December 2006 SAR (TY\$ M)

Appropriation	Prior	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	To Complete	Total
RDT&E	5483.5	664.9	587.0	510.5	403.9	263.8	0.3	0.3	0.0	7914.2
Procurement	97.1	4.4	321.0	1308.7	2.0	1.9	2.0	2.0	0.0	1739.1
MILCON	57.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.0
Acq O&M	98.4	7.3	11.7	13.3	13.5	11.5	13.5	0.0	0.0	169.2
PB2008 Total	5736.0	676.6	919.7	1832.5	419.4	277.2	15.8	2.3	0.0	9879.5
PB2007 Total	5728.3	684.2	914.1	1799.3	398.8	276.8	200.8	156.3	0.0	10158.6
Delta	7.7	-7.6	5.6	33.2	20.6	0.4	-185.0	-154.0	0.0	-279.1

Quantity	Prior	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	2
Production	0	0	0	1	0	0	0	0	0	1
PB2008 Total	0	0	0	1	0	0	0	0	0	3
PB2007 Total	0	0	0	1	0	0	0	0	0	3
Delta	0	0	0	0	0	0	0	0	0	0

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	--	--	--	--	--	--	664.9
2008	--	--	--	--	--	--	587.0
2009	--	--	--	--	--	--	510.5
2010	--	--	--	--	--	--	403.9
2011	--	--	--	--	--	--	263.8
2012	--	--	--	--	--	--	0.3
2013	--	--	--	--	--	--	0.3
Subtotal	2	--	--	--	--	--	7914.2

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	--	--	--	--	--	--	158.8
1997	--	--	--	--	--	--	184.3
1998	--	--	--	--	--	--	320.6
1999	--	--	--	--	--	--	471.9
2000	--	--	--	--	--	--	370.0
2001	--	--	--	--	--	--	501.5
2002	--	--	--	--	--	--	473.4
2003	--	--	--	--	--	--	697.2
2004	--	--	--	--	--	--	540.2
2005	--	--	--	--	--	--	497.1
2006	--	--	--	--	--	--	581.1
2007	--	--	--	--	--	--	533.6
2008	--	--	--	--	--	--	460.4
2009	--	--	--	--	--	--	391.5
2010	--	--	--	--	--	--	303.2
2011	--	--	--	--	--	--	194.1
2012	--	--	--	--	--	--	0.2
2013	--	--	--	--	--	--	0.2
Subtotal	2	--	--	--	--	--	6790.6

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	--	317.0	--	--	317.0	--	317.0
2009	1	1306.8	--	--	1306.8	--	1306.8
Subtotal	1	1623.8	--	--	1623.8	--	1623.8

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	--	246.3	--	--	246.3	--	246.3
2009	1	993.0	--	--	993.0	--	993.0
Subtotal	1	1239.3	--	--	1239.3	--	1239.3

Funding is for GEO 3 production and the following nonrecurring costs that would not apply to subsequent units: qualification unit, full spares, and production infrastructure. HEO 3/4 MPAF funding is excluded.

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	1239.3
Subtotal	1	1239.3

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	--	--	--	--	--	93.6	93.6
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	3.5	3.5
2007	--	--	--	--	--	4.4	4.4
2008	--	--	--	--	--	4.0	4.0
2009	--	--	--	--	--	1.9	1.9
2010	--	--	--	--	--	2.0	2.0
2011	--	--	--	--	--	1.9	1.9
2012	--	--	--	--	--	2.0	2.0
2013	--	--	--	--	--	2.0	2.0
Subtotal	--	--	--	--	--	115.3	115.3

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	--	--	--	--	--	81.6	81.6
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	2.9	2.9
2007	--	--	--	--	--	3.5	3.5
2008	--	--	--	--	--	3.1	3.1
2009	--	--	--	--	--	1.5	1.5
2010	--	--	--	--	--	1.5	1.5
2011	--	--	--	--	--	1.4	1.4
2012	--	--	--	--	--	1.4	1.4
2013	--	--	--	--	--	1.4	1.4
Subtotal	--	--	--	--	--	98.3	98.3

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	7.3
2008	11.7
2009	13.3
2010	13.5
2011	11.5
2012	13.5
Subtotal	169.2

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	5.8
2008	9.1
2009	10.2
2010	10.1
2011	8.4
2012	9.7
Subtotal	142.7

Low Rate Initial Production

None

Foreign Military Sales

None

Nuclear Cost

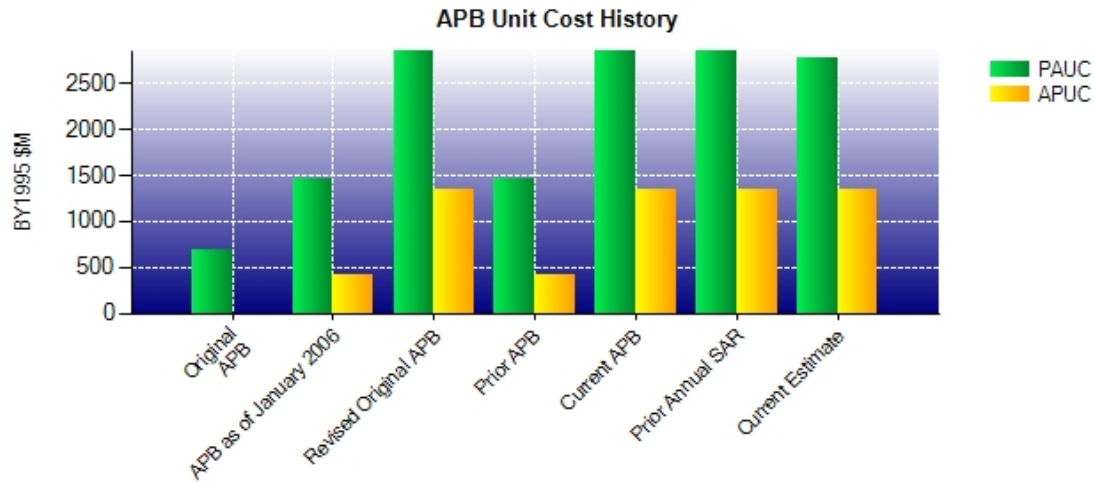
None

Unit Cost**Unit Cost Report**

Unit Cost	BY1995 \$M		
	Current UCR Baseline (MAR 2006 APB)	Current Estimate (DEC 2006 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	8569.3	8322.9	
Quantity	3	3	
Unit Cost	2856.433	2774.300	-2.88
Average Procurement Unit Cost (APUC)			
Cost	1342.8	1337.6	
Quantity	1	1	
Unit Cost	1342.800	1337.600	-0.39

Unit Cost	BY1995 \$M		
	Revised Original UCR Baseline (MAR 2006 APB)	Current Estimate (DEC 2006 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	8569.3	8322.9	
Quantity	3	3	
Unit Cost	2856.433	2774.300	-2.88
Average Procurement Unit Cost (APUC)			
Cost	1342.8	1337.6	
Quantity	1	1	
Unit Cost	1342.800	1337.600	-0.39

Unit Cost History



	Date	BY1995 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	OCT 1996	693.980	N/A	732.340	N/A
APB as of January 2006	SEP 2002	1467.640	420.500	1684.180	499.133
Revised Original APB	MAR 2006	2856.433	1342.800	3386.200	1723.200
Prior APB	SEP 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 2005	2856.433	1342.800	3386.200	1723.200
Current Estimate	DEC 2006	2774.300	1337.600	3293.167	1739.100

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	18.867	179.507	186.767	168.133	1871.200	0.000	39.233	2463.707	3293.167

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	27.500	-675.450	-0.700	0.000	1977.800	0.000	117.700	1446.850	1739.100

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	9879.5
Total Quantity	N/A	5	N/A	3
Prog. Acq. Unit Cost (PAUC)	N/A	829.460	N/A	3293.167

Cost Variance

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	-13.5	+5.1	-1.4	+1.8	-8.0
Quantity	-152.7	-967.7	0.0	0.0	-1120.4
Schedule	+561.0	-0.7	0.0	0.0	+560.3
Engineering	+512.2	0.0	+7.8	-15.6	+504.4
Estimating	+3899.0	+1988.0	+22.1	+51.9	+5961.0
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+114.0	0.0	0.0	+114.0
Subtotal	+4806.0	+1138.7	+28.5	+38.1	+6011.3
Current Changes					
Economic	+41.2	+22.4	--	+1.0	+64.6
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	-319.5	-10.2	--	-17.7	-347.4
Other	--	--	--	--	--
Support	--	+3.7	--	--	+3.7
Subtotal	-278.3	+15.9	--	-16.7	-279.1
Total Changes	+4527.7	+1154.6	+28.5	+21.4	+5732.2
CE - Cost Variance	7914.2	1739.1	57.0	169.2	9879.5
CE - Cost & Funding	7914.2	1739.1	57.0	169.2	9879.5

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	0.0	0.0	0.0	0.0	0.0
Quantity	-128.4	-720.2	0.0	0.0	-848.6
Schedule	+416.6	-115.1	0.0	0.0	+301.5
Engineering	+458.9	0.0	+6.8	-13.5	+452.2
Estimating	+3254.4	+1585.7	+19.2	+29.7	+4889.0
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+95.7	0.0	0.0	+95.7
Subtotal	+4001.5	+846.1	+26.0	+16.2	+4889.8
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	-227.5	-7.8	--	-13.7	-249.0
Other	--	--	--	--	--
Support	--	+2.6	--	--	+2.6
Subtotal	-227.5	-5.2	--	-13.7	-246.4
Total Changes	+3774.0	+840.9	+26.0	+2.5	+4643.4
CE - Cost Variance	6790.6	1337.6	52.0	142.7	8322.9
CE - Cost & Funding	6790.6	1337.6	52.0	142.7	8322.9

Previous Estimate: December 2005

RDT&E	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	+41.2
Adjustment for Current and Prior Inflation. (Estimating)	-11.8	-14.4
Below Threshold Reprogramming (Estimating)	+8.2	+10.0
Revised estimate due to Congressional reduction (Estimating)	-6.1	-8.1
Revised estimate for Satellite Payload Orbital Test and SBIRS Auxillary Support Center due to FY05 Unified Program Plan (Estimating)	+27.3	+36.0
Reduced FY12-13 funding for higher Air Force priorities (Estimating)	-245.1	-343.0
RDT&E Subtotal	-227.5	-278.3

Procurement	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices (Economic)	N/A	+22.4
Revised GEO 3 Cost Estimate (Estimating)	-7.8	-10.2
Revised estimate for SBIRS Mobile and Fixed Site communications/electronic operations and upgrade (Support)	+2.6	+3.7
Procurement Subtotal	-5.2	+15.9

Acq O&M	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	+1.0
Adjustment for Current and Prior Inflation. (Estimating)	-0.2	-0.2
Revised O&M Cost Estimate (Estimating)	-13.5	-17.5
Acq O&M Subtotal	-13.7	-16.7

Contracts

Appropriation: RDT&E	
Contract Name	SBIRS High EMD Mod
Contractor	Lockheed Martin Space Sys
Contractor Location	Sunnyvale , CA
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	6767.0	N/A	2	6786.3	7098.8

	Cost Variance	Schedule Variance
Previous Cumulative Variances	-35.6	-34.1
Cumulative Variances To Date (11/26/2006)	-4.0	-10.6
Net Change	+31.6	+23.5

Cost And Schedule Variance Explanations

Explanation of Change: Since the previous SAR, the program was replanned in February 2006, and cumulative schedule and cost variances were reset to zero. Since the replan, the program experienced an unfavorable cumulative Cost Variance (CV) of -\$4.0M. The main contributors are problems associated with Lockheed Martin (LM) Payload - \$7.4M and Space Vehicle (SV) -\$6.2M. The cost variance is offset by favorable performance in Ground \$4.1M, System Engineering, Integration, and Test (SEIT) \$2.3M, Program Management \$1.6M, and Operations and Transition \$1.2M. Since the February 2006 replan, the net change between the December 2005 and November 2006 cost variance is a favorable \$31.6M.

Since the replan, the program experienced an unfavorable cumulative Schedule Variance of -\$10.6M. The erosion is mainly due to challenges with SV -\$2.4M, NG Payload -\$2.2M, SEIT -\$2.1M, LM Payload -\$1.9M and Ground -\$1.2M. Since the replan, the net change between the December 2005 and November 2006 schedule variance is a favorable \$23.5M.

Contract Comments

Contract Comments: The SBIRS High program was replanned, and an Over-Target Baseline was implemented in February 2006, incorporating the new Integrated Master Schedule. Cumulative schedule and cost variances were reset to zero as of January 2006 accounting month end. An Integrated Baseline Review (IBR) was conducted in April 2006 to validate the Performance Measurement Baseline. All of the action items resulting from the IBR were closed as of August 2006. A comprehensive Wing Estimate at Completion (EAC) was developed in July 2006 to capture the IBR findings regarding contract baseline disconnects and program risks. The Wing EAC is updated monthly to reflect the latest contractor EAC and changes from the IBR findings.

The current Engineering and Manufacturing Development contract Estimated Price At Completion, as reported in the November 2006 Contract Performance Report, is \$6,786.3M, compared to \$6,428.7M reported in the previous SAR. The majority of the increase of \$357.6M results from contract variance before the replan, as well as added contractual scope and fee for efforts, such as Contractor Logistics Support and several Classified Tasks. The Program Manager Estimated Price at Completion is \$7,098.8M, based on the January 2007 Wing EAC Update, which assumes all program contract risks will be realized, and potential contractor fee will be earned.

Note: Total Contract Budget Base as of November 2006 is \$6,410.4M, of which \$77.3M came from external sources (Army, Missile Defense Agency, Defense Intelligence Agency, Nuclear Detonation System, and other AF, such as Peterson AFB).

Deliveries and Expenditures

Deliveries To Date	Plan	Actual	Total Quantity	Percent Delivered
Development	0	0	2	0.00%
Production	0	0	1	0.00%
Total Program Quantities Delivered	0	0	3	0.00%

Expenditures and Appropriations (TY \$M)

Total Acquisition Cost	9879.5	Years Appropriated	13
Expenditures To Date	5765.7	Percent Years Appropriated	68.42%
Percent Expended	58.36%	Appropriated to Date	6412.6
Total Funding Years	19	Percent Appropriated	64.91%

Operating and Support Cost

Assumptions and Ground Rules

Operations and Maintenance funds support the activation of new SBIRS High Component ground operating and training facilities at worldwide sites. 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 26-year Life Cycle Cost and is based upon the Estimate at Completion dated April 2005.

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
Mission Pay & Allowance	27.1	--
Unit Level Consumption	6.5	--
Intermediate Maintenance	1.6	--
Depot Maintenance	3.3	--
Contractor Support	85.6	--
Sustaining Support	19.1	--
Indirect	11.3	--
Other	--	--
Total Unitized Cost (Base Year 1995 \$)	154.5	--

Total O&S Costs \$M	SBIRS (High)	Defense Support Prog
Base Year	4017.4	--
Then Year	6068.3	--



Defense Acquisition Management Information Retrieval (DAMIR)



Selected Acquisition Report (SAR)

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



SBIRS HIGH

As of December 31, 2007

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Program Information

Designation And Nomenclature (Popular Name)

Space Based Infrared System (SBIRS) High Program

DoD Component

Air Force

Responsible Office

Responsible Office

Col John M Amrine	Phone	310-653-3018
Space Based Infrared Systems Wing (ISSW)	Fax	310-653-4414
483 N Aviation Blvd Bldg 271	DSN Phone	633-3018
LOS ANGELES AIR FORCE BASE (LAAFB)	DSN Fax	633-4414
El Segundo, CA 90245-2808		
john.amrine@losangeles.af.mil	Date Assigned	July 19, 2007

References

SAR Baseline (Development Estimate)

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

Approved APB

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 two Highly Elliptical Orbit (HEO) sensors and four 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.

Executive Summary

The Space Based Infrared Systems (SBIRS) High program achieved considerable progress in demonstrating product maturity in several program segments in 2007. Most of the program elements are progressing well and are meeting key milestones. The SBIRS ground component, that receives and processes infrared data from legacy Defense Support Program (DSP) satellites, is operational. The November 2007 launch and early orbit testing of the DSP-23 satellite was supported from the SBIRS Mission Control Station (MCS) at Buckley Air Force Base (AFB), CO. The SBIRS ground software 'blocks', required for SBIRS Geosynchronous Earth Orbit (GEO) launch operations, have met requirements and have been delivered within the cost and schedule baseline. Additionally, in November 2007 a new ground processing facility at Schriever AFB, CO was delivered to the user for Highly Elliptical Orbit (HEO) payload operations.

Deployment of new SBIRS payloads and satellites is proceeding. The HEO 1 payload's performance is exceeding specifications and it has completed two developmental test activities in preparation for a system level independent test and evaluation. A GEO 1 satellite bus thermal vacuum test was completed in February 2007, and a space to ground interface test was completed in June 2007. During the test activities, Flight Software System (FSS) design and implementation deficiencies were discovered. Since the discovery of the issues, there have been several independent reviews that have assessed both root cause and proposed solutions. The program is now proceeding with actions to streamline the FSS logic and reduce the design complexity.

The FSS recovery plan has been reviewed by the senior acquisition leaders within the Department and progress against the plan is assessed weekly. In Fall 2007, Air Force and Department of Defense senior leadership conducted reviews of the SBIRS program. These reviews focused on the status of the current program and the replan of the Flight Software System. The FSS team completed initial design, architecture and system engineering work to mature the solution and developed meaningful milestones to gauge the progress of the FSS replan. The SBIRS Wing reviewed the progress with the SECAF January 28, 2008, and will review progress with the USD/AT&L in April 2008. In parallel with the FSS analysis and design, the integration and testing of the GEO 1 spacecraft has continued in order to minimize the overall impact to the SBIRS program.

On December 19, 2007, Wing and contractor leadership approved a revised contract program baseline that incorporated impacts associated with the FSS recovery. There will be additional detail added to the baseline in March 2008. The final deliveries of the ground system capabilities, based on a more flexible implementation paradigm, will be incorporated prior to June 2008. The Wing is planning an Integrated Baseline Review (IBR) in June 2008 to validate all aspects of the revised program baseline.

A Program Deviation Report for GEO APB milestones was signed in January 2008, and a Program Deviation Report for HEO Message Certification was signed in February 2008, which formally acknowledged that the threshold APB dates would not be met. The GEO schedule deviations are a result of the program delays resulting from the FSS issues. FSS issues have resulted in a fifteen month slip from the previously reported GEO-1 delivery estimate of October 2008, and a cost increase of \$414 million from the FY 2008 President's Budget (PB) to the FY 2009 PB. The HEO deviation was caused primarily by external impacts. A total procurement cost deviation against the procurement appropriation due to the additional funds provided in the FY 2009 President's Budget (PB) for the GEO 4 satellite was also reported in January 2008. The Wing submitted an updated Acquisition Program Baseline (APB) for coordination providing new schedule baseline objectives and incorporating the additional cost and quantity provided in the FY 2009 PB into the program baseline.

Highly Elliptical Orbit (HEO) Status: The recently completed HEO space-to-ground test exercised the HEO ground control station with live data from the orbiting HEO payload and tested the system interfaces, the software functionality, and the system operability. In the coming year, final developmental testing will be conducted, the Operational Utility Evaluation (OUE) baseline ground software will be delivered, and final operational testing will be conducted. The Wing anticipates the completion of the analysis and formal documentation of the certification in the fourth quarter, calendar year 2008.

Geosynchronous Earth Orbit (GEO) Flight Software: The Flight Software System (FSS) recovery is making good progress. The first complement of FSS reviews, including the Block 1 systems engineering review and software design review, were completed. Even though portions of the flight software schedule are aggressive, the team has established solid design and development plans to restore confidence in the execution of flight software timelines.

The Pointing and Control Assembly (PCA) and Signal Processing Assembly (SPA) software final releases are progressing in preparation for qualification testing this year.

GEO 2 Activities: The GEO 2 payload is preparing for Thermal Vacuum testing. A readiness review in preparation for ambient testing was held on January 14, 2008. Currently the Wing projects the payload will complete testing and integration in July 2008. Payload delivery to the prime contractor for integration with the spacecraft is projected for early 2009, which supports the projected launch date.

SBIRS Follow-on Production (SFP) Status: The USD(AT&L) signed an Acquisition Decision Memorandum (ADM) in June 2007, and Acquisition Strategy Report (ASR) Annex in July 2007 that authorized the follow-on production efforts. The Wing released the Request for Proposal (RFP) for the follow-on production contract in July 2007. The proposal for the SBIRS follow-on production was delivered November 16, 2007 and the technical evaluation of the SFP proposal is ongoing. In February 2008, the USD/AT&L reviewed the acquisition strategy. An Acquisition Decision Memorandum (ADM) is in-progress with anticipated approval for contract award for GEO 3 advanced procurement and HEO 3 payload.

Threshold Breaches

APB Breaches	
--------------	--

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

Explanation of Breach

The schedule milestone deviations against the Geosynchronous Earth Orbit (GEO) Satellite 1 delivery, GEO Satellite 2 delivery, and GEO Message Certification are attributed to technical issues with the Flight Software System (FSS).

The schedule milestone deviation against the Highly Elliptical Orbit (HEO) Message Certification is primarily driven by external delays and implementation of a more robust operational test strategy.

Nunn-McCurdy Breaches	
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Current UCR Baseline

PAUC None

APUC None

Original UCR Baseline

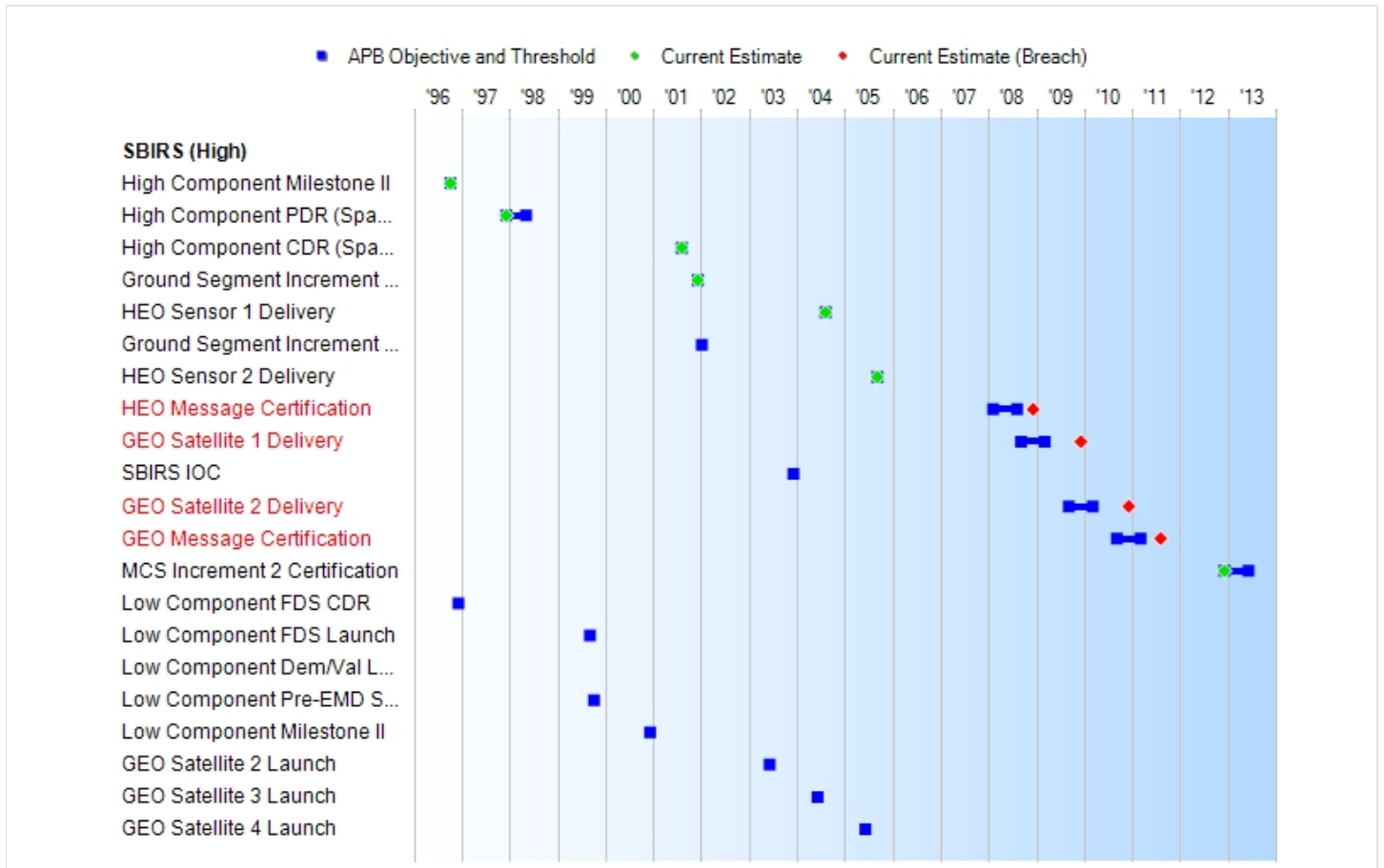
PAUC None

APUC None

The cost deviation in the procurement appropriation is due to the addition of procurement funds for the GEO Satellite 4 in the FY 2009 President's Budget.

These deviations have been reported and an updated Acquisition Program Baseline (APB) has been submitted and is in Air Force coordination.

Schedule



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 (Ch-1)
GEO Satellite 1 Delivery	N/A	SEP 2008	MAR 2009	DEC 2009 ¹ (Ch-2)
SBIRS IOC	DEC 2003	N/A	N/A	N/A
GEO Satellite 2 Delivery	N/A	SEP 2009	MAR 2010	DEC 2010 ¹ (Ch-3)
GEO Message Certification	N/A	SEP 2010	MAR 2011	AUG 2011 ¹ (Ch-4)
MCS Increment 2 Certification	N/A	DEC 2012	JUN 2013	DEC 2012
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

¹APB Breach

Acronyms

CDR - Critical Design Review
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 current estimate for HEO Message Certification completion has changed from July 2008 to December 2008 due primarily to external impacts and the implementation of a more robust test strategy, which represents an APB schedule deviation.

(Ch-2) The current estimate for GEO Satellite 1 Delivery has changed from September 2008 to December 2009 due to technical issues with the Flight Software System (FSS), which represents an APB schedule deviation.

(Ch-3) The current estimate for GEO Satellite 2 Delivery has changed from September 2009 to December 2010 due to technical issues with the Flight Software System (FSS), which represents an APB schedule deviation.

(Ch-4) The current estimate for GEO Message Certification has changed from September 2010 to August 2011,

which represents an APB schedule deviation, due to technical issues with the Flight Software System (FSS).

Memo

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

Performance

Note: Classified and unclassified performance parameters are displayed in the Classified DAMIR.

Track To Budget**RDT&E**

APPN 3600 BA 05 PE 0640441F (Air Force) Project 3616
SBIR High Element EMD/SBIRS High EMD

Procurement

APPN 3080 BA 03 PE 0305915F (Air Force) ICN 836720
SBIR High Other Procurement
APPN 3020 BA 23 PE 0305915F (Air Force) ICN MSSBIR
SBIR High Missile Procurement

MILCON

APPN 3300 PE 0640441F (Air Force)
SBIRS ARCHI-EMD (SPACE) Military Construction

Acq O&M

APPN 3400 PE 0350915F (Air Force)
SBIRS Operation and Maintenance

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

Appropriation	BY1995 \$M				TY \$M		
	SAR Baseline Dev Est	Current APB Development Objective/Threshold	Current Estimate	Current Estimate	SAR Baseline Dev Est	Current APB Development Objective	Current Estimate
RDT&E	3016.6	7018.1	7719.9	7336.3	3386.5	8192.5	8655.3
Procurement	496.7	1342.8	1477.1	2028.6 ¹	584.5	1723.2	2674.7
Flyaway	496.7	--	--	1926.0	--	--	2554.5
Recurring	496.7	--	--	1926.0	--	--	2554.5
Non Recurring	0.0	--	--	0.0	--	--	0.0
Support	0.0	--	--	102.6	--	--	120.2
Other Support	0.0	--	--	102.6	--	--	120.2
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	141.8	147.8	185.9	167.5
Total	3679.5	8569.3	N/A	9558.7	4147.3	10158.6	11554.5

¹ APB Breach

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

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

Funding Summary

Appropriation and Quantity Summary

FY2009 President's Budget / December 2007 SAR (TY\$ M)

Appropriation	Prior	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	To Complete	Total
RDT&E	6161.4	583.3	529.8	443.3	386.5	287.4	263.6	0.0	8655.3
Procurement	106.5	318.3	1271.0	176.5	679.9	50.9	71.6	0.0	2674.7
MILCON	57.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.0
Acq O&M	106.0	9.7	13.3	13.5	11.5	13.5	0.0	0.0	167.5
PB2009 Total	6430.9	911.3	1814.1	633.3	1077.9	351.8	335.2	0.0	11554.5
PB2008 Total	6412.6	919.7	1832.5	419.4	277.2	15.8	2.3	0.0	9879.5
Delta	18.3	-8.4	-18.4	213.9	800.7	336.0	332.9	0.0	1675.0

Quantity	Prior	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	To Complete	Total
Development	0	0	0	0	0	0	0	0	2
Production	0	0	1	0	1	0	0	0	2
PB2009 Total	0	0	1	0	1	0	0	0	4
PB2008 Total	0	0	1	0	0	0	0	0	3
Delta	0	0	0	0	1	0	0	0	1

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	--	--	--	--	--	--	677.9
2008	--	--	--	--	--	--	583.3
2009	--	--	--	--	--	--	529.8
2010	--	--	--	--	--	--	443.3
2011	--	--	--	--	--	--	386.5
2012	--	--	--	--	--	--	287.4
2013	--	--	--	--	--	--	263.6
Subtotal	2	--	--	--	--	--	8655.3

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	--	--	--	--	--	--	158.8
1997	--	--	--	--	--	--	184.3
1998	--	--	--	--	--	--	320.6
1999	--	--	--	--	--	--	471.9
2000	--	--	--	--	--	--	370.0
2001	--	--	--	--	--	--	501.5
2002	--	--	--	--	--	--	473.4
2003	--	--	--	--	--	--	697.2
2004	--	--	--	--	--	--	540.2
2005	--	--	--	--	--	--	497.1
2006	--	--	--	--	--	--	581.1
2007	--	--	--	--	--	--	543.6
2008	--	--	--	--	--	--	458.6
2009	--	--	--	--	--	--	408.5
2010	--	--	--	--	--	--	335.1
2011	--	--	--	--	--	--	286.5
2012	--	--	--	--	--	--	208.9
2013	--	--	--	--	--	--	187.7
Subtotal	2	--	--	--	--	--	7336.3

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	--	314.3	--	--	314.3	--	314.3
2009	1	1269.1	--	--	1269.1	--	1269.1
2010	--	174.6	--	--	174.6	--	174.6
2011	1	678.0	--	--	678.0	--	678.0
2012	--	48.9	--	--	48.9	--	48.9
2013	--	69.6	--	--	69.6	--	69.6
Subtotal	2	2554.5	--	--	2554.5	--	2554.5

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	--	244.8	--	--	244.8	--	244.8
2009	1	968.8	--	--	968.8	--	968.8
2010	--	130.7	--	--	130.7	--	130.7
2011	1	497.4	--	--	497.4	--	497.4
2012	--	35.2	--	--	35.2	--	35.2
2013	--	49.1	--	--	49.1	--	49.1
Subtotal	2	1926.0	--	--	1926.0	--	1926.0

Funding is for GEO 3 and 4 production and the following nonrecurring costs that would not apply to subsequent units: qualification unit, full spares, and production infrastructure. Missile Procurement Air Force (MPAF) funds for HEO 3 and 4 payloads are excluded. HEO 3 and 4 payloads are not part of the original constellation, but are replenishment payloads and baselined separately.

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	1325.6
2010	--	--
2011	1	600.4
2012	--	--
2013	--	--
Subtotal	2	1926.0

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	--	--	--	--	--	4.0	4.0
2009	--	--	--	--	--	1.9	1.9
2010	--	--	--	--	--	1.9	1.9
2011	--	--	--	--	--	1.9	1.9
2012	--	--	--	--	--	2.0	2.0
2013	--	--	--	--	--	2.0	2.0
Subtotal	--	--	--	--	--	120.2	120.2

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	--	--	--	--	--	84.0	84.0
2005	--	--	--	--	--	--	--
2006	--	--	--	--	--	3.0	3.0
2007	--	--	--	--	--	5.2	5.2
2008	--	--	--	--	--	3.2	3.2
2009	--	--	--	--	--	1.5	1.5
2010	--	--	--	--	--	1.4	1.4
2011	--	--	--	--	--	1.4	1.4
2012	--	--	--	--	--	1.5	1.5
2013	--	--	--	--	--	1.4	1.4
Subtotal	--	--	--	--	--	102.6	102.6

\$79 million in FY 2009 Other Procurement Air Force (OPAF) funds for HEO 3 and 4 ground modifications are excluded. This 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	13.3
2010	13.5
2011	11.5
2012	13.5
Subtotal	167.5

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	10.2
2010	10.2
2011	8.5
2012	9.8
Subtotal	141.8

Low Rate Initial Production

The SBIRS High Program does not have Low Rate Initial Production.

Foreign Military Sales

None

Nuclear Cost

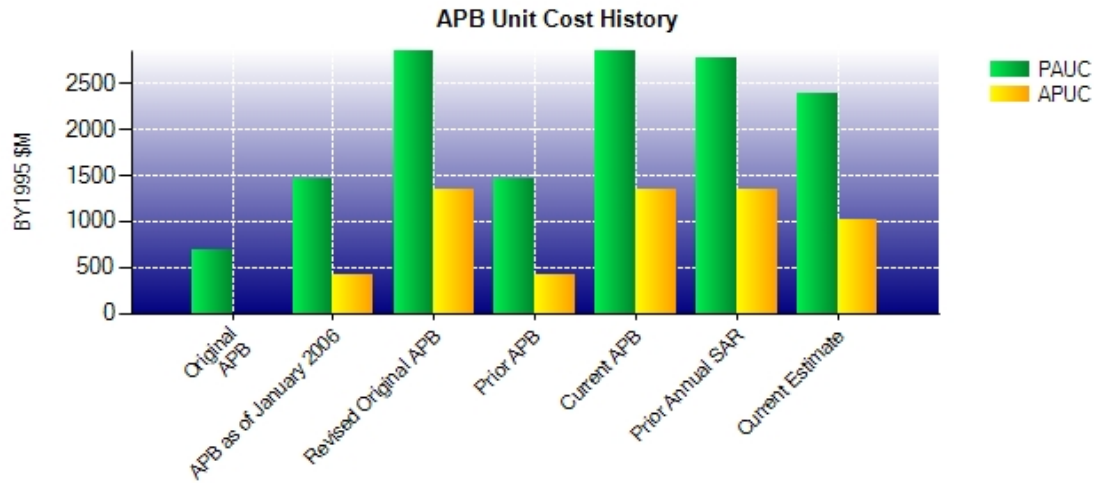
None

Unit Cost**Unit Cost Report**

Unit Cost	BY1995 \$M		
	Current UCR Baseline (MAR 2006 APB)	Current Estimate (DEC 2007 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	8569.3	9558.7	
Quantity	3	4	
Unit Cost	2856.433	2389.675	-16.34
Average Procurement Unit Cost (APUC)			
Cost	1342.8	2028.6	
Quantity	1	2	
Unit Cost	1342.800	1014.300	-24.46

Unit Cost	BY1995 \$M		
	Revised Original UCR Baseline (MAR 2006 APB)	Current Estimate (DEC 2007 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	8569.3	9558.7	
Quantity	3	4	
Unit Cost	2856.433	2389.675	-16.34
Average Procurement Unit Cost (APUC)			
Cost	1342.8	2028.6	
Quantity	1	2	
Unit Cost	1342.800	1014.300	-24.46

Unit Cost History



	Date	BY1995 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	OCT 1996	693.980	N/A	732.340	N/A
APB as of January 2006	SEP 2002	1467.640	420.500	1684.180	499.133
Revised Original APB	MAR 2006	2856.433	1342.800	3386.200	1723.200
Prior APB	SEP 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 2006	2774.300	1337.600	3293.167	1739.100
Current Estimate	DEC 2007	2389.675	1014.300	2888.625	1337.350

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	10.250	132.665	140.075	126.600	1618.875	0.000	30.700	2059.165	2888.625	

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	10.250	-73.050	-0.350	0.000	1046.850	0.000	61.400	1045.100	1337.350	

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	11554.5
Total Quantity	N/A	5	N/A	4
Prog. Acq. Unit Cost (PAUC)	N/A	829.460	N/A	2888.625

Cost Variance

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	+27.7	+27.5	-1.4	+2.8	+56.6
Quantity	-152.7	-967.7	0.0	0.0	-1120.4
Schedule	+561.0	-0.7	0.0	0.0	+560.3
Engineering	+512.2	0.0	+7.8	-15.6	+504.4
Estimating	+3579.5	+1977.8	+22.1	+34.2	+5613.6
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+117.7	0.0	0.0	+117.7
Subtotal	+4527.7	+1154.6	+28.5	+21.4	+5732.2
Current Changes					
Economic	-8.4	-7.0	--	-0.2	-15.6
Quantity	--	+821.6	--	--	+821.6
Schedule	--	--	--	--	--
Engineering	+2.0	--	--	--	+2.0
Estimating	+747.5	+115.9	--	-1.5	+861.9
Other	--	--	--	--	--
Support	--	+5.1	--	--	+5.1
Subtotal	+741.1	+935.6	--	-1.7	+1675.0
Total Changes	+5268.8	+2090.2	+28.5	+19.7	+7407.2
CE - Cost Variance	8655.3	2674.7	57.0	167.5	11554.5
CE - Cost & Funding	8655.3	2674.7	57.0	167.5	11554.5

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	0.0	0.0	0.0	0.0	0.0
Quantity	-128.4	-720.2	0.0	0.0	-848.6
Schedule	+416.6	-115.1	0.0	0.0	+301.5
Engineering	+458.9	0.0	+6.8	-13.5	+452.2
Estimating	+3026.9	+1577.9	+19.2	+16.0	+4640.0
Other	0.0	0.0	0.0	0.0	0.0
Support	0.0	+98.3	0.0	0.0	+98.3
Subtotal	+3774.0	+840.9	+26.0	+2.5	+4643.4
Current Changes					
Economic	--	--	--	--	--
Quantity	--	+604.4	--	--	+604.4
Schedule	--	--	--	--	--
Engineering	+1.6	--	--	--	+1.6
Estimating	+544.1	+82.2	--	-0.9	+625.4
Other	--	--	--	--	--
Support	--	+4.4	--	--	+4.4
Subtotal	+545.7	+691.0	--	-0.9	+1235.8
Total Changes	+4319.7	+1531.9	+26.0	+1.6	+5879.2
CE - Cost Variance	7336.3	2028.6	52.0	141.8	9558.7
CE - Cost & Funding	7336.3	2028.6	52.0	141.8	9558.7

Previous Estimate: December 2006

RDT&E	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices (Economic)	N/A	-8.4
Increase due to Flight Software System (FSS) impact (Estimating)	+8.8	+11.0
Reduction for higher Air Force priorities (Estimating)	-5.2	-6.7
Increase to fully fund 2006 OSD Cost Analysis Improvement Group (CAIG) estimate (Estimating)	+247.0	+343.0
Increase to fully fund 2007 OSD CAIG estimate to account for schedule slip due to FSS (Estimating)	+303.8	+414.0
Revised estimate due to Congressional General Reduction (Estimating)	-11.0	-14.7
Adjustment for current and prior escalation (Estimating)	+0.7	+0.9
Increase due to additional Global War on Terror (GWOT) funds provided for automated Combat Search and Rescue (CSAR) capability (Engineering)	+1.6	+2.0
RDT&E Subtotal	+545.7	+741.1

Procurement	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices (Economic)	N/A	-7.0
Additional funds provided to procure 1 additional satellite for a total of 2 procurement-funded satellites (Quantity)	+604.4	+821.6
Increase to fully fund follow-on production effort to the OSD CAIG estimate, includes Host support, launch support, and Other Government Costs (Estimating)	+81.6	+115.1
Adjustment for current and prior escalation (Estimating)	+0.6	+0.8
Revised estimate (Estimating)	0.0	0.0
Adjustment for current and prior escalation (Support)	+0.1	+0.1
Increase due to added Operational Migration Capability (OMC) in the Mission Control Station, Backup (MCSB) (Support)	+4.3	+5.0
Procurement Subtotal	+691.0	+935.6

Acq O&M	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices (Economic)	N/A	-0.2
Revised pre-operational support profile (Estimating)	-0.9	-1.5
Acq O&M Subtotal	-0.9	-1.7

Contracts

Appropriation: RDT&E	
Contract Name	SBIRS High EMD Mod
Contractor	Lockheed Martin Space Sys
Contractor Location	Sunnyvale , CA
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	5231.8	N/A	2	7174.5	8196.2

	Cost Variance	Schedule Variance
Previous Cumulative Variances	-4.0	-10.6
Cumulative Variances To Date (11/25/2007)	-67.7	-28.8
Net Change	-63.7	-18.2

Cost And Schedule Variance Explanations

The net unfavorable cost variance of -\$63.7M is primarily due to technical issues and problems associated with the Space Vehicle (SV) -\$37.9M, Lockheed Martin (LM) Payload -\$29.4M, Integrated Ground Products -\$4.4M, and Northrop Grumman Payload -\$1.8M.

The net unfavorable schedule variance of -\$18.2M is primarily due to difficulties with the SV -\$15.8M, LM Payload -\$4.8M, SEIT -\$4.2M, and NG Payload -\$2.0M. Since the previous SAR, the program continued to experience schedule erosion.

Contract Comments

The SBIRS High program incorporated the Flight Software System replan into the Integrated Master Schedule in January 2008, and additional detail will be added in March 2008. Cumulative schedule variance was reset to zero as of December 2007 accounting month end, cumulative cost variance will not be reset. An Integrated Baseline Review (IBR) is planned for June 2008 to validate all aspects of the revised baseline.

The current Engineering and Manufacturing Development contract Estimated Price At Completion, as reported in the November 2007 Contract Performance Report, is \$7,174.5 million, compared to \$6,786.3 million reported in the previous SAR. The \$388.2 million increase results from added contractual scope and fee for efforts such as Contractor Logistics Support and Sustainment tasks for FY 2008, Combined Task Force efforts in FY 2011 and FY 2012, and the GEO Test Bed Upgrade, as well as contract variance. The Program Manager Estimated Price at Completion is \$8,196.2 million based on the comprehensive Program Office Estimate at Completion, which includes FSS cost impacts assuming a conservative launch schedule (GEO 1 launch in September 2010), and contractor fee.

Note: Contract Total Allocated Budget as of November 2007 is \$6,623.5 million, of which \$80.3 million came from external sources (Army, Missile Defense Agency (MDA), Defense Intelligence Agency (DIA), National Geospatial Agency (NGA), Nuclear Detonation System (NDS), and other Air Force, such as Peterson AFB, CO).

Deliveries and Expenditures

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

Expenditures and Appropriations (TY \$M)

Total Acquisition Cost	11554.5	Years Appropriated	14
Expenditures To Date	6372.7	Percent Years Appropriated	73.68%
Percent Expended	55.15%	Appropriated to Date	7342.2
Total Funding Years	19	Percent Appropriated	63.54%

Operating and Support Cost

Assumptions and Ground Rules

Operations and Maintenance funds support the activation of new SBIRS High Component ground operating and training facilities at worldwide sites. 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 26-year Life Cycle Cost and is based upon the Estimate at Completion dated April 2005.

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
Mission Pay & Allowance	27.1	--
Unit Level Consumption	6.5	--
Intermediate Maintenance	1.6	--
Depot Maintenance	3.3	--
Contractor Support	85.6	--
Sustaining Support	19.1	--
Indirect	11.3	--
Other	--	--
Total Unitized Cost (Base Year 1995 \$)	154.5	--

Total O&S Costs \$M	SBIRS (High)	Defense Support Prog
Base Year	4017.4	--
Then Year	6068.3	--