

UNCLASSIFIED

PE NUMBER: 0604441F

PE TITLE: Space Based Infrared Systems (SBIRS) High EMD

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2007
---	------------------------------

BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604441F Space Based Infrared Systems (SBIRS) High EMD
---	--

Cost (\$ in Millions)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	706.560	664.872	587.004	510.544	403.890	263.753	0.303	0.303	448.500	8,362.540
3616 SBIRS High Element EMD	706.560	664.872	587.004	510.544	403.890	263.753	0.303	0.303	448.500	8,362.540

(U) A. Mission Description and Budget Item Justification

(U) The Space-Based Infrared Systems (SBIRS) primary mission is to provide initial warning of a ballistic missile attack on the US, its deployed forces, and its allies. SBIRS will incorporate new technologies to enhance detection and improve reporting of intercontinental ballistic missile launches, submarine launched ballistic missile launches, and tactical ballistic missile launches. SBIRS supports Missile Defense, Battlespace Awareness, and Technical Intelligence missions by providing reliable, accurate, and timely data to Unified Combatant Commanders, Joint Task Force (JTF) Commanders, the intelligence community, and other users. SBIRS provides increased detection and tracking performance in order to meet requirements in US Strategic Command's Capstone Requirements Document and Air Force Space Command's Operational Requirements Document. SBIRS will consist of satellites in Geosynchronous Earth Orbit (GEO), payloads hosted on satellites in Highly Elliptical Orbit (HEO), an integrated centralized ground station serving all SBIRS space elements, Defense Support Program (DSP) satellites, and other related support activities. The HEO-1 payload is in orbit and conducting on-orbit testing.

(U) This program is assigned to Budget Activity 5, System Development and Demonstration (SDD), because it funds the development activities for the SBIRS High program.

(U) B. Program Change Summary (\$ in Millions)

	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	696.562	668.902	579.369	486.335
(U) Current PBR/President's Budget	706.560	664.872	587.004	510.544
(U) Total Adjustments	9.998			
(U) Congressional Program Reductions	0.000	-1.505		
Congressional Rescissions	0.000	-2.525		
Congressional Increases				
Reprogrammings	9.998			
SBIR/STTR Transfer				

(U) Significant Program Changes:

FY08 inflation adjustment. In FY09 Factory Support funding was transferred from PE 0305915F, SBIRS High O&M to PE 0604441F, SBIRS High EMD, in order to continue developmental efforts through the end of Early On-Orbit Test (EOT) for GEO-2.

Exhibit R-2a, RDT&E Project Justification

DATE
February 2007

BUDGET ACTIVITY 05 System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604441F Space Based Infrared Systems (SBIRS) High EMD			PROJECT NUMBER AND TITLE 3616 SBIRS High Element EMD			
Cost (\$ in Millions)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total	
3616 SBIRS High Element EMD	706.560	664.872	587.004	510.544	403.890	263.753	0.303	0.303	448.500	8,362.540	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0			

(U) A. Mission Description and Budget Item Justification

(U) The Space-Based Infrared Systems (SBIRS) primary mission is to provide initial warning of a ballistic missile attack on the US, its deployed forces, and its allies. SBIRS will incorporate new technologies to enhance detection and improve reporting of intercontinental ballistic missile launches, submarine launched ballistic missile launches, and tactical ballistic missile launches. SBIRS supports Missile Defense, Battlespace Awareness, and Technical Intelligence missions by providing reliable, accurate, and timely data to Unified Combatant Commanders, Joint Task Force (JTF) Commanders, the intelligence community, and other users. SBIRS provides increased detection and tracking performance in order to meet requirements in US Strategic Command's Capstone Requirements Document and Air Force Space Command's Operational Requirements Document. SBIRS will consist of satellites in Geosynchronous Earth Orbit (GEO), payloads hosted on satellites in Highly Elliptical Orbit (HEO), an integrated centralized ground station serving all SBIRS space elements, Defense Support Program (DSP) satellites, and other related support activities. The HEO-1 payload is in orbit and conducting on-orbit testing.

(U) This program is assigned to Budget Activity 5, System Development and Demonstration (SDD), because it funds the development activities for the SBIRS High program.

(U) B. Accomplishments/Planned Program (\$ in Millions)

	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue EMD contracts for Space and Ground segment development (includes GFE, continued GEO development, GEO 1&2 integration, assembly and test, design activities for GEO block upgrades, proposal preparation, HEO integration and test, HEO message certification, Ground System Development, System Engineering and Program Management, Host program office support, Technical Intelligence activities, Data Exploitation activities, Combined Task Force (CTF) support activities, continuation of systems integration and test studies, and related support activities).	659.528	613.340	533.378	454.159
(U) Continue System Program Office Support, to include SETA and Systems Engineering and Integration	13.454	16.275	16.607	17.514
(U) Continue technical analysis and independent verification and validation of contractor.	33.578	35.257	37.019	38.871
(U) Total Cost	706.560	664.872	587.004	510.544

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

	<u>FY 2006</u> <u>Actual</u>	<u>FY 2007</u> <u>Estimate</u>	<u>FY 2008</u> <u>Estimate</u>	<u>FY 2009</u> <u>Estimate</u>	<u>FY 2010</u> <u>Estimate</u>	<u>FY 2011</u> <u>Estimate</u>	<u>FY 2012</u> <u>Estimate</u>	<u>FY 2013</u> <u>Estimate</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>
(U) Other Procurement (PE 0305915F, BA-03, P-61)	3.640	4.198	3.979	1.947	1.956	1.949	1.992	2.036	0.000	21.697
(U) Missile Procurement (PE)	0.000	0.000	479.000	1960.915	0.000	0.000	0.000	0.000	0.000	2,439.915

Exhibit R-2a, RDT&E Project Justification

DATE

February 2007

BUDGET ACTIVITY

05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604441F Space Based Infrared
Systems (SBIRS) High EMD

PROJECT NUMBER AND TITLE

3616 SBIRS High Element EMD

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

0305915F, BA-05, P-30)

(U) **D. Acquisition Strategy**

The pre-SDD SBIRS contracts were competed in full and open competition. Two contracts were awarded to Lockheed/Loral/Aerojet and Hughes/TRW in 1995 for the pre-SDD phase. A single contract was awarded to Lockheed Martin in 1996 for the SDD phase.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis

DATE
February 2007

BUDGET ACTIVITY													PE NUMBER AND TITLE		PROJECT NUMBER AND TITLE	
05 System Development and Demonstration (SDD)													0604441F Space Based Infrared Systems (SBIRS) High EMD		3616 SBIRS High Element EMD	
<u>(U) Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2006 Cost</u>	<u>FY 2006 Cost</u>	<u>FY 2006 Award Date</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>		
<u>(U) Product Development</u>																
LMMS & Hughes (Pre-SDD)	C/CPFF		159.600									0.000	159.600	159.600		
LMMS (SDD)	C/CPAF	Lockheed Martin, Sunnyvale, CA	4,316.489	659.528	Oct-05	613.340	Oct-06	533.378	Oct-07	454.159	Oct-08	901.872	7,478.766	7,478.766		
SBIRS Pre-SDD Contract Adjustment			4.780									0.000	4.780	4.780		
Technology	Various		11.600									0.000	11.600	11.600		
Phenomenology	Various		17.350									0.000	17.350	17.350		
Sandia Natl Lab (Cobra Brass)	Various		10.000									0.000	10.000	10.000		
Not Applicable													0.000			
Subtotal Product Development			4,519.819	659.528		613.340		533.378		454.159		901.872	7,682.096	7,682.096		
Remarks:																
<u>(U) Support</u>																
Aerospace Corp	Reimbursable Order	Aerospace Corp, El Segundo CA	181.692	33.578	Oct-05	35.257	Oct-06	37.019	Oct-07	38.871	Oct-08	164.068	490.485	465.386		
Prgm Mgmt Supt	Various	Various	75.300	13.454	Oct-05	16.275	Oct-06	16.607	Oct-07	17.514	Oct-08	50.809	189.959	215.058		
Subtotal Support			256.992	47.032		51.532		53.626		56.385		214.877	680.444	680.444		
Remarks:																
<u>(U) Test & Evaluation</u>																
Not Applicable													0.000			
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000		
Remarks:																
<u>(U) Management</u>																
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000		
Remarks:																
<u>(U) Total Cost</u>			4,776.811	706.560		664.872		587.004		510.544		1,116.749	8,362.540	8,362.540		

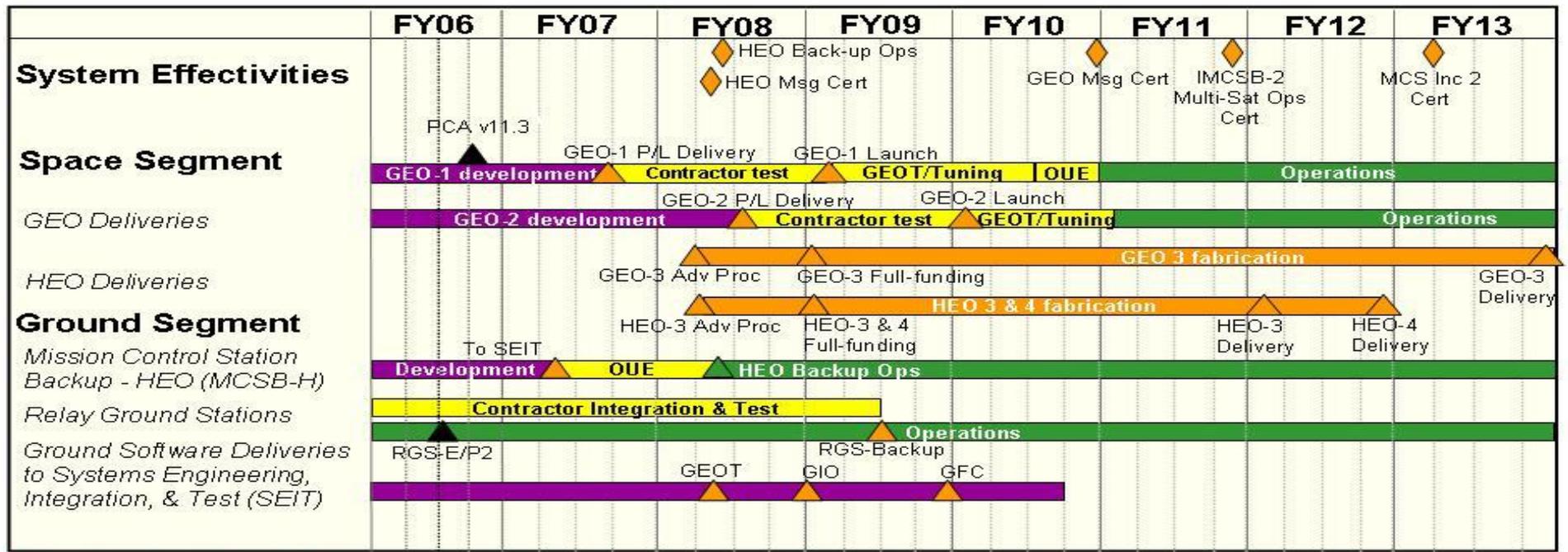
Exhibit R-4, RDT&E Schedule Profile

DATE
February 2007

BUDGET ACTIVITY
05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE
0604441F Space Based Infrared
Systems (SBIRS) High EMD

PROJECT NUMBER AND TITLE
3616 SBIRS High Element EMD



GEOT: GEO Early On-Orbit Test
 HEOT: HEO Early Orbit Test
 MCS: Mission Control Station
 GFC: GEO Full Capability
 HIO: HEO Interim Operations
 OUE: Operational User Evaluation
 GIO: GEO Interim Operations
 IMCSB: Interim Mission Control Station Backup
 PCA: Pointing & Control Assembly
 HEO: Highly Elliptical Orbit
 RGS: Relay Ground Station

- Concept activities
- Design / development
- Integration / test
- Production / fielding
- Operations / sustainment
- △◇ Key events

UNCLASSIFIED

Exhibit R-4a, RDT&E Schedule Detail	DATE February 2007
--	------------------------------

BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604441F Space Based Infrared Systems (SBIRS) High EMD	PROJECT NUMBER AND TITLE 3616 SBIRS High Element EMD
--	---	---

(U) <u>Schedule Profile</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) HEO Interim Operations (HIO) software delivered to Systems Engineering, Integration, and Test (SEIT)	3Q			
(U) Relay Ground Station Europe (RGS-E) and Pacific (RGS-P) Asynchronous Transfer Mode (ATM) Phase 3 Complete	4Q			
(U) Spacecraft Functional Ambient Test	4Q			
(U) Delivery of Mission Control Station Backup-HEO (MCSB-H) to SEIT		2Q		
(U) GEO-1 Payload Thermal Vacuum Test 2		3Q		
(U) GEO-1 Payload delivery to prime for integration with spacecraft		4Q		
(U) HEO message certification			2Q	
(U) HEO Back-up Operations			2Q	
(U) GEO Early On-Orbit Test (GEOT) Software delivery			2Q	
(U) GEO-2 payload delivery to prime for integration with spacecraft			3Q	
(U) GEO Interim Operations (GIO) Software delivery				1Q
(U) GEO-1 Launch				1Q
(U) GEO Full Capability (GFC) software delivery				4Q