

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

June 2001

BUDGET ACTIVITY

05 - Engineering and Manufacturing Development

PE NUMBER AND TITLE

0604441F Space Based Infrared Systems (SBIRS)
High EMD

PROJECT

3616

COST (\$ in Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
3616 SBIRS High Element EMD	400,348	563,967	405,229	334,753	270,531	197,390	246,625	228,855	292,419	4,249,767
Quantity of RDT&E Articles	0	0	1	1	1	1	0	0	0	4

NOTE: This administration has not addressed FY 2003-2007 requirements. All FY 2003-2007 budget estimates included in this book are notional only and subject to change.

(U) A. Mission Description

(U) The Space-Based Infrared System's (SBIRS) primary mission is to provide initial warning of a ballistic missile attack on the US, its deployed forces or its allies. SBIRS will incorporate new technologies to enhance detection; improve reporting of intercontinental ballistic missiles, submarine launched ballistic missiles, and tactical ballistic missiles; and provide critical mid-course tracking and discrimination data for national and theater missile defense. SBIRS also supports Battlespace Characterization and Technical Intelligence. The SBIRS System provides increased detection and tracking performance in order to meet requirements in US Space Command's Capstone Requirements Document and Air Force Space Command's Operational Requirements Document. SBIRS will consist of satellites in Geosynchronous Orbits (GEO), Highly Elliptical Orbits (HEO) and Low Earth Orbits (LEO) and an integrated centralized ground station serving all SBIRS space elements and Defense Support Program (DSP) satellites. This Program Element funds the GEO & HEO portions of SBIRS with their associated ground elements.

(U) FY 2000 (\$ in Thousands)

(U) \$381,168 Continued EMD contracts for Space and Ground segment development (includes GFE, GEO Development, GEO 1&2 integration and test, HEO development/fabrication, Ground System development, System Engineering and Program Management, and Host SPO support)

(U) \$6,053 Continued System Program Office Support

(U) \$13,127 Continued Technical analysis and independent verification and validation of contractor by FFRDC.

(U) \$400,348 Total

(U) FY 2001 (\$ in Thousands)

(U) \$544,289 Continued EMD contracts for Space and Ground segment development (includes GFE, GEO Development, GEO 1&2 build, GEO 1&2 integration and test, HEO development/production, Ground System development, System Engineering and Program Management, and Host SPO support)

(U) \$3,397 Continue System Program Office Support

(U) \$16,281 Continue Technical analysis and independent verification and validation of contractor by FFRDC.

(U) \$563,967 Total

Project 3616

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Exhibit R-2 (PE 0604441F)

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<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2001 (\$ in Thousands) Continued</u> The following net transactions are not reflected in the FY01 program total: BTR= -\$676K, SBIR= -\$15,736K. These transactions are not reflected in other sections of the R-Docs where an FY01 total is shown.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">(U) \$381,402</td> <td>Continue EMD contracts for Space and Ground segment development (includes GFE, continued GEO Development, GEO 1&2 integration, assembly and test, HEO development/production, HEO integration, assembly, and test, Ground System development, System Engineering and Program Management, and Host SPO support)</td> </tr> <tr> <td>(U) \$5,714</td> <td>Continue System Program Office Support</td> </tr> <tr> <td>(U) \$18,113</td> <td>Continue technical analysis and independent verification and validation of contractor by FFRDC</td> </tr> <tr> <td>(U) \$405,229</td> <td>Total</td> </tr> </table> <p>Changes from FY01 PBR reflect fact-of-life changes in travel, Assistance and Advisory Services (A&AS), and negotiated contract costs.</p> <p>(U) <u>B. Budget Activity Justification</u> (U) This program is assigned to Budget Activity 5, Engineering and Manufacturing Development because it funds the EMD activities for the SBIRS High program.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;"></th> <th style="width: 10%; text-align: center;"><u>FY 2000</u></th> <th style="width: 10%; text-align: center;"><u>FY 2001</u></th> <th style="width: 10%; text-align: center;"><u>FY 2002</u></th> <th style="width: 20%; text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget (FY 2001 PBR)</td> <td style="text-align: right;">328,653</td> <td style="text-align: right;">569,188</td> <td style="text-align: right;">389,879</td> <td style="text-align: right;">3,382,241</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: right;">420,653</td> <td style="text-align: right;">569,188</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> a. Congressional/General Reductions</td> <td style="text-align: right;">-177</td> <td style="text-align: right;">-3,984</td> <td></td> <td></td> </tr> <tr> <td> b. Small Business Innovative Research</td> <td style="text-align: right;">-1,628</td> <td></td> <td></td> <td></td> </tr> <tr> <td> c. Omnibus or Other Above Threshold Reprogram</td> <td style="text-align: right;">-18,500</td> <td></td> <td></td> <td></td> </tr> <tr> <td> d. Below Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> e. Rescissions</td> <td></td> <td style="text-align: right;">-1,237</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2001 PBR</td> <td></td> <td></td> <td style="text-align: right;">15,350</td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY 2002 PBR</td> <td style="text-align: right;">400,348</td> <td style="text-align: right;">563,967</td> <td style="text-align: right;">405,229</td> <td style="text-align: right;">4,249,767</td> </tr> </tbody> </table>			(U) \$381,402	Continue EMD contracts for Space and Ground segment development (includes GFE, continued GEO Development, GEO 1&2 integration, assembly and test, HEO development/production, HEO integration, assembly, and test, Ground System development, System Engineering and Program Management, and Host SPO support)	(U) \$5,714	Continue System Program Office Support	(U) \$18,113	Continue technical analysis and independent verification and validation of contractor by FFRDC	(U) \$405,229	Total		<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Total Cost</u>	(U) Previous President's Budget (FY 2001 PBR)	328,653	569,188	389,879	3,382,241	(U) Appropriated Value	420,653	569,188			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions	-177	-3,984			b. Small Business Innovative Research	-1,628				c. Omnibus or Other Above Threshold Reprogram	-18,500				d. Below Threshold Reprogram					e. Rescissions		-1,237			(U) Adjustments to Budget Years Since FY 2001 PBR			15,350		(U) Current Budget Submit/FY 2002 PBR	400,348	563,967	405,229	4,249,767
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<div style="display: flex; justify-content: space-between;"> Project 3616 Page 2 of 6 Pages Exhibit R-2 (PE 0604441F) </div>																																																																	

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(U) **C. Program Change Summary (\$ in Thousands) Continued**

(U) **Significant Program Changes:**

(U) \$18.5M of FY00 funds were reprogrammed to the Operations and Maintenance (O&M) appropriation to field SBIRS High Increment 1 ground system.

(U) FY02-FY07 funds were added to increase the acquisition stability of the program based on a new AF Cost Analysis Improvement Group (CAIG) estimate.

(U) FY06-FY07 funds were added in the cost to complete for estimated Block II satellite upgrade/replenishment costs.

(U) The Integrated Training Suite/SBIRS Simulator Phase 1 was previously broken out separately in the R-2 Exhibit's mission description, but is now included in the EMD contracts line since it is definitized. The fiscal year breakout is as follows: FY01 \$9.9M, FY02 \$16.7M.

(U) SBIRS Increment 1 IOC, consolidation of existing DSP ground stations into a single CONUS ground station, is currently scheduled for 1QFY02.

(U) FY03-FY07 funds were added to address identified risk areas, Systems Engineering and Software Development, of the program to reflect the OSD CAIG estimate.

(U) FY01-FY02 \$2.3M increases in 'System Program Office Support' reflect fact-of-life adjustments for overall SBIRS SPO support.

(U) **D. Other Program Funding Summary (\$ in Thousands)**

	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) Missile Procurement (PE 0305915F, BA-05, P-30)	0	0	93,752	481,020	0	6,968	15,652	17,262	0	614,654
(U) Other Procurement (PE 0305915F, BA-03, P-55)	0	0	54,347	0	0	0			0	54,347
(U) Related RDT&E:										
(U) PE 305911F - DSP (BA 07, R-187)	7,708	9,374	6,363	6,639	0	0	0	0	0	1,922,136
(U) PE 604442F - SBIRS Low PDRR (BA05, R-68)	218,088	233,545								439,499

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(U) **D. Other Program Funding Summary (\$ in Thousands)**

	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
SBIRS Low transferred to BMDO										

(U) **E. Acquisition Strategy**

The pre-EMD SBIRS contracts were competed in full and open competition. Two contracts were awarded to Lockheed/Loral/Aerojet and Hughes/TRW in 1994 for the pre-EMD phase. A single contract was awarded to Lockheed Martin in 1996 for the EMD phase.

(U) **F. Schedule Profile**

	<u>FY 2000</u>				<u>FY 2001</u>				<u>FY 2002</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Payload Critical Design Reviews (2)		*							X			
(U) Ground Inc-1- Consolidated DSP Stations										X		
(U) Ground Inc-2 Critical Design Review									X			
(U) GEO Critical Design Review									X			
(U) HEO Payload #1 Delivery												X
(U) HEO Payload #2 Delivery (FY03)												
(U) GEO Satellite #1 Delivery (FY04)												
(U) GEO Satellite #2 Delivery (FY05)												
*-Completed Event												
X-Planned Event												

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE June 2001			
BUDGET ACTIVITY					PE NUMBER AND TITLE				PROJECT		
05 - Engineering and Manufacturing Development					0604441F Space Based Infrared Systems (SBIRS) High EMD				3616		
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>											
					<u>FY 2000</u>		<u>FY 2001</u>		<u>FY 2002</u>		
(U) EMD Contract					381,168		544,289		381,402		
(U) System Program Office Support					6,053		3,397		5,714		
(U) Aerospace Corp					13,127		16,281		18,113		
(U) Total					400,348		563,967		405,229		
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>											
(U) <u>Performing Organizations:</u>											
<u>Contractor or</u>		<u>Contract</u>									
<u>Government</u>		<u>Method/Type</u>									
<u>Performing</u>		<u>or Funding</u>									
<u>Activity</u>		<u>Vehicle</u>									
		<u>Date</u>		<u>Performing</u>		<u>Project</u>		<u>Total Prior</u>			
				<u>Activity</u>		<u>Office</u>		<u>Budget</u>		<u>Budget</u>	
				<u>EAC</u>		<u>EAC</u>		<u>FY 2000</u>		<u>FY 2001</u>	
								<u>FY 2002</u>		<u>Budget to</u>	
										<u>Complete</u>	
										<u>Total</u>	
										<u>Program</u>	
<u>Product Development Organizations</u>											
LMMS & TRW (Pre-EMD)		C/CPFF		Jul 95		207,880		207,880		207,880	
LMMS/Other (EMD)		C/CPAF		Nov 96		3,671,916		3,671,916		982,304	
SBIRS Pre-EMD Contract						4,780		4,780		4,780	
Adjustment											
Technology		Various		Sep 95		11,600		11,600		11,600	
Phenomenology		Various		Sep 95		17,350		17,350		17,350	
Sandia Natl Lab (Cobra		Various		Sep 95		10,000		10,000		10,000	
Brass)											
<u>Support and Management Organizations</u>											
Aerospace Corp		MORD		Sep 95		237,395		237,395		48,935	
Prgm Mgmt Supt		Various		Sep 95		237,395		237,395		26,801	
<u>Test and Evaluation Organizations</u>											
Not Applicable											
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE		
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BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT		
05 - Engineering and Manufacturing Development				0604441F Space Based Infrared Systems (SBIRS)			3616		
				High EMD					
(U) Government Furnished Property:									
	Contract								
	Method/Type	Award or							
Item	or Funding	Obligation	Delivery		Total Prior	Budget	Budget	Budget	Total
Description	Vehicle	Date	Date		to FY 2000	FY 2000	FY 2001	FY 2002	Program
Product Development Property									
Not Applicable									
Support and Management Property									
Test and Evaluation Property									
					Total Prior	Budget	Budget	Budget	Total
Subtotals					to FY 2000	FY 2000	FY 2001	FY 2002	Complete
Subtotal Product Development					1,233,914	381,168	544,289	381,402	1,382,753
Subtotal Support and Management					75,736	19,180	19,678	23,827	187,820
Subtotal Test and Evaluation									
Total Project					1,309,650	400,348	563,967	405,229	1,570,573
									4,249,767

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