

UNCLASSIFIED

PE NUMBER: 0603434F

PE TITLE: National Polar-Orbiting Operational Environmental Satellite System (NPOESS)

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2005
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BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE 0603434F National Polar-Orbiting Operational Environmental Satellite System (NPOESS)
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Cost (\$ in Millions)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	265.483	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	922.221
4056 National Polar-orbiting Operational Env. Sat. Syst.	265.483	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	922.221

This table represents the RDT&E portion of the Air Force share of the NPOESS program, which is 50/50 funded by the Departments of Defense and Commerce. Total program funding is listed in section C, Other Program Funding Summary. In FY2005, Project 4056, PE 0603434F NPOESS, funding was transferred to Project 4056, PE 0305178F NPOESS, BA 04, in order to accomplish System Development and Demonstration (SDD). The NPOESS program was rebaselined in Dec 03 to reflect new schedule requirements.

(U) A. Mission Description and Budget Item Justification

Presidential Decision Directive/National Science and Technology Council-2 (PDD/NSTC-2) (May 1994) directs the Department of Defense (DoD), Department of Commerce (DOC), and the National Aeronautics and Space Administration (NASA) to establish a converged national polar-orbiting weather satellite program. The Air Force (DoD) and NOAA (DOC) fund NPOESS 50/50 (by year) at the total program level. However, apportionment of DoD and DOC funds to specific activities does not have to be 50/50 and is at the program office discretion. The converged program, the National Polar-orbiting Operational Environmental Satellite System (NPOESS), combines the follow-on to DoD's Defense Meteorological Satellite Program (DMSP) and the DOC's Polar-orbiting Operational Environmental Satellite (POES) program. A Tri-agency Integrated Program Office (IPO) was established on 1 Oct 94 to manage the acquisition and operations of the converged system. NPOESS will provide operational military commanders and civilian leaders timely, quality weather and environmental information to effectively employ weapon systems and protect national resources. On 13 Aug 2004, the Office of Science and Technology Policy directed the incorporation of a Landsat-type sensor on the first and fourth NPOESS spacecraft. Cost sharing requirements of the baseline NPOESS program do not apply to the integration of Landsat onto NPOESS. The converged program will be the nation's primary source of global weather and environmental data for operational military and civil use. It will provide visible and infrared cloud cover imagery and other atmospheric, oceanographic, terrestrial, and space environmental information. NPOESS will provide a combination of satellites in sun-synchronous 450 nautical mile (nm) polar-orbits at all times (sun synchronous means the satellites cross the equator at the same local sun time on each of their 14 orbits/day). The first NPOESS launch is scheduled for Nov 2009, with Initial Operational Capability (IOC) in Jul 2011 and Full Operational Capability (FOC) in Oct 2013. The remaining satellites will be fully funded with missile procurement funding. In Aug 2002, the NPOESS program was approved to enter Key Decision Point C (KDP-C) Acquisition & Operations (A&O) phase at the Defense Space Acquisition Board (DSAB). This PE has been consolidated with PE 0305178F, beginning in FY05.

Exhibit R-2, RDT&E Budget Item Justification

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BUDGET ACTIVITY

04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE

0603434F National Polar-Orbiting Operational Environmental Satellite System (NPOESS)

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

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Previous President's Budget	264.681	0.000	0.000	0.000
(U) Current PBR/President's Budget	265.483	0.000	0.000	0.000
(U) Total Adjustments	0.802	0.000		
(U) Congressional Program Reductions	-0.198	0.000		
Congressional Rescissions				
Congressional Increases				
Reprogrammings	1.000			
SBIR/STTR Transfer				
(U) <u>Significant Program Changes:</u>				
None.				

Exhibit R-2a, RDT&E Project Justification

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BUDGET ACTIVITY		PE NUMBER AND TITLE						PROJECT NUMBER AND TITLE		
04 Advanced Component Development and Prototypes (ACD&P)		0603434F National Polar-Orbiting Operational Environmental Satellite System (NPOESS)						4056 National Polar-orbiting Operational Env. Sat. Syst.		
Cost (\$ in Millions)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
4056 National Polar-orbiting Operational Env. Sat. Syst.	265.483	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	922.221
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

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The NPOESS program was rebaselined in Dec 03 to reflect new schedule requirements.

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

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Continue DoD funded program office support for Acquisition and Operations (A&O) efforts.	0.668	0.000	0.000	0.000
(U) Continue System A&O effort including ground and space system development, design and fabrication for risk reduction missions.	263.615	0.000	0.000	0.000
(U) Windsat data analysis, refinement, calibration, modeling and retrieval algorithms	1.200			
(U) Total Cost	265.483	0.000	0.000	0.000

Exhibit R-2a, RDT&E Project Justification

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BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE 0603434F National Polar-Orbiting Operational Environmental Satellite System (NPOESS)	PROJECT NUMBER AND TITLE 4056 National Polar-orbiting Operational Env. Sat. Syst.
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(U) C. Other Program Funding Summary (\$ in Millions)

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</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) Related NOAA PAC Funding: Polar Convergence*	273.789	300.501	323.742	344.020	346.607	299.969	376.616	408.667	740.027	4,066.517
(U) NPOESS RDT&E: PE 0603434F	265.483	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	265.483
(U) Related NPOESS RDT&E: PE 0305178F	0.000	303.784	323.665	350.516	216.277	163.236	136.052	87.760	0.000	1,581.290
(U) Related NPOESS MPAF: PE 0305178F	0.000	0.000	0.000	0.000	25.576	32.046	250.514	228.706	114.071	650.913
(U) Related EELV MPAF: PE 0305953F**	0.000	0.000	0.000	0.000	138.278	138.278	0.000	124.373	373.119	774.048
(U) Other operations and sustainment funding***	0.000	0.000	0.000	0.000	2.562	2.278	0.000	0.000	329.081	333.921
(U) Total NPOESS Air Force	265.483	303.784	323.665	350.516	382.693	335.838	386.566	440.839	816.271	4,262.393

* National Oceanic and Atmospheric Administration Procurement, Acquisition, and Construction (NOAA PAC) appropriation. The Air Force (DoD) and NOAA (DOC) fund NPOESS 50/50. AF total cost includes prior-year amount of \$922.2M. Total NPOESS program cost is the sum of NPOESS RDT&E AF PE 0603434F/AF PE 0305178F, MPAF PE 0305178F, NPOESS portion of Evolved Expendable Launch Vehicle (EELV) MPAF PE 0305953F, and Polar Convergence NOAA PAC. The actual share of funding for specific program expenses is determined in the year of execution based on the availability of DoD and DOC funds.

** NPOESS launch vehicle funding is budgeted entirely in EELV PE 0305953F and represents a portion of the DoD's 50% funding contribution.

*** Operations and Sustainment (O&S) after Initial Operational Capability (IOC) may be funded as either Operations & Maintenance AF, NOAA Operations Research and Facilities (ORF) or other appropriations, depending on the concept selected for post IOC O&S. Prior to IOC, O&S funding will be through a combination of RDT&E (AF) and NOAA PAC. These funds will be transferred to the specific appropriation as the budget enters the FYDP.

(U) D. Acquisition Strategy

Accomplish substantial risk reduction with a focus on developing payloads, enhancing data utility to users, and protecting maximum flexibility to ensure the best overall system design by pursuing a significant investment in the development and on-orbit testing of selected payload sensors; the first two satellites will be incrementally funded with RDT&E funding; the rest of the satellites will be fully funded with missile procurement funding.

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Exhibit R-3, RDT&E Project Cost Analysis											DATE February 2005			
BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)					PE NUMBER AND TITLE 0603434F National Polar-Orbiting Operational Environmental Satellite System (NPOESS)					PROJECT NUMBER AND TITLE 4056 National Polar-orbiting Operational Env. Sat. Syst.				
<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 2004 Cost</u>	<u>FY 2004 Cost</u>	<u>FY 2004 Award Date</u>	<u>FY 2005 Cost</u>	<u>FY 2005 Award Date</u>	<u>FY 2006 Cost</u>	<u>FY 2006 Award Date</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
<u>(U) Product Development</u>														
Syst. Arch. Studies	C/CPFF	Various	12.820										12.820	
TRW (PDRR)	C/FFP	Primary, Los Angeles, CA	27.705										27.705	
Lockheed Martin (PDRR)	C/FFP	Primary, Sunnyvale, CA	38.684										38.684	
Lockheed Martin	C/CPAF	Primary, Sunnyvale, CA	4.486										4.486	
Raytheon (VIIRS & CrIS)	C/CPFF	Sensor, Santa Barbara, CA	29.890										29.890	
Ball Aerospace (CMIS & OMPS)	C/CPFF	Sensor, Boulder, CO	30.599										30.599	
Ball Aerospace (OMPS)	C/CPAF	Sensor, Boulder, CO	35.730										35.730	
ITT Aerospace (VIIRS & CrIS)	C/CPFF	Sensor, Fort Wayne, IN	30.817										30.817	
Boeing (formerly Hughes) Space and Communications (CMIS)	C/CPFF	Sensor, El Segundo, CA	27.301										27.301	
Orbital Sciences (OMPS)	C/CPFF	Sensor, Baltimore, MD	2.610										2.610	
SAAB Ericsson (GPSOS)	C/CPFF	Sensor, Goteborg, Sweeden	2.386										2.386	
SAAB Ericsson (GPSOS)	SS/FFP	Sensor, Goteborg, Sweeden	9.168										9.168	
ITT Aerospace (CrIS)	C/CPAF	Sensor, Fort Wayne, IN	40.578										40.578	
Raytheon (VIIRS)	C/CPAF	Sensor, Santa Barbara, CA	51.170										51.170	
Boeing (CMIS)	C/CPAF	Sensor, El Segundo, CA	14.266										14.266	
Northrop Grumman (A&O)	C/CPAF	Primary, Redondo Beach, CA	231.286	256.646								0.000	487.932	

Project 4056

R-1 Shopping List - Item No. 44-5 of 44-8

Exhibit R-3 (PE 0603434F)

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Exhibit R-3, RDT&E Project Cost Analysis							DATE February 2005			
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT NUMBER AND TITLE			
04 Advanced Component Development and Prototypes (ACD&P)				0603434F National Polar-Orbiting Operational Environmental Satellite System (NPOESS)			4056 National Polar-orbiting Operational Env. Sat. Syst.			
Other Contracts	MISC	Various	21.975						21.975	
Government Led Studies	Gov. Orgs.	Various	29.571	8.169					37.740	
Subtotal Product Development			641.042	264.815	0.000	0.000	0.000	0.000	905.857	0.000
Remarks: FY05 funding consolidated in PE 0305178F										
(U) <u>Support</u>										
Integrated Program Office (IPO) Support	Various	Program Office, Silver Spring, MD	15.696	0.668					0.000	16.364
Subtotal Support			15.696	0.668	0.000	0.000	0.000	0.000	16.364	0.000
Remarks: FY05 funding consolidated in PE 0305178F										
(U) <u>Test & Evaluation</u>										
Included in IPO Support									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>										
Included in IPO Support									0.000	
Subtotal Management			0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Remarks:										
(U) Total Cost			656.738	265.483	0.000	0.000	0.000	0.000	922.221	0.000

Exhibit R-4, RDT&E Schedule Profile

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BUDGET ACTIVITY

04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE

**0603434F National Polar-Orbiting
Operational Environmental Satellite
System (NPOESS)**

PROJECT NUMBER AND TITLE

**4056 National Polar-orbiting
Operational Env. Sat. Syst.**

Exhibit R-4a, RDT&E Schedule Detail	DATE February 2005
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(U) <u>Schedule Profile</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U)				