

UNCLASSIFIED

PE NUMBER: 0305913F
 PE TITLE: NUDET Detection System (Space)

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2008
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BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0305913F NUDET Detection System (Space)
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Cost (\$ in Millions)	FY 2007 Actual	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	59.917	38.279	41.292	39.384	38.434	39.183	39.972	Continuing	TBD
2808 Nuc Detonation Det Sys (sensors)	59.917	38.279	41.292	39.384	38.434	39.183	39.972	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

The Nuclear Detonation (NUDET) Detection System (NDS) provides a worldwide, highly survivable capability to detect, locate, and report any nuclear detonations in the earth's atmosphere or in near space in near-real time. The NDS supports NUDET detection requirements for United States Northern Command (USNORTHCOM)/North American Aerospace Defense Command (NORAD) (Integrated Tactical Warning and Attack Assessment (ITW/AA)), United States Strategic Command (USSTRATCOM) (Nuclear Force Management), and Air Force Technical Applications Center (AFTAC) (Treaty Monitoring). NDS consists of space and ground segments. The current space segment consists of NUDET detection sensors (optical, x-ray, dosimeters and electromagnetic pulse (EMP) sensor) on Global Positioning System (GPS) satellites and (optical, x-rays, and neutron and gamma rays) on Defense Support Program (DSP) satellites. The ground segment includes the Integrated Correlation and Display System (ICADS) and the Ground NDS Terminals (GNT).

The NDS program element funds research and development, testing and fielding of ICADS, GNT, and the integration of Space and Atmospheric Burst Reporting System (SABRS) sensors on Geostationary (GEO) satellites. ICADS provides a fixed ground receiving station and GNT provides the survivable ground receiving station. SABRS is the future neutron/gamma sensor payload that will be hosted on SBIRS and a classified GEO satellite to replace the NDS sensor payload on DSP satellites. Sensor integration for GPS satellites is funded in the GPS Space & Control PE (0305165F) for GPS Block IIF and the GPS III Space Segment PE (0305265F) for GPS III satellites. Ground segment development remains in the NDS PE. DOE funds new NDS sensor research and production .

This program is in Budget Activity 7 - Operational System Development because it supports operational systems.

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	59.917	38.974	41.903
(U) Current PBR/President's Budget	59.917	38.279	41.292
(U) Total Adjustments	0.000	-0.695	
(U) Congressional Program Reductions		-0.451	
Congressional Rescissions		-0.244	
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
(U) <u>Significant Program Changes:</u>			
None			

Exhibit R-2a, RDT&E Project Justification

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BUDGET ACTIVITY 07 Operational System Development							PE NUMBER AND TITLE 0305913F NUDET Detection System (Space)		PROJECT NUMBER AND TITLE 2808 Nuc Detonation Det Sys (sensors)	
Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total	
2808 Nuc Detonation Det Sys (sensors)	59.917	38.279	41.292	39.384	38.434	39.183	39.972	Continuing	TBD	
Quantity of RDT&E Articles	0	0	0	0	0	0	0			

(U) A. Mission Description and Budget Item Justification

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue ICADS and GNT development	17.108	18.152	23.740
(U) Continue NDS sensor on-orbit qualification	3.500	3.500	3.600
(U) Continue Mission and Program support and system studies	3.789	2.510	2.593
(U) Continue Technical Support	3.970	4.617	4.759
(U) Continue SABRS on GEO host development/integration	31.550	9.500	6.600
(U) Total Cost	59.917	38.279	41.292

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Cost to Complete</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) Operations & Maintenance, (PE 0305913F, BA 1, Operating Forces, SAG 12A)	8.535	8.781	9.221	9.651	9.606	9.805	10.008	Continuing	TBD

Exhibit R-2a, RDT&E Project Justification

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BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0305913F NUDET Detection System (Space)	PROJECT NUMBER AND TITLE 2808 Nuc Detonation Det Sys (sensors)
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(U) **C. Other Program Funding Summary (\$ in Millions)**

(U) Other Procurement, (PE 0305913F, BA 3 - Electronics and Telecom Equipment, WSC 836750 P-63)	12.783	16.348	27.626	21.755	10.442	10.671	10.905	Continuing	TBD
(U) Missile Procurement, (PE 0305913F, BA 5 - Space & Other support, P-23)	0.000	0.000	1.250	3.548	4.338	4.420	4.510	Continuing	TBD

(U) **D. Acquisition Strategy**

The NDS Acquisition Strategy is to develop, field and sustain NDS satellite sensors and NDS ground data processing and distribution hardware and software as well as mission operational and technical program support to sustain the NDS capability on a variety of satellites; funding is sent by Military Interdepartmental Purchase Request (MIPR) from DoD and Department of Energy (DoE) to Sandia and Los Alamos National Laboratories and other agencies on existing DOE contracts.

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Exhibit R-3, RDT&E Project Cost Analysis

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BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT NUMBER AND TITLE				
07 Operational System Development				0305913F NUDET Detection System (Space)				2808 Nuc Detonation Det Sys (sensors)				
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2007 Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) <u>Product Development</u> ICADS and GNT	MIPR	Department of Energy; Sandia National Laboratory, Albuquerque NM	157.222	17.108	Nov-06	18.152	Nov-07	23.740	Nov-08	Continuing	TBD	
GNT: Intermetrics	CPFF		1.262								0.000	1.262
SAIC (Intg/Grd Supt)	Time/Matls		5.219								0.000	5.219
Combined GOSC/NAP: Lockheed Martin	FFP		6.166								0.000	6.166
W-Sensor: SRI (Stanford Rsch Inst.)	CPFF		0.415								0.000	0.415
On-orbit sensor testing	MIPR	Department of Energy; Los Alamos National Laboratory, Albuquerque NM	16.381	3.500	Nov-06	3.500	Nov-07	3.600	Nov-08	Continuing	TBD	
SABRS	MIPR	Classified	0.000	31.550	Nov-06	9.500	Nov-07	6.600	Nov-08	Continuing	TBD	
Subtotal Product Development			186.665	52.158		31.152		33.940		Continuing	TBD	0.000
Remarks:												
(U) <u>Support</u>												
Mission Support	Various		13.566	3.728	Nov-06	2.365	Nov-07	2.388	Nov-08	Continuing	TBD	
Prog Contractual Spt.	Various		5.185							0.000	5.185	
Technical Support	Various		18.655	3.970	Nov-06	4.617	Nov-07	4.759	Nov-08	Continuing	TBD	
Subtotal Support			37.406	7.698		6.982		7.147		Continuing	TBD	0.000
Remarks:												
(U) <u>Test & Evaluation</u>												
17th TS, Schriever AFB CO	Various		0.414	0.061	Dec-06	0.145	Nov-07	0.205	Nov-08	Continuing	TBD	
Subtotal Test & Evaluation			0.414	0.061		0.145		0.205		Continuing	TBD	0.000
Remarks:												
(U) <u>Management</u>												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000

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Exhibit R-3, RDT&E Project Cost Analysis

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PE NUMBER AND TITLE

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PROJECT NUMBER AND TITLE

2808 Nuc Detonation Det Sys
(sensors)

Remarks:								
(U) Total Cost	224.485	59.917	38.279	41.292	Continuing	TBD	0.000	

Exhibit R-4, RDT&E Schedule Profile

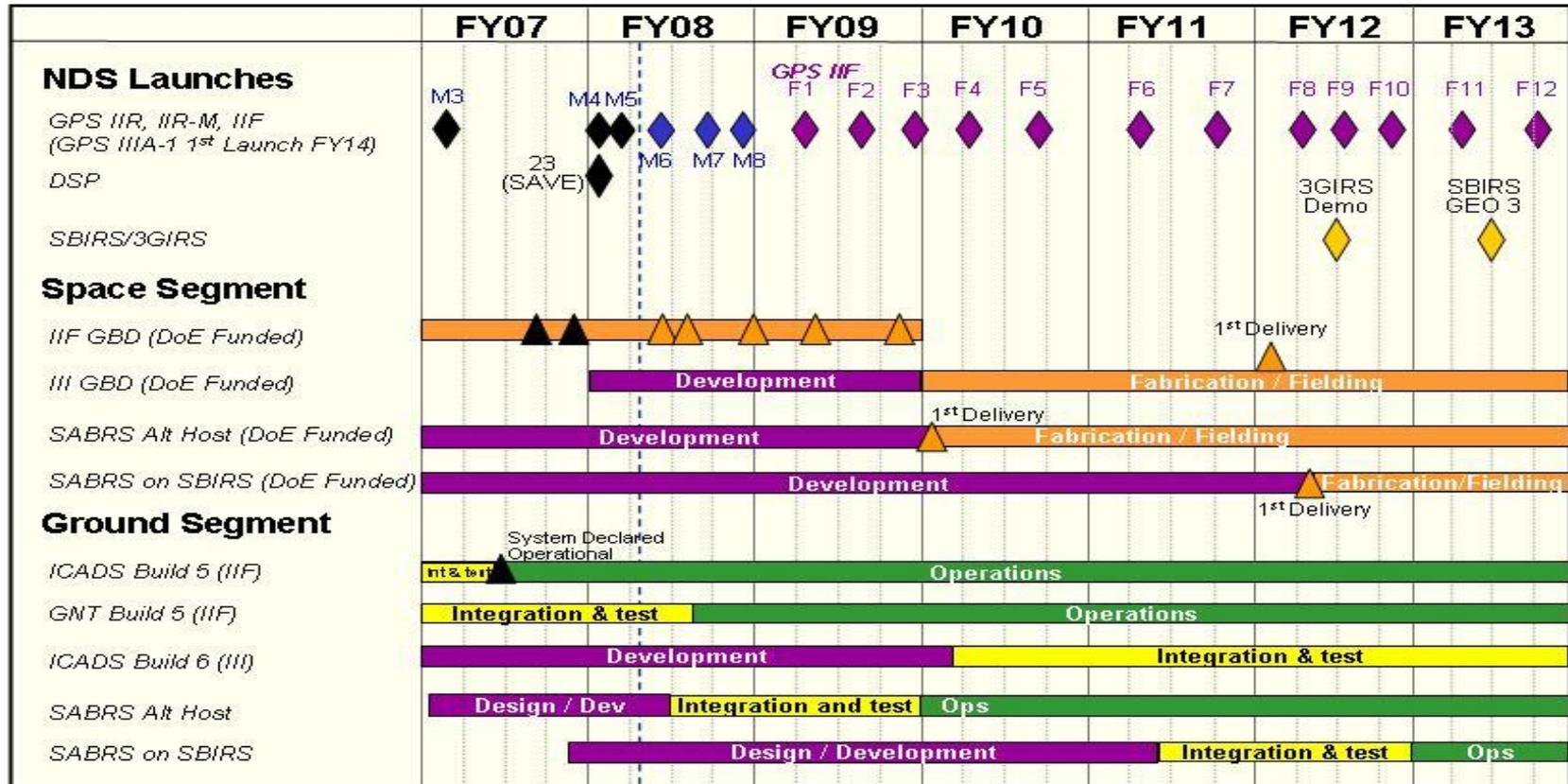
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DSP: Defense Support Program
GBD: Global Burst Detector
GNT: Ground NDS Terminal
ICADS: Integrated Correlation & Display System
SABRS: Space & Atmospheric Burst Reporting System
SAVE: SABRS Validation Experiment
SBIRS: Space Based InfraRed Systems
3GIRS: Third Generation InfraRed Systems

Exhibit R-4a, RDT&E Schedule Detail

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

**0305913F NUDET Detection System
(Space)**

PROJECT NUMBER AND TITLE

**2808 Nuc Detonation Det Sys
(sensors)**

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) <u>Schedule Profile</u>			
(U) ICADS IIF Operational	2Q		
(U) GNT IIF Force Development Evaluation (FDE)	2Q		
(U) SABRS on GEO Host Critical Design Review (CDR)	4Q		
(U) GNT IIF Operational		3Q	
(U) SABRS Qual Available (Alt Host)		3Q	
(U) SABRS Testing on Alt Host complete			4Q