

UNCLASSIFIED

PE NUMBER: 0305913F

PE TITLE: NUDET Detection System (Space)

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2007
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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 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	32.265	59.917	38.974	41.903	39.983	39.005	39.756	40.566	Continuing	TBD
2808 Nuc Detonation Det Sys (sensors)	32.265	59.917	38.974	41.903	39.983	39.005	39.756	40.566	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 Defence 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 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. The GPS Space & Control PE (0305165F) funds sensor integration for Block IIF satellites with ground segment development remaining 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 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	32.266	60.281	38.610	41.393
(U) Current PBR/President's Budget	32.265	59.917	38.974	41.903
(U) Total Adjustments	-0.001	-0.364		
(U) Congressional Program Reductions	-0.001	-0.136		
Congressional Rescissions		-0.228		
Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer				
(U) <u>Significant Program Changes:</u>				

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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	
2808 Nuc Detonation Det Sys (sensors)	32.265	59.917	38.974	41.903	39.983	39.005	39.756	40.566	Continuing	TBD	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0			

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(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 ICADS and GNT development	22.564	17.108	18.847	24.351
(U) Continue NDS sensor on-orbit qualification	3.463	3.500	3.500	3.600
(U) Continue Mission and Program support and system studies	2.386	3.789	2.510	2.593
(U) Continue Technical Support	3.852	3.970	4.617	4.759
(U) Begin SABRS on GEO host development/integration	0.000	31.550	9.500	6.600
(U) Total Cost	32.265	59.917	38.974	41.903

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

	<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>FY 2012</u>	<u>FY 2013</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Complete</u>							
(U) Operations & Maintenance, (PE 0305913F, BA 1, Operating Forces)	8.829	9.378	9.153	9.279	9.723	9.689	9.885	10.086	Continuing	TBD

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

(U) Other Procurement, (PE 0305913F, BA 3 - Electronics and Telecom Equipment, P-63)	9.270	13.371	16.459	27.812	21.931	10.532	10.764	11.001	Continuing	TBD
(U) Missile Procurement, (PE 0305913F, BA 5 - Space & Other support, P-23)	0.000	0.000	0.000	1.262	3.591	4.388	4.473	4.568	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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<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> ICADS and GNT	MIPR	Department of Energy; Sandia National Laboratory, Albuquerque NM	134.658	22.564	Dec-05	17.108	Nov-06	18.847	Nov-07	24.351	Nov-08	Continuing	TBD	
GNT: Intermetrics	CPFF		1.262	0.000		0.000		0.000		0.000		0.000	1.262	
SAIC (Intg/Grd Supt)	Time/Matls		5.219	0.000		0.000		0.000		0.000		0.000	5.219	
Combined GOSC/NAP: Lockheed Martin	FFP		6.166	0.000		0.000		0.000		0.000		0.000	6.166	
W-Sensor: SRI (Stanford Rsch Inst.)	CPFF		0.415	0.000		0.000		0.000		0.000		0.000	0.415	
On-orbit sensor testing	MIPR	Department of Energy; Los Alamos National Laboratory, Los Alamos NM, Sandia National Laboratory, Albuquerque NM	12.918	3.463	Dec-05	3.500	Nov-06	3.500	Nov-07	3.600	Nov-08	Continuing	TBD	
SABRS	MIPR	Classified	0.000	0.000		31.550	Nov-06	9.500	Nov-07	6.600	Nov-08	Continuing	TBD	
Subtotal Product Development			160.638	26.027		52.158		31.847		34.551		Continuing	TBD	0.000
Remarks:														
<u>(U) Support</u>														
Mission Support	Various		11.239	2.327	Dec-05	3.728	Nov-06	2.365	Nov-07	2.388	Nov-08	Continuing	TBD	
Prog Contractual Spt.	Various		5.185	0.000		0.000		0.000		0.000		0.000	5.185	
Technical Support	Various		14.803	3.852	Dec-05	3.970	Nov-06	4.617	Nov-07	4.759	Nov-08	Continuing	TBD	
Subtotal Support			31.227	6.179		7.698		6.982		7.147		Continuing	TBD	0.000
Remarks:														
<u>(U) Test & Evaluation</u>														
17th TS, Schriever AFB CO	Various		0.355	0.059	Dec-05	0.061	Dec-06	0.145	Nov-07	0.205	Nov-08	Continuing	TBD	
Subtotal Test & Evaluation			0.355	0.059		0.061		0.145		0.205		Continuing	TBD	0.000
Remarks:														
<u>(U) Management</u>														

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Subtotal Management	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Remarks:									
(U) Total Cost	192.220	32.265	59.917	38.974	41.903	Continuing	TBD	0.000	

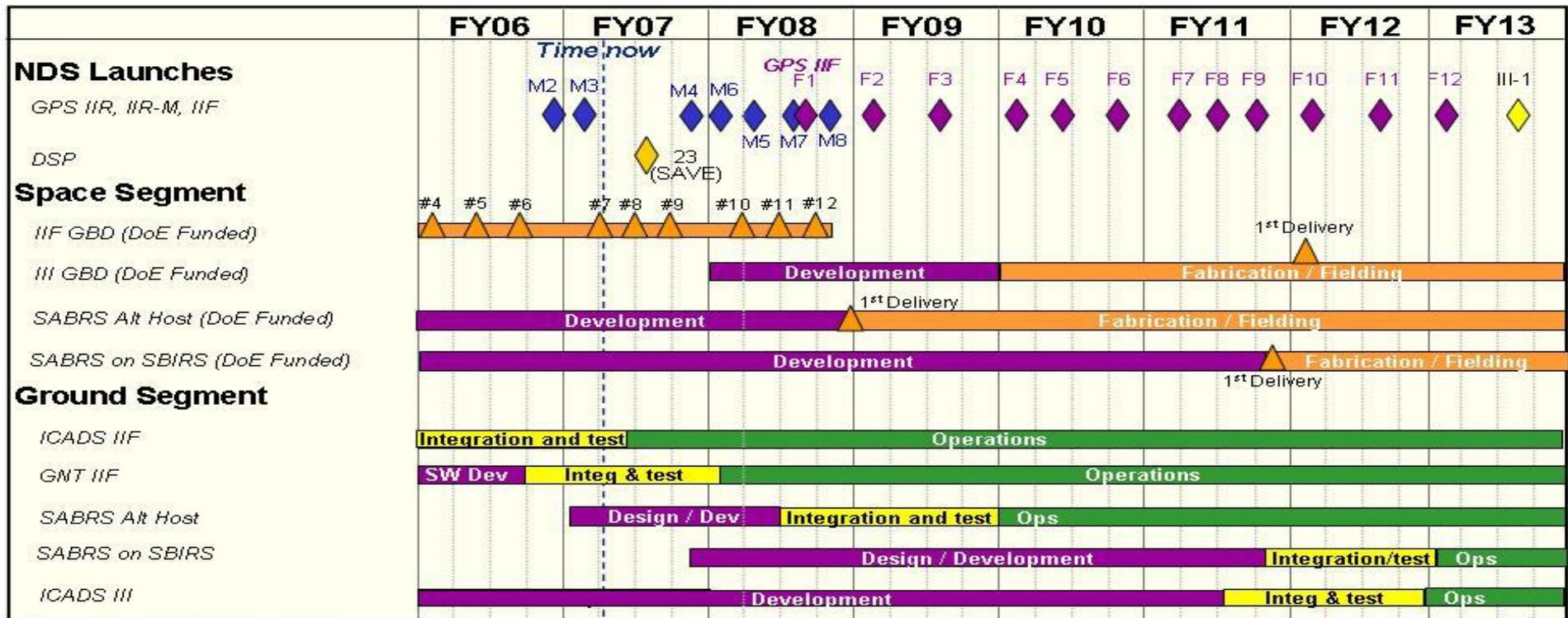
Exhibit R-4, RDT&E Schedule Profile

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BUDGET ACTIVITY
07 Operational System Development

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0305913F NUDET Detection System
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PROJECT NUMBER AND TITLE
2808 Nuc Detonation Det Sys
(sensors)



DSP: Defense Support Program
GBD: Global Burst Detector
GNT: Ground NDS Terminal

SABRS: Space & Atmospheric Burst Reporting System
SAVE: SABRS Validation Experiment
ICADS: Integrated Correlation & Display System

Exhibit R-4a, RDT&E Schedule Detail

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(U) <u>Schedule Profile</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) ICADS IIF Force Development Evaluation (FDE)	4Q			
(U) ICADS IIF Operational		2Q		
(U) GNT IIF FDE		2Q		
(U) SABRS on SBIRS CDR		4Q		
(U) GNT IIF Operational			1Q	
(U) SABRS Testing on Alternate Host Complete				4Q