

UNCLASSIFIED

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

DATE

June 2001

BUDGET ACTIVITY

07 - Operational System Development

PE NUMBER AND TITLE

0305913F NUDET Detection System (Space)

PROJECT

2808

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
2808 Nuc Detonation Det Sys (sensors)	13,497	11,977	18,823	20,002	24,878	23,406	24,413	25,166	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

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**

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 USSPACECOM (Integrated Tactical Warning and Attack Assessment (ITW/AA)), USSTRATCOM (Nuclear Force Management), and AFTAC (Treaty Monitoring). NDS consists of space and ground segments. The space segment consists of NUDET detection sensors (optical, x-ray, dosimeters and EMP) on Global Positioning System (GPS) satellites. The ground segment includes the Integrated Correlation and Display System (ICADS) and the Ground NDS Terminals (GNT).

This NDS program element funds Research and Development of ICADS, GNT, and NDS analysis payload (NAP). ICADS provides a fixed ground receiving station. GNT provides a survivable ground receiving station. NAP improves existing NDS capability and will be integrated onto GPS Block IIR satellites 13-21. The EMP sensor for GPS Block IIF is funded in the National Foreign Intelligence Program (NFIP).

(U) **FY 2000 (\$ in Thousands)**

(U) \$12,074 Continued ICADS and GNT development
 (U) \$1,052 Continued NDS sensor on-orbit qualification
 (U) \$109 Continued Space Long Range Planning
 (U) \$262 Continued Mission Support requirements
 (U) \$13,497 Total

(U) **FY 2001 (\$ in Thousands)**

(U) \$10,374 Continue ICADS and GNT development
 (U) \$1,026 Continue NDS sensor on-orbit qualification
 (U) \$200 Continue Space Long Range Planning
 (U) \$377 Continue Mission Support requirements
 (U) \$11,977 Total

Project 2808

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BUDGET ACTIVITY 07 - Operational System Development	PE NUMBER AND TITLE 0305913F NUDET Detection System (Space)	PROJECT 2808																																																																	
<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 = +\$3,999K, SBIR = -\$791K. 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) \$15,607</td> <td>Continue ICADS and GNT development</td> </tr> <tr> <td>(U) \$1,163</td> <td>Continue NDS sensor on-orbit qualification</td> </tr> <tr> <td>(U) \$589</td> <td>Continue Mission Support Requirements</td> </tr> <tr> <td>(U) \$1,464</td> <td>Technical support</td> </tr> <tr> <td>(U) \$18,823</td> <td>Total</td> </tr> </table> <p>(U) <u>B. Budget Activity Justification</u> This program is in Budget Activity 7 - Operational System Development because it is a post-Milestone III 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: 55%;"></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: 15%; 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: center;">14,430</td> <td style="text-align: center;">17,088</td> <td style="text-align: center;">17,322</td> <td style="text-align: center;">TBD</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: center;">14,430</td> <td style="text-align: center;">12,088</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: center;">-128</td> <td style="text-align: center;">-85</td> <td></td> <td></td> </tr> <tr> <td> b. Small Business Innovative Research</td> <td style="text-align: center;">-524</td> <td></td> <td></td> <td></td> </tr> <tr> <td> c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> d. Below Threshold Reprogram</td> <td style="text-align: center;">-225</td> <td></td> <td></td> <td></td> </tr> <tr> <td> e. Rescissions</td> <td style="text-align: center;">-56</td> <td style="text-align: center;">-26</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: center;">1,501</td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY 2002 PBR</td> <td style="text-align: center;">13,497</td> <td style="text-align: center;">11,977</td> <td style="text-align: center;">18,823</td> <td style="text-align: center;">TBD</td> </tr> </tbody> </table>			(U) \$15,607	Continue ICADS and GNT development	(U) \$1,163	Continue NDS sensor on-orbit qualification	(U) \$589	Continue Mission Support Requirements	(U) \$1,464	Technical support	(U) \$18,823	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)	14,430	17,088	17,322	TBD	(U) Appropriated Value	14,430	12,088			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions	-128	-85			b. Small Business Innovative Research	-524				c. Omnibus or Other Above Threshold Reprogram					d. Below Threshold Reprogram	-225				e. Rescissions	-56	-26			(U) Adjustments to Budget Years Since FY 2001 PBR			1,501		(U) Current Budget Submit/FY 2002 PBR	13,497	11,977	18,823	TBD
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<div style="display: flex; justify-content: space-between;"> Project 2808 Page 2 of 6 Pages Exhibit R-2 (PE 0305913F) </div>																																																																			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE June 2001		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0305913F NUDET Detection System (Space)				PROJECT 2808		
(U) <u>C. Program Change Summary (\$ in Thousands) Continued</u>										
(U) <u>Significant Program Changes:</u> \$5,000K Congressional reduction in FY01 Transferred technical support funding from MPAF to the RDT&E appropriation to align funding with NDS RDT&E efforts being performed: +\$1,464K in FY02. \$5,000K Congressional reduction in FY01.										
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u>										
	<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) AF RDT&E										
(U) Other APPN										
(U) Operations & Maintenance, (PE 0305913F, BA 1, Operating Forces	6,694	7,880	9,437	8,238	8,078	8,958	9,317	9,455	Continuing	Continuing
(U) Missile Procurement, (PE 0305913F, BA 5 - Space and Other Support, P-23)	1,470	1,465	0	0	0	0	0	0	0	2,935
(U) Other Procurement, (PE 0305913F, BA 3 - Electronics and Telecom Equipment, P-58)	3,454	2,649	8,470	7,990	12,735	11,946	12,412	12,748	Continuing	Continuing
(U) Related RDT&E:										
(U) PE 0305165F, NAVSTAR GPS (Space/Ground Segment)										
(U) PE 0305911F, Defense Support Program										
<div style="display: flex; justify-content: space-between;"> Project 2808 Page 3 of 6 Pages Exhibit R-2 (PE 0305913F) </div>										

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BUDGET ACTIVITY

07 - Operational System Development

PE NUMBER AND TITLE

0305913F NUDET Detection System (Space)

PROJECT

2808**(U) E. Acquisition Strategy**

The NDS Acquisition Strategy is to develop and procure components to sustain the U. S. NDS capability for the GPS Block IIR and IIF satellites. Funding is sent by Military Interdepartmental Purchase Request (MIPR) from DoD and Department of Energy (DoE) to Sandia and Los Alamos National Laboratories on existing DOE contracts.

(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) GPS IIF Use Case Model Overview	*		*		*		*		X		X	
(U) GPS IIF System Specification Review		*										
(U) GPS IIF System specification Configuration Control Board (CCB)		*										
(U) GPS IIF Phase Review	*		*		*		*		X		X	
(U) GPS IIF System Specification Doc Delivery				*								
(U) GPS IIR O&M (S/W Modifications)	*	*	*	*	*	*	*	X				
(U) ICADS Operational Strings move to SBIRS Facility									X			

* 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	
07 - Operational System Development					0305913F NUDET Detection System (Space)				2808	
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>										
						<u>FY 2000</u>		<u>FY 2001</u>		<u>FY 2002</u>
(U)	ICADS and GNT development					12,074		10,374		15,607
(U)	NDS sensor on-orbit qualification					1,052		1,123		1,163
(U)	Mission support requirements and system studies					371		480		635
(U)	Technical support					0		0		1,418
(U)	Total					13,497		11,977		18,823
(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>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2000</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
Sandia National Labs	MIPR	Oct 94	Continuing	Continuing	44,790	10,928	9,202	14,411	Continuing	TBD
GNT: Intermetrics	CPFF	Dec 93	1,262	1,262	1,262	0	0	0	0	1,262
SAIC (Intg/Grd Supt)	Time/Matls	Dec 95	Continuing	Continuing	4,344	1,146	1,172	1,196	Continuing	TBD
Combined GOSC/NAP:	FFP	Oct 97	3,633	3,633	6,166	0	0	0	0	6,166
Lockheed Martin										
SAIC	Time/Matl	Dec 97	432	432	432	0	0	0	0	432
W-Sensor: SRI (Stanford	CPFF	Aug 94	415	415	415	0	0	0	0	415
Rsch Inst.)										
Los Alamos Natl Lab	MIPR	Jan 96	Continuing	Continuing	4,077	1,052	1,026	1,163	Continuing	TBD
<u>Support and Management Organizations</u>										
Mission Support	Multiple	N/A	Continuing	Continuing	3,602	371	577	589	Continuing	TBD
Prog Contractual Spt.	Multiple	Various	1,534	1,534	1,534	0	0	0	0	1,534
Technical Support	Multiple	Various	N/A	N/A	0	0	0	1,464	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
Hill AFB Utah			9	9	9	0	0	0	0	9
Project 2808										
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE		
							June 2001		
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT		
07 - Operational System Development				0305913F NUDET Detection System (Space)			2808		
(U) <u>Government Furnished Property:</u>									
	<u>Contract</u>								
	<u>Method/Type</u>	<u>Award or</u>							
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2000</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>									
N/A									
<u>Support and Management Property</u>									
N/A									
<u>Test and Evaluation Property</u>									
N/A									
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>				<u>to FY 2000</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				61,486	13,126	11,400	16,770	TBD	TBD
Subtotal Support and Management				5,136	371	577	2,053	TBD	TBD
Subtotal Test and Evaluation				9	0	0	0	0	9
Total Project				66,631	13,497	11,977	18,823	TBD	TBD

Project 2808

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