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

	Exhibit R-2, RDT&E Budget Item Justification								DATE February 2004			
BUDG 07 O	3UDGET ACTIVITY PE NUMBER AND TITLE 07 Operational System Development 0305913F NUDET Detection System (Space)											
	Cost (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to	Total		
	Cost (\$ III Millions)	Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Complete			
	Total Program Element (PE) Cost	20.754	35.428	35.398	32.607	28.011	28.939	35.090	Continuing	TBD		
2808	Nuc Detonation Det Sys (sensors)	20.754	35.428	35.398	32.607	28.011	28.939	35.090	Continuing	TBD		
(U)	A. Mission Description and Budget Item The Nuclear Detonation (NUDET) Detect earth's atmosphere or in near space in near Attack Assessment (ITW/AA)), USSTRA segment consists of NUDET detection ser Defense Support Program (DSP) satellites (ICADS) and the Ground NDS Terminals This NDS program element funds Research provides a survivable ground receiving sta 1-4. DOE funds EMP sensor research and segment development remaining in the NI This program is in Budget Activity 7 - Op	n Justification ion System (NI r-real time. The TCOM (Nuclea isors (optical, x- (optical, x-rays (GNT). th and Develop tion. NAP imp production. Gl DS PE. erational System	DS) provides a e NDS supports ar Force Manag- ray, dosimeters s, and neutron s ment of ICADS proves existing PS Space & Co m Developmen	worldwide, hig s NUDET detec gement), and A rs and electrom and gamma ray S, GNT, and NI NDS capability ontrol (PE 0305 t because it is a	thly survivable ction requireme FTAC (Treaty agnetic pulse (rs). The ground DS analysis pay and will be in 5165F) funds se	capability to de ents for USNOI Monitoring). N EMP) sensor) o l segment includ yload (NAP). In the grated onto C ensor integratio the III program.	etect, locate, an RTHCOM/NOF NDS consists of on Global Positi des the Integrat CADS provide GPS Block IIR n for the first 12	d report any m RAD (Integrate f space and gro ioning System ed Correlation as a fixed groun satellites 7-8/1 2 Block IIF sat	rt any nuclear detonations in the integrated Tactical Warning and and ground segments. The space System (GPS) satellites, and relation and Display System ed ground receiving station. GNT es 7-8/11-13 and IIRM satellites k IIF satellites with ground			
(U)	<u>B. Program Change Summary (\$ in Mil</u>	<u>lions</u>)										
	Dravious President's Dudget						<u>FY 2003</u>	<u>FY</u>	<u>2004</u> : 824	<u>FY 2005</u> 25 401		
	Current PBR/President's Budget						20.803	33 25	.034 5 478	35.491		
and the second s	Total Adjustments						-0.111	-0	.406	55.570		
(U)	Congressional Program Reductions						0.111	-0	0.406			
(-)	Congressional Rescissions							-	-			
	Congressional Increases											
	Reprogrammings											
	SBIR/STTR Transfer						-0.111					
(U)	Significant Program Changes:											
	R-1 Shopping List - Item No. 204-2 of 204-8 Exhibit R-2 (PE 0305913F)											

	Exhibit R-2a, RDT&E Project Justification												
BUDG 07 O j	ET ACTIVITY perational System Development	р 0 (;	PE NUMBER AND 1305913F NUE Space)	DITLE DET Detection	n System	PROJECT NUM 2808 Nuc De (sensors)	JECT NUMBER AND TITLE 8 Nuc Detonation Det Sys nsors)						
	Cost (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to	Total			
2000		Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Complete	
2808	Nuc Detonation Det Sys (sensors)	20.754	35.428	35.398	32.607	28.011	28.939	35.090	Continuing	TBD			
(U)	 J. <u>A. Mission Description and Budget Item Justification</u> 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 USNORTHCOM/NORAD (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 electromagnetic pulse (EMP) sensor) on Global Positioning System (GPS) satellites, and Defense Support Program (DSP) satellites (optical, x-rays, and neutron and gamma rays). 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 7-8/11-13 and IIRM satellites 1-4. DOE funds EMP sensor research and production. GPS Space & Control (PE 0305165F) funds sensor integration for the first 12 Block IIF satellites with ground segment development remaining in the NDS PE. 								ons in the ning and The space s, and /stem tion. GNT satellites und				
(U) 1	B. Accomplishments/Planned Program	(<mark>\$ in Millions</mark>)					<u>FY</u>	<u>7 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>			
(U)	Accomplishments/Planned Program						1	15 072	27 292	26 866			
(U)	Continue NDS sensor on-orbit qualificatio	n					1	1.189	2.604	2.642			
(U) (Continue Mission and Program support an	d system studies	8					1.100	1.860	2.131			
(U) (Continue Technical Support	-						3.393 3.672					
(U) 7	Total Cost						2	20.754	35.428	35.398			
(U)	(U) <u>C. Other Program Funding Summary (\$ in Millions)</u>												
	<u>FY</u>	<u>2003</u> FY	<u>7 2004</u> <u>F</u>	<u>Y 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	Cost to	Total Cost			
		Actual Es	stimate 1	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	Estimate	<u>Estimate</u>	<u>Complete</u>	<u>- 3000 0000</u>			
(U) .	AF RDT&E												
(U)	Other APPN	0.666	0.055	0.000	0.002	10.524	10.274	10 500		TDD			
(U)	Operations & Maintenance, (PE	8.000	8.055	8.820	9.692	10.524	10.376	10.588	Continuing	IBD			
Proje	ect 2808		R-1 Sho	opping List - Item	No. 204-3 of 204	8			Exhibit R-2a (PE 0305913F)			

R-1 Shopping List - Item No. 204-3 of 204-8 1874

Exhibit R-2a, RDT&E Project Justification									February 2004			
BUDGET ACTIVITY 07 Operational System Development					PE NUMBER AN 0305913F NU (Space)	ID TITLE JDET Detectio	PROJECT NUM 2808 Nuc Do (sensors)	CT NUMBER AND TITLE Nuc Detonation Det Sys ors)				
(U) (U) (U) (U) (U)	C. Other Program Funding Summa 0305913F, BA 1, Operating Forces Other Procurement, (PE 0305913F, BA 3 - Electronics and Telecom Equipment, P-63) Related RDT&E: PE 0305165F, NAVSTAR GPS (Space/Ground Segment) PE 0305911F, Defense Support Program D. Acquisition Strategy The NDS Acquisition Strategy is to c funding is sent by Military Interdepate existing DOE contracts.	<u>ury (\$ in Million</u> 7.793 levelop and proc rtmental Purchas	10.706 cure components se Request (MIP	7.554 s to sustain the PR) from DoD a	9.334 U. S. NDS capab and Department of	12.304 bility for the GPS of Energy (DoE)	15.392 S Block IIR, I to Sandia and	26.567 IF, and future g d Los Alamos N	Continuing eneration satellites lational Laboratori	TBD ; es on		

Ex	chibit R-3, RD	T&E Project Cost	Analysi	S					DATE	Februar	y 200	4
BUDGET ACTIVITY 07 Operational System Development			PE NUMB 0305913 (Space)	ER AND T F NUDE	TITLE ET Dete	ction Sy	vstem	PROJE 2808 (sens	CT NUMB Nuc Det ors)	ER AND TITL	E et Sys	
 (U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions) 	Contract Method <u>& Type</u>	Performing Activity & Location	<u>Total</u> Prior to FY <u>2003</u> <u>Cost</u>	<u>FY</u> 2003 <u>Cost</u>	FY 2003 Award Date	<u>FY</u> <u>2004</u> <u>Cost</u>	<u>FY</u> 2004 <u>Award</u> <u>Date</u>	<u>FY</u> 2005 <u>Cost</u>	FY 2005 Award Date	<u>Cost to</u> Complete	<u>Total</u> <u>Cost</u>	Target Value of Contract
(U) <u>Product Development</u> ICADS and GNT	MIPR	Department of Energy; Sandia National Laboratory, Albuquerque NM	68.672	14.985	Dec-02	27.292	Dec-03	26.866	Dec-04 (Continuing	TBD	
GNT: Intermetrics SAIC (Intg/Grd Supt) Combined GOSC/NAP: Lockheed Martin SAIC	CPFF Time/Matls FFP Time/Matl		1.262 4.787 6.166 0.432							0.000 0.000 0.000 0.000	1.262 4.787 6.166 0.432	
W-Sensor: SRI (Stanford Rsch Inst.) On-orbit sensor testing	CPFF MIPR	Department of Energy; Los Alamos National Laboratory, Los Alamos NM, Sandia National Laboratory, Albuquerque NM	0.415 6.630	1.189	Dec-02	2.604	Dec-03	2.642	Dec-04 (0.000 Continuing	0.415 TBD	
N/A Subtotal Product Development Remarks:		ribuquorque rum	88.364	16.174		29.896		29.508	(Continuing	0.000 TBD	0.000
(U) <u>Support</u> Mission Support Prog Contractual Spt. Technical Support	Various Various Various		4.822 5.185 4.432	1.100 3.393		1.789 3.672		2.046 3.759	(Continuing 0.000 Continuing	TBD 5.185 TBD	
N/A Subtotal Support Remarks: (U) <u>Test & Evaluation</u> 17th TS, Schriever AFB CO	Various		14.439 0.156	4.493 0.087		5.461 0.071		5.805 0.085	(Continuing Continuing	TBD	0.000
IN/A Project 2808		R-1 Shopping List - I	Item No. 204-	5 of 204-8	}	1				Exhibit R-	0.000 3 (PE 03	05913F)

Exhibit R-3, RDT&E	DATE February 2004						
BUDGET ACTIVITY 07 Operational System Development	PE NUMBI 0305913 (Space)	ER AND TIT F NUDET	LE Detection System	PROJEC 2808 N (senso	T NUMBER AND TITL uc Detonation De rs)	.E et Sys	
Subtotal Test & Evaluation Remarks: (U) <u>Management</u>	0.156	0.087	0.071	0.085	Continuing	TBD	0.000
Subtotal Management Remarks:	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(U) Total Cost	102.959	20.754	35.428	35.398	Continuing	TBD	0.000

Exhibit R-3 (PE 0305913F)



	Exhibit R-4a, RDT&E Schedule [DATE Febru	February 2004		
BUD 07 /	DGET ACTIVITY Operational System Development	PE NUMBER AND TITLE 0305913F NUDET Detection System (Space)	PROJECT NUMBER AND 2808 Nuc Detonation (sensors)	TITLE 1 Det Sys	
(U)	Schedule Profile	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	
(U)	GPS IIF Use Case Model Review	2Q			
(U)	GPS IIF System Specification Review	1Q		3Q	
(U)	JROC ORD approval	4Q			
(U)	Space & Atmospheric Burst Reporting System (SABRS) Validation Experiment (SAV	/E) DSP	2Q		
	Qual unit delivery				
(U)	IIF-1 Global Burst Detector (GBD)* delivery		3Q		
(U)	ICADS IIF Hardware Install			3Q	
(U)	Enhanced Radiometer (EnRad)* launch		4Q		
(U)	GPS IIF Phase Review	1Q	1Q	1Q	
(U)	GPS IIF Phase Review	3Q	3Q	3Q	
	* GBD and EnRad are funded by DOE				