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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2002
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BUDGET ACTIVITY 04 - Demonstration and Validation	PE NUMBER AND TITLE 0604327F Hardened Target Munitions	PROJECT 4641
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COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4641 Hard and Deeply Buried Target Defeat System (HDBTDS)	0	0	7,482	12,922	0	0	0	0	20,404
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

In FY2003, Project 4641, Hard and Deeply Buried Target Defeat System (NDBTDS), includes new start efforts.

(U) A. Mission Description

The Hard and Deeply Buried Target Defeat System (HDBTDS) program is an effort designed to hold at risk those highest priority assets essential to the enemy's war fighting ability, which are heavily defended and protectively hardened. Hardening techniques include construction of facilities, many of which are deep underground with multiple layers of reinforced concrete, rock rubble, and/or earth overburden. Other hardened targets include operations within caves, tunnels, and mountains built using rapidly improving construction equipment exported by allies and adversaries on a large scale. (Examples include enemy command and control facilities, air defense facilities, facilities for the production, storage, and deployment of weapons including weapons of mass destruction, surface to surface missile launch sites, aircraft storage sites, artillery sites.) Potential solutions include (but are not limited to) Special Forces, conventional short or long range ballistic missiles (land or sea launched), cruise missiles, direct attack munitions, and standoff weapons.

An Analysis of Alternatives (AOA) was conducted to evaluate the weapon concepts to determine the most promising concepts to move forward into a follow-on program. The potential weapon concepts were evaluated in an air campaign analysis. The results of the AOA were presented to the Joint Requirements Oversight Council (JROC) in 4th Quarter FY 1999. The AOA has been documented into a report for future reference. The primary legacy hard target penetrator weapon, GBU-28, was tested in rock to validate computer models used in the AOA analysis and to provide test data for future use when considering weapon design alternatives for increased penetration capability. The results were presented in 1st Quarter FY 2001.

In FY 2003, the GBU-28 will begin an upgrade program to enhance the effectiveness of the BLU-113 penetrator warhead against the hard and deeply buried target set. The BLU-113 warhead will be redesigned to increase weapon penetration, improve survivability; an explosive upgrade will increase weapon lethality; a material upgrade will enhance warhead survivability; a fuze redesign will enhance fuze survivability. These performance improvements would decrease the number of weapons required to hold this target set at risk.

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<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <p>(U) \$0 No Activity</p> <p>(U) \$0 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$0 No Activity</p> <p>(U) \$0 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$5,100 Design warhead, integrate explosive and upgrade case material.</p> <p>(U) \$500 Plan and prepare for testing redesigned warhead</p> <p>(U) \$582 Air Force Research Laboratory provide technical engineering design support and analysis.</p> <p>(U) \$700 Perform field agency activities, including project office and computer support to manage the Hardened Target Munitions program.</p> <p>(U) \$600 System Engineering and Technical Analysis (SETA) support including independent analysis and evaluation of prototype warhead designs.</p> <p>(U) \$7,482 Total</p> <p>(U) <u>B. Budget Activity Justification</u></p> <p>This program is in budget activity 4 - Demonstration and Validation, because the program would examine a Hard Target Munitions capability to precisely hit and destroy hard and deeply buried targets not currently held at risk.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></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: 10%; text-align: center;"><u>FY 2003</u></th> <th style="width: 10%; text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td align="center">0</td> <td align="center">0</td> <td></td> <td align="right">0</td> </tr> <tr> <td>(U) Appropriated Value</td> <td></td> <td></td> <td></td> <td align="right">0</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></td> <td></td> <td></td> <td></td> </tr> <tr> <td> b. Small Business Innovative Research</td> <td></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></td> <td></td> <td></td> <td></td> </tr> <tr> <td> e. Rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>					<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>	(U) Previous President's Budget	0	0		0	(U) Appropriated Value				0	(U) Adjustments to Appropriated Value					a. Congressional/General Reductions					b. Small Business Innovative Research					c. Omnibus or Other Above Threshold Reprogram					d. Below Threshold Reprogram					e. Rescissions				
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BUDGET ACTIVITY	PE NUMBER AND TITLE		PROJECT						
04 - Demonstration and Validation	0604327F Hardened Target Munitions		4641						
(U) C. Program Change Summary (\$ in Thousands) Continued									
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>					
(U) Adjustments to Budget Years Since FY 2002 PBR	0	0	7,482	20,404					
(U) Current Budget Submit/FY 2003 PBR	0	0	7,482	20,404					
(U) <u>Significant Program Changes:</u> Not Applicable									
(U) D. Other Program Funding Summary (\$ in Thousands)									
	<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>Complete</u>	
(U) Not Applicable									
(U) E. Acquisition Strategy									
This will be a competitive procurement for warhead design and integration of explosive and material upgrade. GFE will be provided such as warhead explosive fill and steel case material.									
(U) F. Schedule Profile									
		<u>FY 2001</u>			<u>FY 2002</u>			<u>FY 2003</u>	
		1	2	3	4	1	2	3	4
(U) Perform Warhead Design								X	
(U) Conduct Subscale Testing									X
(U) Manufacture Prototype Warheads									X
X - Planned event									

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
04 - Demonstration and Validation				0604327F Hardened Target Munitions				4641			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	Warhead Design					0		0		5,100	
(U)	Test Planning and Preparation					0		0		500	
(U)	AFRL Engineering					0		0		582	
(U)	Field Agency and Contract Support					0		0		700	
(U)	SETA Support					0		0		600	
(U)	Total					0		0		7,482	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>											
	Prime Contractor	TBD	Jan 03	TBD	TBD	0	0	0	5,100	4,500	9,600
	SETA Contractor	SS/CPAF	Dec 02	1,300	1,300	0	0	0	600	600	1,200
<u>Support and Management Organizations</u>											
	AFRL	MIPR	Jun 03	N/A	N/A	0	0	0	582	422	1,004
	AAC/WMG (Eglin)	MIPR	Jun 03	N/A	N/A	0	0	0	700	700	1,400
<u>Test and Evaluation Organizations</u>											
	DTRA/WSMR	MIPR	Jan 03	N/A	N/A	0	0	0	400	2,500	2,900
	Qual/Certification testing -- Organizations at Eglin	MIPR	Jan 03	N/A	N/A	0	0	0	100	4,200	4,300
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BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT			
04 - Demonstration and Validation				0604327F Hardened Target Munitions			4641			
(U) Government Furnished Property:										
	<u>Contract</u>	<u>Award or</u>								
<u>Item</u>	<u>Method/Type</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>Date</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</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 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					0	0	0	5,700	5,100	10,800
Subtotal Support and Management					0	0	0	1,282	1,122	2,404
Subtotal Test and Evaluation					0	0	0	500	6,700	7,200
Total Project					0	0	0	7,482	12,922	20,404