

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE June 2001		
BUDGET ACTIVITY 04 - Demonstration and Validation					PE NUMBER AND TITLE 0604327F Hardened Target Munitions					PROJECT 4641	
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
4641	Hard and Deeply Buried Target Defeat System (HDBTDS)	4,692	0	0	0	0	0	0	0	0	11,307
Quantity of RDT&E Articles		0	0	0	0	0	0	0	0	0	0

Footnote: FY03-FY07 budget numbers do not reflect the DoD strategic review results.

(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.

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

(U) \$863 Documented AOA analysis into a report for future reference and use by other DoD analysis organizations. Important data in the AOA report includes the worldwide hard and deeply buried target set, key intelligence inputs and requirements, weapon concept descriptions including life cycle cost estimates, and modeling assumptions and methodology.

(U) \$2,250 Conducted GBU-28 rock test program. Inventory GBU-28 assets were filled with an inert explosive and launched from an F-15E aircraft into rock targets to validate models and provide data for potential future design of improved warhead penetration capability.

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(U) \$1,099 Conducted field agency activities. This included project office and contractor support to manage the Hardened Target Munitions program that consisted of testing GBU-28 in rock in coordination with the Defense Threat Reduction Agency (DTRA), and documentation of the AOA.

(U) \$480 System Engineering and Technical Analysis (SETA) support included evaluation of GBU-28 performance in rock and design analysis and prototype evaluation of potential future upgrades to the GBU-28 5000 lb hard target penetrator weapon and other legacy weapons.

(U) \$4,692 Total

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

(U) \$0 No Activity

(U) \$0 Total

(U) **FY 2002 (\$ in Thousands)**

(U) \$0 No Activity

(U) \$0 Total

(U) **B. Budget Activity Justification**

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.

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Total Cost</u>
(U) Previous President's Budget (FY 2001 PBR)	4,840	0	0	11,455
(U) Appropriated Value	4,910			12,891
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-31			
b. Small Business Innovative Research	-140			
c. Omnibus or Other Above Threshold Reprogram				
d. Below Threshold Reprogram	-28			
e. Rescissions	-19			
(U) Adjustments to Budget Years Since FY 2001 PBR	0	0	0	0
(U) Current Budget Submit/FY 2002 PBR	4,692	0	0	11,307

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(U) **C. Program Change Summary (\$ in Thousands) Continued**(U) **Significant Program Changes:**

Funding: FY 1999 funding was reduced from \$9.8M to \$3.0M for the Air Force and from \$9.8M to \$3.0M for the Navy. This reduction eliminated ongoing parameter analysis and trade study efforts. All Air Force and Navy funding was combined to complete the AOA analysis and prepare for follow-on program. FY 2000 funding was added to document the AOA into a report; conduct testing and evaluation of the GBU-28 5000 lb weapon in rock; and perform design analysis and evaluation of potential future upgrades to the GBU-28 hard target penetrator weapon and other legacy weapons.

Schedule: The AOA was extended to evaluate additional concepts and conduct a survivability analysis. The AOA was completed in 4Q FY 1999

(U) **D. Other Program Funding Summary (\$ in Thousands)**

<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) Not Applicable

(U) **E. Acquisition Strategy**

The contract to perform the AOA work was a modification to an existing Systems Engineering and Technical Assistance (SETA) support contract to the Ogden Air Logistics Center (OO-ALC) ICBM System Program Office (SPO) - a Cost Plus Award Fee (CPAF) contract filled by TRW (Colorado Springs). Hardened Target Munitions Program alternatives were fully evaluated in the AOA. At the conclusion of the AOA, the Air Force had the necessary information to support the GBU-28 5000 lb weapon as the most cost-effective alternative to defeat hard and deeply buried targets and to conduct investigations into improvements of the GBU-28 and other legacy weapons.

(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) Complete AOA

(U) Brief AOA Results

(U) Publish AOA Report

(U) Conduct Testing in Rock

(U) Report Rock Test Results

* = 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	
04 - Demonstration and Validation					0604327F Hardened Target Munitions				4641	
(U) A. Project Cost Breakdown (\$ in Thousands)										
						FY 2000		FY 2001		FY 2002
(U)	AOA					863		0		0
(U)	Field Agency and Contractor Support					1,099		0		0
(U)	SETA Contractor					480		0		0
(U)	GBU-28 Test Assets					200		0		0
(U)	GBU-28 T&E					2,050		0		0
(U)	Total					4,692		0		0
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<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>										
SETA Contractor	SS/CPAF	Oct 99	480	480	0	480	0	0	0	480
TRW (CO Spgs)	SS/CPAF	Oct 96	8,894	8,894	3,151	863	0	0	0	4,014
Note: EAC estimate by Performing Activity and Project Office includes FY96 and FY97 funds from PE 0603311F.										
<u>Support and Management Organizations</u>										
TRW (Fairfax, VA)	SS/CPAF	Dec 98	N/A	N/A	225	253	0	0	0	478
AFMC/OAS Kirtland AFB	MIPR	Dec 97	N/A	N/A	30	10	0	0	0	40
SMC/TE (Kirtland)	MIPR	Oct 97	N/A	N/A	1,115	0	0	0	0	1,115
AAC/WMG (Eglin)	MIPR	Oct 97	N/A	N/A	2,094	1,036	0	0	0	3,130
<u>Test and Evaluation Organizations</u>										
WSMR (White Sands)	MIPR	Dec 99	N/A	N/A	0	1,350	0	0	0	1,350
F-15 Support (Eglin)	MIPR	Dec 99	N/A	N/A	0	700	0	0	0	700
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(U) Government Furnished Property:									
	Contract								
	Method/Type	Award or							
Item	or Funding	Obligation	Delivery	Total Prior	Budget	Budget	Budget	Budget to	Total
Description	Vehicle	Date	Date	to FY 2000	FY 2000	FY 2001	FY 2002	Complete	Program
Product Development Property									
N/A N/A									
Support and Management Property									
Test and Evaluation Property									
				Total Prior	Budget	Budget	Budget	Budget to	Total
Subtotals				to FY 2000	FY 2000	FY 2001	FY 2002	Complete	Program
Subtotal Product Development				3,151	1,343	0	0	0	4,494
Subtotal Support and Management				3,464	1,299	0	0	0	4,763
Subtotal Test and Evaluation				0	2,050	0	0	0	2,050
Total Project				6,615	4,692	0	0	0	11,307