

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

June 2001

BUDGET ACTIVITY

**5 - ENG MANUFACTURING DEV**

PE NUMBER AND TITLE

**0604768A - BAT**

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
Total Program Element (PE) Cost	139899	97203	123899	0	0	0	0	0	0	0
2NT BAT OPERATIONAL TEST	2096	50	72	0	0	0	0	0	0	0
641 BAT	28055	0	0	0	0	0	0	0	0	0
687 BAT P3I	75294	69820	123827	0	0	0	0	0	0	0
688 ATACMS BLK II	34454	27333	0	0	0	0	0	0	0	0

## A. Mission Description and Budget Item Justification:

**PLEASE NOTE: This administration has not addressed FY2003-2007 requirements. All FY 2003-2007 budget estimates included in this book are notional only and subject to change.**

The Army Tactical Missile System (ATACMS) Block II with the BAT submunition is a Legacy to Objective Force Weapon System and plays a critical role in the Army Transformation. The Objective Force requires the destruction and disruption of threat forces and weapons from ranges of 35-145 kilometers to prevent them from influencing the maneuver battle. In the past, the only options to engage these targets were attack helicopters or fixed wing aircraft. These options place critical resources, particularly air crews, at risk and are limited by inclement weather. The capability of the BAT submunition significantly reduces the risk to rotary and fixed wing platforms and crews through its acquisition and terminal guidance capabilities, and its ability to attack well-defended armored forces, well behind enemy lines in near all-weather conditions. The ATACMS Block II missile system includes the basic BAT submunition, a pre-planned product improvement (P3I) BAT submunition, and the Army Tactical Missile System Block II (ATACMS BLK II) missile. The basic BAT submunition is a dual-sensor (acoustic and infrared) precision guided submunition that autonomously seeks out and destroys moving armored vehicles. Thirteen BAT and BAT P3I submunitions are carried deep into enemy territory by the ATACMS Block II and dispensed over a large target area, selectively attacking and destroying individual targets. The BAT P3I program will provide a new sensor suite (millimeter wave and imaging infrared), which greatly improves inclement weather capability and effectiveness against countermeasures. The P3I BAT submunition will attack time critical high priority targets, including cold, stationary, armored targets, Surface-to-Surface Missile (SSM) Transporter Erector Launchers (TELs), and Heavy Multiple Rocket Launchers (MRLs). P3I BAT will conduct the Limited User Tests (LUTs) in FY 04 with the purchase of missile and submunition hardware in FY 02. The ATACMS BLK II missile is a version of the currently fielded and combat-proven Army TACMS Block I missile and is designed to carry 13 BAT or BAT P3I submunitions. The primary mission of the ATACMS Block II (loaded with BAT or P3I submunitions) is to provide the Army's Objective Force and Joint Forces with a deep strike capability to delay, disrupt, neutralize, or destroy armored combat vehicles/organization. The ATACMS Block II missile is fired from the M270A1 launcher and the High Mobility Artillery Rocket System (HIMARS). The HIMARS is a Legacy to Objective Force Weapons System. The ATACMS Block II missile system with BAT and P3I BAT supports the Legacy to Objective Force transition path of the Transformation Campaign Plan (TCP).

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<b><u>B. Program Change Summary</u></b>	FY 2000	FY 2001	FY 2002	FY 2003
Previous President's Budget (FY2001 PB)	142753	96102	58392	0
Appropriated Value	144026	98102	0	
Adjustments to Appropriated Value		0	0	
a. Congressional General Reductions		0	0	
b. SBIR / STTR	-3844	0	0	
c. Omnibus or Other Above Threshold Reductions	-590	0	0	
d. Below Threshold Reprogramming	-2740	0	0	
e. Rescissions	-683	-899	0	
Adjustments to Budget Years Since FY2001 PB		0	65507	
Current Budget Submit (FY 2002/2003 PB )	136169	97203	123899	0

Change Summary Explanation:

FY02/03: Increase to BAT P3I for Heavy Multiple Rocket Launcher/Transporter Erector Launcher (MRL/TEL) Initiatives.

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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
687 BAT P3I	75294	69820	123827	0	0	0	0	0	0	0
<p><b>A. Mission Description and Budget Item Justification:</b> The BAT P3I is the submunition in the ATACMS Block II missile system, a Legacy to the Objective Force Weapon System supporting the Army Transformation. The P3I BAT submunition maintains basic BAT length, diameter, and weight configurations. The P3I BAT provides increased capability in incimate weather conditions and against countermeasured targets. The P3I BAT expands the target set and overcomes large target location error. The P3I BAT program will incorporate new seeker and microprocessor technologies while maintaining the current form, fit, and maximum commonality of components. This program includes studies/demonstrations pertaining to technology advancements, target recognition, and acoustic/infrared/millimeter wave characterizations of expanded target sets. The BAT P3I is a multi-sensored, terminally-guided submunition that searches, tracks, and destroys specific targets including mobile armored combat vehicles, cold stationary armored combat vehicles, Surface-to-Surface Missile (SSM) Transporter Erector Launchers (TELs), and Heavy Multiple Rocket Launchers (MRLs). P3I BAT will conduct Limited User Tests (LUTs) in FY 04 to support a continued production decision in 2nd Quarter FY 05. Hardware purchase for six missiles with 13 P3I BATs for this test will occur in FY 02. The ATACMS Block II with P3I BAT has a very low operation and sustainment cost. The primary mission of the ATACMS BLK II (loaded with the P3I submunition) is to provide the Army's Objective Force and Joint Forces with a precision strike capability to delay, disrupt, neutralize, or destroy armored combat vehicles and TELs/MRLs. The ATACMS Block II missile is fired from the M270A1 launcher and the High Mobility Artillery Rocket system (HIMARS). The HIMARS is also a Legacy to Objective Force Weapon System. The ATACMS Block II missile with P3I BAT supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).</p> <p><b><u>FY 2000 Accomplishments</u></b></p> <ul style="list-style-type: none"> <li>• 29599 Continued P3I BAT Seeker Development and Design</li> <li>• 18213 Conducted CFTs and Recoverable Flight Tests</li> <li>• 17900 Started Fabrication of Engineering Test Hardware (47 Submunitions with Seekers and 19 Seeker Stand Alone Test Articles)</li> <li>• 2000 Conducted Seeker Simulant Validation Test</li> <li>• 3500 Continued Hardware-in-the-Loop Operations</li> <li>• 3500 Simulation Analysis and Modeling</li> <li>• 582 Missile Carrier Integration</li> </ul> <p>Total 75294</p>										

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PROJECT

**687****FY 2001 Planned Program**

- 31017 Continue Seeker Integration and Armor Design Analysis
- 14200 Fabricate and Assemble P3I BAT Test Hardware (47 Submunitions with Seekers and 19 Seeker Stand Alone Test Articles)
- 14277 Conduct Recoverable Flight Test II, CFT, and Engineering Development Test
- 8000 Continue Simulation Analysis to include Hardware-in-the-Loop and Software Integration Lab
- 2076 Small Business Innovation Research/Small Business Technology Transfer Programs
- 250 Trade Studies, CAIV Initiatives, Risk Reduction and System Improvement and Optimization Activities

Total 69820

**FY 2002 Planned Program**

- 42288 Complete Seeker Integration and Armor Design Analysis
- 11849 Initiate MRL/TEL Engineering Design Analysis
- 38902 Develop Items for Submunition, DT Testing, and LUT testing (103 Submunitions with Seekers, 4 Seeker Stand Alone Test Articles and 7 Block II Missile Hardware Kits)
- 23430 Conduct Recoverable Flight Test III, DVT, PPT, Missile Developmental Test and Recoverable Flight Test IV
- 6858 Simulation Analysis to include Hardware-In-Loop and Software Integration Lab
- 500 Trade Studies, CAIV Initiatives, Risk Reduction and System Improvement and Optimization Activities

Total 123827

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PROJECT

**687**

## **B. Other Program Funding Summary**

	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Compl	Total Cost
Missile Procurement, Army CA6101 ARMY TACMS BLK II	229051	213359	61000	0	0	0	0	0	0	0

**C. Acquisition Strategy:** The BAT P3I system employs a sole source contract with the prime contractor, Northrop Grumman Corporation. Production cut-in of BAT P3I onto the ATACMS Block II will provide capability against moving and stationary armored targets.

## **D. Schedule Profile**

	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Captive Flight Test (CFT)	1-3Q	2Q		0	0	0	0	0
Continuous CFT (Seeker Tests)	1-3Q	1-4Q		0	0	0	0	0
Warhead Testing	1-2Q			0	0	0	0	0
Continue Dual Mode Radar Seeker Design	1-4Q	1-4Q		0	0	0	0	0
Hardware-in-the-Loop Testing	1-4Q	1-4Q	1-4Q	0	0	0	0	0
Tactical Prototype Seeker Integration	2-4Q	1-4Q	1Q	0	0	0	0	0
Recoverable BAT Tests	2-3Q	3-4Q	1-4Q	0	0	0	0	0
Engineering Development Tests (EDTs)			1Q	0	0	0	0	0
Design Verification Tests			1-2Q	0	0	0	0	0
Pre-Production Tests (PPTs)			2Q	0	0	0	0	0
Warhead Delta LFT&E Hard/Target				0	0	0	0	0
Warhead LFT&E Soft/Target				0	0	0	0	0
Software CDR			2Q	0	0	0	0	0
Envir Stress Test (EST) Prod Qual Tests (PQT)			1-2Q	0	0	0	0	0
DT System Tests (Block II)			3Q	0	0	0	0	0
Blk II/P3I BAT Production Cut-In Decision			3Q	0	0	0	0	0
Blk II/P3I BAT Limited User Tests (LUTs)-Armor				0	0	0	0	0
MRL/TEL LUTs				0	0	0	0	0
Blk II/P3I BAT Continued Production Decision				0	0	0	0	0

ARMY RDT&E COST ANALYSIS(R-3)									June 2001			
BUDGET ACTIVITY <b>5 - ENG MANUFACTURING DEV</b>					PE NUMBER AND TITLE <b>0604768A - BAT</b>					PROJECT <b>687</b>		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Northrop Grumman Corp	SS-CPIF		189214	47535		79917		0	0	0	0	0
b . RDEC Support*	PO		17644	3057		2698		0	0	0	0	0
c . TRW	SS-CPIF		2849	0		0		0	0	0	0	0
d . Lockheed	SS-CPIF		582	1550		8690		0	0	0	0	0
e . MLRS Launcher Pool	SS-CPIF		0	0		0		0	0	0	0	0
Subtotal:			210289	52142		91305		0		0	0	0
Remarks: *Includes Hardware-in-the Loop costs												
II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Sys Eng Tech Assist & Program Mgmt Spt	SS-CPFF		5020	1234		1400		0	0	0	0	0
b . Misc Other Gov Act	PO		3284	236		125		0	0	0	0	0
Subtotal:			8304	1470		1525		0		0	0	0

ARMY RDT&E COST ANALYSIS(R-3)										June 2001		
BUDGET ACTIVITY 5 - ENG MANUFACTURING DEV					PE NUMBER AND TITLE 0604768A - BAT					PROJECT 687		
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Range Support	PO		1376	6750		8040		0	0	0	0	0
b . Other Test Activities	PO		14315	6080		18216		0	0	0	0	0
Subtotal:			15691	12830		26256		0		0	0	0
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . In-House Support	PO		9878	3378		4741		0	0	0	0	0
Subtotal:			9878	3378		4741		0		0	0	0
Project Total Cost:			244162	69820		123827		0		0	0	0