

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

February 2003

## BUDGET ACTIVITY

### 7 - Operational system development

## PE NUMBER AND TITLE

0203726A - Adv Field Artillery Tactical Data System

COST (In Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost		35716	44978	28917	22551	18244	18762	19289	19852	Continuing	Continuing
322	ADV FA TAC DATA SYS/EFF CNTRL SYS (AFATDS/ECS)	35716	40705	27001	22551	18244	18762	19289	19852	Continuing	Continuing
33C	IMPROVED POSITION AZIMUTH DETERMINING SYS (IPADS)	0	4273	1916	0	0	0	0	0	0	6189

**A. Mission Description and Budget Item Justification:** The Advanced Field Artillery Tactical Data System (AFATDS) will broaden and modernize the US Army fire support command, control and communications (C3) system. AFATDS will provide automated fire support, fire planning and the coordination and employment of all service/combined fire support assets to complement the commander's scheme of maneuver. AFATDS will accomplish this by providing fully automated support for planning, coordination and control of all fire support assets (mortars, close air support, naval gunfire, attack helicopters, offensive electronic warfare, field artillery cannons, rockets and guided mis siles) in the execution of close support, counterfire, interdiction, suppression of enemy air defense and deep operations. AFATDS will automatically implement detailed commander's guidance in the automation of operational planning, movement control, targeting, target value analysis and fire support planning. This project is a replacement system for the Initial Fire Support Automated System (IFSAS), Battery Computer System (BCS) and Fire Direction System (FDS). The AFATDS supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

Improved Position Azimuth Determining System (IPADS) supports modernization of the Army's Field Artillery and Air Defense Artillery survey capabilities and the Legacy-to-Objective transition path of the Transformation Campaign Plan (TCP).

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<b><u>B. Program Change Summary</u></b>	<b>FY 2002</b>	<b>FY 2003</b>	<b>FY 2004</b>	<b>FY 2005</b>
Previous President's Budget (FY 2003)	36650	38161	22683	6942
Current Budget (FY 2004/2005 PB)	35716	44978	28917	22551
Total Adjustments	-934	6817	6234	15609
Congressional program reductions				
Congressional rescissions		-657		
Congressional increases		9000		
Reprogrammings	57	-261		
SBIR/STTR Transfer	-991	-1265		
Adjustments to Budget Years			6234	15609

FY03 Congressional increase of \$9000K will support other munitions (e.g. GMLRS, HIMARS, Excalibur and Precision Guided Mortar Munitions) and Version 7 requirements. Increased funding in FY04 (\$6234K) and FY05 (\$15609K) is to continue development of AFATDS Version 7 and subsequent software development.

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BUDGET ACTIVITY 7 - Operational system development				PE NUMBER AND TITLE 0203726A - Adv Field Artillery Tactical Data System					PROJECT 322		
COST (In Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
322	ADV FA TAC DATA SYS/EFF CNTRL SYS (AFATDS/ECS)	35716	40705	27001	22551	18244	18762	19289	19852	Continuing	Continuing
<p><b>A. Mission Description and Budget Item Justification:</b>AFATDS will perform the fire support Command, Control, and Coordination requirements at various levels of command. It will provide Command and Control relationships and full fire support functionality at all echelons of field artillery and maneuver, from Echelons Above Corps to battery or platoon in support of all levels of conflict. The system is composed of Common Hardware/Software (CHS) employed in varying configurations at different operational facilities (or nodes) and unique system software interconnected by tactical communications in the form of a software-driven, automated network. The Marine Corps will also utilize AFATDS. AFATDS will interoperate with Navy and Air Force Command and Control weapon systems as well as the Allied fire support systems ADLER (Germany), ATLAS (France), BATES (UK), and SIR (Italy). This program supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).</p>											
<b>Accomplishments/Planned Program</b>							<b>FY 2002</b>	<b>FY 2003</b>	<b>FY 2004</b>	<b>FY 2005</b>	
Prepare and Support AFATDS Version 7 Test and Materiel Release							2955	2999	3630	2510	
Army Battle Command System (ABCS) System Engineering and Integration Efforts.							642	642	0	0	
Continue AFATDS Version 6.3, AFATDS Version 7 and subsequent software development.							32119	37064	23371	20041	
Totals							35716	40705	27001	22551	

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BUDGET ACTIVITY 7 - Operational system development				PE NUMBER AND TITLE 0203726A - Adv Field Artillery Tactical Data System				PROJECT 322			
<b>B. Other Program Funding Summary</b>	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost	
	OPA (B28600)	53509	75134	22324	24519	24962	18161	18666	19208	Continuing	Continuing
	Spares (BS9708)	2500	2355	2555	1552	2665	1074	1072	1071	Continuing	Continuing
	Mod In Service Equip (B28620)	0	2895	2059	0	2144	3218	2454	188	Continuing	Continuing
<b>C. Acquisition Strategy:</b> AFATDS software will be developed in incremental releases. AFATDS '96, which received Materiel Release on 13 December 1996, automated 51% of the required tasks including fire support planning, target nomination, order of fire, and meteorological/survey operations. Subsequent releases add additional functions, providing automated capabilities for the required tasks including fire support sensor planning and additional munitions. The AFATDS software will utilize the Defense Information Infrastructure (DII) Common Operating Environment (COE) and the Joint Technical Architecture.											

ARMY RDT&E COST ANALYSIS(R-3)									February 2003			
BUDGET ACTIVITY <b>7 - Operational system development</b>					PE NUMBER AND TITLE <b>0203726A - Adv Field Artillery Tactical Data System</b>					PROJECT <b>322</b>		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Software Development	CPAF	Raytheon Systems Corp, Ft. Wayne, IN	142847	33992	2Q	21560	2Q	18160	2Q	Continue	Continue	0
b . ABCS System Engineering & Integration Efforts	PWD	PEO C3T, Ft Monmouth, NJ	4748	642	2Q	0		0		Continue	Continue	0
c . Peculiar Support Equipment (PSE)	C/FFP	General Dynamics, Taunton, MA	3293	600	2Q	600	2Q	600	2Q	Continue	Continue	0
Subtotal:			150888	35234		22160		18760		Continue	Continue	0
II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Software Development Support	MIPR	CECOM, Ft. Monmouth, NJ & Telos, Shrewsbury, NJ	3666	813	2Q	813	2Q	813	2Q	Continue	Continue	0
b . Engineering Support	MIPR	CECOM, Ft Monmouth, NJ	2086	933	2Q	733	2Q	733	2Q	Continue	Continue	0
Subtotal:			5752	1746		1546		1546		Continue	Continue	0

ARMY RDT&E COST ANALYSIS(R-3)									February 2003			
BUDGET ACTIVITY <b>7 - Operational system development</b>					PE NUMBER AND TITLE <b>0203726A - Adv Field Artillery Tactical Data System</b>					PROJECT <b>322</b>		
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Test Management		PM IE, Ft. Monmouth, NJ	450	135	2Q	135	2Q	135	2Q	Continue	Continue	0
b . Test Support	MIPR	Titan, Ft Sill, OK and Various	2999	1495	2Q	1295	2Q	795	2Q	Continue	Continue	0
Subtotal:			3449	1630		1430		930		Continue	Continue	0
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . PM Support	T&M	CSC, Eatontown, NJ	2689	730	2Q	700	2Q	350	2Q	Continue	Continue	0
b . Program Management		PM IE, Ft Monmouth, NJ	4718	1365	2Q	1165	2Q	965	2Q	Continue	Continue	0
Subtotal:			7407	2095		1865		1315		Continue	Continue	0
Project Total Cost:			167496	40705		27001		22551		Continue	Continue	0

Schedule Profile Detail (R-4a Exhibit)							February 2003	
BUDGET ACTIVITY <b>7 - Operational system development</b>				PE NUMBER AND TITLE <b>0203726A - Adv Field Artillery Tactical Data System</b>			PROJECT <b>322</b>	
<u>Schedule Detail</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>FY 2008</u>	<u>FY 2009</u>
AFATDS '99 Materiel Release	4Q							
AFATDS Version 7 Limited User Test (LUT)			3Q					
AFATDS Version 7 Materiel Release				3Q				
Maintenance Software Release						1Q	3Q	

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BUDGET ACTIVITY 7 - Operational system development				PE NUMBER AND TITLE 0203726A - Adv Field Artillery Tactical Data System					PROJECT 33C		
COST (In Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
33C	IMPROVED POSITION AZIMUTH DETERMINING SYS (IPADS)	0	4273	1916	0	0	0	0	0	0	6189
<p><b>A. Mission Description and Budget Item Justification:</b> This project element supports modernization of the Army's Field Artillery and Air Defense Artillery survey capabilities. The current Position &amp; Azimuth Determining System (PADS) was fielded in the early 1980s with 1970s technology. Poor Reliability (84 hours Mean Time Between Failure) and obsolete technology have resulted in a system that is no longer economically supportable. PADS inventory has begun to diminish through attrition. The IPADS is a new start program that will leverage present day technology, substantially improve reliability, and provide a digital communications capability to meet the needs of the Army of the Future. IPADS will provide a state of the art system with a Reliability that will exceed 2000 hours Mean Time Between System Abort which will save millions in operations and support costs, while preserving continued operational capability.</p> <p>This system supports the Legacy to Objective transition of the Transformation Campaign Plan.</p>											
<b>Accomplishments/Planned Program</b>							<b>FY 2002</b>	<b>FY 2003</b>	<b>FY 2004</b>	<b>FY 2005</b>	
Provide program management and engineering/logistics support.							0	1960	748	0	
Conduct developmental testing and operational testing.							0	2313	1168	0	
Totals							0	4273	1916	0	



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BUDGET ACTIVITY 7 - Operational system development				PE NUMBER AND TITLE 0203726A - Adv Field Artillery Tactical Data System					PROJECT 33C	
<u>B. Other Program Funding Summary</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>FY 2008</u>	<u>FY 2009</u>	<u>To Compl</u>	<u>Total Cost</u>
OPA-2 Improved Position & Azimuth Determining System (IPADS) - SSN M75700	0	1961	11128	11933	13050	13305	8086	779	0	60242
<u>C. Acquisition Strategy:</u> The IPADS program is an NDI being procured to a Performance Specification. The acquisition strategy will be a long term Firm Fixed Price Requirements Contract.										

ARMY RDT&E COST ANALYSIS(R-3)									February 2003			
BUDGET ACTIVITY <b>7 - Operational system development</b>					PE NUMBER AND TITLE <b>0203726A - Adv Field Artillery Tactical Data System</b>					PROJECT <b>33C</b>		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
			0	0		0		0		0	0	0
Subtotal:												
II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Acquisition/Program Management	MIPR	TACOM- RI, Rock Island, IL	0	555	1Q	535	1-2Q	0		0	1090	0
b . Matrix Support	MIPR	TACOM - ARDEC, Rock Island, IL	0	1405	1Q	213	1-2Q	0		0	1618	0
Subtotal:			0	1960		748		0		0	2708	0

ARMY RDT&E COST ANALYSIS(R-3)									February 2003			
BUDGET ACTIVITY <b>7 - Operational system development</b>					PE NUMBER AND TITLE <b>0203726A - Adv Field Artillery Tactical Data System</b>					PROJECT <b>33C</b>		
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Developmental Testing	MIPR	Yuma Proving Grounds, AZ	0	2313	3-4Q	868	1-2Q	0		0	3181	0
b . Operational Testing	MIPR	Fire Spt Test Dir., Ft. Sill, OK	0	0	3-4Q	300	1-2Q	0		0	300	0
Subtotal:			0	2313		1168		0		0	3481	0
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0
Project Total Cost:			0	4273		1916		0		0	6189	0