ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604633A - AIR TRAFFIC CONTROL**	**5□6**

COST (In Thousands)		FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
586	AIR TRAFFIC CONTROL	2402	2012	4508	4374	6587	6025	2830	4936	Continuing	Continuing

A. Mission Description and Budget Item Justification: This program element (PE) funds continuous efforts in the development of modernized tactical and fixed base Air Traffic Control (ATC) systems that will significantly enhance aviation safety in both the tactical and strategic ATC domains. Funded in this program element is the development of the Mobile Tower System (MOTS). The MOTS is a tactical mobile tower designed to meet the deployability and communication requirements of the current to future force. The MOTS will be equipped with modernized and secure avionics to ensure highly reliable and consistent tactical aircraft communications across all frequency bands and ranges to ensure compatibility with all Army, Joint, and Allied aircraft. MOTS will provide modern digital, secure, anti-jam communications, a digital recorder, basic weather information, a precision location capability, and full compatibility with all military and civilian airfields as well as tactical landing zones. The currently fielded systems, AN/TSW-7A and AN/TSQ-70A, are obsolete and require two, two and a half ton vehicles, a 15Kw generator, and a support trailer to fully operate the system. The system is not deployable on any aircraft smaller than a C-5, does not meet communications requirements across the operational spectrum, and is very difficult to maintain because parts are no longer manufactured for the system. MOTS is an effective risk management tool.

Product improvements include the Tactical Terminal Control System (TTCS) and the Air Traffic Navigation, Integration, and Coordination System (ATNAVICS)/ATC Equipment, Joint Tactical Radio System (JTRS), and Airspace Management Tool (AMT) Study. The TTCS will be improved with modernized equipment that will provide additional capability and improve performance of the overall system. The TTCS will provide enhanced Air Traffic Services (ATS) communications support to aviation assets conducting reconnaissance, maneuver, medical evacuation, logistics, and intelligence operations across the battlefield. The ATNAVICS will be upgraded with a capability to interface with other ATC equipment. The ATC equipment will have the capability to display near-real-time Situational Awareness (SA) of aircraft that ATNAVICS will provide. This capability will allow the ATC community to share and create one ATC common picture. JTRS will combine the functionality of numerous single function radios among the services into a single, joint-interoperable family of radios. The JTRS, a software-programmable and hardware-configurable digital radio system is required to provide increased interoperability, flexibility, and adaptability to support the ATC mission requirements of the warfighters. The JTRS lays the foundation for achieving network connectivity across the radio frequency (RF) spectrum and provides the means for digital information exchanges, both vertically and horizontally, between Joint warfighting elements, while enabling connectivity to civil and national authorities. JTRS is time-phased to include non-recurring engineering for three ATC systems: Tactical Airspace Integration System (TAIS), ATNAVICS and TTCS. ATC will conduct a study to determine how the AMT will provide the warfighter with a lightweight, user friendly and reliable tool to perform airspace planning. The AMT study will provide an analysis determining airspace management capability at lower echelons ensuring that situational awareness of the battle space being utilized flows from lower to higher echelons.

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Accomplishments/Planned Program	FY 2004	FY 2005	FY 2006	FY 2007
Tech and Log Support	236	263	297	310
MOTS Prototype II Development & Testing	1135	397	2995	3656
TTCS P3I Development	832	244	0	0
TTCS P3I Testing	103	400	0	0
ATNAVICS/ATC Interface	0	610	679	0
JTRS Study	0	0	150	300
Airspace Management Tool Study	0	0	284	0
Program Management Support	96	98	103	108
Totals	2402	2012	4508	4374

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2005)	2088	2161	1936
Current Budget (FY 2006/2007 PB)	2012	4508	4374
Total Adjustments	-76	2347	2438
Net of Program/Database Changes			
Congressional Program Reductions	-30		
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer	-46		
Adjustments to Budget Years		2347	2438

FY 06: $2,347K increase to support Mobile Tower System (MOTS) Prototype II development and testing. A new prototype is required to support production beginning in FY08.

FY 07: $2,138K increase to support MOTS Prototype II development and testing. A new prototype is required to support production beginning in FY08. $300 increase to support Joint Tactical Radio System (JTRS) non-recurring engineering.

C. Other Program Funding Summary	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	ToCompl	TotalCost
APA AA0050 - Air Traffic Control	59518	55235	62399	77711	83575	71393	76272	83847	Continue	Continue
APA AB1600 - Items Less Than $5.0M (Elect War-Air)	0	0	0	0	0	0	1071	1095	0	2166

D. Acquisition Strategy: Explore new technology initiatives for the development of tactical ATC equipment, ensure complete integration of tactical ATC equipment with the National Airspace System (NAS), and integrate new technology into existing systems. ATC is currently developing a new acquisition strategy for a second Mobile Tower System (MOTS) prototype with a lighting system in FY06 and FY07. Funding for production of MOTS was originally to begin in FY06; program adjustment impacting critical milestone decisions resulted in a new production program beginning FY08. This time lapse creates technical and programmatic risks in utilizing the first prototype developed in FY02-FY04; therefore a new prototype will be developed and tested in FY06 and FY07 to support production beginning in FY08.

ARMY RDT&E COST ANALYSIS(R3)

February 2005

BUDGET ACTIVITY
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I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . TTCS P3I	MIPR	Aviation Applied Technology Directorate, Ft. Eustis VA	832	244	1Q	0		0		0	1076	0
b . ATNAVICS/ATC INTERFACE	SS/CPFF	Raytheon	0	610	2Q	679	2Q	0		0	1289	1289
c . TECH AND LOG SUPPORT	Various	PM ATC	350	263	1-4Q	297	1-4Q	310	1-4Q	Continue	Continue	Continue
d . MOTS Prototype II	TBS	TBS	0	0		2695	1-2Q	2948	1-2Q	267	5910	5910
Subtotal:			1182	1117		3671		3258		Continue	Continue	Continue

II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Airspace Management Tool	TBS	TBS	0	0		284	1Q	0		0	284	0
b . MOTS Prototype II	Various	Various	0	397	3Q	0		0		0	397	0
c . JTRS Study	TBS	TBS	0	0		150	1Q	300	1Q	Continue	Continue	Continue
Subtotal:			0	397		434		300		Continue	Continue	Continue

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February 2005

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III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . TTCS P3I TESTING	MIPR	Aviation Applied Technology Directorate, Ft. Eustis VA	103	400	1Q	0		0		0	503	0
b . MOTS PROTOTYPE I TESTING			1637	0		0		0		0	1637	0
c . MOTS PROTOTYPE II TESTING	TBS	TBS	0	0		300	3Q	708	1Q	133	1141	1141
Subtotal:			1740	400		300		708		133	3281	1141

ARMY RDT&E COST ANALYSIS(R3)

February 2005

BUDGET ACTIVITY
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IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Program Management Support	MIPR	PM ATC	1690	98	1-4Q	103	1-4Q	108	1-4Q	Continue	Continue	Continue
Subtotal:			1690	98		103		108		Continue	Continue	Continue
Project Total Cost:			4612	2012		4508		4374		Continue	Continue	Continue

Schedule Profile (R4 Exhibit)

February 2005

BUDGET ACTIVITY
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PROJECT
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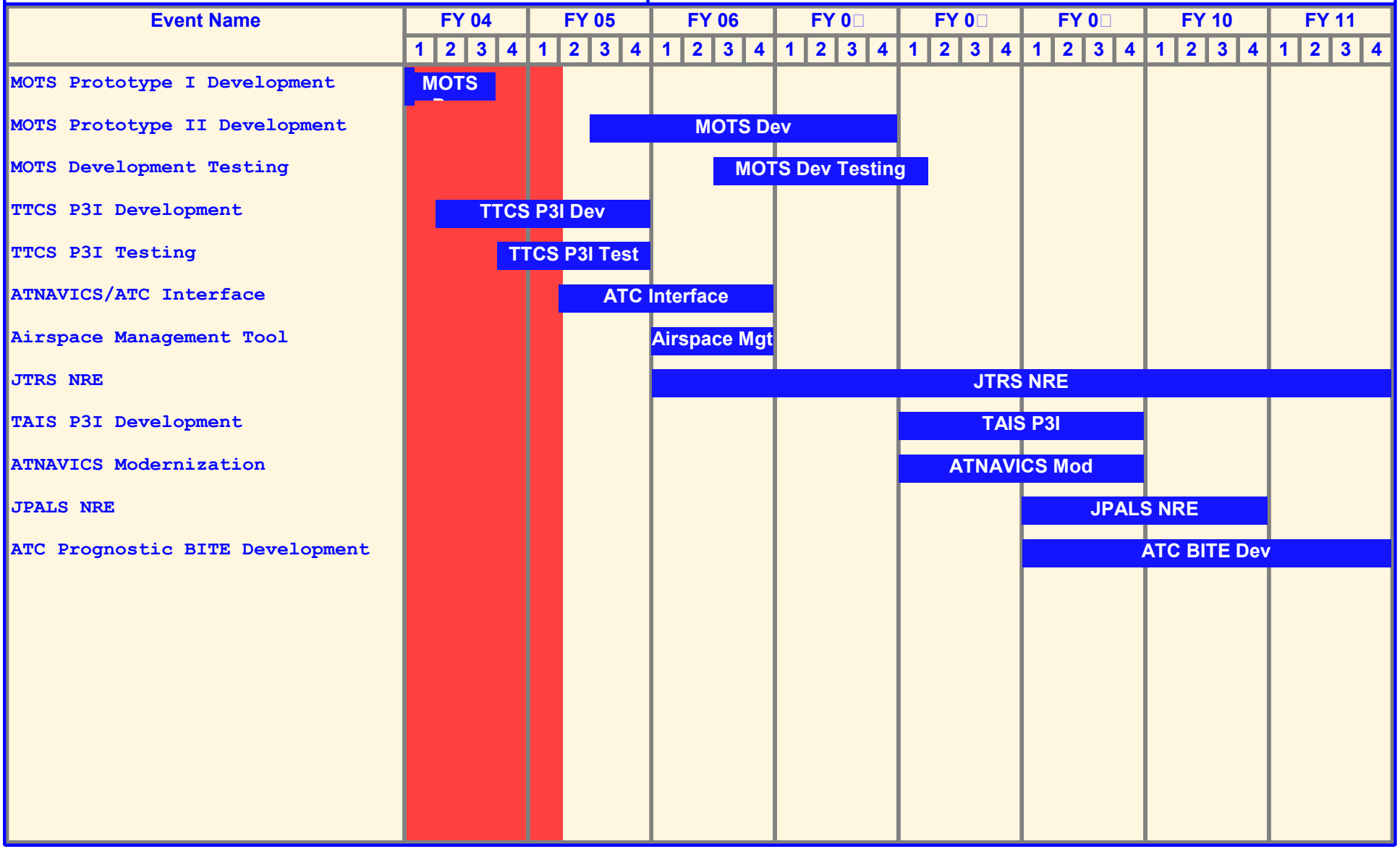

Schedule Detail (R4a Exhibit)

February 2005

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Schedule Detail	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
MOTS Prototype I Development	1-3Q							
MOTS Prototype II Development		3-4Q	1-4Q	1-4Q				
MOTS Developmental Testing			3-4Q	1-4Q	1Q			
TTCS P3I Development	2-4Q	1-4Q						
TTCS P3I Testing	4Q	1-4Q						
ATNAVICS/ATC Interface		2-4Q	1-4Q					
Airspace Management Tool			1-4Q					
JTRS Study/NRE			1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
TAIS P3I Development					1-4Q	1-4Q		
ATNAVICS Modernization					1-4Q	1-4Q		
JPALS NRE						1-4Q	1-4Q	
ATC Prognostic BITE Development						1-4Q	1-4Q	1-4Q