ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE
5 - System Development and Demonstration	**0604622A - Family of Heavy Tactical Vehicles**

	COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	15016	4487	7477	Continuing	Continuing
659	FAMILY OF HVY TAC VEH	3135		4107	Continuing	Continuing
65A	MOVEMENT TRACKING SYSTEM (MTS)	1237	2677	1361	Continuing	Continuing
E49	HEMTT	9661				9661
E50	TRAILER DEVELOPMENT	983	1810	2009	Continuing	Continuing

A. Mission Description and Budget Item Justification: This program element aligns system development and demonstration of Heavy Tactical Vehicles with Future Modular Force requirements to support combat and combat support missions. These missions include the following: line haul, local haul, and unit resupply. These trucks transport water, ammunition, and general cargo over all terrain and throughout the battle-space. Funding will also be used for developing the Army's next generation of tactical truck, as part of the Army's Tactical Wheeled Vehicle Modernization Strategy. Funding in Project 65A is for the development of the Movement Tracking System (MTS). Funding in Project E50 supports the continued modernization of the Army's trailer fleets and supports the continuous product improvements, technology insertion, and new capabilities for tactical trailers.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE
5 - System Development and Demonstration	**0604622A - Family of Heavy Tactical Vehicles**

B. Program Change Summary	FY 2008	FY 2009	FY 2010
Previous President's Budget (FY 2009)	12666	2901	3446
Current BES/President's Budget (FY 2010)	15016	4487	7477
Total Adjustments	2350	1586	4031
Congressional Program Reductions		-14	
Congressional Rescissions			
Congressional Increases	2704	1600	
Reprogrammings			
SBIR/STTR Transfer	-354		
Adjustments to Budget Years			4031

Change Summary Explanation:
FY 2008: Supplemental funding provided to adapt SPARK minerollers to operations in OEF.
FY 2009: Congressional increase for VIPER Mobile Power Development Project and Enhanced Ku-Bank/L-Band Antenna System.
FY 2010: Funding increase to support the Family of Heavy Tactical Vehicles program.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604622A - Family of Heavy Tactical Vehicles**	**659**

COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
659 FAMILY OF HVY TAC VEH	3135		4107	Continuing	Continuing

A. Mission Description and Budget Item Justification: The existing Heavy Tactical Vehicle programs require insertion of mature, state-of-the-art technologies. Funding will provide for the demonstration, design evaluations and testing of a Line Haul Replacement Tractor (LHRT) able to provide increased capability to enable a more agile, flexible, full spectrum movement of supplies and equipment across the range of military opeations throught the battlefield.

Accomplishments/Planned Program:	FY 2008	FY 2009	FY 2010
Developmental work to adapt SPARK minerollers to operations in OEF.	3135		
Reliability Growth and Study Analysis: The LHRT is required to be operationally reliable in excess of three times the operational reliability of its predecessor Military Line Haul Tractor Truck. Reliability growth will be studied through analysis of Military, U.S. commercial, and foreign commercial line haul tractor trucks. The study will evaluate drivelines, suspension, fuel management, and vehicle maintenance systems and practices that result in peak system performance. The results of the reliability growth study will be used to revise vehicle designs planned for LHRT, incorporate proven maintenance methodologies for maintaining the LHRT when stored and in use, and to evaluate the reliability requirement of the LHRT in terms of the impact of the cost of reliability growth over the system life cycle.			400
Command, Control, Communication, and Computer Integration (C4I) into the LHRT: The LHRT requires an integrated communications system to incorporate the SINCGARS, DAGR, DVE, MTS, and JTRS systems to provide real time situational awareness data for Combat Support & Combat Service Support units to safely and efficiently transport cargoes to destinations throughout the battle space as weather and road safety conditions fluctuate. Loads are prioritized or redirected and indications warrant re-routing in response to increased enemy activity. A single monitor data screen interlinked to each C4I system with a capability to be expanded to meet the need for increased computing capability will be developed and assessed.			3033
Suspension and Chassis enhancements will balance chassis weight distribution, and carry the added weight of chassis and fuel tank protective applique armor. Fuel Tank development will center on optimizing fuel tank design to direct fuel away from the crew compartment during a mine, IED, or targeted blast event.			674
Total	3135		4107

B. Other Program Funding Summary	FY 2008	FY 2009	FY 2010	To Compl	Total Cost
OPA1 D15900, Truck, Tractor, Line Haul M915A2	1203928	119884	41485		1461599

Comment:

C. Acquisition Strategy The Reliability Growth study will be a NAC/TARDEC effort. The requirement of the study will be written into a SOW by 3rd Qtr FY09, with a planned award by 1st Qtr FY10. For the Hardware Development Projects, each project will be proceeded by formal and informal market research. Existing C4I and Fuel system technologies will be researched and compared to systems in use in the US Military. Market Research will be performed starting 2nd Qtr FY09. Specific scope of work requirements for each project will be developed and refined as data is gathered. A SOW for each project wil be prepared by 3rd Qtr 09 and solicited with industry in 4th Qtr 09. Contracts will be ready for award NTL 2nd Qtr FY10.

ARMY RDT&E COST ANALYSIS (R3)

May 2009

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604622A - Family of Heavy Tactical Vehicles

PROJECT
659

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Developmental work to adapt SPARK minerollers to operations in OEF.				3135	3-4Q						3135	
Reliability Growth Study and Analysis	TBD	TBD						400	2Q		400	
Command, Control, Communication, and Computer Integration (C4I) into the LHRT	TBD							2533	2Q		2533	
Suspension and Chassis Enhancements	TBD							674	2Q		1365	
Subtotal:				3135				3607			7433	

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
C4I testing and evaluation	MIPR	CECOM, Ft. Monmouth, NJ						500	2Q		1000	
Subtotal:								500			1000	

ARMY RDT&E COST ANALYSIS (R3)

May 2009

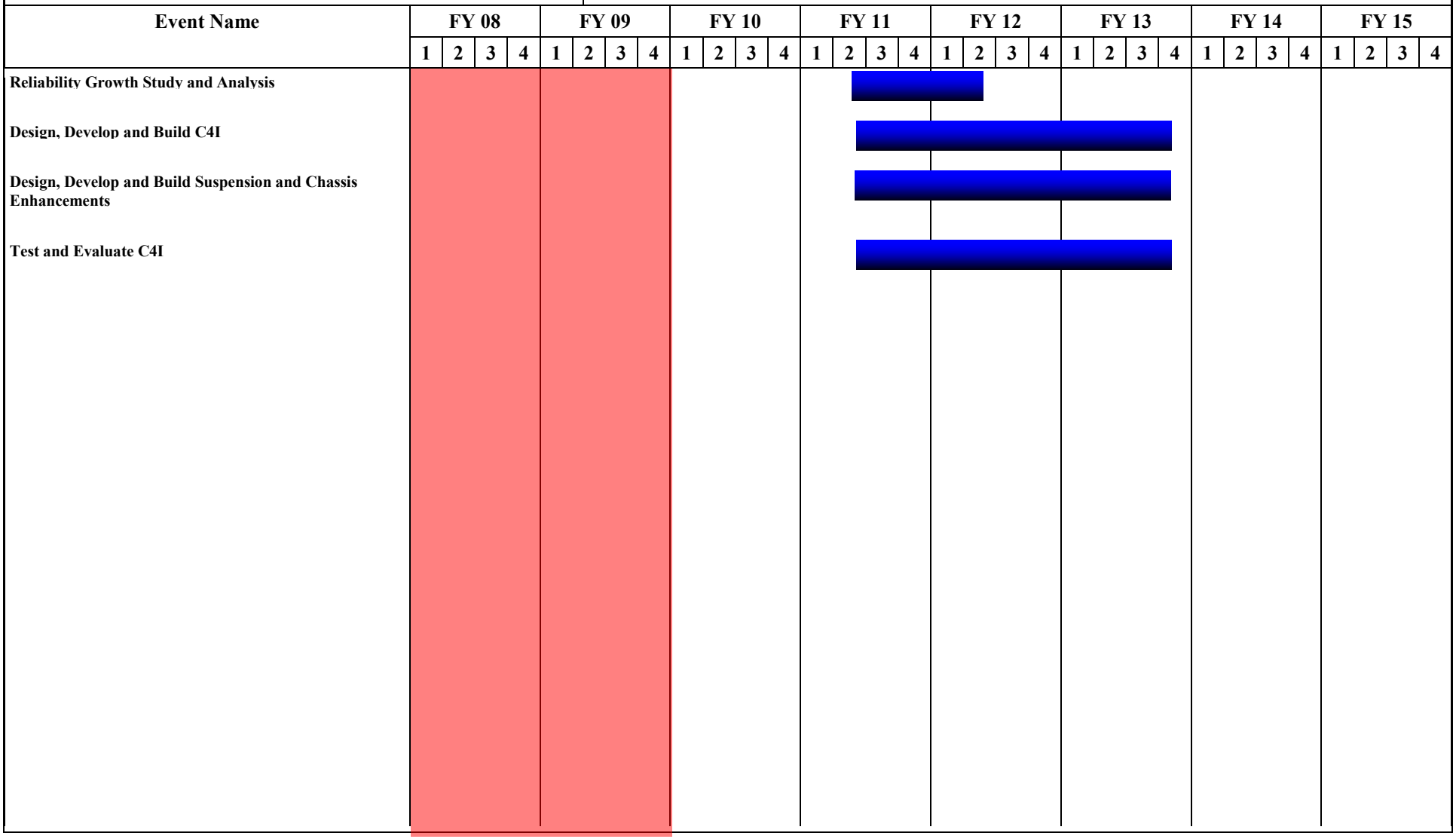
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604622A - Family of Heavy Tactical Vehicles**	**659**

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												
Project Total Cost:				**3135**				**4107**			**8433**	

Schedule Profile (R4 Exhibit)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604622A - Family of Heavy Tactical Vehicles**	**659**



Schedule Detail (R4a Exhibit)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604622A - Family of Heavy Tactical Vehicles**	**659**

Schedule Detail	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Reliability Growth Study and Analysis				2Q - 4Q	1Q - 2Q			
Design, Develop and Build C4I				2Q - 4Q	1Q - 4Q	1Q - 4Q		
Design, Develop and Build Suspension and Chassis Enhancements				2Q - 4Q	1Q - 4Q	1Q - 4Q		
Test and Evaluate C4I				2Q - 4Q	1Q - 4Q	1Q - 4Q		

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604622A - Family of Heavy Tactical Vehicles**	**65A**

COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
65A MOVEMENT TRACKING SYSTEM (MTS)	1237	2677	1361	Continuing	Continuing

A. Mission Description and Budget Item Justification: Movement Tracking System (MTS) is a satellite based, asset visibility and situational awareness enabler that assists Combat Support/Combat Service Support (CS/CSS) commanders and their staffs. MTS identifies and tracks the location of vehicles, communicates with vehicle operators, and redirects missions on a worldwide, near real-time basis during peacetime operations and war. MTS provides the capability to link ground level operators conducting missions and commanders/managers that plan, direct, and control operations and allows for continuous CS/CSS asset visibility across the tactical area of operations. FY08/09 funding supports development of block modifications on the MTS. This block modification will develop and test required interfaces to Transportation Coordinator's Automated Information for Movement System (TC AIMS II) (direct electronic interface) and Global Combat Support System-Army (GCSS-Army) (direct electronic interface). FY10/11 funding continues interface development & testing.

Accomplishments/Planned Program:	FY 2008	FY 2009	FY 2010
Development of block modifications on the Movement Tracking System	1237	2602	1261
System Testing			100
Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR)		75	
Total	1237	2677	1361

B. Other Program Funding Summary	FY 2008	FY 2009	FY 2010	To Compl	Total Cost
OPA1 D16103000, Movement Tracking System (MTS)	89248	141709	119100	Continuing	Continuing

Comment:

C. Acquisition Strategy RDTE efforts to support block development approach through a continuous series of overlapping modular development and integration testing to include multiple interface developments in support of follow-on production.

ARMY RDT&E COST ANALYSIS (R3)

May 2009

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604622A - Family of Heavy Tactical Vehicles

PROJECT
65A

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Software development, engineering, testing, program management	FFP/IDIQ	Comtech Mobile Datacom Corp., Germantown, MD	8798	957	4Q	2203		1211		3239	16408	
Subtotal:			8798	957		2203		1211		3239	16408	

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Software Testing	MIPR	Electronic Proving Ground, Yuma, AZ	2007	280		474		150		1079	4140	
Subtotal:			2007	280		474		150		1079	4140	

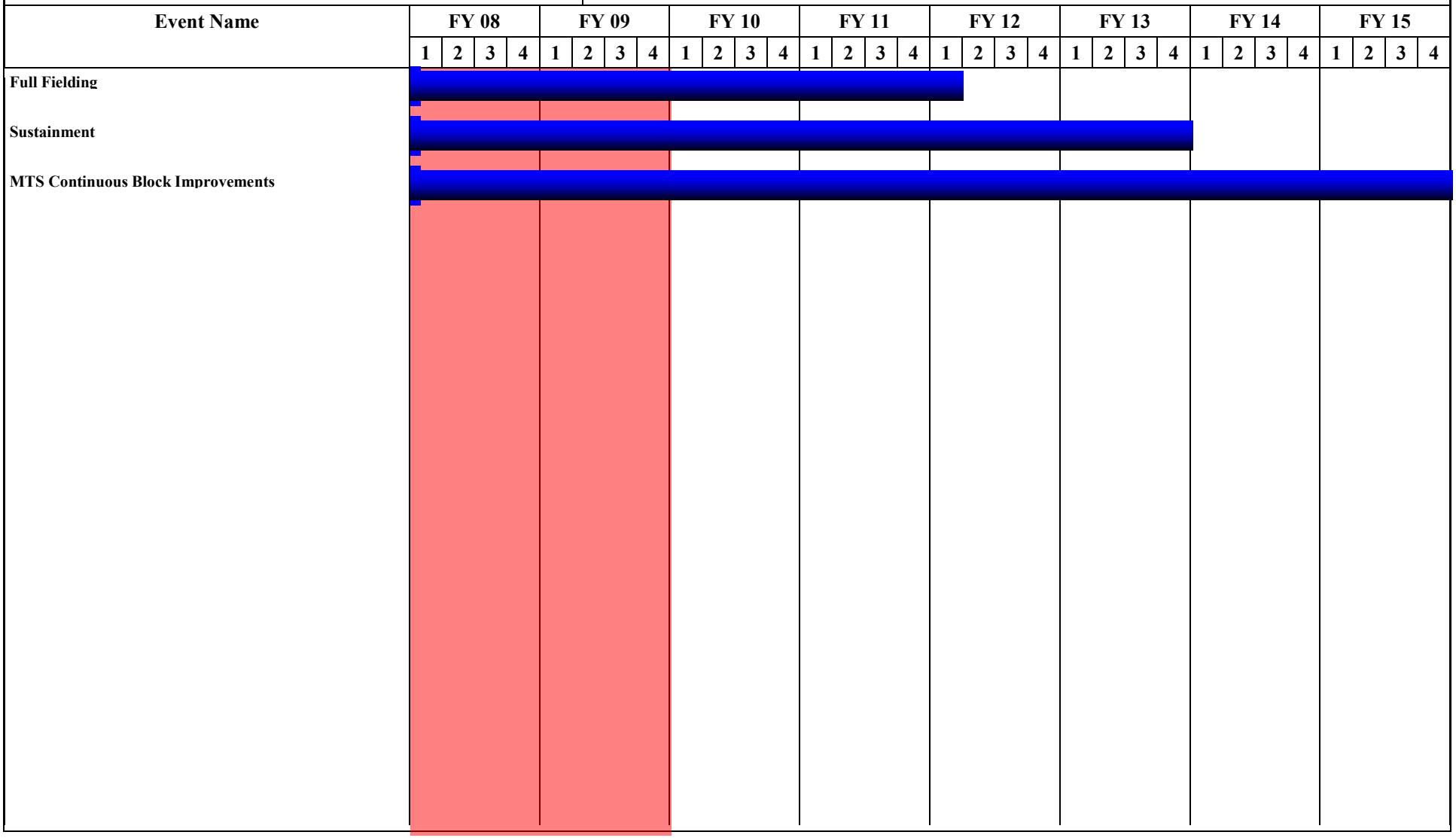
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												

ARMY RDT&E COST ANALYSIS (R3)										May 2009
BUDGET ACTIVITY **5 - System Development and Demonstration**	PE NUMBER AND TITLE **0604622A - Family of Heavy Tactical Vehicles**									PROJECT **65A**
Project Total Cost:	**10805**	**1237**		**2677**		**1361**		**4318**	**20548**	

Schedule Profile (R4 Exhibit)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604622A - Family of Heavy Tactical Vehicles**	**65A**



Schedule Detail (R4a Exhibit)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604622A - Family of Heavy Tactical Vehicles**	**65A**

Schedule Detail	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Full Fielding	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q			
Sustainment	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q		
MTS Continuous Block Improvements	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604622A - Family of Heavy Tactical Vehicles**	**E49**

COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
E49 HEMTT	9661				9661

A. Mission Description and Budget Item Justification: Funds the Heavy Expanded Mobility Tactical Truck (HEMTT) A3 prototype development. The HEMTT vehicle program requires insertion of current, mature technology to increase the capability of the vehicle toward the future force requirements. Received FY2008 Congressional add to continue A3 prototype development. Also received FY2008 Congressional add for Advanced Drivetrains for Enhanced Mobility and Safety. This is to assess and analyze alternative drivetrain configurations to incorporate state-of-the-art technology and design characteristics for improved military vehicles.

Accomplishments/Planned Program:	FY 2008	FY 2009	FY 2010
HEMTT advanced technology improvement development.	6471		
Testing of HEMTT advanced technology improvements.	3190		
Total	9661		

B. Other Program Funding Summary	FY 2008	FY 2009	FY 2010	To Compl	Total Cost
OPA1, DA0500, Family of Heavy Tactical Vehicles	362526	452206	415745		1289324

Comment:

C. Acquisition Strategy Limited RDTE effort to support follow-on production. Continue A3 prototype development.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604622A - Family of Heavy Tactical Vehicles**	**E50**

COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
E50 TRAILER DEVELOPMENT	983	1810	2009	Continuing	Continuing

A. Mission Description and Budget Item Justification: This program element supports continued modernization of the Army's trailer fleet. The funds support development and integration of emerging state of the art technology improvements and new capabilities. FY10/11 funding will develop, design and build prototype trailers to meet Army operational capability gaps identified by CASCOM, and also will support continued insertion of new technology to the current trailer fleet, including the testing of hitch devices and leg modernization. Other on-going technologies being looked at are corrosion prevention and modularity and transportability enhancements such as improved suspension, electrohydraulic brakes, lift bed, and enhanced coupling/uncoupling. Modernized trailers are better able to match the capabilities of today's improved tactical wheeled vehicles and tractors.

Accomplishments/Planned Program:	FY 2008	FY 2009	FY 2010
Program Management	222	250	
Current fleet technical insertion and testing	128	200	
Design, develop and build System Prototype Demonstrator Trailer(s)	633	1309	
Design, develop, build and test trailers			2009
Small Business Innovative Research/Small Business Technology Transfer Programs		51	
Total	983	1810	2009

B. Other Program Funding Summary	FY 2008	FY 2009	FY 2010	To Compl	Total Cost
OPA 1 D01500 Semi-Trailer Flatbed 22.5T M871A3	273	6464	2480	Continuing	Continuing
OPA 1 D01600 Semi-Trailer Flatbed 34T M872A4	9690	38880	11384	Continuing	Continuing

Comment: Initial efforts relate to flatbed trailers; however, any member of the tactical trailer fleet may be affected.

C. Acquisition Strategy Conduct feasibility testing on existing tactical semi-trailers. Identify enhanced transportability and safety concepts and other responses to field issues. Modify existing equipment or develop new equipment. The ultimate goal is to develop and test improvements, acquire necessary technical data, and place improved hardware into production.

ARMY RDT&E COST ANALYSIS (R3)

May 2009

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604622A - Family of Heavy Tactical Vehicles

PROJECT
E50

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Program Management	In-House	TACOM-WRN	3293	222		250					3765	
Design, develop and build System Prototype Demonstrator Trailers	In-House	TARDEC-WRN	1949	633		1360					3942	
Design, develop, build and test trailers	TBD	TBD						2009			2009	
Subtotal:			5242	855		1610		2009			9716	

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
M870A3 Suspension testing	MIPR	Yuma Proving Ground, Yuma, AZ	783	128		200					1111	
Subtotal:			783	128		200					1111	

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												

ARMY RDT&E COST ANALYSIS (R3)

May 2009

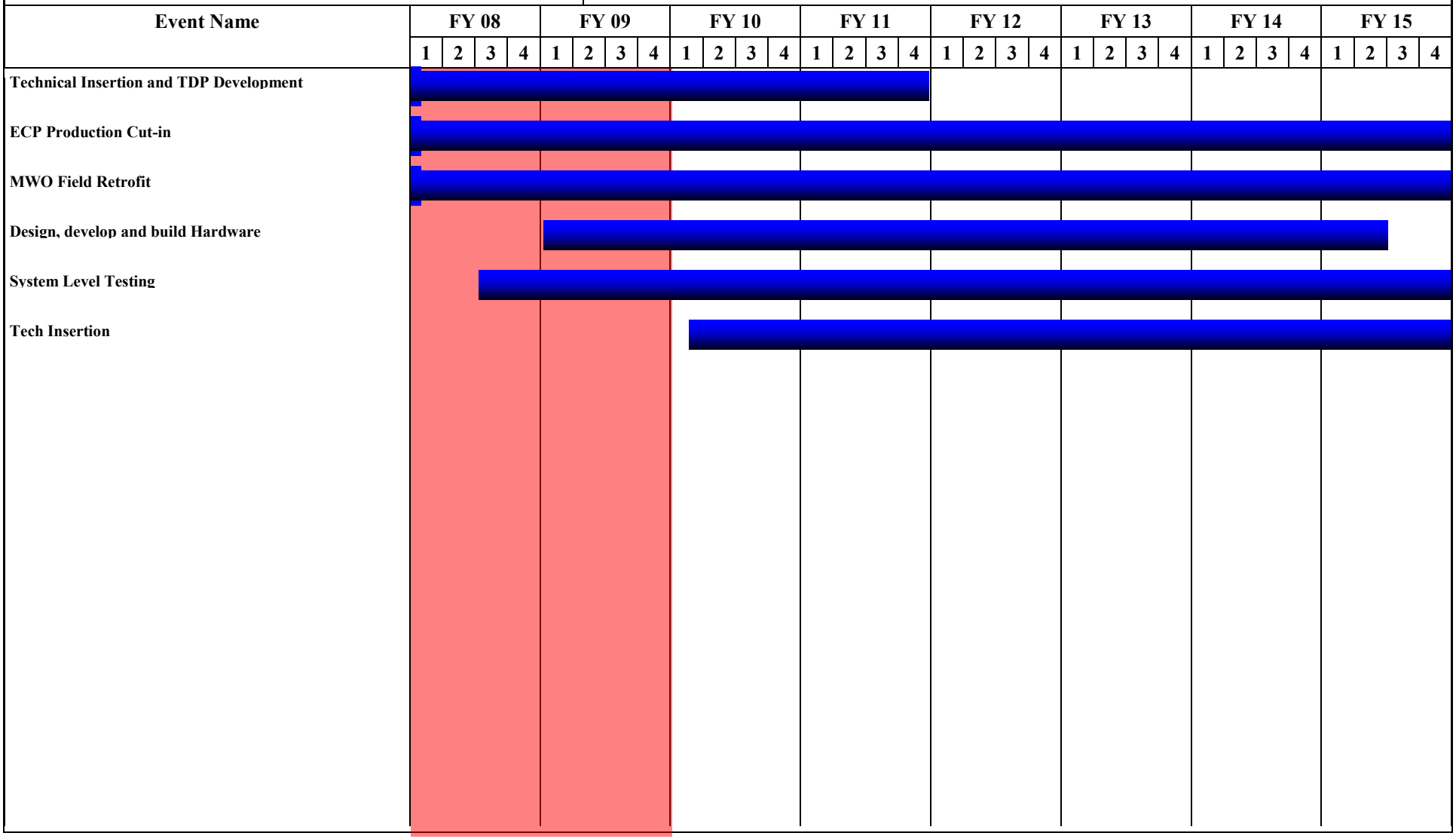
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604622A - Family of Heavy Tactical Vehicles**	**E50**

Project Total Cost:	**6025**	**983**		**1810**		**2009**			**10827**	

Schedule Profile (R4 Exhibit)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604622A - Family of Heavy Tactical Vehicles**	**E50**



Schedule Detail (R4a Exhibit)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604622A - Family of Heavy Tactical Vehicles**	**E50**

Schedule Detail	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Technical Insertion and TDP Development	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q				
ECP Production Cut-in	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q
MWO Field Retrofit	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q
Design, develop and build Hardware		1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 2Q
System Level Testing	3Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q
Tech Insertion			1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q

The MWO Field Retrofit will actually be completed every other year starting after FY2009. The Designing, developing and building of hardware will be completed the 1st two quarters of every year starting in FY2010. The System Level Testing will be completed the last two quarters of every year starting in FY2010.