

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2007**

<b>BUDGET ACTIVITY</b>		<b>PE NUMBER AND TITLE</b>							<b>PROJECT</b>	
<b>5 - System Development and Demonstration</b>		<b>0604666A - Modular Brigade Enhancement</b>							<b>FC7</b>	
COST (In Thousands)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
FC7 FCS - Spin Out Technology/Capability Integration			64796	32442	65000	50000	50000	10000	Continuing	Continuing

**A. Mission Description and Budget Item Justification:** The Army's Future Combat System (Brigade Combat Team) (FCS (BCT)) is a joint system of systems consisting of a network and a combination of manned and unmanned systems that use an advanced network architecture to enable levels of joint connectivity, situational awareness and understanding, and synchronized operations previously unachievable. It is designed to interact with and enhance the Army's most valuable weapon - the Soldier. When fully operational, FCS will provide the Army and the joint force unprecedented capability to see the enemy, engage him on our terms, and defeat him on the 21st Century battlefield. The Army's first modernization effort in nearly four decades; FCS is the embodiment of the modular force, a modular system designed for "full spectrum" operations. It will network existing systems, systems already under development and future systems to be developed to meet the requirements of the Army's Future Force. It is adaptable to traditional warfare as well as complex, irregular warfare in various rural and urban terrains. It can also be adapted to civil support, such as disaster relief. FCS is the #1 priority acquisition program for the Army.

This project funds all non FCS efforts required to develop and test the integration of Future Combat System technologies and capabilities into the current force "Spin Out" Programs. These Spin Out Programs will provide early capability in Force Protection, Networked Fires, Expanded Battle Space, and Battle Command to the current force.

The first Spin Out Program or Spin Out 1 will begin the process of providing interoperability of current force systems technologies (Force XXI Battle Command, Brigade and Below - FBCB2 and the Advanced Field Artillery Tactical Data System - AFATDS) with new FCS capabilities (Unattended Ground Sensors - UGS and the Non Line of Sight Launch System - NLOS-LS). This will be accomplished by integrating a common B-Kit consisting of the Joint Tactical Radio System (JTRS), the Integrated Computer System (ICS), and the Battle Command System (BCS) software, to include SOSCOE, into three current force platforms, the High Mobility Multipurpose Wheeled Vehicle (HMMWV), the Abrams SEP tank and the Bradley A3 Infantry Fighting Vehicle (IFV).

Future Spin-Outs will continue to provide additional FCS technologies and capabilities to the current force. Costs related to future spinouts begin in FY10. While a detailed definition of future spin-outs will depend on future Army needs and capability gaps, spin-outs 2 and 3 potentially include the following: SO2 - Integration of active protection and the FCS sensor mast into the Stryker: SO3 - addition of the FCS MULE, SUGV, Class I UAV, Class IV UAV and full up FCS Battle Command to current force formations.

This project was created IAW Section 214 of the FY06 National Defense Authorization Act which required the Secretary of Army to assign a separate, dedicated program element to the costs of integrating Future Combat Systems capabilities into current force programs. In Sept 2006 the Congress approved a reprogramming action that funded \$7.4 million to begin the development of the Interface Control Documents (ICDs) and AKIT design. For FY07, the Army plans to submit a reprogramming action that will move 27.9 million from PE 0604645A Project F61 to this new Spin Out PE as directed by Congress. These funds will be used to conduct design activity for AKITs.

<b>Accomplishments/Planned Program:</b>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Contractor Integration - Provides for the design of the current force platform A-Kits (wiring harness, mounts, brackets etc.) needed for the			24000	9800

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integration of FCS technologies that include the Integrated Computer System (ICS) and the Ground Platform Communication System (GPCS). Also provides for the administration of both the platform contract and any subcontract effort.					
Contractor Test - Provides for all testing performed by the current force prime contractors in support of the A-Kit design.			7400	3700	
Contractor Prototype Build - Provides for the procurement of all material required for the current force platform A-Kits and the labor required for both the fabrication of the A-Kits as well as the installation of both A-Kits and FCS technologies and all associated material onto the current force platforms.			8300	2600	
Contractor Software - Provides for the development and modification of any platform software needed for the integration of the ICS and GPCS into the current force platforms.			7600	2500	
Contractor Logistics - Provides for the development of installation and maintenance procedures, logistics support analysis, development of any required diagnostics capabilities, technical manual changes and development of training procedures required for the A-Kit.			3500	1100	
Government Test - Provides for the development and coordination along with the Army Test Command (ATC) of any plans for the testing required at Aberdeen Proving Ground (APG) and the Electronic Proving Ground (EPG) to support safety releases, reliability, environmental and any other required testing. It also provides support to the Enhanced Brigade Combat Team (EBCT) during the completion of the Technical Field Test (TFT), Force Development Test and Experimentation (FDTE), Limited User Test (LUT), Initial Operational Test and Evaluation (IOTE) as well as any other testing that utilizes the EBCT with current platforms.			9500	7900	
Government Program Management - Provides integrated program management (ie planning, directing, tools and controlling functions), for all development activities, including data and supplier management, program control, procurement and contracts management, operations management, cost analysis and management, budget development and justification, integrated master plan and schedule development and management, as well as systems engineering support and fielding coordination for all Spin Out programs.			4496	4842	
<b>Total</b>			<b>64796</b>	<b>32442</b>	

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<b><u>B. Program Change Summary</u></b>	FY 2006	FY 2007	FY 2008	FY 2009		
Previous President's Budget (FY 2007)						
Current BES/President's Budget (FY 2008/2009)			64796	32442		
Total Adjustments			64796	32442		
Congressional Program Reductions						
Congressional Recissions						
Congressional Increases						
Reprogrammings						
SBIR/STTR Transfer						
Adjustments to Budget Years			64796	32442		

Change Summary Explanation: Funding - FY 2008/2009: This Program Element was created IAW Section 214 of the FY06 National Defense Authorization Act which required the Army to assign a separate, dedicated program element to the costs of integrating Future Combat Systems capabilities into current force programs.

<b><u>C. Other Program Funding Summary</u></b>	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
0604660A FCS Manned Grd Vehicles & Common Grd Vehicle Components			696333	772458	791186	361201	215665	103885	Continuing	Continuing
0604661A FCS System of Systems Engr & Program Management			1589466	1407410	1888349	1929853	1299062	1034307	Continuing	Continuing
0604662A FCS Reconnaissance (UAV) Platforms			41164	34220	14398	9301	4587	1344	Continuing	Continuing
0604663A FCS Unmanned Ground Vehicles			90667	96666	65206	43912	27038	3603	Continuing	Continuing
0604664A FCS Unattended Ground Sensors			10999	12942	19103	16874			Continuing	Continuing
0604665A FCS Network Hardware & Software			678781	536387	336471	367894	292770	170602	Continuing	Continuing
0604646A Non Line of Sight - Launch System	216668	320650	253410	199064	40329	6000			Continuing	Continuing
0604647A Non Line of Sight _ Cannon	132223	110998	137802	89189	71906	43531	28971		Continuing	Continuing
0604666A FCS Spin Outs			64796	32442	65000	50000	50000	10000	Continuing	Continuing
0603639A FCS MRM			44578	45733	71961	56698	107077	51079	Continuing	Continuing
0604715A STRICOM/NAWCTSD Support			381	391	401	409	418	429	Continuing	Continuing
WTCV G86100 FCS Core Program			79483	155838	149367	683788	2194625	5795292	Continuing	Continuing
WTCV G86200 FCS Spin Out Program			20123	172746	373790	557060	779742	958060	Continuing	Continuing

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0604645 F52 UAV Recon & Sensors	50692	26360						Continuing	Continuing
0604645 F53 UGV	121528	106516						Continuing	Continuing
0604645 F54 UGS	31242	10612						Continuing	Continuing
0604645 F55 SUSTAINMENT	139389	106517						Continuing	Continuing
0604645 F57 MANNED GROUND VEHICLES	499469	563946						Continuing	Continuing
0604645 F61 SoS Engineering and Program Management	2027766	2142970						Continuing	Continuing

Comment:

**D. Acquisition Strategy** The FY2008 President's budget reflects the Army successfully achieving a balance between three competing priorities: legislation, the demands of war, and the need to modernize the force. The FCS program was adjusted to help strike the balance. Due to FCS requirements changing in the last 3 years, coupled with the challenge to meet all its reset and modernization requirements, the number of platforms that the Army plans to develop and buy within the FCS family of systems, as well as the timeline for buying and fielding these platforms and simultaneously improving the Current Force through early delivery of selected FCS capabilities has been adjusted. The adjustments maintained the Army focus on FCS-equipped Brigade Combat Team (BCT) development and substantially reduced program risk. The following are adjustments made to the FCS program which affected the Spin Out program:

1. Adjusting the development of the Core and Spin Out capabilities so that the Army can benefit from the economies realized with concurrent testing.
2. Increasing the rate of fielding of FCS technologies to the current force
3. Fund the Spin Out Technology Insertion program.

Pursuant to National Defense Authorization Act for Fiscal Year 2006 - Section 214: Separate Program Elements for Significant Systems Development and Demonstration Projects for Armored Systems Modernization Program, the PM FCS (BCT) established this Program Element (0604666A Project FC7) for FCS SPIN OUT Technology/Capability Insertion SDD efforts, commencing with an approved reprogramming action in September 2006.

# ARMY RDT&E COST ANALYSIS (R3)

February 2007

BUDGET ACTIVITY			PE NUMBER AND TITLE									PROJECT		
5 - System Development and Demonstration			0604666A - Modular Brigade Enhancement									FC7		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Integration of B-Kit into Abrams Tank	CPFF	General Dynamics - Sterling Heights ,MI						25500	1-2Q	9500	1-2Q	Cont.	Cont.	
Integration of B-Kit into Bradley Fighting Vehicle System	CPFF	BAE - Santa Clara, CA						23900	1-2Q	9500	1-2Q	Cont.	Cont.	
Integration of B-Kit into High Mobility Multi Wheeled Vehicle (HMMWV)	MIPR	TARDEC - Warren, MI						1400	1-2Q	700	1-2Q	Cont.	Cont.	
Subtotal:								50800		19700		Cont.	Cont.	
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
System Support	MIPR	Various						4496	1-3Q	4842	1-3Q	Cont.	Cont.	
Subtotal:								4496		4842		Cont.	Cont.	
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Testing of Current Force Platforms	MIPR	Various						9500	1-3Q	7900	1-3Q	Cont.	Cont.	
Subtotal:								9500		7900		Cont.	Cont.	
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract

# ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY <b>5 - System Development and Demonstration</b>	PE NUMBER AND TITLE <b>0604666A - Modular Brigade Enhancement</b>								PROJECT <b>FC7</b>			
Subtotal:												
<b>Project Total Cost:</b>						64796		32442		Cont.	Cont.	

# Schedule Profile (R4 Exhibit)

February 2007

BUDGET ACTIVITY  
**5 - System Development and Demonstration**

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PROJECT  
**FC7**

Event Name	FY 06				FY 07				FY 08				FY 09				FY 10				FY 11				FY 12				FY 13			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
(1) A-Kit Critical Design Review																																
(2) Technical Field Test																													TFT 			
(3) Force Development Testing and Experimentation																													FDTE 			
(4) Limited User Test																													LUT 			
(5) Milestone C																													MS C 			
Initial Operational Test and Evaluation																													IOTE 			
(6) First Unit Equipped	FUE 																															
Fielding	Fielding 																															

**Schedule Detail (R4a Exhibit)**

**February 2007**

BUDGET ACTIVITY  
**5 - System Development and Demonstration**

PE NUMBER AND TITLE  
**0604666A - Modular Brigade Enhancement**

PROJECT  
**FC7**

<u>Schedule Detail</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>
A-Kit PDR	4Q							
A-Kit Critical Design Review		1Q						
Technical Field Test			2Q					
Force Development Testing and Experimentation			3Q					
Limited User Test			3Q					
Milestone C				2Q				
Initial Operational Test and Evaluation						1Q - 2Q		
First Unit Equipped						3Q		
Fielding							2Q - 4Q	1Q - 4Q