

# 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>0604661A - FCS Systems of Systems Engr &amp; Program Mgmt</b>							<b>FC2</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
FC2 FCS SYSTEM OF SYSTEMS ENGR & PROGRAM MGMT			1589466	1407410	1888349	1929853	1299062	1034307	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 PE includes government and contractor efforts and analysis associated with System of Systems (SoS) engineering analysis and integration, Contractor Logistics, Contractor Training, Government SoS test, evaluation and analysis, Contractor SoS Test, evaluation, and analysis and contractor and government program management. This project includes support to other DOD agencies for joint programs and collaboration efforts with Future Combat System (FCS) and associated Complementary Programs.

Major program milestones include the FCS Maturity Reviews and FCS Design Reviews. FCS Maturity Reviews provide program-level System of Systems (SoS) synchronization through the review of each system's critical requirements. These reviews, held approximately once per year, provide status of the phased Engineering, Integration and Verification progress. FCS Design Reviews monitor the design maturity of the FCS system leading to the FY13 Milestone C decision. To address the overall FCS design impact to include Spin-Out technologies, an incremental design review approach based on DoD 5000 principles for Spin Out development has been adopted. The Incremental SoS level Design Reviews provide an early design assessment of the spin out FCS Systems and focus on the FCS design impacts associated with these systems. The Incremental SoS level Design Reviews are included in the FCS Maturity Review process. The following is a summarized list of these key program reviews:

The System of System (SoS) level Functional Reviews (SFR) was conducted in Aug 2005. This was followed by the System level SFRs for each platform, that reviewed the resulting SoSFR requirements to determine if all the requirements were met by the individual platform. The role up of these System level Functional Reviews will occur at the Engineering Maturity Review (Aug 07), where the SoS requirements will be once again reviewed for completeness. After the completion of this review, the development of the system level Preliminary Design Reviews (PDR) will begin, which will culminate in the SoSPDR scheduled for Feb 09. After the completion of the PDR, design work will continue with more detailed results to be exhibited in the SoS Concept Design Review (CDR), scheduled for Feb 2011.

The following summarizes the various subcomponents of SoS Engineering Program Management Project.

SoS Engineering - Conduct SoS reviews, top level trade studies, and architectural design of the SoS including requirements decomposition, requirements flow down, development of specifications, interface definitions, configuration management oversight, specialty engineering, and the analysis and verification of integrated force effectiveness.

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

**February 2007**

BUDGET ACTIVITY <b>5 - System Development and Demonstration</b>	PE NUMBER AND TITLE <b>0604661A - FCS Systems of Systems Engr &amp; Program Mgmt</b>	PROJECT <b>FC2</b>
--	---	-----------------------

Program Management - The development of processes, tools, meetings, Earned Value Management (EVM), Risk, software, etc used to manage the total program ( to include subcontractors/Partners) to achieve the SoS program goals within the available dollars and schedules.

SoS Test and Evaluation - Includes contractor and Government test and analysis to ensure SoS performance is achieved or exceeds system requirements. The results of the SoS test is validation of the SoS specifications and verifying that the specifications meet the Operations Requirement Document (ORD) and operational and organizational requirements.

Logistics and Sustainment. The logistics effort includes the development of the "factory to foxhole" products, and services required to design, develop, assemble, integrate, and test the supportability processes. Validate maneuver sustainment, Production Based Logistics (PBL), and other applicable logistics support concepts during SoS Test and SoSIL simulations. Assure that sensor collection of data for logistics decision support system software is adequate to support logistics modeling verification and validation efforts. Maximize commonality of hardware and software within the FCS program to reduce the Lifecycle costs and logistical footprint of the FCS. Logistics Management Product Integration - Provides integration of supportability products into the SoS elements, including diagnostics and prognostics functions and conducts logistics technical reviews at the system, vehicle, and component levels. Logistics Fielding includes development of the process for deploying vehicles to home base locations. Increased Reliability Availability Maintainability Test (RAM-T) goals and implementing a Performance Based Logistics (PBL) support concept through extensive up front systems engineering efforts will result in increased Operational Availability and significant decreases in both parts and maintenance personnel while generating increased combat power. The time required to execute a repair is significantly decreased through implementation of Pit-Stop Engineering designs for maintenance, easing both crew and maintainer burdens.

Training Support- Training includes contractor analysis to support training for the SoS. This effort includes the design and development, engineering, integration, embedded training, and testing of unique training devices, training systems engineering, training products, training support packages, and training integration. This mission assures that the training system is designed as an integral part of the overall SoS design to meet Increment 1 requirements and provides for future increment upgrades.

Government Support Costs - Includes funding for government personnel to include labor, travel, training, supplies, and other support costs (support contractors, Automated Data Processing (ADP), communications, supplies, and equipment). Supports other services for Joint Programs, Multinational Project Arrangements, and collaborative efforts. Includes the procurement of Government Furnished Equipment/Items/Data (GFX) for the LSI. GFX is used when procurement through the government is less expensive than through the LSI. GFX is used when procurement through the Government is less expensive than through the LSI.

Beginning in FY08, this PE now includes all engineering support efforts to include logistics and training to provide a complete System Engineering of the FCS program.

<b><u>Accomplishments/Planned Program:</u></b>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
GOVERNMENT - SYSTEM ENGINEERING & PROGRAM MANAGEMENT (SEPM) FY08 - 09 Objectives: SoS Engineering - Participate and ensure the government's best interest/value are considered in the following: SoS reviews, trade studies, architectural management, requirements decomposition, requirements flow down, development of specifications, interface definitions, configuration management oversight, specialty engineering, and the analysis and verification of integrated force effectiveness, Software Management, Risk Management, Modeling and Simulation Management, Performance Assurance Management, Integration & Verification Management, Technology Management and Experimentation. PM - Provide integrated program management (i.e. planning, directing,			128331	135127

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

**February 2007**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
<b>5 - System Development and Demonstration</b>	<b>0604661A - FCS Systems of Systems Engr &amp; Program Mgmt</b>	<b>FC2</b>
tools and controlling functions, for all development activities, including data and supplier management, program control, procurement and contracts management, operations management, Congressional title 10 oversight, cost analysis and management, Budget development, justification and tracking, Earned Value Management, integrated master schedule development and management, Complementary Program management and operations management associated with the LSI overarching management of the FAR		
GOVERNMENT - SYSTEM TEST & EVALUATION (STE)-FY08-09 Objectives:Defense Research Engineering Network (DREN) Connectivity: Funding for connectivity (point-of-service fees and hardware purchases) of SoSIL nodes to the (DREN). AMMUNITION: Procurements includes ammunition to support firing fixture testing and integration testing including with NLOS-C testing. ATEC Test Integration Network (ATIN): Development of the ATIN providing intra-range and inter-range connectivity between all ATEC test centers and the SoSIL distributed network. Threat Systems/Simulators and Test Targets: Funds PM-ITTS to develop and procure threat systems and simulators and test targets in support of FCS test. INFRASTRUCTURE: Development of the SoSIL nodes at the White Sands Missile Range and at the APG for local integration efforts of FCS variants. MODELING AND SIMULATION FOR TEST: The development of test tools to analyze results from Force-on-Force simulations, integrated spectral terrains for FCS applications, Digital Collection, Analysis and Review (DCARS), Test Conduct and Reporting System (TCARS), and Role Player Work Station (RPWS). FCS Unique Instrumentation: The development and implementation of FCS unique instrumentation (Advanced Passive Armor Test Capabilities, Precision Engagement Instrumentation, enhancements to meet E3 specification, and telemetry expansions) which will bridge critical instrumentation shortfalls at ATEC ranges. Test Range Support (Test Execution at Army Test Ranges): Specialty testing to include initial nuclear radiation (INR) survivability testing of MGV components and CBRN coupon material testing, MCS gun qualification and AHS compatibility testing, NLOS-C and NLOS-M compartmentation testing, NLOS-C cannon pre-fatigue testing, cannon breech cooling testing, and laser ignition testing, co-site and sensor performance testing, UGV ANS testing, co-site, and sensor performance, and NLOS-C and MCS lethality testing will be conducted		
GOVERNMENT - MODELING & SIMULATION (M&S ) FY08- Release Build 2.0 (FQT'd). Complete Build 2.5 RAR, ADR and ISM Reviews. Provide Engineering Release Build 2.5. Complete IV2 Lab Setup. Complete Test Harness for SO2. Complete IV2 & SO2 Test Documents. Detailed planning for JEFX 08. Integration facility design and build up. Software/hardware development and integration. Completion of JEFX 08 hardware/software integration. Complete build and check-out of JEFX 08 surrogate vehicles. Execution of JEFX 08 SpinOuts. Initial planning and proposal development for JEFX 10.		
GOVERNMENT OTHER & GFX - Government support for the following: FY08/09 - FCS Training Common Components (TCC) - Continue Technical Management Integration support to the Training IPT throughout the development of the Training Common components (TCC) effort between PEO STRI and PM FCS (BCT).		
CONTRACTOR SEPM - Implement the process, models, tools and management structure to integrate all subcontractor partners into one team, to meet cost, schedules, and technical performance requirements in the contract. This includes program overview, demonstration, Earned Value Management, briefings, Demos, reports, meetings to support Program, risk management, subcontract management, Small and Minority Business Integration, data management, operation management, contract management, Procurement, Acquisition Management, SDD Affordability/CAIV/ Life Cycle Management, development of program baseline and Integrated Master Schedule Development. FY06 accomplishments include: SEPM plans for FY07 include upgrade to the Single Integrated Model V4.0, SoSADD release, SoS Operational Views update, Engineering Iteration 1 SoS Design, EA1 Readiness Anchor Point, EI1 Assessment Anchor Point. Integration Planning readiness assessment and Experiment 1.1 report to be released. BCT Single Integrated Model V4.0 Updated or Released. Architectural Single Integrated Model Version 3 updated. Automatic Data Processing updated. SoSADD Release. SoS Operational Views updated. EI1 FCS UA SoS Design. EI1 Engineering Iteration Readiness Anchor Point (EI1RAP). EI1 Engineering Iteration Assessment & Assessment Anchor Point (EI1AAP). IV1 Planning readiness assessment. Experiment 1.1 report released.		

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

**February 2007**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
<b>5 - System Development and Demonstration</b>	<b>0604661A - FCS Systems of Systems Engr &amp; Program Mgmt</b>	<b>FC2</b>
CONTRACTOR SYSTEM REQUIREMENTS & INTEGRATION - FY08-Execute the SoS Engineering Maturity Review #1, Integration Phase 1 Assessment Anchor Point, Integrated Phase 2 Engineering Integration Planning Anchor Point as well as the SW Build 2 Planning Checkpoint and the Integration Phase 3 Definition Anchor Point. In support of these review, continuing development and maturation of the SoS Architecture with a release of the Single Integrated Model v4.x. Update and maintain the program technical baseline consisting of releasing the next version of the SoS Specification and Prime Item Development Specifications. Manage the execution of the System Level Preliminary Design Reviews. Integration and Verification Phase 1 execution consisting of integrating SW build 2, SoSCOE and Prime Item models and simulations into the program SILs and executing the Integrated Mission Test. During the IV1 execution, data gathering, reduction and assessment will be conducted. Additionally, planning for IV Phase 2 begins in FY08 with the maintainence and update of the SoS Integration Plan. Experiment 2.1 execution occurs in 2008 culminating in the completion and publication of the Assessment Report. Planning and execution of Experiment 3.0 commences. Update the Integrated Analysis Plan and execute assessments in the areas of areas of KPP achievability, MANRPINT, Manpower Estimate, Human Systems Integration, Safety and force effectiveness for SoS PDR. Safety Assessment and MANPRINT analysis reports completed and released for SO1 (FDT&E, TFT, LUT), IMT1 and Experiment 2.1. An update of the Programmatic NEPA Assessment and a Programmatic ESOH Evaluation will be completed. Update, maintain and release the Design Concept Baseline and release the System of Systems/System Design Description (SSDD).	400035	332012
CONTRACTOR SYSTEM REQUIREMENTS & INTEGRATION -FY09- Execute the SoS Preliminary Design Review and Integrated Phase 2 Engineering Integration Readiness Anchor Point as well as the SW Build 2 Readiness Checkpoint. In support of these review, continuing development and maturation of the SoS Architecture with a release of the Single Integrated Models v5.0 and 5.x. Update and maintain the program technical baseline consisting of releasing the next version of the SoS Specification and Prime Item Development Specifications. Manage the execution of the System Level Preliminary Design Reviews. Integration and Verification Phase 1 completion via the conclusion of the Integrated Mission Test 1. IMT1 data gathering, reduction and assessment will be conducted as well as development and publication of the final report. Execution of Integration Phase 3 consisting of integrating SW build 2, SoSCOE and Prime Item models and simulations into the program SILs in preparation for executing the Integrated Mission Test 2 in FY10. Experiment 3.0 execution occurs in 2009 finishing in 2010. The SoS Integration Plan is updated for IP2 and IP3. Update the Integrated Analysis Plan and execute assessments in the areas of areas of KPP achievability, MANRPINT, Manpower Estimate, Human Systems Integration, Safety and force effectiveness for SoS PDR. Safety Assessment and MANPRINT analysis reports Experiment 3.0. An update of the Programmatic NEPA Assessment and a Programmatic ESOH Evaluation will be completed. Update, maintain and release the Design Concept Baseline and release the System of Systems/System Design Description (SSDD).		
CONTRACTOR TRAINING SPECS - FY08: Begin Delivery of individual and collective Training Support Plans (1,500+). Continue training inputs and support to FCS Systems PDRs & CDRs (18 +1+1 systems). Continue Key Performance Parameter (KPP) #6 (Training) trace, development, and execution. Continue integration of Training software with Warfighter Machine Interface (WMI). Complete Training Support to SO1 Tech Field Test/Limited User Test-April 2008. Complete Training Support to Integrated Mission Test 1 (IMT-1) - Sep 2008. Complete Training Support to SoS Preliminary Design Review - Sep 2008. Provide Training Support to prepare for SoS Capability Maturity Review 1/ICDR - Nov 2008. Training Systems Specs FY09: Continue training inputs and support to FCS Systems PDRs & CDRs (18 +1+1 systems). Continue Key Performance Parameter (KPP) #6 (Training) trace, development, and execution. Continue integration of Training software with Warfighter Machine Interface (WMI). Complete Training support to SoS Capability Maturity Review 1/ICDR - Nov 2008.	13087	18560
CONTRACTOR TRAINING PRODUCTS - FY08 - TRAINING PRODUCTS: Training (Instructional) Support Packages (TSPs). Interactive Multi-media Instruction (IMI). Training Aids and Devices, Simulations and Simulators (TADSSs). Update and Deliver: Training Management Plan, Training Data Products Report, Training Support Packages, Training Facilities Survey Report. Continue	101490	92820

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

**February 2007**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
<b>5 - System Development and Demonstration</b>	<b>0604661A - FCS Systems of Systems Engr &amp; Program Mgmt</b>	<b>FC2</b>
Delivery of individual and collective Training Support Packages (1,500+). Training (Instructional) Support Packages (TSPs). Interactive Multi-media Instruction (IMI). Training Aids and Devices, Simulations and Simulators (TADSSs). Update and Deliver: Training Management Plan, Training Data Products Report, Training Support Packages, Training Facilities Survey Report		
CONTRACTOR LOGISTICS SYSTEM MANAGEMENT - Sustainment FY08. Continue to provide gap analysis for ORD items. Provide Life Cycle Cost Impacts Conduct and provide Logistics Footprint Analysis. Provide assessments for KPP4, KPP5 and KART input. Update the Material Fielding Plan, the PBL implementation plan, the Supportability Strategy, and the M&S models. Continue PDR quality maturation of platform Sustainment and Transportation specifications. Continue the maturation of the Sustainment Architecture and its integration with all FCS platforms.IETM Specification updated (DP049). Spin Out 1 Logistics Demonstration completed. Final delivery of FCS Spin Out 1 IETMs. Develop operability (I/O) Kit ICD's. Support test and spin out activities at Fort Bliss. Conduct ILS and KPP Assessments for platform PDR's and CDR's. Begin issuing of MGV Initial Production prototypes (NLOS-C) to the EBCT. Begin fielding of Spin Out 1 FCS core, FCS Complementary Programs and LRR Logistics Products (SoSCOE, ICS, UGS, IMS, NLOS-LS, HMMWV, FMTV) to the EBCT. FY09 LOGISTICS - EI2 - Supportability Plan Update Documented SO 3 Requirements Approved. SO 2 Specifications Baselined. Systems Architecture Documented. SoS Specification Updated. PIDS to CSCI Interfaces Documented. Complete IETM Spec Development (EI2), LDMS EI2 Milestones. Develop Supportability Strategy for SO 2. CP Assessments (KPP4, KPP5 - PDR/CDR). Analyze Unit Equipping Plans. IO Kit CDR. SO 2 FPSIM Validation. SO 1 Testing of PS-MRS/LDSS.		43445      41656
CONTRACTOR SoS TEST - FY08 SoS Test - IP1. SO 1. Complete Test Readiness Review for TFT. Conduct Technical Field Test. Support Force Development Testing/Experimentation. Support Limited User Test. Delivery TFT Final Report. IMT 1. Conduct Test Participant Training. Complete IMT Test Readiness Review. Complete Test Runs for Record Perform Assessment of Test Results. Complete IP2 IPTP. IV 2 TFT - Develop Draft IV2 TFT Detailed Test Plan. Deliver Test Resources Requirements Document. IV2 IMT. Develop IV2 IMT Detailed Test Plan. Deliver Test Resources Requirements Document. Complete LSI Input to FCS TEMP in prep for PM Update for FCS SoS PDR. Complete Interim Update to ITEP. FY09 TEST - FY 09 Planned Accomplishments (IS&T) SoS Test. IP2. IMT2. Complete IMT2 Detailed Test Plan. Develop IMT2 Master Procedures Set. Prepare the Test Infrastructure (HW, SW, Participants, Facilities). Integrate and Initiate Execution of IMT 2 TFT2. Complete TFT2 Detailed Test Plan. Develop TFT2 Master Test Procedures Set. Prepare the TFT2 Test Infrastructure (HW, SW, Participants, Facilities , Ranges). IP3 early planning to support SSEI development of IP3 IPP. Complete Update to ITEP supports CR changes to FCS program. Support CTO & T&E WIPT issues resolution resulting from FCS TEMP update approval end of FY08. Support JEFX 08 in conjunction with Experiment 2.		52442      43208
CONTRACTOR FEE - This includes both the LSI incentive and fixed fee.		362955      324060
<b>Total</b>		<b>1589466      1407410</b>

# 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>0604661A - FCS Systems of Systems Engr &amp; Program Mgmt</b>				<b>FC2</b>
<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)			1589466	1407410	
Total Adjustments			1589466	1407410	
Congressional Program Reductions					
Congressional Recissions					
Congressional Increases					
Reprogrammings					
SBIR/STTR Transfer					
Adjustments to Budget Years			1589466	1407410	

Change Summary Explanation: 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 (0604661A Project FC3) for Sys Eng & Prog Mgt SDD efforts.

This budget request is a continuation of the previous SDD efforts funded in FY07 under Program Element 0604645A Project F61; therefore, this budget request should not be construed as a new start program nor should it be constrained by "new start" program requirements and funding allocation (i.e. CRA) restrictions.

<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 MGV Manned Ground 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	98189	71906	43531	28971		Continuing	Continuing
0604666A FCS Spin Outs			64796	32442	65000	50000	50000	10000	Continuing	Continuing

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

February 2007

BUDGET ACTIVITY	PE NUMBER AND TITLE							PROJECT		
5 - System Development and Demonstration	0604661A - FCS Systems of Systems Engr & Program Mgmt							FC2		
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
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** Fiscally constrained Budgets, coupled with the fiscal challenge to meet the Army's reset and modernization requirements, have caused the Army to implement FCS program adjustments. These adjustments maintain the Army's focus on FCS-equipped Brigade Combat Team development and minimize the efforts on operational requirements. The adjustments to the FCS Program acquisition strategy fall into the following categories:

1. Defer the following platforms from the FCS(BCT): ARV-A, ARV-RSTA, UAV Class II, UAV Class III
2. Refine the schedules for the development of the Core and Spin Out capabilities so that the Army can benefit from the savings realized with concurrent testing.
3. Increase the rate of fielding of FCS technologies to the current force.
4. Fully fund the Spin Out technology Insertion program and development and fielding of the Mid-Range Munitions (MRM) and Advanced Kinetic Energy (AKE) munitions.
5. Revise platform configurations to decrease the production cost of a single Core FCS BCT from \$6.2 billion to \$5.9 billion (FY03 Constant dollars) by deferring/deleting selected sensors and other associate hardware (such as the XM307 machine gun).

The following is a history of the LSI SDD Contract.

	Contract Award	Definitization Date
Original Contract Award	30 May 2003	10 Dec 2003
Modified for POM 06-11 Changes	6 Aug 2004	2 Mar 2005
Conversion to FAR Base Contract	23 Sep 2005	28 Mar 2006
Modification for POM 8-13 Adjustments	Feb 2007	May 2007

The R forms are based on estimated effects of the Army adjustment. Upon completion of negotiation of the contract modification, caused by this adjustment, reprogramming actions may be required to realign the funding buckets to the contract.

**ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)****February 2007**

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

**5 - System Development and Demonstration****0604661A - FCS Systems of Systems Engr & Program Mgmt****FC2**

Termination Liability associated with this contract is included in PE 060461A Project FC2.

IAW Section 214 of the FY2006 National Defense Authorization Act, this project was converted to a stand alone Program Element (0604662A Project FC3) commencing with the FY2008 President's Budget submission to Congress.

# ARMY RDT&E COST ANALYSIS (R3)

February 2007

BUDGET ACTIVITY <b>5 - System Development and Demonstration</b>			PE NUMBER AND TITLE <b>0604661A - FCS Systems of Systems Engr &amp; Program Mgmt</b>									PROJECT <b>FC2</b>		
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
Contractor SEPM	FAR	The Boeing Company-ST. LOUIS, MO, see remark 4						149665	1-3Q	94778	1-3Q		244443	
Contractor System Requirements and Integration	FAR	The Boeing Company-ST. LOUIS, MO, see remark 4						352461	1-3Q	288511	1-3Q		640972	
Contractor Training Specifications	FAR	The Boeing Company-ST. LOUIS, MO, see remarks 1-3						11530	1-3Q	16128	1-3Q		27658	
Contractor Training Products	FAR	The Boeing Company-ST. LOUIS, MO, see remarks 1-3						89420	1-3Q	80658	1-3Q		170078	
Contractor Logistics System Mgt.	FAR	The Boeing Company-ST. LOUIS, MO						38278	1-3Q	36198	1-3Q		74476	
Contract Fee	FAR	The Boeing Company-ST. LOUIS, MO						339435	1-3Q	302806	1-3Q		642241	
Subtotal:								980789		819079			1799868	

Remarks: Remark 1: Subcontractor: Computer Science Corp. Federal Sector Defense Group, Fsls Church,VA.  
 Remark 2: Subcontractor: Dynamics Research Corp. Systems Division, Andover, MD.  
 Remark 3: Subcontractor: Northrop Grumman, Info Tech, Def Enterprise Solutions Div, Mclean,VA.  
 Remark 4: Subcontractor: SAIC Corp., San Diego,CA

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
Government SEPM	Direct	PM FCS(BCT) - St Louis, MO						128331	1-3Q	135127	1-3Q		263458	
Government Other and GFX	Direct	PM FCS(BCT) - St Louis, MO						151238		142613			293851	
Government Statutory Reductions	Direct	OSD						116325	1Q	104758	1Q		221083	

ARMY RDT&E COST ANALYSIS (R3)											February 2007				
BUDGET ACTIVITY				PE NUMBER AND TITLE								PROJECT			
<b>5 - System Development and Demonstration</b>				<b>0604661A - FCS Systems of Systems Engr &amp; Program Mgmt</b>								<b>FC2</b>			
Subtotal:										395894		382498			778392
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	
Contractor - SoS Test	FAR	The Boeing Company - St. Louis,MO						46205	1-3Q	37547	1-3Q		83752		
Government STE, see remarks 1-6	Direct	PM FCS(BCT), St. Louis, MO						156365	1-3Q	156603	1-3Q		312968		
Government Modeling & Simulation	Direct	PM FCS(BCT), St. Louis, MO						10213	1-3Q	11683	1-3Q		21896		
Subtotal:								212783		205833			418616		
Remarks: Remark 1:Subcontractor, Whitman, Requardt & Assoc, Baltimore, MD; 2: John C. Grimberg Co., Rockville, MD 3: ADT Corp, Baltimore, MD 4. Netversant Co., Baltimore, MD 5. 3D Research, Huntsville, AL 6. Jacobs/Sverdrup, Aberdeen, MD															
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	
Subtotal:															
<b>Project Total Cost:</b>								<b>1589466</b>		<b>1407410</b>			<b>2996876</b>		



# Schedule Detail (R4a Exhibit)

February 2007

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

PE NUMBER AND TITLE  
**0604661A - FCS Systems of Systems Engr & Program Mgmt**

PROJECT  
**FC2**

<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>
FCS SoS Critical Reviews				2Q				
						2Q		
FCS SoS Integration / Verification Phase 1	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 2Q				
FCS SoS Test - Phase 1			3Q - 4Q	1Q				
FCS SoS Integration / Verification Phase 2		1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 2Q		
FCS SoS Test - Phase 2					2Q - 4Q			
FCS SoS Integration / Verification Phase 3			2Q - 4Q	1Q - 2Q				
FCS SoS Test - Phase 3							1Q - 4Q	1Q
FCS SoS Integration / Verification Phase 4					2Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q
FCS SoS Test - Phase 4								4Q

<b>Termination Liability Funding For Major Defense Acquisition Programs, RDT&amp;E Funding (R5)</b>	<b>February 2007</b>
---	----------------------

BUDGET ACTIVITY <b>5 - System Development and Demonstration</b>	PE NUMBER AND TITLE <b>0604661A - FCS Systems of Systems Engr &amp; Program Mgmt</b>	PROJECT <b>FC2</b>
--	---	-----------------------

Funding in \$000								
Program	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Other Termination			499400	466200	449700	393000	267100	172300
Special Termination			427600	415800	387500	352700	272200	176400
<b>Total Termination Liability Funding:</b>			927000	882000	837200	745700	539300	348700

**Remarks:**  
The SDD Contract contains FAR 52.232-22, Limitation of Funds, and FAR 52.249-6, Termination (Cost-Reimbursement) clauses to define allowable termination costs. The above costs are estimated to cover contract performance and termination liability incurred. Special Termination Cost (STC) clause is approved and included in LSI's FAR contract. STC are not included in the program budget. If the contract is terminated, the government will pay for the following prime and subcontractor costs:

- Severance Pay, as provided in FAR 31.205-6(g)
- Reasonable costs continuing after termination, as provided in FAR 31.205-42(b)
- Settlement of expenses, as provided in FAR 31.205-42(g), and
- Costs of return of field service personnel from sites, as provided in FAR 31.205-35 and FAR 31.205-46(c)

Other termination is currently not covered by the Government. Therefore, due to Limitation of Funds clause in the FAR, the LSI must retain funding to cover the full other termination costs in case of termination. Those costs governed by FAR part 31 include prime and subcontractor costs for:

- Allowable Fee
- Cost incurred, but not billed to the FAR contract
- Non-cancelable commitments
- Unexpired leases
- Alteration/restorations required by leases
- Loss of useful value of capital property

Full termination liability is a combination of the above Special Termination Cost and Other Termination Costs.