

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

BUDGET ACTIVITY 5 - System Development and Demonstration		PE NUMBER AND TITLE 0604661A - FCS Systems of Systems Engr & Program Mgmt						PROJECT FC2	
COST (In Thousands)	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		1497321	1413945	1874987	1916207	1290308	1027816	Continuing	Continuing

A. Mission Description and Budget Item Justification: The Army's Future Combat System Brigade Combat Team (FCS BCT) is comprised of 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. 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. FCS is not just an acquisition program. It is a new way of fighting. The FCS BCT will be composed of more infantry forces than the current Heavy Brigade Combat Team (HBCT), cover more ground, and be able to sustain itself for longer periods of time. FCS is networked via C4ISR architecture, called Battle Command Network (BCN) that includes networked communications, network operations, sensors, battle command systems, and manned and unmanned reconnaissance and surveillance capabilities to enable levels of situational understanding and synchronized operations heretofore unachievable. The FCS network consists of five layers (Standards, Transport, Services, Applications, and Sensors and Platforms) that, when combined, provide seamless delivery of data, information and knowledge. The integration of all five layers is necessary to provide revolutionary battle command (i.e. greater situational awareness, sensor fusion, battlefield analysis, networked fires); transforming our ground forces ability to remain the dominant land power. The FCS BCT is the centerpiece of the Army's Modernization Program.

This PE includes contractor efforts and analysis associated with System of System (SoS) engineering analysis and integration, logistics, training, SoS test, fee, and program business management. This project also includes the following government costs - Title 10 contract oversight, SoS engineering, SoS test, modeling and simulation, government furnished equipment, and program management. This project includes support to other DOD agencies for joint programs and collaboration efforts with FCS and associated Complementary Programs.

Major program milestones include the FCS Maturity Reviews and FCS Design Reviews. FCS Maturity Reviews provide program-level SoS synchronization through the review of each system's critical requirements. These reviews, held approximately once per year, review each system capabilities and then look at all of the systems combined into a System of Systems to ensure that all KPP's are achieved along with the modernizing the remaining requirement within the program schedule, at Life Cycle Cost. In other words, each of these reviews attempt to measure the progress of all the designs put together and if the results are achieving the desired requirements. 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 SoS level Functional Review (SoSFR) was conducted in Aug 2005. This was followed by the System level Functional Reviews (SFRs) for each platform, which reviewed the resulting SoSFR requirements to determine if all the requirements were met by the individual platforms. The roll up of these SFRs occurred at the Engineering Maturity Review (Oct 07), where the SoS requirements were 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 April 09. After the completion of the PDR, design work will continue with more detailed results to be exhibited in the SoS Critical Design Review (CDR), scheduled for April 2011.

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

Contractor Program Management - The development of processes, tools, meetings, Earned Value Management (EVM), Risk, software, etc used to manage the total program (to include over 600 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. The result of the SoS tests is validation of the SoS specifications and verifying that the specifications meet the Operations Requirement Document (ORD) and operational and organizational requirements. FCS employs a test once and shares the data philosophy to reduce cost by not duplicating efforts between Contractor and Government agencies.

Contractor Logistics includes the development of the "factory to foxhole" products and services required to design, develop, assemble, integrate, and test the supportability processes. This includes: validating maneuver logistics; Production Based Logistics (PBL), ensuring that sensor data collection for logistics decision support system software is adequate to support logistics modeling verification and validation efforts; maximizing commonality of hardware and software within the FCS program to reduce the lifecycle costs and logistical footprint of the FCS; 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; development of the process for deploying vehicles to home base locations; increased Reliability Availability Maintainability Test (RAM-T) goals; and Pit-Stop Engineering designs for maintenance.

Training Support- Includes contractor analysis to support SoS training. 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 program requirements.

Government Support Costs - Includes funding for government personnel for 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.

Beginning in FY08, this PE now includes engineering support efforts to include logistics and training to provide a complete System Engineering of the FCS program. Networks was broken out of SoS engineering into a unique PE to give greater visibility into this important effort.

Accomplishments/Planned Program:

FY 2007

FY 2008

FY 2009

IAW Section 214 of the FY2006 National Defense Authorization Act, this Program Element was established commencing with FY2008 President's Budget request. This Program Element replaced the previous Project F57 under the Armored System Modernization Program Element 0604645A. The major FY2007 program accomplishments for that project are described below to show continuity of the development efforts.

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GOVERNMENT - SYSTEM ENGINEERING & PROGRAM MANAGEMENT (SEPM) FY08 - Objectives: SoS Engineering - Participate and ensure the government's best interest/values 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 Provided integrated program management (i.e. planning, directing, tools and controlling functions), for all development activities, including data and supplier management, program control, procurement and contracts management, operations management and SO salaries. 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.		131941	
GOVERNMENT - SYSTEM ENGINEERING & PROGRAM MANAGEMENT (SEPM) - FY09 - Objectives: SoS Engineering - Participate and ensure the government's best interest/values 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 Provided integrated program management (i.e. planning, directing, tools and controlling functions), for all development activities, including data and supplier management, program control, procurement and contracts management, operations management including SO salaries. 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.			135899
GOVERNMENT - SYSTEM TEST & EVALUATION (STE) FY08 - Continue to fund and support MGCV, UAS, UGV, and C4ISR testing at ATEC test centers. MGCV testing will focus on the NLOS-C and NLOS-M firing test rigs and the continuation of antenna placement testing in support of C2V and RSV development. Continues funding of CBRN materials testing at Dugway Proving Ground initiated in FY08. Initiates LCAR developmental testing. Supports MCS armament proof and safety testing. Automotive testing of the MGCV early prototypes will be initiated (\$20M). Initiates the MGCV common Ballistic Hull and Turret survivability testing. Completes developmental testing of the Full Spectrum Hit Avoidance System. Provides ATEC range support for the LSI C4IT field test events. Provides funds for ATEC range support for Class 1 UAV experiment flight test. DREN connectivity between the LSI and OTP SILs. ATEC will again provide 25 MY SME support to the LSI and surge engineering support as required. Funds the development and modifications of modeling and simulation test tools for future test events. These tools include test event design tools as well as test data collection capabilities. Additionally, these tools include stimulators and data collection and analysis tools used to test FCS systems during IP2 field events. Funds the operational and maintenance costs of the Common Control Nodes and WSMR and APG. These facilities are program test facilities used in support of system of system tests events.		111269	
GOVERNMENT - SYSTEM TEST & EVALUATION (STE) FY09 - Continue to fund and support MGCV, UAS, UGV, and C4ISR testing at ATEC test centers. MGCV testing will focus on the NLOS-C and NLOS-M firing test rigs and the continuation of antenna placement testing in support of C2V and RSV development. Automotive testing of the MGCV early prototypes will be initiated. DREN connectivity between the LSI and OTP SILs will continue. ATEC will again provide 25 MY SME support to the LSI and surge engineering support as required. Funds the development and modifications of modeling and simulation test tools for future test events. These tools include test event design tools as well as test data collection capabilities. Additionally these tools include stimulators used to test FCS systems. Funds			157498

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the operational and maintenance costs of the Common Control Nodes and WSMR and APG. These facilities are program test facilities used in support of system of system tests events.			
GOVERNMENT - MODELING & SIMULATION (M&S) FY08 - Continued development of Government models and simulations in support of the Future Combat Systems Synthetic Environment (FSE) which is integrated by the LSI. FSE is the simulation environment utilized in Integrated Mission Test 1. This development includes modifications to OOS as the core FSE simulation, the development of digital terrain databases, modifications to the RDECOM MATREX simulation federation, as well as the modifications of the OASES weather server. Funds the continued development of the 3CE Cross Command Distributed Network capabilities between FCS, ATEC, and RDECOM. This effort manages the use and reuse of individual command simulations to facilitate distributed integration and testing, thus reducing time and cost of material development and test. FY08 has funds the development of future simulations required for IP2 and IP3 Integrated Mission Tests. These simulations include the effects of communications in an urban environment as well as the inclusion of urban terrain into the FSE.		11140	
GOVERNMENT - MODELING & SIMULATION (M&S) FY09 - Continues funding of the Cross Command Collaboration Effort (3CE). Goals include the identification of requirements and design, develop, and integrate technologies and data related to user common areas of interest through FY13 that support FCS Program and user needs. Enables a multi-level secure network backbone; maintains a persistent and secure 3CE network (peering points); continues M&S systems process to develop common M&S and data architecture for IP2 and IP3. Support to IP2 laboratory events: Continues enhancements of the Communications Effects Server (CES) to support Quality of Service testing. Provides funding for FCS unique enhancements of OneSAF to support Tactical Network Gateway and FCS Battle Command. Other enhancements to OneSAF include the ability to aggregate unit command entities solely in the SAF thus allowing command and control at the Co and Bn levels. Continues the integration of representations of insurgents and the impact of urban terrain, building interiors, and competing urban radio frequencies into OneSAF and the CES.			11750
GOVERNMENT GFX - TRAINING Government GFX FY08 - PEO STRI SME Support: 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). FCS SME Oversight of TCC Software Architecture and Software development. Build 2 Drop 1 to FCS Training IPT and to LSI with initial embedded training functionality may be deferred due to multiple schedule pressures which would result in engineering releases vice FQT versions. TCC capabilities horizontally integrated across PEO STRI baseline program functionality. Government oversight of additional TCC construction. Government oversight of additional Live/Constructive Integration.		1564	
GOVERNMENT GFX - TRAINING Government GFX FY09 - 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). PEO STRI SME Support. FCS TCC Software Architecture and Software. Build 2 Drop 2 to FCS Training IPT and to LSI. Fully integrated TCCs, with application running as a single SOSCOE application. Tight coupling between CTIA, OneSAF, and OneTESS subcomponents for a seamless Live/Virtual/Constructive solution. Complete Live/Virtual/Constructive interoperability between Live and Constructive training capabilities for an integrated solution. Fully SOSCOE compliant.			1463
Government GFX Contract Requirements - Provide M2,MK19 and the M240 ammunition required for LSI testing. Support Model and SIM updates to support JEFX08 and Experiment 2.		5432	
Other Government Support - This cost element includes support of other Government offices that provide technical expertise (TRADOC,UAMBL,ARL,FFID, etc) to ensure that the FCS SoS solution set is the best for the soldiers requirements. This also include other technical supports contracts like Sandia Labs,FIST, MITRE, Software Steering Committee from University South California and University of Maryland which also reviews LSI software performance. logistics products, network requirements and capabilities. In		106770	140423

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addition to technical support, it also funds the development and implementation of inherently Government Logistic, Training data products. It includes all Electronic Hardware and software required for government personnel (Computers, Blackberry, software, internet and ACE software agreements).		
CONTRACTOR SEPM - CONTRACTOR PROGRAM MANAGEMENT FY08 - Implement processes, 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. SEPM plans for FY08, include upgrade to the Single Integrated Model V4.0, SoSADD release, SoS Operational Views update, BCT Single Integrated Model V4.0 Update or Release, Architectural Single Integrated Model Version 3 update, Automatic Data Processing update. Planned Program Events are as follows: Brigade combat Team (BCT) Long Lead Item Waiver, Integration Verification 1 Initial Readiness Review (IV1 IRR), Integration of Brigade Combat Team Software Integration Verification 1 Build 1 (BCT SW IV1 B1), Integration Verification 1 After Action Assessment Review (IV1 AAAR), Engineering Iteration 1 Assessment Anchor Point (EI1AAP), Engineering Iteration 2 Planning Anchor Point (EI2PAP), Engineering Iteration 3 Definition Anchor Point (EI3DAP), Start Integration Verification 1 Integrated Mission Tests 1 (IV1 IMT), Tactical Field Test _ Spin Out 1 (TFT _ SO1), Complete Experiment 2.0 and 2.1 (part of Joint Expeditionary Force Experiment _08), Start Experiment 3/JEFX _10, and release Brigade Combat Team Software Integration Verification 1 Build 1 (BCT SW IV1 B1).	180179	
CONTRACTOR SEPM - CONTRACTOR PROGRAM MANAGEMENT FY09 - Continue implementing the processes, 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. SEPM plans for FY09, include upgrade to the Single Integrated Model V4.0, SoSADD release, SoS Operational Views update, BCT Single Integrated Model V4.0 Update or Release, Architectural Single Integrated Model Version 3 update, Automatic Data Processing update. Planned Program Events are as follows: System of Systems Preliminary Design Review (SoS PDR), Spin Out 1 Milestone C (SO1 MS C), Capability Maturity 1 (CM1 ICDR (In-process Critical Design Review)), Engineering Iteration 2 Readiness Anchor Point (EI2RAP), Integration Verification 1 Assessment Complete (IV1 Assmnt Cmpl), Spin Out 1 Assessment Complete (SO1 Assmnt Cmpl), Integration Verification 2 Initial Readiness Review (IV2IRR), BCT SW Integration of Build 2 Final (B2 F), Continue to execute Experiment 3/JEFX _10, and Field Spin Out 1 to Current Force.		147828
CONTRACTOR SYSTEM REQUIREMENTS & INTEGRATION FY08 - Conducted 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 reviews, 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. Planning for execution of System Level Critical Design Reviews (CDR). Integration and Verification Phase 1 (IV1) 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 maintenance and update of the SoS Integration Plan. Experiment 2.1		448296

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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. Update the NEPA Assessment and complete ESOH Evaluation. Update, maintain and release the Design Concept Baseline and release the System of Systems/System Design Description (SSDD).		
CONTRACTOR SYSTEM REQUIREMENTS & INTEGRATION FY09 - Conduct the SoS Preliminary Design Review activities. Continuing development and maturation of the SoS Architecture. 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 of System Level Preliminary Design Review (SoS PDR). Develop requested test plan for Experiment 3.0 execution occurs in 2009 finishing in 2010. The SoS Integration Plan is updated for IP2 and IP3. Manage execution of System Level Critical Design Reviews (CDR). 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).		354137
CONTRACTOR TRAINING PRODUCTS FY08 - Training Systems Planned Accomplishments: Continue integration of Embedded Training software and products in the Training Systems Integration Lab (SIL). Continue integration of Training software with Warfighter Machine Interface (WMI) leading to FCS Engineering Iteration 2. Deliver Training Common Component Build 2 Drop 1 (at minimum, engineering releases). Begin Delivery of Training Support Packages (TSPs). Continue training inputs and support to System PDRs. Continue Key Performance Parameter (KPP) #6 (Training) trace, development, and execution. Complete Training Support to SO1 Tech Field Test/Limited User Test - Apr 08. Complete Training Support to Integrated Mission Test 1 (IMT-1) - Sep 08. Complete Training Support to SoS Preliminary Design Review .		64598
CONTRACTOR TRAINING PRODUCTS FY09 - 32 One Team Partners continue to develop Embedded Training capability and products for the FCS program, Experiment 3: Training (Instructional) Support Packages (TSPs), Interactive Multi-media Instruction (IMI), start design activities for Training Aids and Devices, Simulators and Simulations (TADSS), Embedded Training software. Deliver 4th increment of Training Common Components for FCS (ultimate reuse of 14.1 Million Govt. developed lines of code). Provide training inputs and support to FCS Systems CDRs. Continue Key Performance Parameter (KPP) #6 (Training) trace, development, and execution. Continue integration of Training software with Warfighter Machine Interface (WMI). Provide Training Support to prepare for SoS Capability Maturity Review 1/ICDR. Continue integrating embedded training software and products in Training Systems Integration Lab (SIL). Complete Training support to SoS Capability Maturity Review 1/ICDR.		97607
CONTRACTOR SoS TEST FY08 - Complete SO1 Test Readiness Review for TFT. Conduct Technical Field Test. Support Force Development Testing/Experimentation. Support Limited User Test. Delivery TFT Final Report. Development and conduct Test Participant Training in support of IMT1. Complete IMT Test Readiness Review. Complete IMT Test Runs for Record and assess 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. Support JEFX08 and FCS Experiment 2.		35979
CONTRACTOR SoS TEST FY09 - 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		41899

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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 JEFX10 and Experiment 3.			
Contractor - Small Business Technology Insertion - Per HAC-D FY08 Earmark, the LSI will contract with one or more Small Business entities to provide transformational technologies for high risk/high rewards component and technology development. Since this is a relatively new requirement, the government and the contractor are negotiating this SOW into the contract and the contractor is developing SOW to compete with small businesses to reduce program technological risk. Also includes LSI fee.		20000	
CONTRACTOR FEE - This includes both the LSI incentive, 7.5% and fixed fee, 7.5%.		338257	325441
Small Business Innovative Research/Small Business Technology Transfer Programs		41896	
Total		1497321	1413945

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<u>B. Program Change Summary</u>	FY 2007	FY 2008	FY 2009	
Previous President's Budget (FY 2008/2009)		1589466	1407410	
Current BES/President's Budget (FY 2009)		1497321	1413945	
Total Adjustments		-92145	6535	
Congressional Program Reductions		-102059		
Congressional Recissions		-10086		
Congressional Increases		20000		
Reprogrammings				
SBIR/STTR Transfer				
Adjustments to Budget Years			6535	

<u>C. Other Program Funding Summary</u>	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		592254	774257	785575	358641	214207	103230	Continuing	Continuing
0604661A FCS System of Systems Engr & Program Management		1497321	1413945	1874987	1916207	1290308	1027816	Continuing	Continuing
0604662A FCS Reconnaissance (UAV) Platforms		43388	34379	14296	9235	4556	1336	Continuing	Continuing
0604663A FCS Unmanned Ground Vehicles		90091	96918	64744	43601	26855	3580	Continuing	Continuing
0604664A FCS Unattended Ground Sensors		10929	12967	18968	16754			Continuing	Continuing
0604665A FCS Network Hardware & Software		647649	539145	334085	365287	290790	169526	Continuing	Continuing
0604646A Non Line of Sight - Launch System	313981	253075	200099	40043	5957			Continuing	Continuing
0604647A Non Line of Sight - Cannon	108689	136929	89841	71396	43222	28775		Continuing	Continuing
0604666A FCS Spin Outs	27900	64385	64900	67021	51026	56287	14637	Continuing	Continuing
0603639A FCS MRM		44294	45866	71451	56296	106353	50757	Continuing	Continuing
0604715A STRICOM/NAWCTSD Support		378	388	398	406	415	426	Continuing	Continuing
WTCV G86100 FCS Core Program		80932	154583	148028	677820	2175327	5744649	Continuing	Continuing
WTCV G86200 FCS Spin Out Program		19987	176667	367962	550821	766274	944999	Continuing	Continuing

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AMMO E88103					24634	47624	61762	Continuing	Continuing
0604645 F52 UAV Recon & Sensors	26360							Continuing	Continuing
0604645 F53 UGV	106516							Continuing	Continuing
0604645 F54 UGS	10612							Continuing	Continuing
0604645 F55 SUSTAINMENT	106517							Continuing	Continuing
0604645 F57 MANNED GROUND VEHICLES	563946							Continuing	Continuing
0604645 F61 SoS Engineering and Program Management	2142970							Continuing	Continuing

Comment:

D. Acquisition Strategy The original FCS Contract was awarded to the Lead Systems Integrator 30 May 2003 and definitized 10 Dec 2003, to Boeing. The LSI is responsible to PM FCS BCT to provide the following: Systems Engineering and Program Management, System Tests and Evaluation, Modeling and System, GFX Training, Government Support, Contractor Program Management, Contractor System Requirements and Integration, Contractor Training Products, Contractor System of Systems Test, and Distributing Contractor Fee. During FY09 the System of System Engineering and Program Management provides primary support to the Systems of Systems Platform Design Reviews (PDRs) and supplemental support to the platform Critical Design Reviews (CDRs) to finalize prototype efforts.

ARMY RDT&E COST ANALYSIS (R3)

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I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	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				180179	1-3Q	147828	1-3Q		328007	
Contractor System Requirements and Integration	FAR	The Boeing Company-ST. LOUIS, MO, see remark 4				448296	1-3Q	354137	1-3Q		802433	
Contractor Training Products	FAR	The Boeing Company-ST. LOUIS, MO, see remarks 1-4				64598	1-3Q	97607	1-3Q		162205	
Contract Fee	FAR	The Boeing Company-ST. LOUIS, MO				338257	1-3Q	325441	1-3Q		663698	
Contractor- Small Business Technology Insertion	FAR	The Boeing Company-ST. LOUIS, MO				20000	1-3Q				20000	
Subtotal:						1051330		925013			1976343	

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 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				131941	1-3Q	135899	1-3Q		267840	
Government GFX - Training	Direct	PM FCS(BCT) - St Louis, MO				1564	1-3Q	1463	1-3Q		3027	
Government GFX Funding Support	Direct	PM FCS(BCT), St. Louis, MO				5432	2-3Q				5432	
Government - Other Support	Direct	PM FCS(BCT), St. Louis, MO				106770	2-3Q	140423	2-3Q		247193	

ARMY RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY 5 - System Development and Demonstration				PE NUMBER AND TITLE 0604661A - FCS Systems of Systems Engr & Program Mgmt						PROJECT FC2	
SBIR/STTR		OSD				41896	2-3Q			41896	
Subtotal:						287603		277785		565388	

Remarks: remark 1 - Contractor currently being competed. In the down selection process

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	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				35979	1-3Q	41899	1-3Q		77878	
Government STE	Direct	PM FCS(BCT), St. Louis, MO , see remarks 1-3				111269	1-3Q	157498	1-3Q		268767	
Government - Modeling and Simulation	Direct	PM FCS(BCT), St. Louis, MO				11140	2-3Q	11750	2-3Q		22890	
Subtotal:						158388		211147			369535	

Remarks: Remark 1. Subcontractor, Netversant Co., Baltimore, MD
 Remark 2. Subcontractor, 3D Research, Huntsville, AL
 Remark 3. Subcontractor, Jacobs/Sverdrup, Aberdeen, MD

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	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:												

Project Total Cost:

1497321

1413945

2911266

Schedule Profile (R4 Exhibit)

February 2008

BUDGET ACTIVITY
5 - System Development and Demonstration

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

PROJECT
FC2

Event Name	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) FCS SoS Critical Reviews-PDR									▲ PDR																											
(2) CDR																					▲ CDR															
FCS SoS Integration / Verification Phase 1													IV1																							
FCS SoS Test - Phase 1													LUT1 & IMT1																							
FCS SoS Integration / Verification Phase 2																	IV2																			
FCS SoS Test - Phase 2																					IMT2 & LUT2															
FCS SoS Integration / Verification Phase 3																									IV3											
FCS SoS Test - Phase 3																													IMT3 & LUT3							
FCS SoS Integration / Verification Phase 4																																	IV4			

Schedule Detail (R4a Exhibit)

February 2008

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 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-PDR			3Q				
CDR					3Q		
FCS SoS Integration / Verification Phase 1		1Q - 4Q	1Q - 2Q				
FCS SoS Test - Phase 1		2Q - 4Q					
FCS SoS Integration / Verification Phase 2			3Q - 4Q	1Q - 4Q	1Q - 2Q		
FCS SoS Test - Phase 2				3Q - 4Q			
FCS SoS Integration / Verification Phase 3					1Q - 4Q	1Q - 4Q	1Q - 3Q
FCS SoS Test - Phase 3						3Q - 4Q	1Q
FCS SoS Integration / Verification Phase 4							1Q - 4Q
FCS SoS Test - Phase 4							

Termination Liability Funding For Major Defense Acquisition Programs, RDT&E Funding (R5)	February 2008
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BUDGET ACTIVITY 5 - System Development and Demonstration	PE NUMBER AND TITLE 0604661A - FCS Systems of Systems Engr & Program Mgmt	PROJECT FC2
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Funding in \$000							
Program	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Other Termination		573100	550200	526200	464600	326700	211000
Special Termination		427600	415800	387500	352700	272200	176400
Total Termination Liability Funding:		1000700	966000	913700	817300	598900	387400

