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<b>ARMY RDT&amp;E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)</b>	DATE <b>February 2000</b>
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<b>BUDGET ACTIVITY</b> <b>4 - Demonstration and Validation</b>	<b>PE NUMBER AND TITLE</b> <b>0603805A Combat Service Support Control Systems Evaluation and Analysis</b>
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<i>COST (In Thousands)</i>	FY1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	14312	11017	13753	8657	8751	8942	8929	8200	217281
D091 Combat Service Support Control System	12590	11017	13753	8657	8751	8942	8929	8200	210577
D246 Tactical Communications System-Advanced Development	1722	0	0	0	0	0	0	0	6704

**A. Mission Description and Budget Item Justification:** Project D091: The Combat Service Support Control System is an automated command and control (C2) system that supports the CSS component of the Army Battle Command System (ABCS), and provides a critical logistical C2 capability for the Army's Force XXI. It will automate the current manual processes of force level planning and decision-making for commanders and their staffs. Project D246, Tactical Communications System – Demonstration Validation, provided for insertion of selected proven communications technology.

<b>B. <u>Program Change Summary</u></b>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
Previous President's Budget ( <u>FY 2000/2001</u> PB)	14056	11062	8839
Appropriated Value	14353	11062	
Adjustments to Appropriated Value			
a. Congressional General Reductions	-297		
b. SBIR / STTR	-357		
c. Omnibus or Other Above Threshold Reductions	+194	-45	
d. Below Threshold Reprogramming	+475		
e. Rescissions	-56		
Adjustments to Budget Years Since <u>FY 2000/2001</u> PB			+4914
Current Budget Submit ( <u>FY 2001</u> PB)	14312	11017	13753

Change Summary Explanation: Funding - FY 2001 funds increased (+4914) to support Force XXI software enhancements.

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<b>BUDGET ACTIVITY</b> <b>4 - Demonstration and Validation</b>	<b>PE NUMBER AND TITLE</b> <b>0603805A Combat Service Support Control Systems Evaluation and Analysis</b>	<b>PROJECT</b> <b>D091</b>
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COST <i>(In Thousands)</i>	FY1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
D091 Combat Service Support Control System	12590	11017	13753	8657	8751	8942	8929	8200	210577

**A. Mission Description and Justification: Project D091, Combat Service Support (CSS) Control System.** The Combat Service Support Control System is an automated command and control (C2) system that supports the CSS component of the Army Battle Command System (ABCS), and provides a critical logistical C2 capability for the Army's Force XXI. It will automate the current manual processes of force level planning and decision-making for commanders and their staffs. CSSCS interoperates both vertically, within the CSS Battlefield Functional Area (BFA), as well as horizontally with the other BFAs; namely, Fire Support, Maneuver Control, Intelligence/Electronic Warfare, and Air Defense. CSSCS implements functionally through use of Common Hardware and Software (CHS), Common Operating Environment (COE), reuse software, and unique application software.

**FY 1999 Accomplishments:**

- 9175 Completed Version 4.1
- 965 Continued Version 5 development
- 875 Conducted Version 4 continuous evaluation activities
- 1575 Prepared for and conducted Army Warfighting Experiments, implemented FDD enhancements and achieved initial web based technologies

Total 12590

**FY 2000 Planned Program:**

- 5580 Continue Version 5 development
- 2390 Prepare for and conduct Army Warfighting Experiments and achieve First Digitized Division IOC, transition to web based technologies and continue migration to DII COE
- 2750 Continue Version 4 development
- 297 Small Business Innovative Research/ Small Business Technology Transfer (SBIR/STTR) programs

Total 11017

Project D091 Page 2 of 8 Pages Exhibit R-2A (PE 0603805A)

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- FY 2001 Planned Program:**
- 10478 Continue Version 5 development
  - 1300 Prepare for and conduct Army Warfighting Experiments and work towards First Digitized Corps
  - 775 Conduct Version 5 continuous evaluation activities
  - 600 Continue software enhancements based on CINC feedback on operational deployments (i.e., Bosnia, Central America, etc)
  - 600 Complete Version 4 Development
- Total 13753

<b>B. Other Program Funding Summary</b>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	To <u>Compl</u>	Total <u>Cost</u>
Procurement, OPA 2 (W34600)	9223	19830	27411	25102	24930	24757	23057	49852	227112
Spares (BS9706)	164	165	0	0	0	0	0	5755	7639

**C. Acquisition Strategy:** Acquisition strategy is to pursue a spiral development process, with program development structured to evolve over five versions. Versions 1 and 2 served as proof of principle, and provided initial division level CSS functional capability on common hardware. Version 3 was built on the capabilities of the previous versions and provided an Initial Operational Capability at Division and Corps level, to include initial horizontal interoperability with ABCS systems. Version 4 extends CSSCS to EAC, as well as provides added capabilities at Echelons Corps and Below (ECB). Version 5, the objective CSSCS software, will provide remaining ECB functionality, and extend CSSCS capabilities to joint, allied and coalition forces. TRW is the software development contractor. Lockheed Martin Corporation (LMC) provides training support. Hardware is procured from the Common Hardware/Software-2 (CHS-2) contract with GD-CS.

<b>D. Schedule Profile</b>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
V4 Continuous Evaluation	1-4Q*	1-3Q					
V4 Technical Test		3Q					
Complete V4			1Q				
Incremental SW Build Releases		3Q	3Q	3Q	3Q	3Q	
Develop V5		1-4Q					
First Digitized Division (FDD) IOC		4Q					
Incremental Software Build Releases			3Q	3Q	3Q		
V5 Technical Test					3-4Q		
V5 Operational Test						4Q	
First Digitized Corps (FDC) IOC						4Q	
First Digitized Corps Test							1Q

\*Milestone Complete

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**ARMY RDT&E COST ANALYSIS (R-3)**

DATE **February 2000**

**BUDGET ACTIVITY**  
**4 - Demonstration and Validation**

**PE NUMBER AND TITLE**  
**0603805A Combat Service Support Control**  
**Systems Evaluation and Analysis**

**PROJECT**  
**D091**

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. TRW	T&M	Carson, CA	85191	7769	1/2 Qtr	6607	1/2 Qtr	9535	1st Qtr		109102	110000
b. Lockheed Martin	CPAF	Springfield, VA	4744	929	1 Nov 98	875	1st Qtr	925	1st Qtr	4375	11848	20500
c. COE/Common Spt	MIPR	Various	5290	776	1/2 Qtr	550	1/2 Qtr	675	1/2 Qtr	2750	10041	
d. TBD			0	0		0		0		20128	20128	
e. GFE	FFP	Various	3601	0						2000	5601	
f. SBIR/STTR						297					297	
Subtotal Product Development:			98826	9474		8329		11135		29253	157017	

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. CECOM	MIPR	Ft. Monmouth/Belvoir	1600	213	1 Dec 98	203	1st Qtr	250	1st Qtr	1075	3341	
b. SDC-LEE	MIPR	Ft. Lee	550	0		0		0		0	550	
c. SDC-HUACHUCA	MIPR	Ft. Huachuca, AZ	971	408	1 Nov 98	380	1 Nov 99	131	1 Nov 00	1500	3390	
d. EER	MIPR	McLean, VA	5054	1400	1/2 Qtr	1330	1/2 Qtr	1380	1/2 Qtr	6650	15814	
e. LMI			775	300	1 Jan 99	275	2nd Qtr	325	1st Qtr	1375	3050	
Subtotal Support Costs:			8950	2321		2188		2086		10600	26145	

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. GOVT	MIPR	Various	5112	350	1/2 Qtr	113	1/2 Qtr	82	1/2 Qtr	1750	7407	
b. EPG	MIPR	Various	833	145	1 Nov 98	75	1 Nov 99	100	1 Nov 00	500	1653	
c. OPTEC	MIPR	Various	1578	0		0		0		0	1578	
Subtotal Test and Evaluation:			7523	495		188		182		2250	10638	

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<b>BUDGET ACTIVITY</b> <b>4 - Demonstration and Validation</b>					<b>PE NUMBER AND TITLE</b> <b>0603805A Combat Service Support Control</b> <b>Systems Evaluation and Analysis</b>					<b>PROJECT</b> <b>D091</b>		
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. PM CSSCS	N/A	Ft. Belvoir, VA	14150	300	1 Dec 98	312	1st Qtr	350	1st Qtr	1665	16777	
Subtotal Management Services:			14150	300		312		350		1665	16777	
Project Total Cost:			129449	12590		11017		13753		43768	210577	

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<b>BUDGET ACTIVITY</b> <b>4 - Demonstration and Validation</b>	<b>PE NUMBER AND TITLE</b> <b>0603805A Combat Service Support Control Systems Evaluation and Analysis</b>	<b>PROJECT</b> <b>D246</b>
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COST (In Thousands)	FY1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
D246 Tactical Communications System-Advanced Development	1722	0	0	0	0	0	0	0	6704

**A. Mission Description and Budget Item Justification:** This project validated the new Tactical Internet capability required for Force XXI. It provided definition; integration and testing of a mix of mature and prototype products which are used to develop a Tactical Internet capability. The Tactical Internet will be the primary data communications infrastructure at Corps and below for Force XXI and will revolve around interconnecting a mix of existing (e.g.: SINCGARS, SINCGARS SIP, EPLRS, MSE TPN, ETC) and emerging communications devices using gateways and routers. Gateways will also provide the link to strategic levels. This capability will result in the tactical equivalent of the Information Highway and will support key battlefield functional areas to include logistics reporting, telemedicine, etc. The Tactical Internet (TI) will use and leverage commercial network standards and products. The "Internet Protocol " (IP) suite will be used to provide seamless communications with the capability to dynamically route data to hosts. It was designed to facilitate technology insertion. The focus of this project was to reduce the technical risk by assembling, integrating, and testing the Tactical Internet components prior to TF XXI, Division XXI, and Corps XXI and beyond. New services and components will be added and tested as required for each iteration leading up to Force XXI. Note: Funding for this project has been transferred to PE/Proj. 0604805/D629, beginning in FY2000.

**FY 1999 Accomplishments:**

- 402 Integrated new applications and data services for the Tactical Internet (TI). Demonstrated advanced architectural concepts for the TI beyond the First Digitized Division (FDD)
  - 619 Evaluated emerging Internet protocols for use in the TI. Supported the Tactical Internet for FDD fielding.
  - 246 Supported Advanced Technology Demonstrations (ATD) including C2 Protect.
  - 455 Conducted airborne demo of latest NTDR capabilities, using new video equipment. Procured emerging technologies in video/multimedia equipment. Demonstrated networking capabilities of Handheld Multimedia Terminal in airborne platform.
- Total 1722

**FY 2000 Planned Program:** Project has been transferred to PE/Proj. 0604805/D629.

**FY 2001 Planned Program:** Pproject has been transferred to PE/Proj. 0604805/D629

**B. Other Program Funding Summary:** Not Applicable.

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C. **Acquisition Strategy:** The objective of this program is to validate new TI Capabilities required for Force XXI. In FY97, laboratory integration testing was conducted to reduce risk for Task Force XXI AWE. Similar laboratory testing was performed in FY98 for Division XXI and for the FBCB2 Limited User Test (LUT). In FY99 new services and components will be added and tested to validate critical technologies for Force XXI beyond FDD.

<b>D. Schedule Profile</b>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2004</u>	<u>FY 2005</u>
System Integration	4Q*							
Demonstration Range Extension	4Q*							
Address Architecture Issue	4Q*							
Integrate Network Services	4Q*							
Laboratory Testing	4Q*							
System Integration	4Q*							
Video Demonstration	4Q*							

\*Milestone Complete

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<b>BUDGET ACTIVITY</b> <b>4 - Demonstration and Validation</b>	<b>PE NUMBER AND TITLE</b> <b>0603805A Combat Service Support Control Systems Evaluation and Analysis</b>	<b>PROJECT</b> <b>D246</b>
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I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Systems Engineering	PO	CECOM RDEC, Ft. Monmouth, NJ	3966	1297	01/01/99						5263	
b. Contract Services												
1)	C-T&M AF	CSC/BAH	485	90	05/13/99						575	
2)	C-T&M Rqmts	C3I	270	135	08/28/98						405	
3)	C-T&M IDIQ	TAMSCO	105	150	05/19/98						255	
4)	C-T&M PSLA	LSI	150	50	08/01/99						200	
Subtotal Product Development:			4976	1722							6698	

Remarks:

**NOTES:**

**Performing Activity & Location**  
 CSC/BAH- Computer Science Corporation, support contractor Booz, Allen & Hamilton – Eatontown, NJ  
 C3I – C3I Systems Group Inc, Award date 8/28/98 with 3 option years- Tinton Falls, NJ  
 TAMSCO – TAMSCO Inc, Award date 5/19/98 with 5 options years- Calverton, MD  
 LSI – Lear Sigler Inc, Lakehurst, NJ

**Contract Method and Type**  
 C-T&M – Competitive, Time and Materials  
     -AF- Award Fee  
     -Rqmts-Requirements  
     -IDIQ-Indefinite Delivery Indefinite Quantity  
     -PSLA- Purchase Service Labor Agreement

II. Support Costs: Not applicable

III. Test and Evaluation: Not applicable

V. Management Services: Not applicable

Project Total Cost:			4976	1722							6698	
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