PE NUMBER: 0207412F
PE TITLE: Modular Control System

Exhibit R-2, RDT&E Budget Item Justification

DATE: February 2006

BUDGET ACTIVITY: 07 Operational System Development

PE NUMBER AND TITLE: 0207412F Modular Control System

Cost ($ in Millions)		FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
	Total Program Element (PE) Cost	9.660	18.892	8.798	16.248	23.160	20.770	22.633	Continuing	TBD
485L	Theater Air Control System Imp (TACSI)	9.660	18.892	8.798	16.248	23.160	20.770	22.633	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

Battle Control System (BCS) Family of Systems (FOS) is comprised of fixed sites for Homeland Defense [Region/Sector Operation Control Center, PE 0102326F, referred to herein as Battle Control System-Fixed {BCS-F}] and mobile Theater Battle Management (TBM) Command and Control (C2) nodes [Modular Control System, PE 0207412F (called the Battle Control System-Mobile {BCS-M}]. The BCS-M is the replacement of the legacy Control and Reporting Center (CRC).

Once fielded, the BCS-M tactical C2 execution node supports the Joint Forces Air Component Commander (JFACC) and provides interoperability among elements of the Theater Air Control System (TACS) to include the Tactical Air Control Party (TACP), Air Support Operations Center (ASOC), Airborne Warning and Control System (AWACS), Joint STARS, and the Air and Space Operations Center (AOC) as well as other Navy, Marine Corps, Army, and allied/coalition assets. BCS-M is the execution arm of the AOC and conducts both OCONUS and Homeland Defense missions; theater air defense, airspace surveillance, aircraft identification, airspace management, and tactical data link management are the critical tactical-level capabilities of BCS-M.

BCS-M is a low density/high demand rapidly deployable ground C2 asset. The current legacy CRC is fully employed in IRAQI FREEDOM, ENDURING FREEDOM, and NOBLE EAGLE. CENTAF is urgently advocating the need to update and replace the legacy CRC to support ongoing operations.

BCS-M uses a spiral development acquisition strategy to further advance C2 capabilities on the battlefield and also leverages other acquisitions and successful experimental models. BCS-M acquisition activities include, but are not limited to requirements analysis, modeling and simulation, risk reduction, acquisition planning, enterprise integration, and prototype development (i.e., radio/radar/data link remoting, software development, radar development). The BCS-M capitalizes on technologies and lessons learned from the Area Cruise Missile Defense (ACMD) Advanced Capabilities Technology Demonstration (ACTD). The battle management software is being developed in coordination with BCS-Fixed, leverages capabilities from the AWACS 40/45 Program, and integrates evolutionary upgrades carried forward from the legacy CRC. This program will participate in the development, testing, and implementation of international standards (to include NATO standardization agreements) to ensure joint, allied, and coalition interoperability. The BCS-M program includes an incremental fielding of critical needs in order to deliver a product to the war fighter as soon as possible.

The program is in Budget Activity 7 because the CRC is a fielded, operational system that is being upgraded.

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2006
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0207412F Modular Control System

(U) B. Program Change Summary ($ in Millions)

		FY 2005	FY 2006	FY 2007
(U)	Previous President's Budget	11.634	9.289	9.390
(U)	Current PBR/President's Budget	9.660	18.892	8.798
(U)	Total Adjustments	-1.974	9.603	
(U)	Congressional Program Reductions		-0.024	
	Congressional Rescissions	-0.286	-0.273	
	Congressional Increases			
	Reprogrammings	-1.375	9.900	
	SBIR/STTR Transfer	-0.313		

(U) Significant Program Changes:

- FY2005 reduction for higher Air Force needs, program rephased to align with current funding.
- FY2006 Air Force requested Congressional reprogramming of funds from procurement to RDT&E for BCS-M spiral 3 development.

Exhibit R-2a, RDT&E Project Justification		DATE: February 2006
BUDGET ACTIVITY: 07 Operational System Development	PE NUMBER AND TITLE: 0207412F Modular Control System	PROJECT NUMBER AND TITLE: 485L Theater Air Control System Imp (TACSI)

Cost ($ in Millions)		FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
485L	Theater Air Control System Imp (TACSI)	9.660	18.892	8.798	16.248	23.160	20.770	22.633	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

Battle Control System (BCS) Family of Systems (FOS) is comprised of fixed sites for Homeland Defense [Region/Sector Operation Control Center, PE 0102326F, referred to herein as Battle Control System-Fixed {BCS-F}] and mobile Theater Battle Management (TBM) Command and Control (C2) nodes [Modular Control System, PE 0207412F (called the Battle Control System-Mobile {BCS-M}]. The BCS-M is the replacement of the legacy Control and Reporting Center (CRC).

Once fielded, the BCS-M tactical C2 execution node supports the Joint Forces Air Component Commander (JFACC) and provides interoperability among elements of the Theater Air Control System (TACS) to include the Tactical Air Control Party (TACP), Air Support Operations Center (ASOC), Airborne Warning and Control System (AWACS), Joint STARS, and the Air and Space Operations Center (AOC) as well as other Navy, Marine Corps, Army, and allied/coalition assets. BCS-M is the execution arm of the AOC and conducts both OCONUS and Homeland Defense missions; theater air defense, airspace surveillance, aircraft identification, airspace management, and tactical data link management are the critical tactical-level capabilities of BCS-M.

BCS-M is a low density/high demand rapidly deployable ground C2 asset. The current legacy CRC is fully employed in IRAQI FREEDOM, ENDURING FREEDOM, and NOBLE EAGLE. CENTAF is urgently advocating the need to update and replace the legacy CRC to support ongoing operations.

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The program is in Budget Activity 7 because the CRC is a fielded, operational system that is being upgraded.

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2005	FY 2006	FY 2007
(U)			
(U) Continue concept definition & development of evolutionary upgrades to the BCS to include, but not limited to, advanced planning, Modular Control System (MCS) upgrades, enhanced radio/radar/data link remoting, transition of ACMD technology into BCS-M, leveraging capabilities from BCS-F and AWACS 40/45, integrating evolutionary	7.804	17.534	7.401

Exhibit R-2a, RDT&E Project Justification		DATE February 2006
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0207412F Modular Control System**	PROJECT NUMBER AND TITLE **485L Theater Air Control System Imp (TACSI)**

(U) B. Accomplishments/Planned Program ($ in Millions)

		FY 2005	FY 2006	FY 2007
	upgrades into BCS-M, and sensor replacement/upgrade.			
(U)	Continue Program Support (i.e., travel, supplies, equipment, miscellaneous)	0.163	0.208	0.189
(U)	Continue Systems Engineering	1.693	1.150	1.208
(U)	Total Cost	9.660	18.892	8.798

(U) C. Other Program Funding Summary ($ in Millions)

		FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
(U)	Other APPN									
(U)	OPAF PE 0207412F (Other Procurement Air Force, WSC 833040, Theater Air Control System Improvement	25.937	39.075	42.585	31.847	63.834	67.850	84.679	Continuing	TBD

(U) D. Acquisition Strategy

The Battle Control System (BCS) Program Family of Systems is utilizing a spiral development acquisition strategy to further advance C2 concepts supporting future aerospace operations.

Exhibit R-3, RDT&E Project Cost Analysis

DATE: **February 2006**

BUDGET ACTIVITY: **07 Operational System Development**

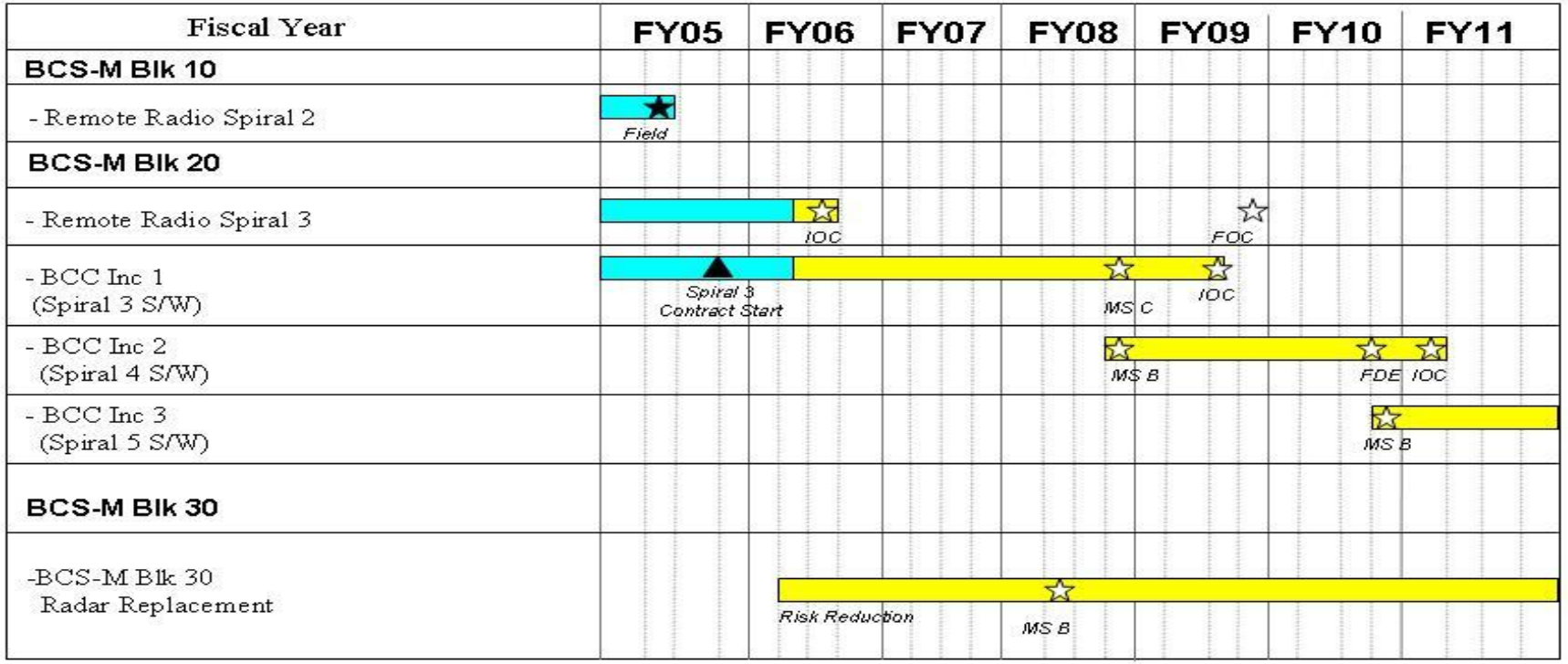
PE NUMBER AND TITLE: **0207412F Modular Control System**

PROJECT NUMBER AND TITLE: **485L Theater Air Control System Imp (TACSI)**

(U)	Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2005 Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U)	Product Development												
	Concept Definition/Development of Evolutionary Upgrades	MIPR	Naval Air Warfare Center/Aircraft Division, Patuxent River, MD	28.258	3.414	Mar-05	1.718	Nov-05	2.260	Nov-06	Continuing	TBD	TBD
	Concept Definition/Development of Evolutionary Upgrades	CPIF & CPAF/SS	Thales Raytheon Systems, Fullerton, CA	1.815	4.390	Jul-05	14.636	Dec-05	3.323	Nov-06	Continuing	TBD	TBD
	Concept Definition/Development of Evolutionary Upgrades - Sensor Replacement/Upgrade	T&M	Technology Services Corp., Silver Spring, MD	0.158			0.230	Jan-06	0.242	Nov-06	Continuing	TBD	TBD
	Concept Definition/Development of Evolutionary Upgrades - Sensor Replacement/Upgrade	T&M	Sensis Group, East Syracuse, NY				0.950	Jan-06	1.576	Nov-06	Continuing	TBD	TBD
	Subtotal Product Development			30.231	7.804		17.534		7.401		Continuing	TBD	TBD
	Remarks:												
(U)	Support												
	Program Office Support	Various	Various	2.819	0.163	Nov-04	0.208	Nov-05	0.189	Nov-06	Continuing	TBD	TBD
	Systems Engineering.	Various	Bedford, MA	3.315	1.693	Nov-04	1.150	Nov-05	1.208	Nov-06	Continuing	TBD	TBD
	Subtotal Support			6.134	1.856		1.358		1.397		Continuing	TBD	TBD
	Remarks:												
(U)	Total Cost			36.365	9.660		18.892		8.798		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile		DATE February 2006
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0207412F Modular Control System	PROJECT NUMBER AND TITLE 485L Theater Air Control System Imp (TACSI)

Exhibit R-4 – PE 0207412F – Modular Control System



AS OF 13 JAN 06

Exhibit R-4a, RDT&E Schedule Detail		DATE February 2006
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0207412F Modular Control System**	PROJECT NUMBER AND TITLE **485L Theater Air Control System Imp (TACSI)**

(U) Schedule Profile	FY 2005	FY 2006	FY 2007
(U) BCS-M Blk 10 Remote Radio Spiral 2 Field	2Q		
(U) BCS-M Blk 20 Remote Radio Spiral 3 IOC		3Q	
(U) BCS-M Blk 20 BCC Inc 1 Spiral 3 Contract Start	4Q		
(U) BCS-M Blk 30 Radar Replacement Risk Reduction		2Q	
(U) BCS-M Blk 20 BCC Inc 1 Spiral 3 Continued Development		4Q	1-4Q