

UNCLASSIFIED

PE NUMBER: 0207412F
 PE TITLE: Modular Control System

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2004
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BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0207412F Modular Control System
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Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	6.099	15.868	11.634	9.412	9.360	14.553	14.503	Continuing	TBD
485L Theater Air Control System Imp (TACSI)	6.099	15.868	11.634	9.412	9.360	14.553	14.503	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 (HLD) [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 (referred to herein as Battle Control System-Mobile {BCS-M})]. The BCS-M is the modernization activity for the Modular Control System (MCS). The BCS-M is a low density/high demand rapidly deployable ground C2 asset conducting both deployed theater operations and homeland defense. The BCS-M is the tactical C2 execution element supporting the Joint Forces Air Component Commander (JFACC) and the North American Aerospace Defense/Combatant Commander (NORAD/CC) providing connectivity and interoperability among elements of the Theater Air Control System (TACS) to include United States Air Force, Navy, Marine Corps, Army and allied/coalition assets. It is the execution arm of the Air and Space Operations Center (AOC). BCS modernization is using an acquisition strategy designed to ensure technical coordination with the Airborne Warning And Control System (AWACS) 40/45 upgrade, interoperability with BCS-F and AOC, and to further advance C2 concepts supporting current and emerging aerospace operations. BCS acquisition activities will include, but not be limited to requirements analysis, modeling and simulation, risk reduction, acquisition planning, enterprise integration, prototype development (i.e., productizing, development suite, radio/radar/data link remoting, software development), incorporating the fixed and mobile radar requirements for the air picture under one Operational Requirements Document (ORD) for BCS, transitioning the Area Cruise Missile Defense (ACMD) technologies into BCS Modernization, and leveraging capabilities from BCS-F and AWACS 40/45.

The program is in Budget Activity 7 because Modular Control System (MCS) is a fielded, operational system.

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Previous President's Budget	6.652	16.083	24.664
(U) Current PBR/President's Budget	6.099	15.868	11.634
(U) Total Adjustments	-0.553	-0.215	
(U) Congressional Program Reductions	-0.044	-0.079	
Congressional Rescissions	-0.070	-0.136	
Congressional Increases			
Reprogrammings	-0.131		
SBIR/STTR Transfer	-0.308		

(U) Significant Program Changes:

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FY 2004/2005 reductions to fund other Air Force requirements.

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Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
485L Theater Air Control System Imp (TACSI)	6.099	15.868	11.634	9.412	9.360	14.553	14.503	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 (HLD) [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 (referred to herein as Battle Control System-Mobile {BCS-M})]. The BCS-M is the modernization activity for the Modular Control System (MCS). The BCS-M is a low density/high demand rapidly deployable ground C2 asset conducting both deployed theater operations and homeland defense. The BCS-M is the tactical C2 execution element supporting the Joint Forces Air Component Commander (JFACC) and the North American Aerospace Defense/Combatant Commander (NORAD/CC) providing connectivity and interoperability among elements of the Theater Air Control System (TACS) to include United States Air Force, Navy, Marine Corps, Army and allied/coalition assets. It is the execution arm of the Air and Space Operations Center (AOC). BCS modernization is using an acquisition strategy designed to ensure technical coordination with the Airborne Warning And Control System (AWACS) 40/45 upgrade, interoperability with BCS-F and AOC, and to further advance C2 concepts supporting current and emerging aerospace operations. BCS acquisition activities will include, but not be limited to requirements analysis, modeling and simulation, risk reduction, acquisition planning, enterprise integration, prototype development (i.e., productizing, development suite, radio/radar/data link remoting, software development), incorporating the fixed and mobile radar requirements for the air picture under one Operational Requirements Document (ORD) for BCS, transitioning the Area Cruise Missile Defense (ACMD) technologies into BCS Modernization, and leveraging capabilities from BCS-F and AWACS 40/45.

The program is in Budget Activity 7 because Modular Control System (MCS) is a fielded, operational system.

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U)			
(U) Continue Concept Definition/Development of evolutionary upgrades to the BCS to include, but not be limited to, advanced planning, 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 upgrades into BCS-M, and misc.	5.273	14.685	10.422
(U) Continue Program Support (i.e., travel, supplies, equipment, miscellaneous)	0.612	0.646	0.675
(U) Continue Systems Engineering	0.214	0.537	0.537
(U)			
(U) Total Cost	6.099	15.868	11.634

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(TACSI)(U) C. Other Program Funding Summary (\$ in Millions)(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 by transitioning the Area Cruise Missile Defense (ACMD) Advanced Capabilities Technology Demonstration (ACTD) capabilities, leveraging capabilities from the BCS-Fixed (BCS-F) and AWACS 40/45, and integrating evolutionary upgrades from the legacy Modular Control System (MCS) into BCS-M.

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Exhibit R-3, RDT&E Project Cost Analysis

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BUDGET ACTIVITY			PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE				
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<u>(U) Cost Categories</u>	<u>Contract Method</u>	<u>Performing Activity &</u>	<u>Total</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>Cost to</u>	<u>Total</u>	<u>Target</u>
(Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>& Type</u>	<u>Location</u>	<u>Prior to FY</u>	<u>2003</u>	<u>2003</u>	<u>2004</u>	<u>2004</u>	<u>2005</u>	<u>2005</u>	<u>Complete</u>	<u>Cost</u>	<u>Value of</u>
			<u>2003</u>	<u>Cost</u>	<u>Award</u>	<u>Cost</u>	<u>Award</u>	<u>Cost</u>	<u>Award</u>			<u>Contract</u>
			<u>Cost</u>		<u>Date</u>		<u>Date</u>		<u>Date</u>			
<u>(U) Product Development</u>												
Rome Labs & Naval Air Warfare Center/Aircraft Division (NAWC/AD) - Concept Definition/Development of Evolutionary Upgrades	MIPR	Naval Air Warfare Center/Aircraft Division, Patuxent River, MD	10.755	5.273	Dec-02	1.575	Nov-03	0.500	Dec-04	Continuing	TBD	TBD
TBD - BCS-M	TBD	TBD	0.000			13.110	Mar-04	9.922	Dec-04	Continuing	TBD	TBD
Subtotal Product Development			10.755	5.273		14.685		10.422		Continuing	TBD	TBD
Remarks:												
<u>(U) Support</u>												
Program Office Support	Various	Various	1.613	0.612	Nov-02	0.646	Nov-03	0.675	Nov-04	Continuing	TBD	TBD
Systems Engineering.	Various	Various	1.020	0.214	Mar-03	0.537	Feb-04	0.537	Feb-05	Continuing	TBD	TBD
Subtotal Support			2.633	0.826		1.183		1.212		Continuing	TBD	TBD
Remarks:												
<u>(U) Total Cost</u>			13.388	6.099		15.868		11.634		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

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Fiscal Year	FY03				FY 04				FY 05				FY 06				FY 07				FY 08				FY 09			
	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
RR Spiral 2 Kt Award	▲	▲																										
RR Spiral 2 DT&E							△																					
RR Spiral 2 OT&E							△																					
RR Design Review								▲																				
RR Spiral 3 Kt Award							☆																					
BCS-M Concept Evaluation																												
BCS-M Development																												
BCS-M Kt Award							☆																					
BCS-M Test												△																
BCS-M IOC																△												

- ☆ Major Event or Milestone
- ▬ Ongoing Activity that is on-going
- ▬ Ongoing Activity that is Complete
- ▲ Completed Event
- △ Planned Task(s)

RR - Remote Radio
BCS-M - Battle Control System - Mobile

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Exhibit R-4a, RDT&E Schedule Detail		DATE February 2004
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(U) <u>Schedule Profile</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Remote Radio Spiral 2 Contract Award	1Q		
(U) Remote Radio Critical Design Review		1Q	
(U) Remote Radio Spiral 2 Developmental Test & Evaluation (DT&E)		2Q	
(U) Remote Radio Spiral 2 Operational Test & Evaluation (OT&E)		2Q	
(U) Remote Radio Spiral 3 Contract Award		2Q	
(U) Battle Control System - Mobile Concept Evaluation	2-4Q		
(U) Battle Control System - Mobile Contract Award		2Q	
(U) Battle Control System - Mobile Test			2Q