Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*				R-1 ITEM NOMENCLATURE PE 0603854F: *Wideband MILSATCOM (Space)*							
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	67.228	36.123	12.804	-	12.804	12.494	14.548	17.492	17.801	Continuing	Continuing
644811: *Wideband Gapfiller*	42.543	17.949	-	-	-	-	-	-	-	Continuing	Continuing
644870: *Command & Control System Consolidated (CCSC)*	24.685	18.174	12.804	-	12.804	12.494	14.548	17.492	17.801	Continuing	Continuing

Note

Totals include funding for PRCP Program Number 326, WGS.
CCS-C is an ACAT II program and does not have a PNO designation.

A. Mission Description and Budget Item Justification

The Wideband Global SATCOM (WGS) System, previously known as Wideband Gapfiller Satellites, provides DoD users with high data rate military satellite communication (MILSATCOM) services in accordance with the Joint Space Management Board-approved MILSATCOM architecture (Aug 96), the Joint Requirements Oversight Council (JROC)-approved MILSATCOM Capstone Requirements Document (Oct 97), and the JROC-approved WGS Operational Requirements Document (May 00). Dual-frequency WGS satellites augment, then replace the DoD's Defense Satellite Communications Systems (DSCS) X-band service and augment one-way Global Broadcast Service Ka-band capabilities. In addition, WGS provides a new high capacity two-way Ka-band service.

WGS Block I consists of satellites 1-3. These satellites were successfuly launched on 10 Oct 07, 3 Apr 09, and 5 Dec 09, respectively.

WGS Block II consists of satellites 4-6. Block II satellites will incorporate minor modifications to better support the Airborne Intelligence, Surveillance and Reconnaissance mission. Launches for satellites 4-5 are scheduled for Dec 11 and Oct 12, respectively.

A United States-Australia WGS partnership was codified 14 Nov 07. Australia provides funds needed to buy WGS-6 in exchange for access to constellation-wide resources. Launch for satellite 6 is scheduled for Mar 13.

WGS Block II Follow-on currently consists of satellites 7 and 8 with projected launches in FY16 and FY17, respectively.

A Nunn-McCurdy review due to a critical Average Procurement Unit Cost (APUC) breach has completed and the program consisting of eight satellites was certified on 1 June 2010.

The MILSATCOM Command and Control System-Consolidated (CCS-C) system provides integrated launch and on-orbit command and control (C2) functionality for MILSATCOM satellites. CCS-C uses modified commercial off the shelf hardware/software to control all emerging and legacy MILSATCOM systems to include Milstar, DSCS, WGS, and the Advanced Extremely High Frequency (AEHF) system. CCS-C will also support the implementation of space situational awareness and new C2 training systems.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603854F: *Wideband MILSATCOM (Space)*

Funding is in Budget Activity 4, Advanced Component Development and Prototypes, as it supports component development and prototyping for Wideband MILSATCOM.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	70.650	36.123	12.847	-	12.847
Current President's Budget	67.228	36.123	12.804	-	12.804
Total Adjustments	-3.422	-	-0.043	-	-0.043
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-3.126	-			
• Other Adjustments	-0.296	-	-0.043	-	-0.043

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2010	FY 2011
Project: 644811: *Wideband Gapfiller*		
Congressional Add: *CONGRESSIONAL ADD*	-	-
Congressional Add Subtotals for Project: 644811	-	-
Congressional Add Totals for all Projects	-	-

Change Summary Explanation

None.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603854F: *Wideband MILSATCOM (Space)*	PROJECT 644811: *Wideband Gapfiller*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
644811: *Wideband Gapfiller*	42.543	17.949	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Totals include funding for PRCP Program Number 326, WGS.

A. Mission Description and Budget Item Justification

The Wideband Global SATCOM (WGS) System, previously known as Wideband Gapfiller Satellites, will provide the DoD with high data rate military satellite communication (MILSATCOM) services in accordance with the Joint Space Management Board-approved MILSATCOM architecture (Aug 96), the Joint Requirements Oversight Council (JROC)-approved MILSATCOM Capstone Requirements Document (Oct 97), and the JROC-approved WGS Operational Requirements Document (May 00). These dual-frequency WGS satellites will augment the DoD's Defense Satellite Communications Systems X-band service and one-way Global Broadcast Service Ka-band capabilities. In addition, WGS will provide a new high capacity two-way Ka-band service.

No funds are requested for FY12.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Block II Follow-on Non-Recurring Engineering (NRE)	42.543	17.949	-	-	-
Description: Block II Follow-on Non-Recurring Engineering (NRE) ***FY 2010 Accomplishments:*** Initiated Block II Follow-on NRE, includes parts obsolescence studies and redesign/requalification. Supported Capability Insertion Program (CIP) for future capability enhancements. ***FY 2011 Plans:*** Continue Block II Follow-on NRE and support CIP for future capability enhancements. ***FY 2012 Base Plans:*** Not applicable ***FY 2012 OCO Plans:*** Not applicable					
Accomplishments/Planned Programs Subtotals	42.543	17.949	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603854F: *Wideband MILSATCOM (Space)*	PROJECT 644811: *Wideband Gapfiller*

	FY 2010	FY 2011
Congressional Add: CONGRESSIONAL ADD	-	-
FY 2010 Accomplishments:		
FY 2011 Plans:		
Congressional Adds Subtotals	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0303600F: *WGS, MPAF*	212.418	575.711	468.745	0.000	468.745	50.659	62.379	97.163	98.473	Continuing	Continuing
• PE 0303600F (1): *GBS Transmit Strings, OPAF*	1.672	1.661	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE 0603854F: *Project # 644870, CCS-C, RDT&E*	24.685	18.174	12.804	0.000	12.804	12.494	14.548	17.492	17.801	Continuing	Continuing

D. Acquisition Strategy

The WGS program made considerable use of commercial practices and technology in its FAR Part 12, Firm Fixed Price (FFP) acquisition for satellites 1-3. The WGS program received MS II/III approval in November 2000 and awarded a FFP contract in January 2001 (three satellites and options for an additional three). Options for satellites 4-6 were not exercised prior to the 31 December 2003 expiration date.

Since WGS-type capabilities were no longer being offered commercially, it was no longer appropriate to use a Firm Fixed Price contract for satellites 4-6. A Fixed Price Incentive Fee contract, which balances uncertainty of parts obsolescence/production gap with experience gained from WGS 1-3 production, was approved. The Not-to-Exceed letter contract was awarded for satellites 4 and 5 (with unfunded priced option for 6th satellite) in 2nd Qtr FY06. The contract definitized on 17 October 2006. All satellites are purchased with procurement funds, and the Non-Recurring Engineering (NRE) is funded with RDTandE. An updated Acquisition Strategy for the WGS Block II Follow-on satellites was approved by the MDA on 25 Jan 2010.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603854F: *Wideband MILSATCOM (Space)*	PROJECT 644811: *Wideband Gapfiller*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block II Parts Obsolescence Redesign	SS/TBD	Boeing:El Segundo, CA	91.737	-		-		-		-	0.000	91.737	0.000
Block I EMD (satellites 1-3)	C/FFP	Boeing:El Segundo, CA	143.013	-		-		-		-	0.000	143.013	0.000
UAV Bypass NRE	SS/FFP	Boeing:El Segundo, CA	14.000	-		-		-		-	0.000	14.000	0.000
Payload/Production Studies	Various	Various:Various,	38.437	-		-		-		-	0.000	38.437	0.000
Block II Follow-on NRE	SS/TBD	Boeing:El Segundo, CA	39.336	16.449	Dec 2010	-		-		-	0.000	55.785	0.000
		Subtotal	326.523	16.449		-		-		-	0.000	342.972	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Joint Terminals Engineering Office	PO	JTEO:McLean, VA	6.618	-		-		-		-	0.000	6.618	0.000
Pre-EMD	Various	Various:Various,	5.579	-		-		-		-	0.000	5.579	0.000
Program Support	Various	Various:Various,	15.942	1.500	Mar 2011	-		-		-	0.000	17.442	0.000
		Subtotal	28.139	1.500		-		-		-	0.000	29.639	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603854F: *Wideband MILSATCOM (Space)*	PROJECT 644811: *Wideband Gapfiller*

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	354.662	17.949		-		-		-	0.000	372.611	0.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603854F: *Wideband MILSATCOM (Space)*	**PROJECT** 644811: *Wideband Gapfiller*

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603854F: *Wideband MILSATCOM (Space)*	**PROJECT** 644811: *Wideband Gapfiller*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Initiate Block II Follow-on non-recurring engineering	4	2010	2	2013

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603854F: *Wideband MILSATCOM (Space)*	PROJECT 644870: *Command & Control System Consolidated (CCSC)*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
644870: *Command & Control System Consolidated (CCSC)*	24.685	18.174	12.804	-	12.804	12.494	14.548	17.492	17.801	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Military Satellite Communications (MILSATCOM) Command and Control System-Consolidated (CCS-C) system provides integrated launch and on-orbit command and control (C2) functionality, and backup operations at Schriever AFB and Vandenberg AFB, for MILSATCOM satellites as the legacy capability provided by the Air Force Satellite Control Network (PE 0305110F) has phased out according to plan. CCS-C uses modified commercial off the shelf hardware/software to control all emerging and legacy MILSATCOM systems including Milstar, Defense Satellite Communications System (DSCS), Wideband Global SATCOM (WGS), and the Advanced Extremely High Frequency (AEHF) system, at reduced operating and maintenance costs. CCS-C will also support the implementation of space situational awarness and new C2 training systems.

FY12 funds provide required command and control capability to launch WGS and AEHF satellites.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: CCS-C development	24.685	18.174	12.804	-	12.804
Description: Develop and acquire satellite-specific software to support handover of on-orbit operations of WGS satellites and launch, early-orbit, and on-orbit operations of AEHF satellites.					
FY 2010 Accomplishments: Funded completion of development to support WGS-3 handover, initiated development to support WGS Block II satellites, continued design and developed software for replacement of the WGS Flight Dynamics System with modified CCS-C orbit analysis software. Completed development for the FY2010 launch of AEHF SV-1, prepared for launch of AEHF SV-2, and continued development of the Standard Space Trainer for DSCS and Milstar.					
FY 2011 Plans: Fund modifications of the WGS Block I satellite databases and software, continue development to support WGS Block II satellites, continue development of software for replacement of the WGS Flight Dynamics System with modified CCS-C orbit analysis software. Complete development for the FY2011 launch of AEHF SV-2, prepare for launch of AEHF SV-3, and continue development of the Standard Space Trainer for Milstar.					
FY 2012 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603854F: *Wideband MILSATCOM (Space)*	PROJECT 644870: *Command & Control System Consolidated (CCSC)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Fund development to support WGS Block II satellite complete development of software for replacement of WGS Flight Dynamics System with modified CCS-C orbit analysis software. Complete development for the FY12 launch of AEHF SV-3. ***FY 2012 OCO Plans:*** Not applicable					
Accomplishments/Planned Programs Subtotals	24.685	18.174	12.804	-	12.804

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0303605F: *SATCOM O&M, OPAF*	1.941	0.250	0.256	0.000	0.256	0.259	0.262	0.268	0.273	Continuing	Continuing

D. Acquisition Strategy

N/A

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603854F: *Wideband MILSATCOM (Space)*	PROJECT 644870: *Command & Control System Consolidated (CCSC)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Demonstration Contractors	C/FFP	Various:Various,	6.800	-		-		-		-	0.000	6.800	0.000
Development Contractor: Integral Systems, Inc.	C/CPAF	Integral Systems, Inc:Lanham, MD	158.707	15.664	Oct 2010	9.176	Oct 2011	-		9.176	Continuing	Continuing	0.000
		Subtotal	165.507	15.664		9.176		-		9.176			0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CCSC Program Support Cost	Various	Various:,	27.350	2.510	Oct 2010	3.628	Oct 2011	-		3.628	Continuing	Continuing	0.000
		Subtotal	27.350	2.510		3.628		-		3.628			0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	192.857	18.174		12.804		-		12.804			0.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603854F: *Wideband MILSATCOM (Space)*	**PROJECT** 644870: *Command & Control System Consolidated (CCSC)*

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603854F: *Wideband MILSATCOM (Space)*	**PROJECT** 644870: *Command & Control System Consolidated (CCSC)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
WGS 3 launch	1	2010	1	2010
AEHF 1 launch	4	2010	4	2010
WGS 4 launch	1	2012	1	2012
AEHF 2 launch	2	2012	2	2012
CCS-C Block II RFP	1	2012	1	2012
CCS-C Block II Contract Award	3	2012	3	2012