

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2008
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BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0305110F Satellite Control Network
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Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	21.238	26.898	16.758	19.026	16.920	17.249	17.595	Continuing	TBD
3276 Satellite Control Network	21.238	26.898	16.758	19.026	16.920	17.249	17.595	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

The Air Force Satellite Control Network (AFSCN) mission is to command and control space systems and to distribute space system information in support of operational DoD missions, National Security, RDT&E programs, and other designated users. Air Force Space Command (AFSPC) performs operations, maintenance, modernization, and sustainment of the system to provide operational capabilities validated by a Joint Staff Capstone Requirements Document and a Headquarters USAF-approved Operational Requirements Document (ORD). This program element contains funds for the development and acquisition of this integrated national satellite telemetry, tracking, commanding, and data relay capability to meet the requirements of the growing inventory of operational and developmental DoD, National, Civil, and Allied satellite systems.

The AFSCN is a global infrastructure of control centers, Remote Tracking Stations (RTSs), and communications links that provides unique capability for DoD to deploy and operate its satellites. AFSCN provides the highly reliable command and control, communications, and range systems required to support the nation's surveillance, navigation, communications, warning, and weather satellite operations. The AFSCN is the DoD's common user network that provides satellite state-of-health, telemetry, tracking, and commanding (TT&C) for the following operational and future satellite systems: Defense Meteorological Satellite Program (DMSP), Global Positioning System (GPS), Defense Satellite Communications System (DSCS), Defense Support Program (DSP), Space Based Infrared System (SBIRS), Space Based Surveillance System (SBSS), Space Tracking and Surveillance System (STSS), Fleet Satellite (FLEETSAT), Military Strategic and Tactical Relay Satellite (MILSTAR), the Navy's Ultra High Frequency Follow-On (UHF F/O), Mobile User Objective System (MUOS), Advanced EHF (AEHF), Wideband Global SATCOM (WGS), Transformational Communications Satellites (TSAT), Skynet, NATO III/IV, and classified programs. Support to NASA and National Oceanic and Atmospheric Administration (NOAA) satellites is provided on an "as required" basis. In addition, the AFSCN provides launch and early orbit tracking operations in support of all major US launches and provides satellite end-of-life disposal operations. It is the world's only global satellite control network equipped with high-power capability necessary for satellite rescue and anomaly resolution operations.

AFSCN Improvement and Modernization (I&M) is an ongoing program of replacements and upgrades which will meet AFSPC operational requirements to replace non-standard, unsupportable equipment with more reliable, maintainable, interoperable, and standardized hardware and software. This new equipment will enable AFSPC satellite operations to be performed with fewer, less skilled personnel and will reduce hardware/software maintenance costs. The principal efforts within this program are currently focused on Range Upgrades and Network Operations Upgrades.

RANGE UPGRADES: This effort will upgrade the current RTSs. Several integrated efforts, which are now grouped into the RTS Block Change (RBC) effort, will standardize, automate and make interoperable the remote tracking stations through the replacement of outdated government unique equipment with commercial off-the-shelf technology in order to reduce failures, correct operational deficiencies, and reduce operating and sustainment costs. We will also examine the capability of phased array antenna in the RBC upgrade. Additionally, interoperability efforts to address standards and protocols and external user connectivity are included in

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this segment.

NETWORK OPERATIONS UPGRADES: These upgrades build the net-centric, Internet Protocol (IPv6) software baseline for AFSCN in accordance with the latest DOD information technology standards. These critical upgrades improve AFSCN resource management capabilities to include Remote Tracking Station (RTS) control and monitoring services, Electronic Scheduling and Dissemination system (ESD) enhancements, and Fault Detection/Isolation/Correction (FD/II/FC). These capabilities tie together current disparate systems to provide a modern automated, self-healing, and robust IP network.

This effort is in Budget Activity 7, Operational System Development, because it supports a fielded system.

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	19.783	27.256	17.005
(U) Current PBR/President's Budget	21.238	26.898	16.758
(U) Total Adjustments	1.455	-0.358	
(U) Congressional Program Reductions		-0.186	
Congressional Rescissions		-0.172	
Congressional Increases			
Reprogrammings	2.005		
SBIR/STTR Transfer	-0.550		
(U) <u>Significant Program Changes:</u>			
FY07: Increase (\$2M) to complete Vandenberg Tracking Station			

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Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
3276 Satellite Control Network	21.238	26.898	16.758	19.026	16.920	17.249	17.595	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

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RANGE UPGRADES: This effort will upgrade the current RTSs. Several integrated efforts, which are now grouped into the RTS Block Change (RBC) effort, will standardize, automate and make interoperable the remote tracking stations through the replacement of outdated government unique equipment with commercial off-the-shelf technology in order to reduce failures, correct operational deficiencies, and reduce operating and sustainment costs. We will also examine the capability of phased array antenna in the RBC upgrade. Additionally, interoperability efforts to address standards and protocols and external user connectivity are included in this segment.

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NETWORK OPERATIONS UPGRADES: These upgrades build the net-centric, Internet Protocol (IPv6) software baseline for AFSCN in accordance with the latest DOD information technology standards. These critical upgrades improve AFSCN resource management capabilities to include Remote Tracking Station (RTS) control and monitoring services, Electronic Scheduling and Dissemination system (ESD) enhancements, and Fault Detection/Isolation/Correction (FD/FI/FC). These capabilities tie together current disparate systems to provide a modern automated, self-healing, and robust IP network.

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(U) B. Accomplishments/Planned Program (\$ in Millions)	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Range Upgrades: continue upgrades to include development of interoperability and RTS Block Change efforts. Participate in demo of phased array antenna applicability to RBC effort. Continue predeployment system engineering and network integration.	17.574	22.211	9.460
(U) Network Operations Upgrades: continue upgrades to network operations to include development of Orbit Analysis Subsystem follow-on upgrade, enterprise management, information assurance, and predeployment system engineering and network integration.	0.000	1.000	3.600
(U) Program support, to include System Program Office operations, SETA, FFRDC and Systems Engineering and Integration	3.664	3.687	3.698
(U) Total Cost	21.238	26.898	16.758

(U) C. Other Program Funding Summary (\$ in Millions)	<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>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) OPAF, Electronics & Telecom Equipment (BA 03, PE 0305110F, P-64)	71.999	49.664	65.383	62.689	65.251	66.535	67.852	Continuing	TBD
(U) OPAF, Initial Spares & Repair Parts (BA 05 PE 0305110F, P-103)	3.551	0.000	0.000	0.000	0.000	0.000	0.000	0.000	18.098

(U) D. Acquisition Strategy
The AF uses the competitively awarded Satellite Control Network Contract (SCNC), managed by Space and Missile System Center, to modernize and sustain the AFSCN on a non-interference basis as it continues to support operational, RDT&E, and other designated users.

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Exhibit R-3, RDT&E Project Cost Analysis

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(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2007 Cost</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u> Satellite Control Network Contract	C/CPAF	Honeywell, Colorado Springs, CO		17.574	Dec-06	23.211	Dec-07	13.060	Dec-08	Continuing	TBD	TBD
Subtotal Product Development			0.000	17.574		23.211		13.060		Continuing	TBD	TBD
Remarks:												
(U) <u>Support</u> Program Support (FFRDC, SETA, SPO ops)	various	various		3.664	Dec-06	3.687	Dec-07	3.698	Dec-08	Continuing	TBD	TBD
Subtotal Support			0.000	3.664		3.687		3.698		Continuing	TBD	TBD
Remarks:												
(U) <u>Subtotal additional reprogrammings</u>												
(U) Total Cost			0.000	21.238		26.898		16.758		Continuing	TBD	TBD
Remarks:												

Exhibit R-4, RDT&E Schedule Profile

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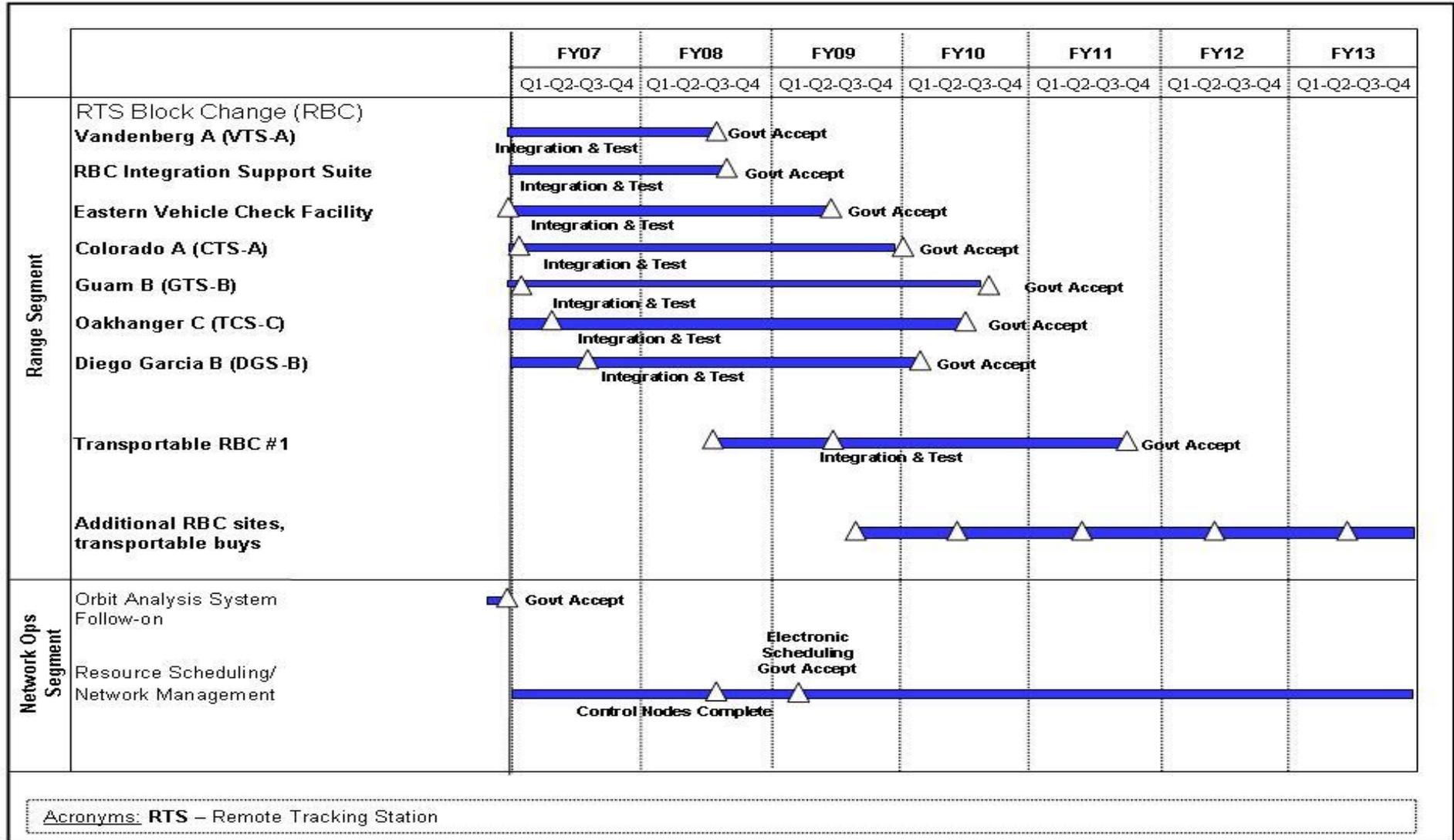


Exhibit R-4a, RDT&E Schedule Detail

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT NUMBER AND TITLE		
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(U) Schedule Profile		<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) RANGE UPGRADES (Remote Tracking Station (RTS) Block Change)				
(U) - Vandenberg RTS Boresight Test		3Q		
(U) - Vandenberg RTS Gov't acceptance			3Q	
(U) - Begin Transportable RBC #1			3Q	
(U) - RBC Integration Support Suite Gov't acceptance			3Q	
(U) - Eastern Vehicle Check Facility				2Q
(U) - Begin Hawaii RTS block change				2Q
(U) - Colorado RTS Gov't acceptance				4Q
(U) NETWORK OPERATIONS UPGRADES				
(U) - Electronic Scheduling Segment Verification Test		3Q		
(U) - Resource Scheduling control nodes upgrade complete			2Q	
(U) - Electronic Scheduling Gov't acceptance				2Q