

Exhibit R-2, RDT&E Budget Item Justification	DATE May 2009
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BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604851F ICBM - EMD
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Cost (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	0.000	0.000	60.010	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
5037 Support Equipment	0.000	0.000	41.331	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
5081 ICBM Crypto	0.000	0.000	18.679	0.000	0.000	0.000	0.000	0.000	Continuing	TBD

(U) **A. Mission Description and Budget Item Justification**

ICBM Engineering and Manufacturing Development (EMD) efforts will ensure the extension of the operational life of the Minuteman III Intercontinental Ballistic Missile (ICBM) weapon system through 2030.

The Support Equipment program designs, develops, and tests replacement of obsolete/non-serviceable weapon system support equipment. The FY10 effort includes design, development, and testing of replacement Electrical-Electronic Equipment Test Sets, Reentry Field Support Equipment, Minuteman Code Media and the Payload Transporter Tractor and Trailer.

The ICBM Cryptography Upgrade Increment II program expands on the ICBM Cryptography Upgrade Increment 1 program and begins design and development to incorporate remote key/code change and irreversible transformation of launch/enable codes increasing nuclear weapons security during annual code change cycles.

This program is in Budget Activity 05 as it involves system development, integration and demonstration. Production efforts associated with this program are budgeted in Budget Activity 03 within Program Element 0101213F.

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

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
(U) Previous President's Budget	0.000	0.000	0.000
(U) Current PBR/President's Budget	0.000	0.000	60.010
(U) Total Adjustments	0.000	0.000	
(U) Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
(U) <u>Significant Program Changes:</u>			

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BUDGET ACTIVITY 05 System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604851F ICBM - EMD				PROJECT NUMBER AND TITLE 5037 Support Equipment		
Cost (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
5037 Support Equipment	0.000	0.000	41.331	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

This project is a new start in FY10. The ongoing Support Equipment program designs, develops and tests support equipment necessary to extend the operational life of the Minuteman III Weapon System through 2030. The production phase, MPAF 3020 funding, is budgeted under MMIII Support Equipment Replacement, PE 0101213F.

Examples of support equipment to be addressed in FY10 include:

Design and develop the Electrical-Electronic Equipment Test Set (EEETS) necessary for production/pre-launch checkout of MOD 7 wafer required for the ongoing test launch program. The program will replace the current unsupported test set which consists of a non-standard processor, proprietary software, and requires Digital-to-Analog Converter (DAC) cards no longer made (no suitable substitute).

Design and develop Reentry Field Support Equipment (RFSE) to replace the current reentry systems test set. The effort will increase the mean time between failure, eliminate unneeded MK12 functions, and add new MK21 functions. It will provide capability through 2030 to meet DoE mandated Limited Life Component warhead swaps and to test electrical continuity during buildup of MM III Reentry Systems

The Minuteman Code System Media (CSM) effort will develop software to support management of data flow and data products to get the Minuteman III weapon system into operational mode. Current processes utilize DC300 tape cartridges and 9-track tapes. Beginning in FY11 NSA is no longer utilizing DC300 tape cartridges and the shelf life expires in 2013 for the remaining 9-track tapes. The software will be modified for utilization of CD-ROMs as the new media. Ensures capability through 2030 to load codes/software on MM ICBMs--critical to CY12 code change.

Design and develop the capabilities necessary to replace the current Payload Transporter Tractor and Trailer (PT3), mitigating emerging threat technologies and methods. The new Weapons Transporter design increases safety and security during transport activities and improves maintenance operations.

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

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
(U) Begin support equipment design, development and evaluation	0.000	0.000	34.171
(U) Begin Nuclear Surety Cross Check Analysis for the support equipment/Independent Validation and Verification (IV&V)	0.000	0.000	0.392
(U) Provide other government support for support equipment	0.000	0.000	5.645
(U) Test and evaluation for ICBM Prime Integration Contract	0.000	0.000	1.123
(U) Total Cost	0.000	0.000	41.331

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PROJECT NUMBER AND TITLE

5037 Support Equipment

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

	<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>FY 2014</u>	<u>FY 2015</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Complete</u>							

(U)

(U) D. Acquisition Strategy

The support equipment replacement programs will be Cost Plus Award Fee (CPAF) contract adendums added to the ICBM Prime Integration Contractor (IPIC) for everything but the Nuclear Safety Cross Check Analysis (NSCCA)/Independent Validation and Verification (IV&V) efforts, which will be contracted for separately under a CPAF Contract.

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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			
05 System Development and Demonstration (SDD)				0604851F ICBM - EMD					5037 Support Equipment			
<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 2008 Cost</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>FY 2010 Cost</u>	<u>FY 2010 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u> ICBM Prime Integration Contract	CPAF	Northrop Grumman, Clearfield, UT	0.000	0.000	N/A	0.000	N/A	34.171	Dec-09		34.171	
Subtotal Product Development			0.000	0.000		0.000		34.171		0.000	34.171	0.000
Remarks:												
(U) <u>Support</u> NSCCA SPO/Other Program Support	CPAF Various	NGIT ICBM Program Office, Hill AFB, UT	0.000	0.000	N/A	0.000	N/A	0.392	Jan-10		0.392	
			0.000	0.000	N/A	0.000	N/A	5.645	Dec-09		5.645	
Subtotal Support			0.000	0.000		0.000		6.037		0.000	6.037	0.000
Remarks:												
(U) <u>Test & Evaluation</u> ICBM Prime Integration Contract	CPAF	Northrop Grumman, Clearfield, UT	0.000	0.000		0.000		1.123	Dec-09		1.123	
Subtotal Test & Evaluation			0.000	0.000		0.000		1.123		0.000	1.123	0.000
Remarks:												
(U) <u>Management</u> Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Total Cost			0.000	0.000		0.000		41.331		0.000	41.331	0.000

Exhibit R-4, RDT&E Schedule Profile

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05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604851F ICBM - EMD

PROJECT NUMBER AND TITLE

5037 Support Equipment

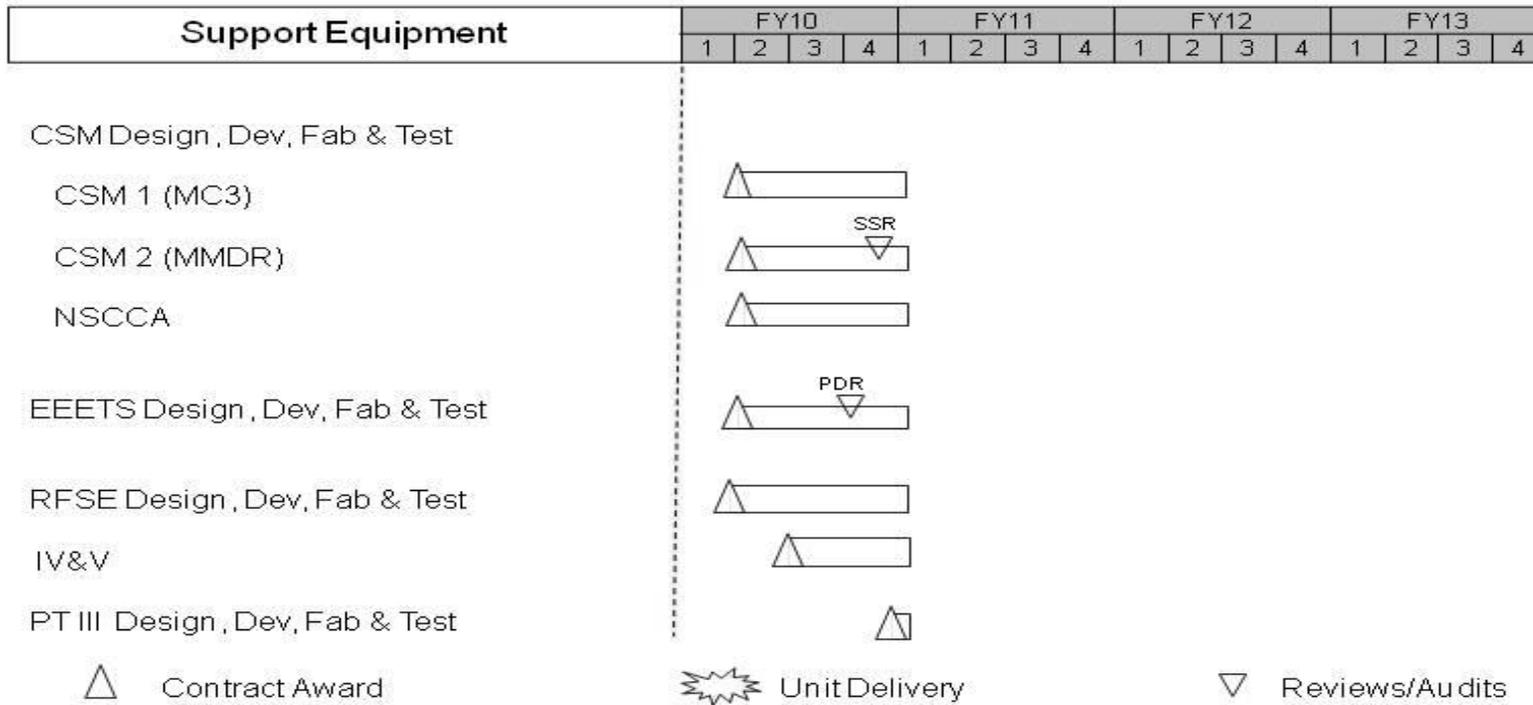


Exhibit R-4a, RDT&E Schedule Detail

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BUDGET ACTIVITY

05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604851F ICBM - EMD

PROJECT NUMBER AND TITLE

5037 Support Equipment

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
(U) <u>Schedule Profile</u>			
(U) Support Equipment Contract Award			2Q
(U) CSM Magnetic Media Drive Replacement PDR			4Q
(U) Electrical-Electronic Equipment Test Set CDR			4Q
(U) Reentry Field Support Equipment Independent Validation and Verification Kickoff			2Q
(U) RFSE Nuclear Safety Cross Check Analysis Kickoff			3Q
(U) CSM Contract Award			2Q
(U) Payload Transporter Tractor and Trailor Kickoff			4Q

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BUDGET ACTIVITY 05 System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604851F ICBM - EMD			PROJECT NUMBER AND TITLE 5081 ICBM Crypto		
Cost (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
5081 ICBM Crypto	0.000	0.000	18.679	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

Increment II of the Inter-Continental Ballistic Missile Cryptography Upgrade program implements the KS-60 capabilities of remote key/code change and irreversible transformation as mandated in the approved Capabilities Development Document (CDD) dated 4 Jan 05 and addresses Nuclear Weapon System Safety Group Operational Safety Review (NWSSG OSR) requirements 98-2, 00-1 and 02-2. These features will greatly increase security during code changes by reducing the frequency of open sites by 75 days annually and reducing associated resource costs for 450 launch facilities (LF) and 45 launch control centers (LCC). The intent of the budgeted (\$120M) effort is to design, develop and test the software upgrades/changes to the Console Operating Program, Launch Facility hardware/software modification and Wing Code Processing System.

This document is for the RDT&E phase of ICBM Cryptography Program Increment II and is in Budget Activity 05. The Production portion of the program is under PE 0101213F MM III Modification.

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

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
(U) ICBM cryptography system design and development	0.000	0.000	18.187
(U) Provide other government support	0.000	0.000	0.492
(U) Total Cost	0.000	0.000	18.679

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

	<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>FY 2014</u>	<u>FY 2015</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Complete</u>							

(U)

(U) D. Acquisition Strategy

Cost Plus Award Fee contract will be added to the ICBM Prime Integration Contractor (IPIC).

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BUDGET ACTIVITY				PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE			
05 System Development and Demonstration (SDD)				0604851F ICBM - EMD					5081 ICBM Crypto			
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2008 Cost</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>FY 2010 Cost</u>	<u>FY 2010 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u> ICBM Prime Integration Contract	CPAF	Northrop Grumman, Clearfield UT						18.187	Jan-10		18.187	
Subtotal Product Development Remarks:			0.000	0.000		0.000		18.187		0.000	18.187	0.000
(U) <u>Support</u> SPO/Other Program Support	Various	ICBM Program Office, Hill AFB UT						0.492			0.492	
Subtotal Support Remarks:			0.000	0.000		0.000		0.492		0.000	0.492	0.000
(U) <u>Test & Evaluation</u> Subtotal Test & Evaluation Remarks:			0.000	0.000		0.000		0.000		0.000	0.000	0.000
(U) <u>Management</u> Subtotal Management Remarks:			0.000	0.000		0.000		0.000		0.000	0.000	0.000
(U) Total Cost			0.000	0.000		0.000		18.679		0.000	18.679	0.000

Exhibit R-4, RDT&E Schedule Profile

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05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604851F ICBM - EMD

PROJECT NUMBER AND TITLE

5081 ICBM Crypto

ICBM Cryptography II	FY09				FY10				FY11				FY12				FY13				FY14				FY15				FY16			
	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	1	2	3	4
System Design/Development																																



Contract Award



Unit Delivery



Reviews/Audits

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(U) <u>Schedule Profile</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
(U) Contract Award			2Q