

UNCLASSIFIED

PE NUMBER: 0603851F
 PE TITLE: ICBM - DEM/VAL

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2008
---	------------------------------

BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE 0603851F ICBM - DEM/VAL
---	--

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	56.286	31.121	65.629	67.424	69.006	70.882	72.786	Continuing	TBD
1020 ICBM Guidance Applications	8.787	8.044	22.784	16.638	15.589	14.849	15.135	Continuing	TBD
1021 ICBM Propulsion Applications	22.588	12.010	34.516	42.332	44.845	47.183	48.581	Continuing	TBD
1022 ICBM Reentry Vehicle Applications	4.600	5.327	5.413	5.555	5.698	5.957	6.159	Continuing	TBD
1023 Rocket System Launch Program	0.003	0.029	0.027	0.026	0.025	0.026	0.026	Continuing	TBD
1024 ICBM Command & Control (C2) Applications	3.487	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.586
4209 Long Range Planning (LRP)	16.821	5.711	2.889	2.873	2.849	2.867	2.885	Continuing	TBD

(U) **A. Mission Description and Budget Item Justification**
 This program ensures a responsive design and development engineering infrastructure to address emerging issues within the current Intercontinental Ballistic Missile (ICBM) force and other common mission areas, where appropriate, to develop enhanced multi-use capabilities for future technology insertion. Efforts identify methods to reduce life cycle costs, improve nuclear safety and surety, and ensure strategic missile viability. Demonstration and validation projects include guidance applications, reentry vehicles, assessment of current and future propulsion systems, development of enhanced command and control capabilities, and Long Range Planning efforts.

This program is in Budget Activity 04 - Advanced Component Development and Prototypes because the efforts demonstrate technology, component and subsystem maturity, and provide risk reduction.

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	60.907	26.519	27.349
(U) Current PBR/President's Budget	56.286	31.121	65.629
(U) Total Adjustments	-4.621	4.602	
(U) Congressional Program Reductions			
Congressional Rescissions		-0.198	
Congressional Increases		4.800	
Reprogrammings	-1.943		
SBIR/STTR Transfer	-2.678		

(U) **Significant Program Changes:**
 FY08: \$4.8M Congressional Increase for Conventional Strike Missile Capabilities Demonstration
 FY09: \$39.0M Increase for research and development for solid rocket motors and advanced guidance

Exhibit R-2a, RDT&E Project Justification

DATE
February 2008

BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)							PE NUMBER AND TITLE 0603851F ICBM - DEM/VAL		PROJECT NUMBER AND TITLE 1020 ICBM Guidance Applications	
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	
1020 ICBM Guidance Applications	8.787	8.044	22.784	16.638	15.589	14.849	15.135	Continuing	TBD	
Quantity of RDT&E Articles	0	0	0	0	0	0	0			

(U) A. Mission Description and Budget Item Justification

The Guidance Applications Program ensures the continued readiness of our strategic deterrent and development of strategic capability in response to the Nuclear Posture Review, recommendations of the United States Strategic Command (USSTRATCOM) Strategic Advisory Group, Commander, USSTRATCOM guidance, the Defense Science Board Task Force on Nuclear Deterrence and prompt global strike efforts. Efforts are focused on current and future requirements and technologies, reduced life cycle costs, and increased nuclear surety and safety. Activities leverage the efforts of the Science and Technology community and are coordinated with the Navy strategic application program to enhance synergy and avoid duplication. Key elements include a responsive systems engineering capability to develop & analyze future strategic guidance capabilities.

This program is in Budget Activity 04 - Advanced Component Development and Prototypes because the efforts demonstrate technology, component, and subsystem maturity, and provide risk reduction.

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Develop, prototype, and test solid-state instrument technologies (accelerometers and gyros)	3.856	4.800	11.267
(U) Develop, analyze, evaluate, prototype, and test advanced solid-state inertial measurement unit concepts	3.931	2.244	10.017
(U) Continue assessment, evaluation and test of radiation hard electronics for strategic guidance applications	0.500	0.500	0.500
(U) Conduct precision inertial navigation system experiment to demonstrate future strategic system concepts	0.000	0.000	1.000
(U) Conduct assessment, development and implementation of flight test experiment options to demonstrate future strategic system concepts	0.500	0.500	0.000
(U) Total Cost	8.787	8.044	22.784

(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) None.									

(U) D. Acquisition Strategy

Accomplish studies, analyses, and limited engineering/pre-prototype hardware development; efforts will be conducted using contracting strategies deemed most appropriate, generally using competitive cost plus contracts.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis

DATE

February 2008

BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT NUMBER AND TITLE				
04 Advanced Component Development and Prototypes (ACD&P)				0603851F ICBM - DEM/VAL				1020 ICBM Guidance Applications				
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2007 Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) <u>Product Development</u> Development, analyze, evaluate, prototype, test instrument technologies; IMU concepts	Various	AFRL, Kirtland AFB NM; Honeywell, Redmond WA, Clearwater FL, Phoenix AZ		6.775	Jan-07	6.300	Jan-08	19.734	Jan-09	Continuing	TBD	TBD
Assess, develop and implement precision inertial navigation system experiment								1.000	Jan-09		1.000	1.000
Assess, evaluate and test of radiation hard electronics				0.500	Jan-07	0.500	Jan-08	0.500	Jan-09	Continuing	TBD	TBD
Subtotal Product Development			0.000	7.275		6.800		21.234		Continuing	TBD	TBD
Remarks:												
(U) <u>Support</u> Other Program Support	Various	SMC, Los Angeles CA; AFSPC, Colorado Springs CO; 526 ICBMSG, Hill AFB UT		1.012	Jan-07	0.744	Jan-08	1.550	Jan-09	Continuing	TBD	TBD
Subtotal Support			0.000	1.012		0.744		1.550		Continuing	TBD	TBD
Remarks:												
(U) <u>Test & Evaluation</u> Flight Test	C/CPAF	Northrop Grumman, Clearfield UT		0.500	Dec-06	0.500	Feb-08	0.000	N/A	Continuing	TBD	TBD
Subtotal Test & Evaluation			0.000	0.500		0.500		0.000		Continuing	TBD	TBD
Remarks:												
(U) Total Cost			0.000	8.787		8.044		22.784		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2008

BUDGET ACTIVITY

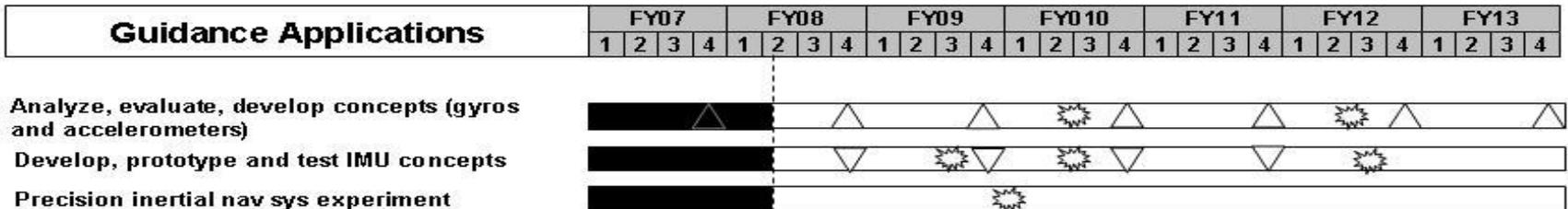
04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE

0603851F ICBM - DEM/VAL

PROJECT NUMBER AND TITLE

1020 ICBM Guidance Applications



△ Report/Review/Analysis ☀ Major Test Event ▽ Prototype Hardware Delivery

Exhibit R-4a, RDT&E Schedule Detail

DATE

February 2008

BUDGET ACTIVITY

04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE

0603851F ICBM - DEM/VAL

PROJECT NUMBER AND TITLE

1020 ICBM Guidance Applications

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Schedule Profile			
(U) Analyze, evaluate, and develop concepts (accelerometers and gyros)	1-4Q	1-4Q	4Q
(U) Develop, prototype, and test advanced solid-state inertial measurement unit concepts	4Q	4Q	4Q
(U) Continue assessment, evaluation and test of radiation hard electronics for strategic guidance applications	1-4Q	1-4Q	1-4Q
(U) Conduct assessment, development and implementation of precision inertial navigation system experiment to demonstrate future strategic system concepts			4Q

Exhibit R-2a, RDT&E Project Justification

DATE
February 2008

BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)				PE NUMBER AND TITLE 0603851F ICBM - DEM/VAL			PROJECT NUMBER AND TITLE 1021 ICBM Propulsion Applications		
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
1021 ICBM Propulsion Applications	22.588	12.010	34.516	42.332	44.845	47.183	48.581	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

(U) The ICBM Propulsion Application Program develops strategic propulsion capability through projects exploring improvements and/or alternatives to current propulsion systems, conducting studies assessing application of new technologies to meet future common propulsion system requirements, assessing opportunities for applying common materials and technology between the ICBM, submarine-launched ballistic missile (SLBM) propulsion systems, and other solid rocket motor propulsion capabilities to demonstrate a potential family of motors capability.

This program is in Budget Activity 04 - Advanced Component Development and Prototypes because the efforts demonstrate technology, component, and subsystem maturity, and provide risk reduction.

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Common solid propulsion technology assessment, development, evaluation and stage manufacture leading to static fire/test launch	13.590	8.710	29.516
(U) Continue assessment and demonstration of ordnance and post-boost components technology developments	7.679	2.500	5.000
(U) Continue evaluation of hazard classification methods for ICBM solid rocket motors	1.319	0.800	0.000
(U) Total Cost	22.588	12.010	34.516

(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) None									

(U) D. Acquisition Strategy

Studies, analyses, and motor test firings will be accomplished; efforts will be conducted using contracting strategies deemed most appropriate, generally using competitive cost plus contracts.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis

DATE

February 2008

BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT NUMBER AND TITLE				
04 Advanced Component Development and Prototypes (ACD&P)				0603851F ICBM - DEM/VAL				1021 ICBM Propulsion Applications				
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2007 Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) <u>Product Development</u> Evaluation and test of solid propulsion technologies	Various	AFRL, Edwards AFB CA; Aerojet, Sacramento CA; ATK Thiokol, Corrinne UT		13.590	Jan-07	7.395	Jan-08	25.916	Jan-09	Continuing	TBD	TBD
Assess and demonstrate ordnance and post-boost components				7.295		2.850		5.000	Jan-09	Continuing	TBD	TBD
Evaluation of hazard classification methods				1.319		0.800		0.000	Jan-09	Continuing	TBD	TBD
Subtotal Product Development			0.000	22.204		11.045		30.916		Continuing	TBD	TBD
Remarks:												
(U) <u>Support</u> Other Program Support	Various	AFRL, Edwards AFB CA; AFSPC, Peterson AFB CO; 526 ICBMSG, Hill AFB UT		0.384	Jan-07	0.365	Jan-08	3.000	Jan-09	Continuing	TBD	TBD
Subtotal Support			0.000	0.384		0.365		3.000		Continuing	TBD	TBD
Remarks:												
(U) <u>Test & Evaluation</u> Static Fire (Edwards/AEDC)	C/CPAF			0.000	N/A	0.600	Nov-07	0.600	Nov-08	Continuing	TBD	TBD
Subtotal Test & Evaluation			0.000	0.000		0.600		0.600		Continuing	TBD	TBD
Remarks:												
(U) Total Cost			0.000	22.588		12.010		34.516		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2008

BUDGET ACTIVITY

04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE

0603851F ICBM - DEM/VAL

PROJECT NUMBER AND TITLE

1021 ICBM Propulsion Applications

Propulsion Applications	FY07				FY08				FY09				FY10				FY11				FY12				FY13			
	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

Analyze, Evaluate Develop Concepts

Post boost motor component tests

Ordnance component test

Solid rocket motor static test fires

△ Report/Review/Analysis

☼ Major test event

▽ Prototype hardware delivery

Exhibit R-4a, RDT&E Schedule Detail	DATE February 2008
--	------------------------------

BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE 0603851F ICBM - DEM/VAL	PROJECT NUMBER AND TITLE 1021 ICBM Propulsion Applications
---	--	---

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) <u>Schedule Profile</u>			
(U) Evaluate and test solid propulsion technologies for application	1-4Q	1-4Q	1-4Q
(U) -- Periodic Status Reports/Review	4Q	4Q	4Q
(U) -- Solid rocket motor static test fire		2Q	2-4Q
(U) Assessment/demonstration of ordnance and post-boost components technology	1-4Q	1-4Q	1-4Q
(U) --Periodic Status Report/Reviews	4Q	4Q	4Q
(U) --Post Boost Major Component test			4Q
(U) --Ordnance component test			4Q
(U) Evaluate test protocols in support of hazard classification methods	1-4Q	1-4Q	
(U) --Periodic Status Report/Reviews	4Q	4Q	

Exhibit R-2a, RDT&E Project Justification

DATE
February 2008

BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)				PE NUMBER AND TITLE 0603851F ICBM - DEM/VAL			PROJECT NUMBER AND TITLE 1022 ICBM Reentry Vehicle Applications			
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	
1022 ICBM Reentry Vehicle Applications	4.600	5.327	5.413	5.555	5.698	5.957	6.159	Continuing	TBD	
Quantity of RDT&E Articles	0	0	0	0	0	0	0			

(U) A. Mission Description and Budget Item Justification

The ICBM Reentry Vehicle (RV) Applications Program ensures the Minuteman force is equipped with the safest and most reliable RVs and explores options for common, multi-mission capabilities. A responsive engineering infrastructure supports RVs beyond their original design life by addressing operational system issues and ensuring the availability of long-lead components/materials while identifying life cycle cost reduction methods. The program also develops and tests advanced RV technologies to meet future requirements. The program leverages investments by the Science & Technology community and Navy reentry systems applications program. Products are tested on a space available basis on Minuteman and Trident Force Development Evaluation (FDE) flights.

This program is in Budget Activity 04 - Advanced Component Development and Prototypes because the efforts demonstrate technology, component, and subsystem maturity, and provide risk reduction.

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue evaluation of RV materials through ground and flight tests	1.256	4.636	4.963
(U) Continue development and testing of potential replacement options for critical RV components	2.625	0.691	0.450
(U) Continue evaluation of improved accuracy measurements and methodologies	0.264	0.000	0.000
(U) Continue evaluation of alternate flight test experiment options	0.455	0.000	0.000
(U) Total Cost	4.600	5.327	5.413

(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) None									

(U) D. Acquisition Strategy

Studies, analyses, limited engineering, and pre-prototype hardware development will be accomplished; efforts will be conducted using contracting strategies deemed most appropriate, generally using competitive cost plus contracts.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis

DATE

February 2008

BUDGET ACTIVITY				PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE			
04 Advanced Component Development and Prototypes (ACD&P)				0603851F ICBM - DEM/VAL					1022 ICBM Reentry Vehicle Applications			
<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> ICBM Prime Integration Contract	C/CPAF	Northrop Grumman, Clearfield UT		3.445	Dec-06	0.621	Nov-07	0.328	Nov-08	Continuing	TBD	TBD
Component/materials development	Various	TBD		0.000	N/A	3.629	Nov-07	3.923	Nov-08	Continuing	TBD	TBD
Subtotal Product Development			0.000	3.445		4.250		4.251		Continuing	TBD	TBD
Remarks:												
<u>(U) Support</u> SPO/Other Program Support	Various	526 ICBMSG, Hill AFB UT		0.732	Jan-07	0.539	Jan-08	0.558	Jan-09	Continuing	TBD	TBD
Subtotal Support			0.000	0.732		0.539		0.558		Continuing	TBD	TBD
Remarks:												
<u>(U) Test & Evaluation</u> Materials	MIPR	AFRL Materials Lab, Wright-Patterson on AFB;		0.350	Dec-06	0.538	Dec-07	0.494	Dec-08	Continuing	TBD	TBD
Ground Testing	PO	Arnold Engineering & Development Center		0.073	Jan-07	0.000	Jan-08	0.110	Jan-09	Continuing	TBD	TBD
Subtotal Test & Evaluation			0.000	0.423		0.538		0.604		Continuing	TBD	TBD
Remarks:												
<u>(U) Total Cost</u>			0.000	4.600		5.327		5.413		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2008

BUDGET ACTIVITY

04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE

0603851F ICBM - DEM/VAL

PROJECT NUMBER AND TITLE

1022 ICBM Reentry Vehicle Applications

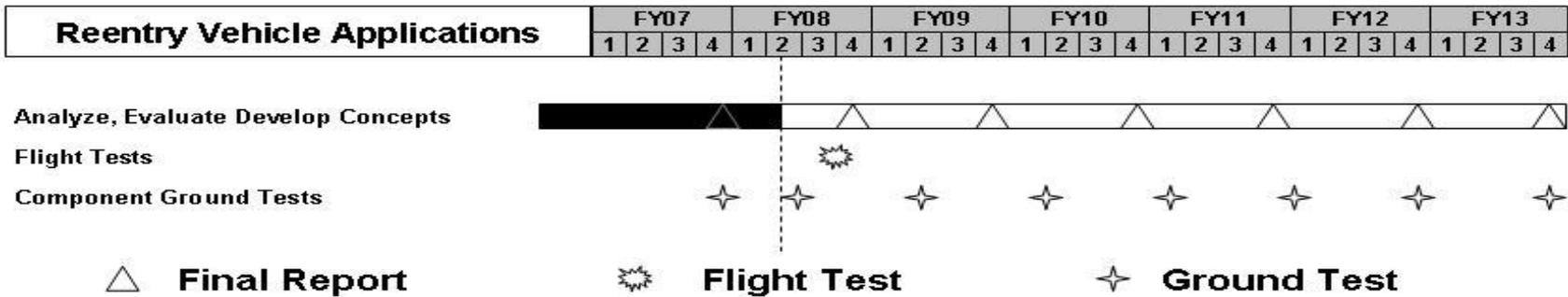


Exhibit R-4a, RDT&E Schedule Detail

DATE

February 2008

BUDGET ACTIVITY

04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE

0603851F ICBM - DEM/VAL

PROJECT NUMBER AND TITLE

1022 ICBM Reentry Vehicle Applications

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Schedule Profile			
(U) Materials Replacement & Aging Evaluations	1-4Q	1-4Q	1-4Q
(U) Fuze Assessment/Measurement Tool Development	1-4Q	1-4Q	1-4Q
(U) Critical Components Evaluations	1-4Q	1-4Q	1-4Q
(U) Accuracy Assessment Methodologies Development	1-4Q		
(U) Alternate Flight Test Options Development	1-4Q		
(U) Flight Tests		3Q	
(U) Component Level Ground Tests	4Q	2Q	2Q

Exhibit R-2a, RDT&E Project Justification

DATE

February 2008

BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)				PE NUMBER AND TITLE 0603851F ICBM - DEM/VAL			PROJECT NUMBER AND TITLE 1023 Rocket System Launch Program		
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
1023 Rocket System Launch Program	0.003	0.029	0.027	0.026	0.025	0.026	0.026	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

This task supports hardware studies/analyses for the cost effective use of excess missile assets.

This program is in Budget Activity 04 - Advanced Component Development and Prototypes because the efforts demonstrate technology, component, and subsystem maturity, and provide risk reduction.

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue on-going study/analysis for the adoption of low cost front-end systems for use on deactivated missile assets	0.003	0.029	0.027
(U) Total Cost	0.003	0.029	0.027

(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) None									

(U) D. Acquisition Strategy

Studies and analyses will be performed primarily in-house augmented with contractor support as required. Any special projects funded under this project that will require development and/or evaluation of hardware along with the associated employment concepts, will be awarded to qualified industry sources following open competition. Type of contract used (e.g., CPIF, FPIF, etc) will be that deemed most advantageous to the government, generally using cost plus contracts.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis

DATE

February 2008

BUDGET ACTIVITY				PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE				
04 Advanced Component Development and Prototypes (ACD&P)				0603851F ICBM - DEM/VAL					1023 Rocket System Launch Program				
(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 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>													
Subtotal Product Development			0.000	0.000		0.000		0.000		0.000	0.000	0.000	
Remarks:													
(U) <u>Support</u>													
Engineering Support	Various	Space Development and Test Wing, Kirtland AFB NM		0.003	Jan-07	0.029	Jan-08	0.027	Jan-09	Continuing	TBD	TBD	
Subtotal Support			0.000	0.003		0.029		0.027		Continuing	TBD	TBD	
Remarks:													
(U) Total Cost			0.000	0.003		0.029		0.027		Continuing	TBD	TBD	

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2008

BUDGET ACTIVITY

04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE

0603851F ICBM - DEM/VAL

PROJECT NUMBER AND TITLE

1023 Rocket System Launch Program

Rocket System Launch Program	FY07				FY08				FY09				FY10				FY11				FY12				FY13			
	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

Analyze, evaluate concepts



△ Report/Review/Analysis

★ Major Test Event

▽ Prototype Hardware Delivery

Exhibit R-4a, RDT&E Schedule Detail

DATE

February 2008

BUDGET ACTIVITY

04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE

0603851F ICBM - DEM/VAL

PROJECT NUMBER AND TITLE

1023 Rocket System Launch Program

(U) Schedule Profile

FY 2007

FY 2008

FY 2009

(U) Start/Complete Annual Studies/Analysis

1-4Q

1-4Q

1-4Q

Exhibit R-2a, RDT&E Project Justification

DATE
February 2008

BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)				PE NUMBER AND TITLE 0603851F ICBM - DEM/VAL			PROJECT NUMBER AND TITLE 1024 ICBM Command & Control (C2) Applications		
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
1024 ICBM Command & Control (C2) Applications	3.487	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.586
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

To ensure ICBMs continue to serve as a credible strategic deterrent requires an extremely high confidence in the Command and Control (C2) systems providing connectivity to the President and Secretary of Defense. Assured, survivable, and secure channels of communication to the missile Launch Control Centers (LCCs) and Launch Facilities (LFs) are essential for mission execution in hostile environments. Continuing analysis is needed to identify and exploit state-of-the-art communications and information transfer techniques that provide required C2 while making the systems more cost effective. This program accomplishes studies, demonstrations, and tests to ensure future ICBM C2 architectures, networks, and systems evolve in a planned, orderly, and cost effective manner while meeting the stringent requirements for nuclear command and control.

This program is in Budget Activity 04 - Advanced Component Development and Prototypes because the efforts demonstrate technology, component, and subsystem maturity, and provide risk reduction.

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Demonstrate Infralynx technology to support secure transportation of strategic assets	3.487	0.000	0.000
(U) Total Cost	3.487	0.000	0.000

(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) None									

(U) D. Acquisition Strategy

Studies and analyses, and limited engineering and pre-prototype hardware development will be accomplished; efforts will be conducted using contracting strategies deemed most appropriate.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis

DATE

February 2008

BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE 0603851F ICBM - DEM/VAL	PROJECT NUMBER AND TITLE 1024 ICBM Command & Control (C2) Applications
--	---	--

(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>												
Infralynx technology demonstration	MIPR	Naval Research Lab		3.487	May-07	0.000	N/A	0.000	N/A	0.000	3.487	6.836
Subtotal Product Development			0.000	3.487		0.000		0.000		0.000	3.487	6.836
Remarks:												
(U) Total Cost			0.000	3.487		0.000		0.000		0.000	3.487	6.836

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2008

BUDGET ACTIVITY

04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE

0603851F ICBM - DEM/VAL

PROJECT NUMBER AND TITLE

1024 ICBM Command & Control (C2) Applications

Command & Control Applications	FY07				FY08				FY09				FY10				FY11				FY12				FY13			
	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

Concept and prototype development



Demonstrate Infralynx technology



△ Report/Review/Analysis

★ Major Test Event

▽ Prototype Hardware Delivery

Exhibit R-4a, RDT&E Schedule Detail

DATE

February 2008

BUDGET ACTIVITY

04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE

0603851F ICBM - DEM/VAL

PROJECT NUMBER AND TITLE

1024 ICBM Command & Control (C2)
Applications

(U) Schedule Profile

(U) Concept and prototype development

(U) Field demonstration and assessment

FY 2007

1-4Q

4Q

FY 2008

1-4Q

1-3Q

FY 2009

Exhibit R-2a, RDT&E Project Justification

DATE
February 2008

BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)				PE NUMBER AND TITLE 0603851F ICBM - DEM/VAL			PROJECT NUMBER AND TITLE 4209 Long Range Planning (LRP)		
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
4209 Long Range Planning (LRP)	16.821	5.711	2.889	2.873	2.849	2.867	2.885	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

The Long Range Planning (LRP) task analyzes systems to identify common potential modifications required to meet user objectives relative to long term sustainment, technology insertion, employment, and force structure. The studies focus on system supportability, operability, reliability, and maintainability. Options/concepts generated by these studies are evaluated for feasibility, system impacts, and cost. The LRP also lays the groundwork for analysis supporting future weapon systems development and deployment.

This program is in Budget Activity 04 - Advanced Component Development and Prototypes because the efforts demonstrate technology, component, and subsystem maturity, and provide risk reduction.

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue support of the consolidated long range plan	0.473	0.437	0.408
(U) Continue feasibility and life extension studies	0.520	0.510	2.481
(U) Complete LBSD capability concept refinement and pre-Milestone A activities	4.025	0.000	0.000
(U) Conduct conventional ballistic/conventional strike missile systems engineering studies	11.803	4.764	0.000
(U) Total Cost	16.821	5.711	2.889

(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) None									

(U) D. Acquisition Strategy

Studies and analyses will be accomplished; efforts will be conducted using contracting strategies deemed most appropriate, generally using competitive cost plus contracts.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis

DATE

February 2008

BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT NUMBER AND TITLE				
04 Advanced Component Development and Prototypes (ACD&P)				0603851F ICBM - DEM/VAL				4209 Long Range Planning (LRP)				
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2007 Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) <u>Product Development</u> ICBM Prime Integration Contract	C/CPAF	Northrop Grumman, Clearfield UT		0.167	Jan-07	0.160	Jan-08	0.172	Jan-09	Continuing	TBD	TBD
Conventional Ballistic Missile System Engineering Studies/Conventional Strike Missile	Various	Various		10.088	May-07	4.764	May-08	0.000	N/A	0.000	14.852	11.185
Adaptive Missile Engineering Modernization	C/CPAF	Northrop Grumman, San Bernardino CA		0.000	N/A	0.000	N/A	0.000	N/A	0.000	0.000	5.000
Studies	Various	Various		0.488	Jan-07	0.407	Jan-08	2.000	Jan-09	Continuing	TBD	TBD
LBSD concept refinement and pre-Milestone A activities	Various	Various		1.205	Oct-06	0.000	N/A	0.000	N/A	0.000	1.205	10.046
Subtotal Product Development Remarks:			0.000	11.948		5.331		2.172		Continuing	TBD	TBD
(U) <u>Support</u> Other program support	Various	AFSPC; 826 ICBMSG, Hill AFB UT		4.873	Jan-07	0.380	Jan-08	0.717	Jan-09	Continuing	TBD	TBD
Subtotal Support Remarks:			0.000	4.873		0.380		0.717		Continuing	TBD	TBD
(U) Total Cost			0.000	16.821		5.711		2.889		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2008

BUDGET ACTIVITY

04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE

0603851F ICBM - DEM/VAL

PROJECT NUMBER AND TITLE

4209 Long Range Planning (LRP)

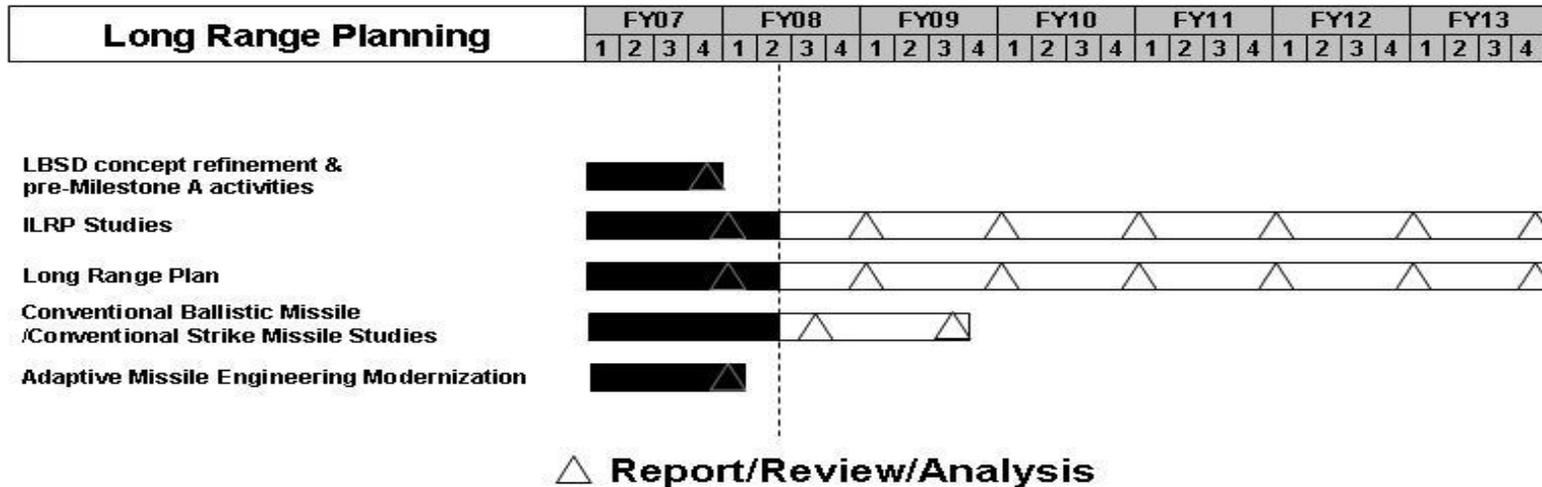


Exhibit R-4a, RDT&E Schedule Detail

DATE

February 2008

BUDGET ACTIVITY

04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE

0603851F ICBM - DEM/VAL

PROJECT NUMBER AND TITLE

4209 Long Range Planning (LRP)

(U) <u>Schedule Profile</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Contract Award for Annual Studies/Analyses	2Q	2Q	2Q
(U) --Program Reviews/ Reports Received	4Q	4Q	4Q
(U) LBSD Concept Refinement and pre-Milestone A activities	1-4Q		
(U) Conventional ballistic missile/conventional strike missile studies	1-4Q	1-3Q	1-3Q
(U) Adaptive missile engineering modernization	1-4Q	1Q	