

UNCLASSIFIED

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

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2007
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BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE 0603851F ICBM - DEM/VAL
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Cost (\$ in Millions)	FY 2006 Actual	FY 2007 Estimate	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	56.773	60.907	26.519	27.349	28.226	28.821	29.709	30.646	Continuing	TBD
1020 ICBM Guidance Applications	8.119	9.241	8.095	8.256	8.615	8.785	9.036	9.329	Continuing	TBD
1021 ICBM Propulsion Applications	22.766	24.301	12.087	12.654	13.040	13.347	13.705	14.123	Continuing	TBD
1022 ICBM Reentry Vehicle Applications	5.446	5.733	5.361	5.492	5.639	5.782	6.043	6.250	Continuing	TBD
1023 Rocket System Launch Program	1.592	0.028	0.029	0.027	0.026	0.025	0.026	0.026	Continuing	TBD
1024 ICBM Command & Control (C2) Applications	3.116	3.586	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.278
4209 Long Range Planning (LRP)	15.734	18.018	0.947	0.920	0.906	0.882	0.899	0.918	Continuing	TBD

In FY 2008 and beyond, Project 1024 ICBM Command & Control (C2) Applications is discontinued.

(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) fleet and develop enhanced capabilities for future technology insertion. Efforts identify methods to reduce life cycle costs, improve nuclear safety and surety, and ensure continued ICBM viability. Program includes demonstration and validation projects for ICBM guidance applications, support for reentry vehicles beyond original design life, assessment of current and future ICBM propulsion systems, and development of enhanced command and control capabilities. Long Range Planning efforts include concept refinement and pre-Milestone A activities for a post-Minuteman III ICBM 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. Program Change Summary (\$ in Millions)

	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	57.087	45.538	41.271	42.018
(U) Current PBR/President's Budget	56.773	60.907	26.519	27.349
(U) Total Adjustments	-0.314	15.369		
(U) Congressional Program Reductions				
Congressional Rescissions	-0.002	-0.231		
Congressional Increases		15.600		
Reprogrammings	1.562			
SBIR/STTR Transfer	-1.874			

(U) Significant Program Changes:

Exhibit R-2, RDT&E Budget Item Justification

DATE

February 2007

BUDGET ACTIVITY

04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE

0603851F ICBM - DEM/VAL

FY 2006: Reflects Appropriations Act adds as follows: +\$5.0 M for "Conventional Ballistic Missile System Engineering Studies"; +\$3.25M for "Infralynx Technology to Support Secure Transportation of Strategic Assets"; +\$5.0M for "Adaptive Missile Engineering Modernization".

FY 2007: Reflects Appropriations Act adds as follows: +\$12.0 M for "Conventional Ballistic Missile System Engineering Studies"; +\$3.6M for "Infralynx Security Vehicle"

FY 2008/09: Reflects -\$15M/year for higher Air Force priorities

Exhibit R-2a, RDT&E Project Justification

DATE
February 2007

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 2006 Actual	FY 2007 Estimate	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	8.119	9.241	8.095	8.256	8.615	8.785	9.036	9.329	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

The ICBM Guidance Applications Program ensures the continued readiness of our strategic deterrent forces in response to the Nuclear Posture Review, recommendations of the United States Strategic Command (USSTRATCOM) Strategic Advisory Group, Commander, USSTRATCOM guidance, and the Defense Science Board Task Force on Nuclear Deterrence. Efforts are focused on current and future requirements, 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 respond to unexpected problems in the current Minuteman guidance system, the assessment/mitigation of aging hardware, and the development & analysis of 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 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue development and prototype of concepts for future common strategic guidance system technology	4.058	4.106	1.850	1.873
(U) Continue assessment, evaluation and test of radiation hard electronics for strategic guidance applications	0.600	0.611	0.650	0.650
(U) Continue development and test of alternate instrument technologies (e.g., accelerometers and gyros)	3.461	4.024	4.282	5.733
(U) Conduct assessment, development and implementation of flight test experiment options to demonstrate future strategic guidance system concepts	0.000	0.500	1.313	0.000
(U) Total Cost	8.119	9.241	8.095	8.256

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

	<u>FY 2006</u>	<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>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 2007			
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)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2006 Cost</u>	<u>FY 2006 Cost</u>	<u>FY 2006 Award Date</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		3.161	Dec-05	3.499	Dec-06	4.042	Dec-07	5.733	Dec-08	Continuing	TBD	TBD
Component/Technology Development	Various	Boeing Co, Anaheim CA; BAE Systems, Heath OH; and others TBD		4.169	Jan-06	3.730	Jan-07	2.300	Jan-08	2.373	Jan-09	Continuing	TBD	TBD
Subtotal Product Development Remarks:			0.000	7.330		7.229		6.342		8.106		Continuing	TBD	TBD
(U) <u>Support</u> SPO/Other Program Support	Various	826 ICBMSG, Hill AFB UT		0.789	Jan-06	1.512	Jan-07	0.440	Jan-08	0.150	Jan-09	Continuing	TBD	TBD
Subtotal Support Remarks:			0.000	0.789		1.512		0.440		0.150		Continuing	TBD	TBD
(U) <u>Test & Evaluation</u> Flight Test	C/CPAF	Northrop Grumman, Clearfield UT		0.000	N/A	0.500	Dec-06	1.313	Dec-07	0.000	N/A	Continuing	TBD	TBD
Subtotal Test & Evaluation Remarks:			0.000	0.000		0.500		1.313		0.000		Continuing	TBD	TBD
(U) Total Cost			0.000	8.119		9.241		8.095		8.256		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2007

BUDGET ACTIVITY

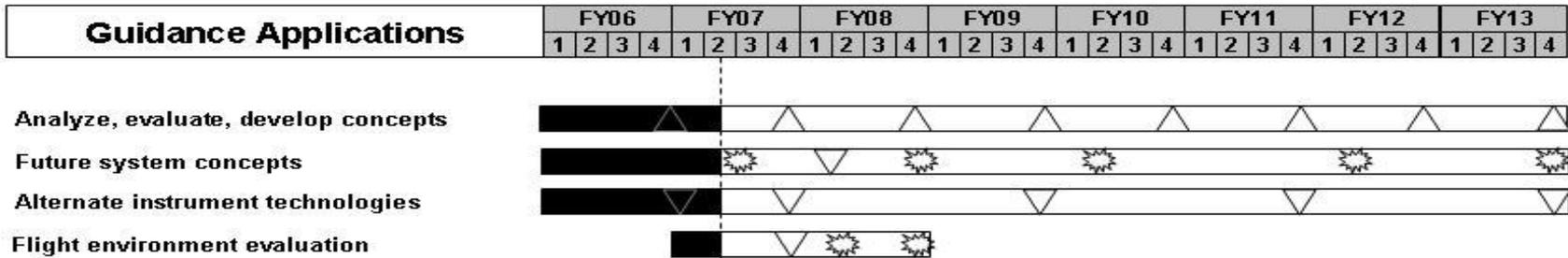
04 Advanced Component Development and Prototypes (ACD&P)

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

UNCLASSIFIED

Exhibit R-4a, RDT&E Schedule Detail	DATE February 2007
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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
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	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Schedule Profile				
(U) Development/Demonstration of Future Common System Concepts (Ongoing)	1-4Q	1-4Q	1-4Q	1-4Q
(U) -- Progress Reports	4Q	4Q	4Q	4Q
(U) -- Prototype Hardware Delivery			1Q	
(U) Alternate Instrument Technology Development (Ongoing)	1-4Q	1-4Q	1-4Q	1-4Q
(U) -- Progress Report	4Q	4Q	4Q	4Q
(U) -- Engineering Demo/Prototype Hardware		4Q		4Q
(U) Radiation Hardened Parts Analysis (Ongoing)	1-4Q	1-4Q	1-4Q	1-4Q
(U) -- Progress Report	4Q	4Q	4Q	4Q
(U) Flight Test Options Analysis	1-4Q	1-4Q	1-4Q	1-4Q
(U) -- Progress Report	4Q	4Q	4Q	4Q
(U) -- Prototype Hardware Delivery		4Q		
(U) -- Flight Evaluations			2-4Q	

Exhibit R-2a, RDT&E Project Justification

DATE
February 2007

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 2006 Actual	FY 2007 Estimate	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	22.766	24.301	12.087	12.654	13.040	13.347	13.705	14.123	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

(U) The ICBM Propulsion Application Program develops the ICBM strategic propulsion capability through projects exploring improvements and/or alternatives to current ICBM propulsion systems, conducting studies assessing application of new technologies to meet future ICBM propulsion system requirements, assessing opportunities for applying common materials and technology between the ICBM and submarine-launched ballistic missile (SLBM) propulsion systems, and demonstrating application of technology developed by the Science and Technology community to the ICBM strategic systems.

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 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue evaluation and test of solid propulsion technologies for ICBM application through process development and stage manufacture leading to static fire testing	12.409	14.303	8.787	12.154
(U) Continue assessment and demonstration of ordnance and post-boost components technology developments	9.457	8.679	2.500	0.500
(U) Continue evaluation of test protocols in support of hazard classification methods for ICBM solid rocket motors	0.900	1.319	0.800	0.000
(U) Total Cost	22.766	24.301	12.087	12.654

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

	<u>FY 2006</u>	<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>Complete</u>							
(U) None										

(U) D. Acquisition Strategy

Studies, analyses, and motor ground 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 2007

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
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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</u> <u>Prior to FY</u> <u>2006</u> <u>Cost</u>	<u>FY 2006</u> <u>Cost</u>	<u>FY 2006</u> <u>Award</u> <u>Date</u>	<u>FY 2007</u> <u>Cost</u>	<u>FY 2007</u> <u>Award</u> <u>Date</u>	<u>FY 2008</u> <u>Cost</u>	<u>FY 2008</u> <u>Award</u> <u>Date</u>	<u>FY 2009</u> <u>Cost</u>	<u>FY 2009</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>	<u>Target</u> <u>Value of</u> <u>Contract</u>
<u>(U) Product Development</u> Component Refinement	C/CPAF	Northrop Grumman, Clearfield UT		0.000	N/A	1.000	Dec-06	0.000	N/A	1.900	Dec-08	Continuing	TBD	TBD
Component Development	Various	AFRL, Edwards AFB CA; Aerojet, Sacramento CA; ATK Thiokol, Corrinne UT; others TBD		21.883	Jan-06	22.917	Jan-07	11.857	Jan-08	10.485	Jan-09	Continuing	TBD	TBD
Subtotal Product Development			0.000	21.883		23.917		11.857		12.385		Continuing	TBD	TBD
Remarks:														
<u>(U) Support</u> SPO/Other Program Support	Various	826 ICBMSG, Hill AFB UT		0.427	Jan-06	0.384	Jan-07	0.230	Jan-08	0.269	Jan-09	Continuing	TBD	TBD
Subtotal Support			0.000	0.427		0.384		0.230		0.269		Continuing	TBD	TBD
Remarks:														
<u>(U) Test & Evaluation</u> Static Fire	C/CPAF	Northrop Grumman, Clearfield UT		0.456	Jan-06	0.000	N/A	0.000	N/A	0.000	N/A	Continuing	TBD	TBD
Subtotal Test & Evaluation			0.000	0.456		0.000		0.000		0.000		Continuing	TBD	TBD
Remarks:														
<u>(U) Total Cost</u>			0.000	22.766		24.301		12.087		12.654		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2007

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

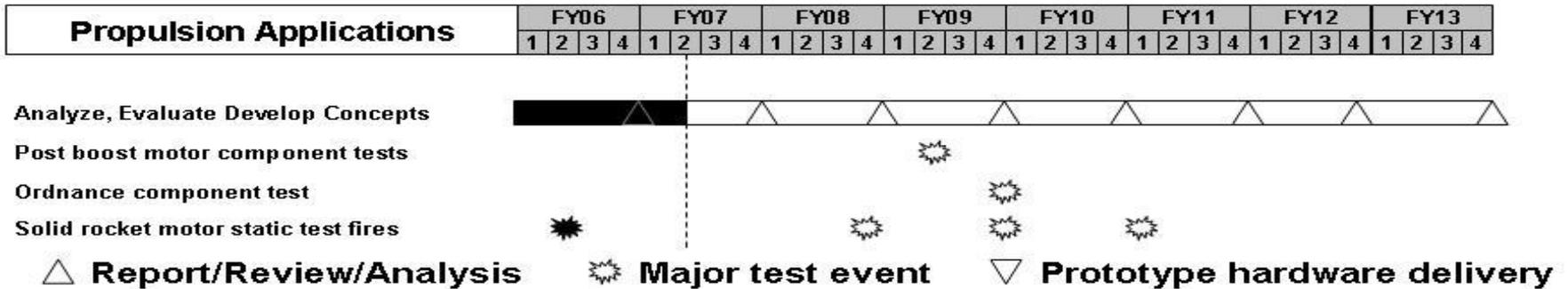


Exhibit R-4a, RDT&E Schedule Detail

DATE

February 2007

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
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(U) <u>Schedule Profile</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Evaluate and test solid propulsion technologies for ICBM application	1-4Q	1-4Q	1-4Q	1-4Q
(U) -- Periodic Status Reports/Review	4Q	4Q	4Q	4Q
(U) -- Solid rocket motor static test fire	2Q			2Q
(U) Assessment/demonstration of ordnance and post-boost components technology	1-4Q	1-4Q	1-4Q	1-4Q
(U) --Periodic Status Report/Reviews	4Q	4Q	4Q	4Q
(U) Evaluate test protocols in support of hazard classification methods	1-4Q	1-4Q	1-4Q	1-4Q
(U) --Periodic Status Report/Reviews	4Q	4Q	4Q	4Q

Exhibit R-2a, RDT&E Project Justification

DATE
February 2007

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 2006 Actual	FY 2007 Estimate	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	5.446	5.733	5.361	5.492	5.639	5.782	6.043	6.250	Continuing	TBD
Quantity of RDT&E Articles	0	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 future 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 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue evaluation of RV material subsystems, aging, and replacements through ground and flight tests	2.039	1.656	0.771	0.943
(U) Continue identification and ground testing of potential replacement options for critical RV components	0.128	1.269	2.131	1.567
(U) Continue evaluation of improved accuracy measurements and methodologies	1.053	0.397	0.000	0.000
(U) Continue evaluation of alternate flight test experiment options	1.031	0.655	0.000	0.000
(U) Continue evaluation of advanced common RV designs, applications, and technologies	0.128	0.148	0.507	1.721
(U) Continue development and assessment of RV Test & Evaluation methodologies and subsystems	0.939	0.397	0.190	0.203
(U) Continue design, development, and prototype flight testing of selected fuze assessment/measurement	0.128	1.211	1.762	1.058
(U) Total Cost	5.446	5.733	5.361	5.492

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

	<u>FY 2006</u>	<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>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 2007

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
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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 2006 Cost</u>	<u>FY 2006 Cost</u>	<u>FY 2006 Award Date</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		4.432	Dec-05	4.478	Dec-06	3.434	Nov-07	1.799	Nov-08	Continuing	TBD	TBD
Component/materials development	Various	TBD	0.000	0.000	N/A	0.000	N/A	1.232	Nov-07	2.995	Nov-08	Continuing	TBD	TBD
Subtotal Product Development			0.000	4.432		4.478		4.666		4.794		Continuing	TBD	TBD
Remarks:														
<u>(U) Support</u> SPO/Other Program Support	Various	826 ICBMSG, Hill AFB UT		0.564	Dec-05	0.732	Jan-07	0.095	Jan-08	0.098	Jan-09	Continuing	TBD	TBD
Subtotal Support			0.000	0.564		0.732		0.095		0.098		Continuing	TBD	TBD
Remarks:														
<u>(U) Test & Evaluation</u> Materials	MIPR	AFRL Materials Lab, Wright-Patterson AFB		0.450	Jan-06	0.450	Dec-06	0.450	Dec-07	0.450	Dec-08	Continuing	TBD	TBD
Ground Testing	PO	Arnold Engineering & Development Center		0.000	N/A	0.073	Jan-07	0.150	Jan-08	0.150	Jan-09	Continuing	TBD	TBD
Subtotal Test & Evaluation			0.000	0.450		0.523		0.600		0.600		Continuing	TBD	TBD
Remarks:														
<u>(U) Total Cost</u>			0.000	5.446		5.733		5.361		5.492		Continuing	TBD	TBD

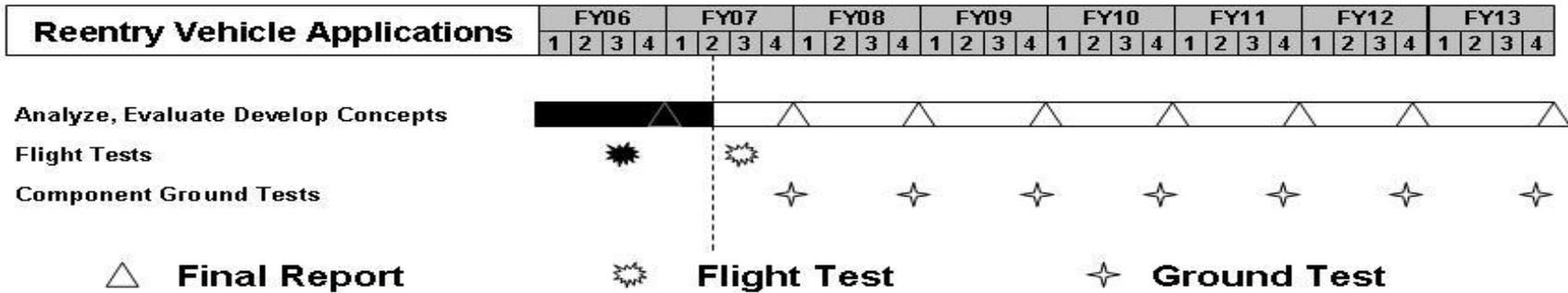
Exhibit R-4, RDT&E Schedule Profile

DATE
February 2007

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



UNCLASSIFIED

Exhibit R-4a, RDT&E Schedule Detail	DATE February 2007
------------------------------------------------	------------------------------

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
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	<u>FY 2006</u>	<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	1-4Q
(U) --Periodic Status Reports/Reviews	2-4Q	2-4Q	2-4Q	2-4Q
(U) Fuze Assessment/Measurement Tool Development	1-4Q	1-4Q	1-4Q	1-4Q
(U) --Periodic Status Reports/Reviews	2-4Q	2-4Q	2-4Q	2-4Q
(U) Critical Components Evaluations	1-4Q	1-4Q	1-4Q	1-4Q
(U) --Periodic Status Reports/Reviews	2-4Q	2-4Q	2-4Q	2-4Q
(U) RV Test & Evaluation Methodologies Development	1-4Q	1-4Q	1-4Q	1-4Q
(U) --Periodic Status Reports/Reviews	2-4Q	2-4Q	2-4Q	2-4Q
(U) Accuracy Assessment Methodologies Development	1-4Q	1-4Q		
(U) --Periodic Status Reports/Reviews	2-4Q	2-4Q		
(U) Advanced Common RV Designs, Applications & Technologies Evaluations	1-4Q	1-4Q	1-4Q	1-4Q
(U) --Periodic Status Reports/Reviews	2-4Q	2-4Q	2-4Q	2-4Q
(U) Alternate Flight Test Options Development	1-4Q	1-4Q		
(U) --Periodic Status Reports/Reviews	2-4Q	2-4Q		
(U) Flight Tests	3Q	3Q		
(U) Component Level Ground Tests		4Q	4Q	4Q

Exhibit R-2a, RDT&E Project Justification

DATE
February 2007

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 2006 Actual	FY 2007 Estimate	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	1.592	0.028	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	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 2006</u>	<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	0.033	0.028	0.029	0.027
(U) Launch vehicle avionics engineering and integration	1.559	0.000	0.000	0.000
(U) Total Cost	1.592	0.028	0.029	0.027

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

	<u>FY 2006</u>	<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>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.

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Exhibit R-3, RDT&E Project Cost Analysis

DATE
February 2007

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>(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 2006 Cost</u>	<u>FY 2006 Cost</u>	<u>FY 2006 Award Date</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>														
Launch Vehicle Avionics				1.559	May-06	0.000	N/A	0.000	N/A	0.000	N/A	Continuing	TBD	1.559
Subtotal Product Development			0.000	1.559		0.000		0.000		0.000		Continuing	TBD	1.559
Remarks:														
<u>(U) Support</u>														
Engineering Support	Various	Space Development and Test Wing, Kirtland AFB NM		0.033	Jan-06	0.028	Jan-07	0.029	Jan-08	0.027	Jan-09	Continuing	TBD	TBD
Subtotal Support			0.000	0.033		0.028		0.029		0.027		Continuing	TBD	TBD
Remarks:														
<u>(U) Total Cost</u>			0.000	1.592		0.028		0.029		0.027		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2007

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

- Analyze, evaluate concepts
- Launch vehicle avionics

FY06				FY07				FY08				FY09				FY10				FY11				FY12			
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
[Solid Bar]				△				△				△				△				△							
[Solid Bar]				▽																							



Major test event



Report/Review/
Analysis



Prototype hardware
delivery

Exhibit R-4a, RDT&E Schedule Detail

DATE

February 2007

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 2006

FY 2007

FY 2008

FY 2009

(U) Start/Complete Annual Studies/Analysis

1-4Q

1-4Q

1-4Q

1-4Q

(U) Launch Vehicle Avionics

4Q

Exhibit R-2a, RDT&E Project Justification

DATE
February 2007

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 2006 Actual	FY 2007 Estimate	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	3.116	3.586	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.278
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

In FY2008 and beyond, project is discontinued to support higher Air Force priorities.

(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 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Demonstrate Infralynx technology to support secure transportation of strategic assets	3.116	3.586	0.000	0.000
(U) Total Cost	3.116	3.586	0.000	0.000

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

	<u>FY 2006</u>	<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>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 2007

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 2006 Cost</u>	<u>FY 2006 Cost</u>	<u>FY 2006 Award Date</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		3.116	Mar-06	3.586	Mar-07	0.000	N/A	0.000	N/A	0.000	6.702	6.836
Subtotal Product Development			0.000	3.116		3.586		0.000		0.000		0.000	6.702	6.836
Remarks:														
<u>(U) Total Cost</u>			0.000	3.116		3.586		0.000		0.000		0.000	6.702	6.836

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2007

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	FY06				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	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 2007
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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>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) <u>Schedule Profile</u>				
(U) Concept and prototype development	2-4Q	1-4Q		
(U) Field demonstration and assessment		4Q	1Q	

Exhibit R-2a, RDT&E Project Justification

DATE
February 2007

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 2006 Actual	FY 2007 Estimate	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)	15.734	18.018	0.947	0.920	0.906	0.882	0.899	0.918	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

The Long Range Planning (LRP) task analyzes ICBM systems to identify 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 ICBM 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 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue support of the consolidated ICBM Master Plan	0.477	0.473	0.437	0.408
(U) Continue feasibility and life extension studies	0.507	0.520	0.510	0.512
(U) Completed Analysis of Alternatives (AoA) and pre-systems acquisition planning for follow on Land-Based Strategic Deterrent (LBSD) capability	0.000	0.000	0.000	0.000
(U) Continue LBSD capability concept refinement and pre-Milestone A activities	4.750	5.025	0.000	0.000
(U) Conduct conventional ballistic missile systems engineering studies	5.000	12.000	0.000	0.000
(U) Conduct adaptive missile engineering modernization	5.000	0.000	0.000	0.000
(U) Total Cost	15.734	18.018	0.947	0.920

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

	<u>FY 2006</u>	<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>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 2007
-----------------------------------------------------	------------------------------

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) Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2006</u> <u>Cost</u>	<u>FY 2006</u> <u>Cost</u>	<u>FY 2006</u> <u>Award</u> <u>Date</u>	<u>FY 2007</u> <u>Cost</u>	<u>FY 2007</u> <u>Award</u> <u>Date</u>	<u>FY 2008</u> <u>Cost</u>	<u>FY 2008</u> <u>Award</u> <u>Date</u>	<u>FY 2009</u> <u>Cost</u>	<u>FY 2009</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>	<u>Target</u> <u>Value of</u> <u>Contract</u>
<u>(U) Product Development</u> ICBM Prime Integration Contract	C/CPAF	Northrop Grumman, Clearfield UT		0.162	Jan-06	0.167	Jan-07	0.167	Jan-08	0.172	Jan-09	Continuing	TBD	TBD
Conventional Ballistic Missile System Engineering Studies	C/CPAF	Northrop Grumman, San Bernardino CA		4.291	Aug-06	11.626	May-07	0.000	N/A	0.000	N/A	0.000	15.917	5.000
Adaptive Missile Engineering Modernization	C/CPAF	Northrop Grumman, San Bernardino CA		4.982	May-06	0.000	N/A	0.000	N/A	0.000	N/A	0.000	4.982	5.000
Studies	Various	Various		0.032	Jan-06	0.488	Jan-07	0.580	Jan-08	0.548	Jan-09	Continuing	TBD	TBD
LBSD Analysis of Alternatives & pre-acquisition planning	Various	Various		0.000	N/A	0.000	N/A	0.000	N/A	0.000	N/A	0.000	0.000	10.237
LBSD concept refinement and pre-Milestone A activities	Various	Various		1.766	Oct-05	1.305	Oct-06	0.000	N/A	0.000	N/A	0.000	3.071	10.046
Subtotal Product Development			0.000	11.233		13.586		0.747		0.720		Continuing	TBD	TBD
Remarks:														
<u>(U) Support</u> SPO/Other program support	Various	826 ICBMSG, Hill AFB UT		4.501	Jan-06	4.432	Jan-07	0.200	Jan-08	0.200	Jan-09	Continuing	TBD	TBD
Subtotal Support			0.000	4.501		4.432		0.200		0.200		Continuing	TBD	TBD
Remarks:														
<u>(U) Total Cost</u>			0.000	15.734		18.018		0.947		0.920		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2007

BUDGET ACTIVITY

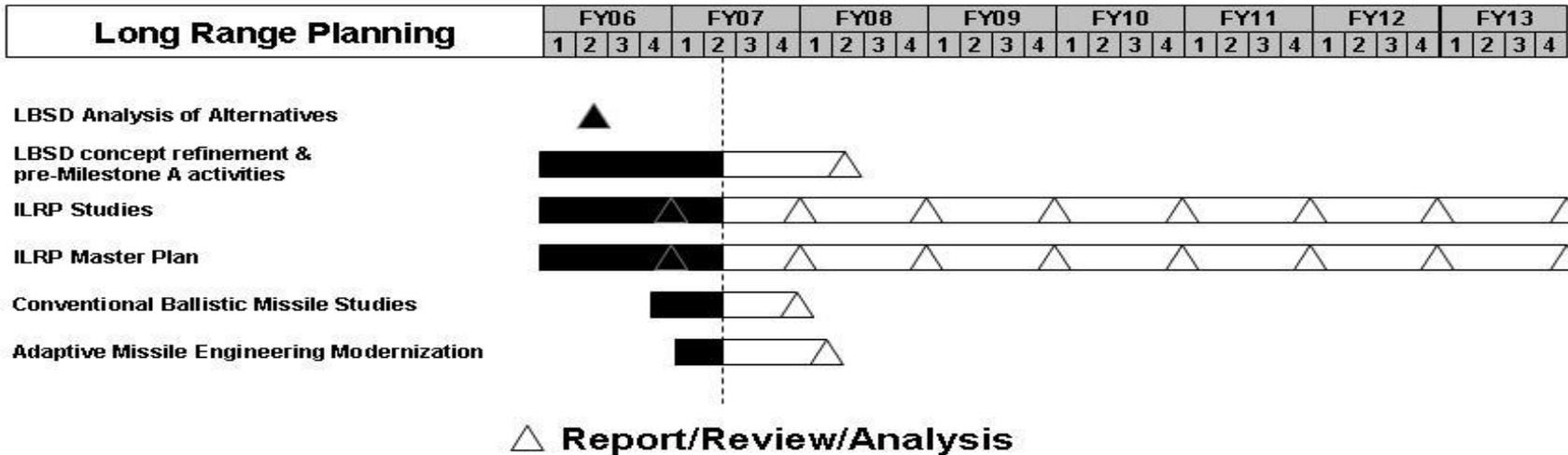
04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE

0603851F ICBM - DEM/VAL

PROJECT NUMBER AND TITLE

4209 Long Range Planning (LRP)



UNCLASSIFIED

Exhibit R-4a, RDT&E Schedule Detail

DATE

February 2007

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 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Contract Award for Annual Studies/Analyses	2Q	2Q	2Q	2Q
(U) --Program Reviews/ Reports Received	4Q	4Q	4Q	4Q
(U) LBSD Analysis of Alternatives & pre-acquisition planning	2Q			
(U) -- AoA Report	2Q			
(U) LBSD Concept Refinement and pre-Milestone A activities	1-4Q	1-4Q		
(U) Conventional ballistic missile system engineering study	4Q	1-4Q	1-3Q	
(U) Adaptive missile engineering modernization	4Q	1-3Q		