

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2000
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BUDGET ACTIVITY 05 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604851F ICBM - EMD
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COST (\$ in Thousands)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	70,063	38,235	18,325	43,659	12,414	0	0	0	956,932
65133B Rapid Execution & Combat Targeting (REACT)	0	0	0	10,511	0	0	0	0	10,511
653085 Guidance Replacement Program (GRP)	9,472	0	0	0	0	0	0	0	543,893
654210 Propulsion Replacement Program (PRP)	60,591	29,553	0	0	0	0	0	0	329,959
654788 PSRE Life Extension Program	0	8,682	18,325	19,337	12,414	0	0	0	58,758
654823 ECS Replacement Program	0	0	0	13,811	0	0	0	0	13,811
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

(U) A. Mission Description

ICBM modernization efforts will extend the operational life of the Minuteman ICBM weapon system. The Guidance Replacement Program (GRP), which completed Engineering and Manufacturing Development (EMD) in FY99, replaces failing Minuteman guidance system electronics. The Propulsion Replacement Program (PRP), which will complete EMD in FY00, remanufactures all three Minuteman solid fuel stages to correct age-related degradations. The Propulsion System Rocket Engine (PSRE) Life Extension Program, which entered EMD in FY00, refurbishes the Minuteman post-boost vehicle (PBV) to correct age-related degradations. The Environmental Control System (ECS) Replacement Program, which enters EMD in FY02, will refurbish, update, and/or replace components of the Minuteman ECS in the Launch Facilities (LFs) and Missile Alert Facilities (MAFs). Rapid Execution and Combat Targeting (REACT), which will begin its EMD effort in FY02, will correct REACT security alarm management system and launch readiness deficiencies.

Requirements for maintaining the Minuteman Weapon System are defined and validated in current defense planning guidance documentation. All of these modernization programs are designed to keep the Minuteman Weapon System at its historical availability and reliability levels.

Although all programs will develop, produce, and install the parts and components necessary to modernize the respective Minuteman subsystems, only the development activities are funded in this Program Element. Procurement and installation are funded in the Minuteman III Modification line of the Minuteman Squadrons Program

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DATE
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BUDGET ACTIVITY
05 - Engineering and Manufacturing Development

PE NUMBER AND TITLE
0604851F ICBM - EMD

(U) **A. Mission Description Continued**

Element (PE 0101213F).

(U) **B. Budget Activity Justification**

This program is in Budget Activity 5 - Engineering and Manufacturing Development because the projects are being developed for the Air Force but have not received production approval. Program control is exercised at the project level.

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Total Cost</u>
(U) Previous President's Budget (FY 2000 PBR)	81,205	38,804	30,388	986,275
(U) Appropriated Value	81,546	38,804		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-341	-8		
b. Small Business Innovative Research	-2,577			
c. Omnibus or Other Above Threshold Reprogram		-259		
d. Below Threshold Reprogram	-8,173			
e. Rescissions	-392	-302		
f. Other				
(U) Adjustments to Budget Years Since FY 2000 PBR			-12,063	
(U) Current Budget Submit/FY 2001 PBR	70,063	38,235	18,325	956,932

(U) **Significant Program Changes:**

FY99 Below Threshold Reprogram (BTR) includes \$3,723 for cancelled bills and \$4,450 for higher Air Force priorities.

Rapid Execution & Combat Targeting (REACT) is a new project beginning in FY02. In addition, start of the Environmental Control System (ECS) Replacement Program has slipped from FY01 to FY02 to provide funding for higher priorities.

As noted in FY00 President's Budget Request, Engineering and Manufacturing Development (EMD) for Propulsion System Rocket Engine (PSRE) Life Extension began in FY00. EMD for GRP ended in FY99 and PRP will be completed in FY00.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2000		
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604851F ICBM - EMD				PROJECT 65133B	
COST (\$ in Thousands)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
65133B Rapid Execution & Combat Targeting (REACT)	0	0	0	10,511	0	0	0	0	10,511
<p>(U) <u>A. Mission Description</u> The Rapid Execution and Combat Targeting (REACT) Service Life Extension Program will modify the 50 Operational Missile Launch Control Centers, Weapon System Consoles and the 19 other Trainers and Test Facilities which support the missile system. It will update the AM System and B System REACT consoles as well as the appropriate trainer facilities with hardware changes to improve operability and maintainability.</p> <p>RDT&E funding will be used to design and prototype needed hardware and software as well as accomplish required testing and Nuclear Safety Cross Check Analysis (NSCCA).</p> <p>REACT includes development, procurement, and installation of the required hardware and software to correct identified deficiencies with the system; however, only the development effort is funded in this Program Element. Procurement and installation are funded in the Minuteman III Modifications line in the Minuteman Squadrons Program Element (PE 0101213F)</p> <p>(U) <u>FY 1999 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2000 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>B. Project Change Summary</u> New start initiated with this Amended President's Budget submission. Program begins in FY02.</p>									
Project 65133B			Page 3 of 23 Pages				Exhibit R-2A (PE 0604851F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2000			
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604851F ICBM - EMD			PROJECT 65133B			
(U) C. Other Program Funding Summary (\$ in Thousands)										
	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</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) Other APPN										
None										
(U) D. Acquisition Strategy										
Planned acquisition will consist of developing and procuring all needed hardware and software modifications necessary to correct known deficiencies. Required testing and certification requirements, to include independent validation and verification as required, will also be accomplished.										
This effort will be accomplished under the Prime Integration Contractor (PIC). Independent validation and verification efforts are planned to be accomplished under a cost plus-award-fee (CPAF) contract.										
(U) E. Schedule Profile										
			<u>FY 1999</u>			<u>FY 2000</u>		<u>FY 2001</u>		
			1	2	3	4	1	2	3	4
(U) Contract Award (2nd Qtr, FY02)										
Project 65133B			Page 4 of 23 Pages			Exhibit R-2A (PE 0604851F)				

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2000		
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604851F ICBM - EMD			PROJECT 65133B		
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>										
					<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>			
(U) No Activity - Project Begins in FY02					0	0	0			
(U) Total					0	0	0			
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>										
(U) <u>Performing Organizations:</u>										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
TRW	C/CPAF	Feb 02	TBD	10,201	0	0	0	0	10,201	10,201
<u>Support and Management Organizations</u>										
NSCCA	CPAF	Feb 02	TBD	250	0	0	0	0	250	250
Other Government Costs	TBD	Sep 02	N/A	10	0	0	0	0	10	10
<u>Test and Evaluation Organizations</u>										
White Sands Test Complex	TBD	Sep 02	TBD	50	0	0	0	0	50	50
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>					<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					0	0	0	0	10,201	10,201
Subtotal Support and Management					0	0	0	0	260	260
Subtotal Test and Evaluation					0	0	0	0	50	50
Total Project					0	0	0	0	10,511	10,511

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2000	
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604851F ICBM - EMD				PROJECT 653085	
COST (\$ in Thousands)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
653085 Guidance Replacement Program (GRP)	9,472	0	0	0	0	0	0	0	543,893
<p>(U) <u>A. Mission Description</u></p> <p>The Guidance Replacement Program (GRP) replaces failing guidance system electronics, and preserves the option to configure the missiles with the Peacekeeper Mk 21 reentry vehicle and/or an advanced inertial measurement unit. The Engineering and Manufacturing Development (EMD) contract was awarded to Rockwell International (now part of Boeing) in August 1993.</p> <p>GRP includes the development, production, and installation of replacement guidance components to extend the life of the operational Minuteman force; however only the development effort was funded in this Program Element. Procurement and installation units are funded in the Minuteman III Modifications line in the Minuteman Squadrons Program Element (PE 0101213F). GRP completed EMD funding in FY99.</p> <p>(U) <u>FY 1999 (\$ in Thousands)</u></p> <p>(U) \$5,712 Hardware/software development completed.</p> <p>(U) \$1,261 Nuclear Safety Cross Check Analysis (NSCCA) and Independent Validation and Verification (IV&V) completed.</p> <p>(U) \$414 Labs and support agencies efforts completed.</p> <p>(U) \$2,085 Testing and other engineering support provided.</p> <p>(U) \$9,472 Total</p> <p>(U) <u>FY 2000 (\$ in Thousands)</u></p> <p>(U) \$0 No activity - EMD Completed in FY99.</p> <p>(U) \$0 Total</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <p>(U) \$0 No activity - EMD Completed in FY99.</p> <p>(U) \$0 Total</p> <p>(U) <u>B. Project Change Summary</u></p> <p>FY99 funding reduced to fund higher Air Force priorities. No major development issues encountered in last year of EMD; so funds could be made available without significant changes to content or schedule.</p>									
Project 653085			Page 6 of 23 Pages				Exhibit R-2A (PE 0604851F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2000	
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604851F ICBM - EMD				PROJECT 653085	
(U) C. Other Program Funding Summary (\$ in Thousands)									
	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</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) Other APPN									
(U) APPN 14, Missiles - AF, BA 3, P-012, MM III Modifications, Mod #13503B (PE 0101213F, Minuteman Squadrons)	103,136	181,575	187,303	182,769	196,378	190,375	191,730	321,404	1,722,805
(U) D. Acquisition Strategy									
An EMD contract was awarded in Aug 93 to develop, test, and replace selected guidance electronics and software. This cost plus-award-fee (CPAF) contract was issued following full and open competition.									
(U) E. Schedule Profile									
			<u>FY 1999</u>			<u>FY 2000</u>		<u>FY 2001</u>	
			1 2 3 4			1 2 3 4		1 2 3 4	
(U) PROGRAM MILESTONES									
(U) --Milestone III Decision						*			
(U) T&E MILESTONES									
(U) --Complete Combined DT&E/IOT&E				*					
(U) CONTRACT MILESTONES									
(U) --EMD Completed					*				
(U) --Low Rate Initial Production (LRIP) Deliveries Complete									X
(U) --Full Rate Production (FRP) Contract Award						*			
* - Completed Event									
X - Planned Event									

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2000			
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604851F ICBM - EMD			PROJECT 653085			
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 1999</u>		<u>FY 2000</u>		<u>FY 2001</u>
(U)	Hardware/Software Development					5,712				
(U)	Nuclear Safety Cross Check Analysis Contract					1,261				
(U)	Labs/Agencies					414				
(U)	Other Engineering Support & Testing					2,085				
(U)	Total					9,472				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
Boeing-North American	C/CPAF	Aug 93	419,428	419,428	417,881	1,547			0	419,428
Boeing-North American	C/CPAF	Sep 94	4,463	4,463	4,463	0			0	4,463
TRW (Prime)	C/CPAF	Dec 97	13,318	13,318	9,677	3,641			0	13,318
<u>Support and Management Organizations</u>										
TRW (SETA)	SS/CPAF	Jan 94	42,010	42,010	42,010	0			0	42,010
Logicon (NSCCA/IV&V)	SS/CPAF	Mar 94	20,242	20,242	18,981	1,261			0	20,242
Charles Draper Labs (CSDL)	SS/FFP	Jun 94	5,264	5,264	5,264	0			0	5,264
Other Engineering Support	Various	Aug 93	29,133	29,133	26,110	3,023			0	29,133
<u>Test and Evaluation Organizations</u>										
AGMC	PO	As Req'd	173	173	173	0			0	173
White Sands Missile Range (WSMR)	PO	As Req'd	649	649	649	0			0	649
Vandenberg AFB	PO/MIPR	As Req'd	6,714	6,714	6,714	0			0	6,714
Maxwell AFB	MIPR	As Req'd	27	27	27	0			0	27
Sandia National Lab (SNL)	MIPR	As Req'd	2,382	2,382	2,382	0			0	2,382
Physics Int	MIPR	As Req'd	22	22	22	0			0	22
Project 653085				Page 8 of 23 Pages			Exhibit R-3 (PE 0604851F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2000			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
05 - Engineering and Manufacturing Development				0604851F ICBM - EMD				653085		
(U) <u>Performing Organizations Continued:</u>										
<u>Test and Evaluation Organizations</u>										
Little Mountain	PO	As Req'd	68	68	68	0		0	68	
(U) <u>Government Furnished Property:</u>										
	<u>Contract</u>									
	<u>Method/Type</u>	<u>Award or</u>								
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>		<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>										
None										
<u>Support and Management Property</u>										
None										
<u>Test and Evaluation Property</u>										
None										
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>					<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					432,021	5,188			0	437,209
Subtotal Support and Management					92,365	4,284			0	96,649
Subtotal Test and Evaluation					10,035	0			0	10,035
Total Project					534,421	9,472			0	543,893

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2000	
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604851F ICBM - EMD				PROJECT 654210	
COST (\$ in Thousands)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
654210 Propulsion Replacement Program (PRP)	60,591	29,553	0	0	0	0	0	0	329,959
<p>(U) A. Mission Description</p> <p>The Propulsion Replacement Program (PRP) will remanufacture all three solid fuel stages to correct age-related degradations, maintain existing weapon system reliability, and support Minuteman life extension. Any of the degradations (propellant cracking, case corrosion, liner deterioration, inhibitor deterioration, and line debond) can cause catastrophic motor failure and, in turn, mission failure. RDT&E efforts will identify replacement materials that are no longer available or which have become environmentally unacceptable, reduce life cycle costs, and identify corrections to age-related degradations. The project entered Phase 2 (Engineering and Manufacturing Development) in FY94.</p> <p>RDT&E efforts will identify replacement materials that are no longer available or which have become environmentally unacceptable, reduce life cycle costs, and identify corrections to age-related degradations. Only changes that can be demonstrated in an appropriate timeframe to ensure Minuteman propulsion system continues to meet existing performance specifications while remaining viable and supportable will be incorporated.</p> <p>PRP includes development, procurement, and installation of the remanufactured solid fuel motors to extend the life of the operational Minuteman force; however, only the development effort was funded in this Program Element. Procurement and installation are funded in the Minuteman III Modifications line in the Minuteman Squadrons Program Element (PE 0101213F).</p> <p>(U) FY 1999 (\$ in Thousands)</p> <p>(U) \$39,194 Continued component reuse and materials replacement studies, continued stage design and development to include refurbishment. Continued fabrication, tooling, and waste disposal for qualification motor testing.</p> <p>(U) \$17,005 Continued integration of program activities such as system engineering, program management, range support, Arnold Engineering Development Center (AEDC) testing, booster disassembly/assembly, booster transportation.</p> <p>(U) \$3,887 Continued software modification.</p> <p>(U) \$505 Completed ordnance development effort.</p> <p>(U) \$60,591 Total</p>									
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BUDGET ACTIVITY 05 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604851F ICBM - EMD			PROJECT 654210																																									
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2000 (\$ in Thousands)</u></p> <p>(U) \$19,252 Complete component reuse and materials replacement studies, continue stage design and development to include refurbishment. Complete fabrication, tooling, and waste disposal for qualification motor testing.</p> <p>(U) \$8,681 Complete integration of program activities such as system engineering, program management, range support, AEDC testing, booster disassembly/assembly, booster transportation.</p> <p>(U) \$1,620 Complete software modification.</p> <p>(U) \$29,553 Total</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <p>(U) \$0 No activity - EMD Completed in FY00.</p> <p>(U) \$0 Total</p> <p>(U) <u>B. Project Change Summary</u></p> <p>No significant changes.</p> <p>(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u></p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th><u>FY 1999</u></th> <th><u>FY 2000</u></th> <th><u>FY 2001</u></th> <th><u>FY 2002</u></th> <th><u>FY 2003</u></th> <th><u>FY 2004</u></th> <th><u>FY 2005</u></th> <th><u>Cost to</u></th> <th><u>Total Cost</u></th> </tr> <tr> <th></th> <th><u>Actual</u></th> <th><u>Estimate</u></th> <th><u>Estimate</u></th> <th><u>Estimate</u></th> <th><u>Estimate</u></th> <th><u>Estimate</u></th> <th><u>Estimate</u></th> <th><u>Complete</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>(U) Other APPN</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) APPN 14, Missiles - AF, BA 3, P-012, MM III Modifications, Mod #5053 (PE 0101213F, Minuteman Squadrons)</td> <td align="right">0</td> <td align="right">84,720</td> <td align="right">139,437</td> <td align="right">252,287</td> <td align="right">259,167</td> <td align="right">265,934</td> <td align="right">260,698</td> <td align="right">559,270</td> <td align="right">1,821,513</td> </tr> </tbody> </table> <p>(U) <u>D. Acquisition Strategy</u></p> <p>Planned acquisition will consist of all hardware and software modifications; integration and flight test support; delivery of remanufactured Stage I, II, and III motors; nuclear certification analysis tasks; and independent software certification.</p> <p>All PRP contracts, with the exception of NSCCA and independent software certification, have been transferred to the Prime Integration Contractor (PIC).</p>										<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</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) Other APPN										(U) APPN 14, Missiles - AF, BA 3, P-012, MM III Modifications, Mod #5053 (PE 0101213F, Minuteman Squadrons)	0	84,720	139,437	252,287	259,167	265,934	260,698	559,270	1,821,513
	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</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) Other APPN																																																
(U) APPN 14, Missiles - AF, BA 3, P-012, MM III Modifications, Mod #5053 (PE 0101213F, Minuteman Squadrons)	0	84,720	139,437	252,287	259,167	265,934	260,698	559,270	1,821,513																																							
Project 654210			Page 11 of 23 Pages			Exhibit R-2A (PE 0604851F)																																										

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)	DATE February 2000
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BUDGET ACTIVITY 05 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604851F ICBM - EMD	PROJECT 654210
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(U) <u>E. Schedule Profile</u>													
		<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>			
	1	2	3	4	1	2	3	4	1	2	3	4	
(U) PROGRAM MILESTONES													
(U) --Milestone III Decision									X				
(U) T&E MILESTONES													
(U) --Complete Motor Qualification Tests				*									
(U) --Combined DT&E/IOT&E Flight Test					*								
(U) --Dedicated IOT&E Flight Test						X							
(U) CONTRACT MILESTONES													
(U) --Low Rate Initial Production (LRIP) Contract Award					*								
(U) --Full Rate Production (FRP) Contract Award										X			
* - Completed Event													
X - Planned Event													

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2000		
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604851F ICBM - EMD			PROJECT 654210		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 1999</u>		<u>FY 2000</u>		<u>FY 2001</u>
(U)	Technology Insertion					53,502		14,765		
(U)	Software					3,887		1,620		
(U)	Other Program Costs					3,202		13,168		
(U)	Total					60,591		29,553		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
Thiokol	SS/CPAF	Aug 94	55,875	55,875	55,875	0	0		0	55,875
Aerojet	SS/CPAF	Jul 94	50,738	50,738	50,738	0	0		0	50,738
CSD	SS/CPAF	Jul 94	68,508	68,508	68,508	0	0		0	68,508
Thiokol	C/CPAF	Feb 97	2,262	2,262	2,262	0	0		0	2,262
Boeing-North American	C/CPAF	Oct 96	1,887	1,887	1,887	0	0		0	1,887
Logicon	C/CPAF	Oct 96	2,976	2,976	2,170	579	227		0	2,976
GTE	C/CPAF	Oct 96	1,820	1,820	1,027	561	232		0	1,820
TRW (Prime)	C/CPAF	Dec 97	102,386	102,386	29,867	56,249	16,270		0	102,386
<u>Support and Management Organizations</u>										
TRW (SETA)	SS/CPAF	Oct 94	20,857	20,857	20,857	0	0		0	20,857
Program Integration	Various	As Req'd	N/A	N/A	2,329	171	105		0	2,605
Other	Various	As Req'd	N/A	N/A		600	227		0	827
<u>Test and Evaluation Organizations</u>										
AEDC	PO	As Req'd	N/A	N/A	4,145	1,495	2,275		0	7,915
Vandenberg AFB	PO	Nov 99	N/A	N/A	32	936	10,217		0	11,185
Wright Labs	PO	As Req'd	N/A	N/A	37	0	0		0	37
Phillips Lab	PO	As Req'd	N/A	N/A	81	0	0		0	81
Project 654210					Page 13 of 23 Pages			Exhibit R-3 (PE 0604851F)		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2000		
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604851F ICBM - EMD			PROJECT 654210		
(U) <u>Government Furnished Property:</u>									
	<u>Contract</u>								
	<u>Method/Type</u>	<u>Award or</u>							
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>									
None									
<u>Support and Management Property</u>									
None									
<u>Test and Evaluation Property</u>									
None									
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>				<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				212,334	57,389	16,729		0	286,452
Subtotal Support and Management				23,186	771	332		0	24,289
Subtotal Test and Evaluation				4,295	2,431	12,492		0	19,218
Total Project				239,815	60,591	29,553		0	329,959

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2000		
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604851F ICBM - EMD				PROJECT 654788	
COST (\$ in Thousands)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
654788 PSRE Life Extension Program	0	8,682	18,325	19,337	12,414	0	0	0	58,758
Identified as new start in FY00 PB Submission. (U) <u>A. Mission Description</u> The Propulsion System Rocket Engine (PSRE) Life Extension Program will refurbish the Minuteman post-boost vehicle (PBV) propulsion system. This refurbishment will correct age-related degradations, reduce life cycle costs, and support Minuteman life extension while maintaining existing weapon system reliability. Deficiencies identified (e.g., relief valve aging, titanium pressure sensing (PC) tube cracking, and fuel flex line cracks) may cause system failure/loss of performance and, in turn, potential mission failure. Other deficiencies (e.g., staging connector aging and actuator motor performance) will impact weapon system availability in addition to reducing system performance. RDT&E efforts will identify replacement materials for those no longer available or which have become environmentally unacceptable. The program will then design/develop components and manufacturing processes necessary to correct the identified deficiencies. PSRE Life Extension Program includes development, procurement, and installation of replacement/refurbished components necessary to extend the life of the Minuteman force; however, only the development effort is funded in this Program Element. Procurement and installation are funded in the Minuteman III Modifications line in the Minuteman Squadrons Program Element (PE 0101213F). (U) <u>FY 1999 (\$ in Thousands)</u> (U) \$0 No activity - EMD begins in FY00. (U) \$0 Total (U) <u>FY 2000 (\$ in Thousands)</u> (U) \$4,877 Begin design/development of components requiring refurbishment or replacement. (U) \$3,805 Begin design/development of necessary support equipment. (U) \$8,682 Total									
Project 654788			Page 15 of 23 Pages				Exhibit R-2A (PE 0604851F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2000																																																																																																																																																															
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604851F ICBM - EMD				PROJECT 654788																																																																																																																																																														
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <p>(U) \$7,545 Continue component design/development of components requiring refurbishment or replacement.</p> <p>(U) \$5,541 Continue support equipment design/development of necessary support equipment.</p> <p>(U) \$5,239 Begin test and evaluation efforts.</p> <p>(U) \$18,325 Total</p> <p>(U) <u>B. Project Change Summary</u> No significant changes to content, schedule, or cost.</p> <p>(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;"></th> <th style="width:10%;"><u>FY 1999</u></th> <th style="width:10%;"><u>FY 2000</u></th> <th style="width:10%;"><u>FY 2001</u></th> <th style="width:10%;"><u>FY 2002</u></th> <th style="width:10%;"><u>FY 2003</u></th> <th style="width:10%;"><u>FY 2004</u></th> <th style="width:10%;"><u>FY 2005</u></th> <th style="width:10%;"><u>Cost to</u></th> <th style="width:10%;"><u>Total Cost</u></th> </tr> <tr> <td></td> <td><u>Actual</u></td> <td><u>Estimate</u></td> <td><u>Estimate</u></td> <td><u>Estimate</u></td> <td><u>Estimate</u></td> <td><u>Estimate</u></td> <td><u>Estimate</u></td> <td><u>Complete</u></td> <td></td> </tr> </thead> <tbody> <tr> <td>(U) Other APPN</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) APPN 14, Missiles-AF, BA 3, P-012, MM III Modifications, Mod #5768 (PE 0101213F, Minuteman Squadrons)</td> <td></td> <td></td> <td></td> <td></td> <td align="right">8,961</td> <td align="right">20,379</td> <td align="right">20,700</td> <td align="right">79,523</td> <td align="right">129,563</td> </tr> </tbody> </table> <p>(U) <u>D. Acquisition Strategy</u> The PSRE Life Extension Program will be conducted under the ICBM Prime Integration Contractor (PIC).</p> <p>(U) <u>E. Schedule Profile</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:35%;"></th> <th colspan="4"><u>FY 1999</u></th> <th colspan="4"><u>FY 2000</u></th> <th colspan="4"><u>FY 2001</u></th> </tr> <tr> <td></td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> </thead> <tbody> <tr> <td>(U) ENGINEERING MILESTONES</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) --PDR</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td align="center">X</td><td></td><td></td><td></td> </tr> <tr> <td>(U) --CDR</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td align="center">X</td><td></td><td></td> </tr> <tr> <td>(U) T&E MILESTONES</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) --Re-certification (Begins FY02)</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) CONTRACT MILESTONES</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) --EMD Contract Award</td> <td></td><td></td><td></td><td></td><td></td><td></td><td align="center">*</td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>											<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</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) Other APPN										(U) APPN 14, Missiles-AF, BA 3, P-012, MM III Modifications, Mod #5768 (PE 0101213F, Minuteman Squadrons)					8,961	20,379	20,700	79,523	129,563		<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>					1	2	3	4	1	2	3	4	1	2	3	4	(U) ENGINEERING MILESTONES													(U) --PDR									X				(U) --CDR										X			(U) T&E MILESTONES													(U) --Re-certification (Begins FY02)													(U) CONTRACT MILESTONES													(U) --EMD Contract Award							*					
	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</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>																																																																																																																																																														
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	1	2	3	4	1	2	3	4	1	2	3	4																																																																																																																																																										
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Project 654788			Page 16 of 23 Pages				Exhibit R-2A (PE 0604851F)																																																																																																																																																															

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)	DATE February 2000
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BUDGET ACTIVITY 05 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604851F ICBM - EMD	PROJECT 654788
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(U) E. Schedule Profile Continued

<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>			
1	2	3	4	1	2	3	4	1	2	3	4

* - Completed Event
X - Planned Event

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2000			
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604851F ICBM - EMD			PROJECT 654788			
(U) A. Project Cost Breakdown (\$ in Thousands)											
					<u>FY 1999</u>			<u>FY 2000</u>		<u>FY 2001</u>	
(U)	Component Design/Development							4,877		7,545	
(U)	Support Equipment Design/Development							3,805		5,541	
(U)	System Test and Evaluation									5,239	
(U)	Total							8,682		18,325	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government Performing Activity</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 1999</u>	<u>Budget FY 1999</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>											
	TRW (Prime)	C/CPAF	Oct 99	51,471	51,471		8,532	16,840	26,099	51,471	
<u>Support and Management Organizations</u>											
	SPO Support	TBD	TBD	TBD	993		150	301	542	993	
<u>Test and Evaluation Organizations</u>											
	White Sands Test Facility (WSTF)	PO	As Req'd	6,294	6,294			1,184	5,110	6,294	
(U) Government Furnished Property:											
	<u>Item Description</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Delivery Date</u>		<u>Total Prior to FY 1999</u>	<u>Budget FY 1999</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Property</u>											
	None										
<u>Support and Management Property</u>											
	None										
Project 654788					Page 18 of 23 Pages			Exhibit R-3 (PE 0604851F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE February 2000	
BUDGET ACTIVITY	PE NUMBER AND TITLE			PROJECT		
05 - Engineering and Manufacturing Development	0604851F ICBM - EMD			654788		
 (U) <u>Government Furnished Property Continued:</u>						
<u>Test and Evaluation Property</u>						
None						
	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>	<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development			8,532	16,840	26,099	51,471
Subtotal Support and Management			150	301	542	993
Subtotal Test and Evaluation				1,184	5,110	6,294
Total Project			8,682	18,325	31,751	58,758

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2000																																										
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604851F ICBM - EMD				PROJECT 654823																																									
COST (\$ in Thousands)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost																																								
654823 ECS Replacement Program	0	0	0	13,811	0	0	0	0	13,811																																								
<p>(U) <u>A. Mission Description</u> The existing Minuteman environmental control system (ECS) was deployed in the 1960s with a 10-year design life. The Brine chillers were upgraded in the mid 1980s, however, those units have reached the end of their 10-15 year design life and must be replaced. Aging and obsolete ECS technology is adversely affecting weapon system availability and maintenance costs due to increased failure rates, non-availability of replacement parts, lack of remote diagnostic capabilities, and related supportability problems. This program will modify the existing ECS in the Minuteman launch facility (LF) and the missile alert facility (MAF) to benefit from new technologies and extend ECS life to 2020. The total ECS systems to be modified include LFs, MAFs, test and trainer sites.</p> <p>(U) <u>FY 1999 (\$ in Thousands)</u> (U) \$0 No activity - EMD begins in FY02. (U) \$0 Total</p> <p>(U) <u>FY 2000 (\$ in Thousands)</u> (U) \$0 No activity - EMD begins in FY02. (U) \$0 Total</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$0 No activity - EMD begins in FY02. (U) \$0 Total</p> <p>(U) <u>B. Project Change Summary</u> Project start delayed until FY02 to fund higher priority Air Force needs; new start notification included in FY00 President's Budget Request.</p> <p>(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:20%;"></th> <th style="width:5%;"><u>FY 1999</u></th> <th style="width:5%;"><u>FY 2000</u></th> <th style="width:5%;"><u>FY 2001</u></th> <th style="width:5%;"><u>FY 2002</u></th> <th style="width:5%;"><u>FY 2003</u></th> <th style="width:5%;"><u>FY 2004</u></th> <th style="width:5%;"><u>FY 2005</u></th> <th style="width:5%;"><u>Cost to</u></th> <th style="width:5%;"><u>Total Cost</u></th> </tr> <tr> <td></td> <td align="center"><u>Actual</u></td> <td align="center"><u>Estimate</u></td> <td align="center"><u>Estimate</u></td> <td align="center"><u>Estimate</u></td> <td align="center"><u>Estimate</u></td> <td align="center"><u>Estimate</u></td> <td align="center"><u>Estimate</u></td> <td align="center"><u>Complete</u></td> <td></td> </tr> </thead> <tbody> <tr> <td>(U) Other APPN</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) APPN 14, Missiles - AF, BA 3, P-012, MM III Modifications, Mod # 5739</td> <td></td> <td></td> <td></td> <td></td> <td align="right">16,997</td> <td align="right">45,087</td> <td align="right">56,178</td> <td align="right">145,842</td> <td align="right">264,104</td> </tr> </tbody> </table>											<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</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) Other APPN										(U) APPN 14, Missiles - AF, BA 3, P-012, MM III Modifications, Mod # 5739					16,997	45,087	56,178	145,842	264,104
	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</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) Other APPN																																																	
(U) APPN 14, Missiles - AF, BA 3, P-012, MM III Modifications, Mod # 5739					16,997	45,087	56,178	145,842	264,104																																								
Project 654823				Page 20 of 23 Pages			Exhibit R-2A (PE 0604851F)																																										

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)	DATE February 2000
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BUDGET ACTIVITY 05 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604851F ICBM - EMD	PROJECT 654823
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(U) **C. Other Program Funding Summary (\$ in Thousands)**

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</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>	
(PE 0101213F, Minuteman Squadrons)									

(U) **D. Acquisition Strategy**
 The ECS Replacement Program will be conducted under the ICBM Prime Integration Contractor (PIC) unless other strategies are deemed more appropriate.

(U) **E. Schedule Profile**

	<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) CONTRACT MILESTONES												
(U) --EMD Contract Award (1st Qtr, FY02)												
(U) ENGINEERING MILESTONES												
(U) --PDR (3rd Qtr, FY02)												
(U) --CDR (3rd Qtr, FY03)												

- (U) CONTRACT MILESTONES
- (U) --EMD Contract Award (1st Qtr, FY02)
- (U) ENGINEERING MILESTONES
- (U) --PDR (3rd Qtr, FY02)
- (U) --CDR (3rd Qtr, FY03)
- * - Completed Event
- X - Planned Event

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2000			
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604851F ICBM - EMD			PROJECT 654823			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 1999</u>		<u>FY 2000</u>		<u>FY 2001</u>	
(U)	No activity - Project Begins in FY02					0		0		0	
(U)	Total					0		0		0	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government Performing Activity</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 1999</u>	<u>Budget FY 1999</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>											
	TRW (Prime)	C/CPAF	TBD	N/A	13,611					13,611	13,611
<u>Support and Management Organizations</u>											
	Various	Various	TBD	N/A	200					200	200
<u>Test and Evaluation Organizations</u>											
None											
(U) Government Furnished Property:											
	<u>Item Description</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Delivery Date</u>		<u>Total Prior to FY 1999</u>	<u>Budget FY 1999</u>	<u>Budget FY 2000</u>	<u>Budget FY 2001</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Property</u>											
None											
<u>Support and Management Property</u>											
None											
<u>Test and Evaluation Property</u>											
None											

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE February 2000		
BUDGET ACTIVITY			PE NUMBER AND TITLE			PROJECT	
05 - Engineering and Manufacturing Development			0604851F ICBM - EMD			654823	
			<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
			<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>Complete</u>	<u>Program</u>
<u>Subtotals</u>							
Subtotal Product Development						13,611	13,611
Subtotal Support and Management						200	200
Subtotal Test and Evaluation							
Total Project						13,811	13,811