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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604933F: <i>ICBM FUZE MODERNIZATION</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	-	-	73.512	-	73.512	140.511	284.843	389.212	433.741	Continuing	Continuing
655082: <i>ICBM FUZE SUPPORT</i>	-	-	73.512	-	73.512	140.511	284.843	389.212	433.741	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY2013, the fuze efforts in Project Number 655082, ICBM Fuze Support, were transferred from PE 0604851F ICBM - EMD, in order to distinguish the effort as a pre-ACAT I program.

The Cost to Complete and Total Cost for MDAP projects in this program element are documented in the R3. The Cost to Complete and Total Cost on the R2 are entered as "Continuing" and not reflective of the total cost for MDAP projects since the R2 does not account for prior years funding.

A. Mission Description and Budget Item Justification

The ICBM Fuze Modernization program activities will include replacement of the Mk21 fuze to meet warfighter requirements and maintain current capability; development of a new Mk12A fuze capability to integrate with W78 Life Extension Program (LEP); and provide for Air Force direction and oversight of the W78 LEP. The Air Force ICBM Fuze Modernization Program will work in conjunction with the W78 LEP, National Nuclear Security Administration (NNSA), Navy, and United Kingdom (UK) Ministry of Defense (MOD) to capitalize on the extensive fuze work done to date by the Navy and NNSA, and make maximum use of joint technologies, parts, components, and development/production capabilities. Additionally, the ICBM Fuze Modernization program will address the associated Minuteman III weapon system modifications, system testing, support equipment, data, training, and fielding efforts required to support the new Mk21 fuze and Mk12A/W78 LEP.

ICBM Fuze Support will continue studies, system engineering, modeling and testing, and development planning leading to a development effort for the Mk21 and Mk12A/W78 LEP replacement fuzes. Development effort will make maximum use of technologies, parts, and components developed under the Navy Mk5 Alteration Program. The W78 life extension oversight and engineering will identify and develop the specific LEP for the W78, identifying solutions to problems or deficiencies, opportunities to incorporate enhanced surety concepts to meet National Security Presidential Directive 28 requirements, integration of the Air Force Fuze Modernization Program and the NNSA W78 LEP development, and the related supporting infrastructure.

This program is in Budget Activity 5, System Development and Demonstration (SDD), because it is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production.

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B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	73.512	-	73.512
Total Adjustments	-	-	73.512	-	73.512
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	73.512	-	73.512
Change Summary Explanation For FY2013, funding reflects \$73.512M transferred from Project PE 0604851F, ICBM - EMD.					
C. Accomplishments/Planned Programs (\$ in Millions)	FY 2011	FY 2012	FY 2013		
Title: Developmental Planning	-	-	10.000		
Description: Developmental planning, requirements definition, contract and acquisition strategy.					
FY 2011 Accomplishments: Reflected in PE 0604222F, Project Number 654236					
FY 2012 Plans: Reflected in PE 0604851F, Project Number 657006					
FY 2013 Plans: Prepare for Phase 6.3 Development Engineering and related decision points. Prepare and release request for proposals and related acquisition/ contracting documents. Prepare for source selection of future contract awards. Develop concept and design definitions for Conceptual Design Reviews.					
Title: System Engineering	-	-	15.000		
Description: Coordinate development efforts of W78 Life Extension Program (LEP) and Mk12A arming and fuzing. Synchronize DoD arming and fuzing and DOE warhead requirements. Study and assess weapon system cost/schedule/performance impacts.					
FY 2011 Accomplishments:					

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2011	FY 2012	FY 2013
Reflected in PE 0604222F, Project Number 654236				
FY 2012 Plans: Reflected in PE 0604851F, Project Number 657006 FY 2013 Plans: Continue to evaluate performance requirements, physical characteristics, logistical and operation concepts, and physical environments. Continue to develop common Military Characteristics (MCs) and Stockpile-to-Target Sequence (STS) requirements. Continue to develop and validate modeling and simulation and support development planning. Continue to develop engineering design models and examine nuclear surety themes as directed by NSPD-28.				
Title: Hardware Development Description: Preliminary design of common technology, components, and parts. FY 2011 Accomplishments: Reflected in PE 0604222F, Project Number 654236 FY 2012 Plans: Reflected in PE 0604851F, Project Number 657006 FY 2013 Plans: Continue development of common parts, components, and technology for application to Mk21 and Mk12A/W78 LEP fuzes. Examine nuclear surety themes as directed by NSPD-28. Provide development hardware for assessment.		-	-	36.677
Title: Warhead Engineering Oversight Description: Engineering/oversight of Air Force Fuze Modernization with NNSA warhead activities. FY 2011 Accomplishments: N/A FY 2012 Plans: Reflected in PE 0604851F, Project Number 657006 FY 2013 Plans: Continue providing engineering analysis, direction and evaluation. Continue to develop and perform finite element modeling of the Reentry Vehicles. Continue to execute development tasks required for 6.2/2A Feasibility and Cost study phase of the W78 Life		-	-	11.835

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C. Accomplishments/Planned Programs (\$ in Millions)										FY 2011	FY 2012	FY 2013
Extension Program. Continue environmental ground testing of the W78/Mk12A. Plan and support extended range flight testing of fuze related developmental hardware.												
Accomplishments/Planned Programs Subtotals										-	-	73.512

D. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• RDT&E, AF: <i>PE 0604222F: Nuclear Weapons Support, 654236 Engineering Analysis, Joint Fuze</i>	9.740	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	9.740
• RDT&E, AF (1)...: <i>PE 0604815F: ICBM - EMD, 657006 Fuze Support</i>	0.000	42.114	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	42.114
• MPAF, Missile Procurement - AF: <i>PE 0101213F: Minuteman Squadrons, Modification 5915</i>	0.000	0.000	0.000	0.000	0.000	0.000	11.648	14.000	14.252	Continuing	Continuing

E. Acquisition Strategy											
Pre-Acquisition program development requires contracts to support the program office in risk reduction, cost estimates, feasibility assessment, development engineering, requests for proposals, source selection, systems engineering, warhead engineering and oversight activities and program planning. Program office will also continue fuze studies and analysis of weapon systems impacts and support to the W78 Life Extension Program. NNSA/Sandia National Laboratories is performing the Design/Development of the AF Fuzes. Development engineering phase 6.3 is planned to start in FY2013.											

F. Performance Metrics											
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force											DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT						
3600: Research, Development, Test & Evaluation, Air Force BA 5: Development & Demonstration (SDD)				PE 0604933F: ICBM FUZE MODERNIZATION				655082: ICBM FUZE SUPPORT						
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Preliminary Design Development	MIPR	Sandia National Labs:Albuquerque, NM	-	-		36.677		-		36.677	Continuing	Continuing	TBD	
Subtotal			-	-		36.677		-		36.677				
Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Minuteman Systems Engineering	TBD	TBD:TBD,	-	-		7.500	Nov 2012	-		7.500	Continuing	Continuing	TBD	
Acquisition and Engineering Support	C/CPFF	Booze Allen Hamilton:Clearfield, UT	-	-		2.000	Oct 2012	-		2.000	Continuing	Continuing	TBD	
Hardware Engineering Support	C/TBD	TBD:,	-	-		9.248	Nov 2012	-		9.248	Continuing	Continuing	TBD	
Warhead Engineering Support	MIPR	NNSA:Albuquerque, NM	-	-		3.112	Oct 2012	-		3.112	Continuing	Continuing	TBD	
Extended Test Range Support	MIPR	Navy:Alexandria, VA	-	-		3.680	Dec 2012	-		3.680	Continuing	Continuing	TBD	
LPO Engineering Support	C/CPFF	Booze Allen Hamilton:Albuquerque, NM	-	-		2.241	Oct 2012	-		2.241	Continuing	Continuing	TBD	
LPO Program Management Support	C/CPFF	ITT:Albuquerque, NM	-	-		2.241	Oct 2012	-		2.241	Continuing	Continuing	TBD	
Subtotal			-	-		30.022		-		30.022				
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Test Planning	C/CPFF	Northrop Grumman:Clearfield, UT	-	-		0.500	Oct 2012	-		0.500	Continuing	Continuing	TBD	

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Test and Evaluation (\$ in Millions)					FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Ground Testing	TBD	Little Mountain Test Facility:Ogden, UT	-	-		0.500	Oct 2012	-		0.500	Continuing	Continuing	TBD	
Subtotal			-	-		1.000		-		1.000				
Management Services (\$ in Millions)					FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Cost Estimation	C/TBD	Tecolote Research, Inc:Santa Barbara, CA	-	-		0.750	Dec 2012	-		0.750	Continuing	Continuing	TBD	
Program Management Administration & SPO Support	TBD	Hill AFB:Clearfield, UT	-	-		5.063	Oct 2012	-		5.063	Continuing	Continuing	TBD	
Subtotal			-	-		5.813		-		5.813				
			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			-	-		73.512		-		73.512				
Remarks														

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force			DATE: February 2012
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Conceptual Design Review (CDR) Mk21	1	2013	1	2013
Conceptual Design Review (CDR) Mk12A	2	2013	2	2013
Development Engineering Mk21	3	2013	4	2015
Nuclear Weapons Council 6.3 Entry Approval	3	2013	3	2013
Development Engineering Mk 12A	3	2013	4	2015
Baseline Design Review (BDR) Mk21	2	2014	2	2014
Baseline Design Review (BDR) Mk12A	3	2015	3	2015
Nuclear Weapons Council 6.4 Entry Approval	1	2016	1	2016
Production Engineering MK21	1	2016	4	2017
Production Engineering Mk12A	1	2016	4	2017
Phase 6.1 Concept Assessment	3	2011	1	2012
Phase 6.2 Feasibility Study	2	2012	3	2013
Phase 6.2A Design Definition	4	2012	2	2013
Phase 6.3 Development Engineering	3	2013	4	2015
Phase 6.4 Production Engineering	1	2016	4	2017