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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Air Force										Date: February 2015		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 0101122F I Air-Launched Cruise Missile (ALCM)							
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	-	0.983	0.450	0.451	-	0.451	0.458	0.467	0.477	0.486	Continuing	Continuing
674797: ALCM Sustainment	-	0.983	0.450	0.451	-	0.451	0.458	0.467	0.477	0.486	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

## **A. Mission Description and Budget Item Justification**

The AGM-86B, Air Launched Cruise Missile (ALCM), is a subsonic, air-to-surface strategic nuclear missile, operational since 1982. Armed with a W80 warhead, it is designed to evade air and ground-based defenses in order to strike targets at any location within any enemy's territory. The ALCM is designed for B-52H internal and external carriage.

The purpose of this program is to ensure ALCM sustainability through 2030 in support of Air Force strategic nuclear deterrence and global strike mission requirements.

An ALCM Service Life Extension Program (SLEP) was developed to support ALCM Service Life through 2030. The results of SLEP studies identified system components and support equipment that will become non-supportable prior to 2030. Service life extension of this critical weapon is essential to meet United States Strategic Command (USSTRATCOM) deliberate planning commitments. Development funds are required to add capabilities to assist in identifying candidate components for future SLEP efforts.

The Aging and Surveillance program for ALCM continuously assesses critical components and subsystems. The program identifies aging trends prior to failures in fielded components that would result in fleet-wide reliability and supportability problems. Development funds are required to update software, test procedures, and test equipment. FY16 funding will allow for the development of test capabilities for additional ALCM components.

As part of the build phase of the sustaining engineering approach, the program has developed a plan for ALCM sustainment using a computer-aided decision making process called the ALCM Sustainment Enhancement Toolbox (ASET). The first phase of ASET is the ALCM Report Recommendation Tool (ARRT) that will develop the software tools to sustain ALCM to 2030. Funds will also be used to develop test procedures to implement the Chairman of the Joint Chiefs of Staff (CJCS)-directed requirements for Electromagnetic (EM) survivability testing including, but not limited to, High-altitude Electromagnetic Pulse (HEMP), Hazards of EM Radiation to Ordnance (HERO) and High-Powered Microwave (HPM) testing for nuclear systems.

BA7- This program is in Budget Activity 7, Operational System Development, because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	0.450	0.450	0.454	-	0.454
Current President's Budget	0.983	0.450	0.451	-	0.451
Total Adjustments	0.533	-	-0.003	-	-0.003
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.533	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-0.003	-	-0.003
Change Summary Explanation					
FY14: \$0.533M of additional funding received in the FY14 Omnibus reprogramming request for the ALCM Report Recommendation Tool (ARRT)					
FY16: -\$0.003 for inflation adjustment					
C. Accomplishments/Planned Programs (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: ALCM Aging and Surveillance Program	0.180	0.195	0.351	-	0.351
Description: Continue Aging and Surveillance program for ALCM system components to identify age-related failure trends and prevent reliability and supportability issues.					
FY 2014 Accomplishments:					
- Conducted Aging and Surveillance program for ALCM system components at a reduced level of effort due to a higher EM test priority.					
- Will resume planned level of Aging and Surveillance effort in FY15.					
FY 2015 Plans:					
Continue Aging and Surveillance Program for ALCM system components to identify age-related failure trends and prevent reliability and supportability issues.					
FY 2016 Base Plans:					

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue Aging and Surveillance Program for ALCM system components to identify age-related failure trends and prevent reliability and supportability issues. Program ramps back up to full level of effort with maturation of Electromagnetic (EM) test development.  FY 2016 OCO Plans: N/A						
Title: ALCM EM Test Plan Development  Description: Develop test procedures to implement CJCS-directed requirement for EM testing for nuclear systems.  FY 2014 Accomplishments: Developed test procedures to implement CJCS-directed requirement for EM testing for nuclear systems.  FY 2015 Plans: Continue to develop test procedures to implement CJCS-directed requirement for EM testing for nuclear systems.  FY 2016 Base Plans: Continue to develop test procedures to implement CJCS-directed requirement for EM testing for nuclear systems.  FY 2016 OCO Plans: N/A		0.283	0.255	0.100	-	0.100
Title: ALCM Sustainment Enhancement Tool (ASET)  Description: Develop the ALCM Report Recommendation Tool (ARRT), a computer-aided decision-making process, to support ALCM sustainment to 2030.  FY 2014 Accomplishments: Developed the ALCM Report Recommendation Tool (ARRT), a computer-aided decision-making process, to support ALCM sustainment to 2030.  FY 2015 Plans: N/A  FY 2016 Base Plans:		0.520	-	-	-	-

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C. Accomplishments/Planned Programs (\$ in Millions)						FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total		
N/A												
FY 2016 OCO Plans: N/A												
Accomplishments/Planned Programs Subtotals						0.983	0.450	0.451	-	0.451		
D. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost	
• MPAF: BA03: Line Item # MALCBG: ALCM, Missile Modifications	6.888	16.083	25.019	-	25.019	15.785	15.395	17.836	3.894	Continuing	Continuing	
• MPAF: BA04: Line Item # MALCBG: ALCM, Replenishment Spares	4.561	4.767	0.496	-	0.496	0.496	2.960	2.322	2.363	Continuing	Continuing	
• OPAF: BA03: Line Item # MALCBG: ALCM, Electronics & Telecommunications Equipment (BP83)	1.125	1.989	1.908	-	1.908	1.724	1.753	1.785	1.816	Continuing	Continuing	
Remarks												
E. Acquisition Strategy												
The ALCM Aging and Surveillance Program is being executed by the prime contractor utilizing annual delivery orders on a Firm Fixed Price (FFP) contract.												
The EM test development will be funded via a Military Interdepartmental Purchase Request (MIPR) to White Sands Missile Range, NM.												
ARRT is a 206-funded organic workload to the Tinker Software Lab.												
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 2016 Air Force												Date: February 2015			
Appropriation/Budget Activity 3600 / 7						R-1 Program Element (Number/Name) PE 0101122F / Air-Launched Cruise Missile (ALCM)				Project (Number/Name) 674797 / ALCM Sustainment					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ALCM Aging and Surveillance	C/FFP	Boeing : St. Louis, MO	-	0.175	Mar 2014	0.190	Jan 2015	0.346	Jan 2016	-		0.346	Continuing	Continuing	-
ALCM Sustainment Enhancement Toolbox (ASET)	MIPR	OC-ALC : OKC, OK	-	0.520	Nov 2014	-		-		-		-	Continuing	Continuing	-
Subtotal			-	0.695		0.190		0.346		-		0.346	-	-	-
Remarks															
The ALCM Aging and Surveillance Program is being executed by the prime contractor utilizing annual delivery orders on a Firm Fixed Price (FFP) contract. A new contract in FY13 changed the period of performance from June-to-June to January-to-January with two subsequent one-year options ending 31 Dec 2015.															
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-		-	-	-	-
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
EM Test Plan Development	MIPR	White Sands Missile Range : , NM	-	0.283	Nov 2013	0.255	Feb 2015	0.100	Nov 2015	-		0.100	Continuing	Continuing	-
Subtotal			-	0.283		0.255		0.100		-		0.100	-	-	-
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA - Government Costs	Various	Various : Various,	-	0.005	Aug 2014	0.005	Aug 2015	0.005	Aug 2016	-		0.005	Continuing	Continuing	TBD
Subtotal			-	0.005		0.005		0.005		-		0.005	-	-	-

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Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Remarks																
ALCM Aging and Surveillance Program PMA is for Supplies and Travel in project number 674797																
			Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			-	0.983		0.450		0.451		-		0.451	-	-	-	
Remarks																

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2016 Air Force			<b>Date:</b> February 2015		
<b>Appropriation/Budget Activity</b> 3600 / 7		<b>R-1 Program Element (Number/Name)</b> PE 0101122F / <i>Air-Launched Cruise Missile (ALCM)</i>			<b>Project (Number/Name)</b> 674797 / <i>ALCM Sustainment</i>

	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	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
ALCM Aging & Surveillance Program Development																												
ALCM Report Recommendation Tool Development																												
Test Development Phase 1																												
HEMP/HERO/HPM																												
Test Development Phase 2																												
EM Testing																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2016 Air Force			<b>Date:</b> February 2015
<b>Appropriation/Budget Activity</b> 3600 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0101122F / <i>Air-Launched Cruise Missile (ALCM)</i>	<b>Project (Number/Name)</b> 674797 / <i>ALCM Sustainment</i>	

## Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
ALCM Aging & Surveillance Program Development	1	2014	4	2020
ALCM Report Recommendation Tool Development	1	2015	4	2016
Test Development Phase 1	1	2015	4	2015
HEMP/HERO/HPM	1	2015	3	2016
Test Development Phase 2	1	2020	4	2020
EM Testing	1	2020	4	2020