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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0101122F / <i>Air-Launched Cruise Missile (ALCM)</i>
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COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	-	0.450	0.451	0.453	0.000	0.453	0.462	0.472	0.482	0.490	Continuing	Continuing
674797: <i>ALCM Upgrades</i>	-	0.450	0.451	0.453	0.000	0.453	0.462	0.472	0.482	0.490	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 W-80 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 Aging and Surveillance (A&S) program 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. In 2016, A&S will be accomplished via 3400 Central Asset Management (CAM).

The ALCM Test Plan Development and Evaluation program develops test procedures for testing nuclear systems, and implements those procedures as directed by the Chairman, Joint Chiefs of Staff. As A&S shifts to CAM, the program will increase emphasis on the program's two phases of Test Plan Development, Evaluation and implementation. Phase 1 focuses on Electromagnetic (EM) development and testing for High Altitude Electromagnetic Pulse (HEMP), Hazards of Electromagnetic Radiation to Ordnance (HERO), and High Power Microwave (HPM) testing. Phase 2 focuses on the development of radiation testing and radiation testing.

RDT&E funds are used to develop new test and evaluation procedures, software, and equipment, to ensure ALCM sustainability supports Air Force strategic nuclear deterrence and Global Strike mission requirements through 2030.

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 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	0.450	0.451	0.458	0.000	0.458
Current President's Budget	0.450	0.451	0.453	0.000	0.453
Total Adjustments	0.000	0.000	-0.005	0.000	-0.005
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-0.005	0.000	-0.005

Change Summary Explanation

No Significant Program Changes

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<p>Title: ALCM Aging and Surveillance Program</p> <p>Description: Develop test procedures to identify age-related failure trends and prevent reliability and supportability issues for ALCM system components.</p> <p>FY 2015 Accomplishments: Developed Environmental Test Plan and Test Requirements Documents for ALCM Power Distribution Box.</p> <p>FY 2016 Plans: Funding is moving to 3400 Centralized Asset Management (CAM).</p> <p>FY 2017 Base Plans: N/A</p> <p>FY 2017 OCO Plans: N/A</p>	0.144	0.000	0.000	0.000	0.000
<p>Title: ALCM Test Plan Development and Evaluation</p> <p>Description: Develop test procedures to implement CJCS-directed requirement for EM testing for nuclear systems.</p>	0.306	0.451	0.453	0.000	0.453

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
<p><i>FY 2015 Accomplishments:</i> Developed test plan and procedures for EM testing and evaluation of nuclear systems. Began EM testing.</p> <p><i>FY 2016 Plans:</i> Continue development of test plans and procedures for implementation of Phase 1 testing and begin Phase 2 test plans and procedures development. Continue EM testing.</p> <p><i>FY 2017 Base Plans:</i> Continue development of test plans and procedures for implementation of Phase 2 testing.</p> <p><i>FY 2017 OCO Plans:</i> N/A</p>					
Accomplishments/Planned Programs Subtotals	0.450	0.451	0.453	0.000	0.453

D. Other Program Funding Summary (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	<u>Cost To Complete</u>	<u>Total Cost</u>
• MPAF: BA03: Line Item # MALCBG: <i>ALCM, Missile Modifications</i>	16.083	25.019	21.762	0.000	21.762	21.381	25.171	24.804	24.981	Continuing	Continuing
• MPAF: BA04: Line Item # MALCBG: <i>ALCM, Replenishment Spares</i>	4.767	0.496	3.232	0.000	3.232	2.936	2.300	2.339	2.380	Continuing	Continuing
• OPAF: BA03: Line Item # MALCBG: <i>ALCM, Electronics & Telecommunications Equipment (BP83)</i>	1.989	1.908	1.710	0.000	1.710	1.740	1.771	1.802	1.835	Continuing	Continuing
• MPAF: BA04: Line Item # 999/ Repl...: <i>ALCM, Initial Spares</i>	0.000	0.000	0.294	0.000	0.294	0.303	0.311	0.321	0.331	Continuing	Continuing

Remarks

E. Acquisition Strategy
The ALCM Aging and Surveillance Program has been executed by the prime contractor utilizing annual delivery orders on a Firm Fixed Price (FFP) contract.

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<p>The EM test development is currently funded via Military Interdepartmental Purchase Requests to White Sands Missile Range, NM.</p> <p>The EM test development and evaluation strategy (organic or contractor) is expected to be determined 4QFY16 with a focus on existing IDIQ contracts.</p> <p>F. Performance Metrics</p> <p>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.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Air Force **Date:** February 2016

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101122F / Air-Launched Cruise Missile (ALCM)	Project (Number/Name) 674797 / ALCM Upgrades
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Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ALCM Aging and Surveillance	C/FFP	Boeing : St Charles, MO	-	0.141	Jun 2015	0.000		0.000		0.000		0.000	Continuing	Continuing	-
Subtotal			-	0.141		0.000		0.000		0.000		0.000	-	-	-

Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	-

Test and Evaluation (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
EM Test Plan Development and Evaluation	MIPR	White Sands Missile Range : NM	-	0.306	Feb 2015	0.446	Dec 2015	0.433	Sep 2016	0.000		0.433	Continuing	Continuing	-
Subtotal			-	0.306		0.446		0.433		0.000		0.433	-	-	-

Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PMA - Government Costs	Various	Various : Various	-	0.003	Aug 2015	0.005	Aug 2016	0.020	Aug 2017	0.000		0.020	Continuing	Continuing	TBD
Subtotal			-	0.003		0.005		0.020		0.000		0.020	-	-	-

Remarks
ALCM Aging and Surveillance/Test Development Program PMA is for Supplies and Travel in support of project number 674797

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	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals	-	0.450	0.451	0.453	0.000	0.453	-	-	-	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101122F / <i>Air-Launched Cruise Missile (ALCM)</i>	Project (Number/Name) 674797 / <i>ALCM Upgrades</i>

	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	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	██████████																											
Test Development Phase 1	██████████																											
HEMP/HERO/HPM Testing	██████████																											
Test Development Phase 2									██████████																			
Radiation Testing																	██████████											

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0101122F / <i>Air-Launched Cruise Missile (ALCM)</i>	Project (Number/Name) 674797 / <i>ALCM Upgrades</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
ALCM Aging & Surveillance Program Development	1	2015	4	2015
Test Development Phase 1	1	2015	2	2016
HEMP/HERO/HPM Testing	1	2015	3	2016
Test Development Phase 2	4	2016	4	2018
Radiation Testing	1	2019	2	2020