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**Department of Defense  
Fiscal Year (FY) 2016 President's Budget Submission**

February 2015



**Missile Defense Agency**

*Defense Wide Justification Book Volume 2b of 2*

***Procurement, Defense-Wide***  
**(Includes O&M and MILCON)**

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Missile Defense Agency • President's Budget Submission FY 2016 • Procurement

**Table of Volumes**

**Chemical and Biological Defense Program.....Volume 1**

**Defense Contract Audit Agency..... Volume 1**

**Defense Contract Management Agency..... Volume 1**

**DoD Human Resources Activity..... Volume 1**

**Defense Information Systems Agency.....Volume 1**

**Defense Logistics Agency.....Volume 1**

**Defense Media Activity..... Volume 1**

**Defense Production Act Purchases..... Volume 1**

**Defense Security Cooperation Agency..... Volume 1**

**Defense Security Service..... Volume 1**

**Defense Threat Reduction Agency.....Volume 1**

**Department of Defense Education Activity (No Dependants)..... Volume 1**

**Office of the Secretary Of Defense..... Volume 1**

**The Joint Staff..... Volume 1**

**United States Special Operations Command.....Volume 1**

**Washington Headquarters Service..... Volume 1**

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Missile Defense Agency • President's Budget Submission FY 2016 • Procurement

**Joint Urgent Operational Needs Fund..... Volume 1**  
**Missile Defense Agency..... Volume 2**

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Missile Defense Agency • President's Budget Submission FY 2016 • Procurement

**Volume 2b Table of Contents**

**Introduction and Explanation of Contents..... Volume 2b - v**

**Comptroller Exhibit P-1..... Volume 2b - vii**

**Line Item Table of Contents (by Appropriation then Line Number)..... Volume 2b - ix**

**Line Item Table of Contents (Alphabetically by Line Item Title)..... Volume 2b - xi**

**MDA Operation & Maintenance..... Volume 2b - xiii**

**MDA MILCON..... Volume 2b - lxxv**

**MDA Multi-Year Procurement..... Volume 2b - lxxv**

**Exhibit P-40s..... Volume 2b - 1**

**UNCLASSIFIED**

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## Introduction & Explanation of Contents

The Department of Defense FY2016 President's Budget RDT&E (Includes Procurement, O&M, and MILCON), Defense-wide Volume 2, Missile Defense Agency (MDA) justification materials consists of two books titled Volume 2a and 2b. Justification documents are provided in the books as listed below.

### Volume 2a

- R-1 Comptroller Exhibit
- MDA FY 2016 Budget Estimate Overview
- MDA Appropriation Summary
- Congressional Reporting Requirements
- Program Assessment Rating Tool (PART) Submission
- Acronyms
- RDT&E Exhibits in BA-03, BA-04, and BA-06

### Volume 2b

- P-1 Comptroller Exhibit
- MDA Operation and Maintenance Exhibit
- MDA MILCON Exhibits
- MDA Procurement Exhibits

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Defense-Wide  
 FY 2016 President's Budget  
 Exhibit P-1 FY 2016 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

22 Jan 2015

Appropriation: 0300D Procurement, Defense-Wide

Line No	Item Nomenclature	Ident Code	FY 2014 (Base & OCO)		FY 2015 Base Enacted		FY 2015 OCO Enacted		FY 2015 Total Enacted		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Budget Activity 01: Major Equipment											
-----											
Major Equipment, Missile Defense Agency											
23	THAAD	B	27	571,851	31	449,824			31	449,824	U
24	Aegis BMD	B	52	580,814	49	643,810			49	643,810	U
25	Aegis BMD Advance Procurement (CY)										U
26	BMDS AN/TPY-2 Radars	A		55,800		88,140				88,140	U
27	Aegis Ashore Phase III	B	1	131,400		225,774				225,774	U
28	Iron Dome	A	1	445,309	1	350,972			1	350,972	U
Total Major Equipment				1,785,174		1,758,520				1,758,520	
Total Procurement, Defense-Wide				1,785,174		1,758,520				1,758,520	

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Defense-Wide  
 FY 2016 President's Budget  
 Exhibit P-1 FY 2016 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

22 Jan 2015

Appropriation: 0300D Procurement, Defense-Wide

Line No	Item Nomenclature	Ident Code	FY 2016 Base		FY 2016 OCO		FY 2016 Total		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	
Budget Activity 01: Major Equipment									
Major Equipment, Missile Defense Agency									
23	THAAD	B	30	464,067			30	464,067	U
24	Aegis BMD	B	40	558,916			40	558,916	U
25	Aegis BMD Advance Procurement (CY)			147,765				147,765	U
26	BMDS AN/TPY-2 Radars	A		78,634				78,634	U
27	Aegis Ashore Phase III	B		30,587				30,587	U
28	Iron Dome	A	1	55,000			1	55,000	U
Total Major Equipment				1,334,969				1,334,969	
Total Procurement, Defense-Wide				1,334,969				1,334,969	

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Missile Defense Agency • President's Budget Submission FY 2016 • Procurement

**Line Item Table of Contents (by Appropriation then Line Number)**

***Appropriation 0300D: Procurement, Defense-Wide***

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<b>Line #</b>	<b>BA</b>	<b>BSA</b>	<b>Line Item Number</b>	<b>Line Item Title</b>	<b>Page</b>
23	01	17	MD07	THAAD.....	Volume 2b - 1
24	01	17	MD09	AEGIS BMD.....	Volume 2b - 13
25	01	17	MD09	AEGIS BMD, Advance Procurement.....	Volume 2b - 29
26	01	17	MD11	BMDS AN/TPY-2 Radars.....	Volume 2b - 33
27	01	17	MD73	Aegis Ashore Phase III.....	Volume 2b - 57
28	01	17	MD83	Iron Dome.....	Volume 2b - 61

**UNCLASSIFIED**

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Missile Defense Agency • President's Budget Submission FY 2016 • Procurement

**Line Item Table of Contents (Alphabetically by Line Item Title)**

<b>Line Item Title</b>	<b>Line Item Number</b>	<b>Line #</b>	<b>BA</b>	<b>BSA</b>	<b>Page</b>
AEGIS BMD	MD09	24	01	17.....	Volume 2b - 13
AEGIS BMD, Advance Procurement	MD09	25	01	17.....	Volume 2b - 29
Aegis Ashore Phase III	MD73	27	01	17.....	Volume 2b - 57
BMDS AN/TPY-2 Radars	MD11	26	01	17.....	Volume 2b - 33
Iron Dome	MD83	28	01	17.....	Volume 2b - 61
THAAD	MD07	23	01	17.....	Volume 2b - 1

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**Fiscal Year 2016 Budget Estimates**  
**Missile Defense Agency (MDA)**



**February 2015**

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**TABLE OF CONTENTS**

PBA-19 Exhibit - Introductory Statement (PBA-19, Appropriation Highlights) .....1  
O-1 Exhibit - O&M Funding by Budget Activity/Activity Group/Subactivity Group .....3  
O-1A Exhibit - O&M Funding by Budget Activity/Activity Group/Subactivity Group .....5  
OP-32 Exhibit - Appropriation Summary of Price/Program Growth .....7  
OP-32A Exhibit - Appropriation Summary of Price/Program Growth .....9  
PB-31R Exhibit - Personnel Summary .....11  
PB-31D Exhibit - Summary of Funding Increases and Decreases .....13  
OP-5 Exhibit - Operation and Maintenance Detail .....15  
Contract Services .....31  
PB-15 - Advisory and Assistance Services .....37  
PB-15 - RDT&E .....39  
PB-31Q - Manpower Changes in Full-Time Equivalent .....41  
OP-8 Part II, Civillian Personnel Costs .....45

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**MISSILE DEFENSE AGENCY**  
**Operation and Maintenance, Defense-Wide**  
**Fiscal Year (FY) 2016 Budget Estimates**

<u>Appropriation Summary</u>	<u>FY 2014 Actual</u>	<u>Price Change</u>	<u>Program Change</u>	<u>FY 2015 Estimate</u>	<u>Price Change</u>	<u>Program Change</u>	<u>FY 2016 Estimate</u>
O&M, Defense-Wide	\$377.7	\$6.8	\$19.0	\$403.5	\$6.7	\$21.9	\$432.1

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**MISSILE DEFENSE AGENCY**  
**Operation and Maintenance, Defense-Wide**  
**Fiscal Year (FY) 2016 Budget Estimates**

	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>
	<b><u>Actual</u></b>	<b><u>Estimate</u></b>	<b><u>Estimate</u></b>
<b>1. Operational Support</b>	<b>377,672</b>	<b>403,513</b>	<b>432,068</b>
Aegis Ballistic Missile Defense (BMD)	12,174	11,662	46,445
Ballistic Missile Defense (BMD) Midcourse Defense Segment	140,580	146,173	134,477
Ballistic Missile Defense Systems (BMDS) AN/TPY-2 Radars	166,258	169,989	187,486
Terminal High Altitude Area Defense (THAAD)	58,660	75,689	63,660
<b>Total Operation and Maintenance, Defense-Wide</b>	<b>377,672</b>	<b>403,513</b>	<b>432,068</b>

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**MISSILE DEFENSE AGENCY**  
**Operation and Maintenance, Defense-Wide**  
**Fiscal Year (FY) 2016 Budget Estimates**

	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>
	<b><u>Actual</u></b>	<b><u>Estimate</u></b>	<b><u>Estimate</u></b>
<b>1. Operational Support</b>	<b>377,672</b>	<b>403,513</b>	<b>432,068</b>
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**MISSILE DEFENSE AGENCY**  
**Operation and Maintenance, Defense-Wide**  
**Fiscal Year (FY) 2016 Budget Estimates**

	<u>FY 2014</u>	<u>Price</u>	<u>Price</u>	<u>Program</u>	<u>FY 2015</u>	<u>Price</u>	<u>Price</u>	<u>Program</u>	<u>FY 2016</u>	
	<u>Program</u>	<u>Growth</u>	<u>Growth</u>	<u>Growth</u>	<u>Program</u>	<u>Growth</u>	<u>Growth</u>	<u>Growth</u>	<u>Program</u>	
		<u>Percent</u>				<u>Percent</u>				
<b><u>Supplies &amp; Materials</u></b>										
401	DLA Energy (Fuel Products)	1,172	2.21%	26	711	1,909	-7.30%	-139	-205	1,565
<b>499</b>	<b>Total Supplies &amp; Materials</b>	<b>1,172</b>		<b>26</b>	<b>711</b>	<b>1,909</b>		<b>-139</b>	<b>-205</b>	<b>1,565</b>
<b><u>DWCF Purchases</u></b>										
677	DISA Telecomm Svcs - Reimbursable	63	7.80%	5	-68	0	2.00%	0	0	0
<b>699</b>	<b>Total DWCF Purchases</b>	<b>63</b>		<b>5</b>	<b>-68</b>	<b>0</b>		<b>0</b>	<b>0</b>	<b>0</b>
<b><u>Transportation</u></b>										
771	Commercial Transport	3,271	1.80%	59	165	3,495	1.70%	59	188	3,742
<b>799</b>	<b>Total Transportation</b>	<b>3,271</b>		<b>59</b>	<b>165</b>	<b>3,495</b>		<b>59</b>	<b>188</b>	<b>3,742</b>
<b><u>Other Purchases</u></b>										
913	Purchased Utilities (Non-Fund)	2,994	1.80%	54	218	3,266	1.70%	56	175	3,497
920	Supplies & Materials (Non-Fund)	9,553	1.80%	172	-228	9,497	1.70%	161	994	10,652
922	Equipment Maintenance By Contract	263,065	1.80%	4,735	24,887	292,687	1.70%	4,976	5,920	303,583
923	Facilities Sust, Rest, & Mod by Contract	28,437	1.80%	512	-10,257	18,692	1.70%	318	-1,654	17,356
930	Other Depot Maintenance (Non-Fund)	0	1.80%	0	0	0	1.70%	0	9,443	9,443
932	Mgt Prof Support Svcs	7,188	1.80%	129	363	7,680	1.70%	131	412	8,223
937	Locally Purchased Fuel (Non-Fund)	0	2.21%	0	53	53	-7.30%	-4	4	53
987	Other Intra-Govt Purch	19,491	1.80%	351	983	20,825	1.70%	354	1,119	22,298
989	Other Services	42,294	1.80%	761	2,133	45,188	1.70%	768	2,430	48,386
990	IT Contract Support Services	144	1.80%	3	74	221	1.70%	4	3,045	3,270
<b>999</b>	<b>Total Other Purchases</b>	<b>373,166</b>		<b>6,717</b>	<b>18,226</b>	<b>398,109</b>		<b>6,764</b>	<b>21,888</b>	<b>426,761</b>
	<b>Total</b>	<b>377,672</b>		<b>6,807</b>	<b>19,034</b>	<b>403,513</b>		<b>6,684</b>	<b>21,871</b>	<b>432,068</b>

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**MISSILE DEFENSE AGENCY**  
**Operation and Maintenance, Defense-Wide**  
**Fiscal Year (FY) 2016 Budget Estimates**

	<u>FY 2014</u>	<u>Price</u>	<u>Price</u>	<u>Program</u>	<u>FY 2015</u>	<u>Price</u>	<u>Price</u>	<u>Program</u>	<u>FY 2016</u>	
	<u>Program</u>	<u>Growth</u>	<u>Growth</u>	<u>Growth</u>	<u>Program</u>	<u>Growth</u>	<u>Growth</u>	<u>Growth</u>	<u>Program</u>	
		<u>Percent</u>				<u>Percent</u>				
<b><u>Supplies &amp; Materials</u></b>										
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<b><u>DWCF Purchases</u></b>										
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	<b>Total</b>	<b>377,672</b>		<b>6,807</b>	<b>19,034</b>	<b>403,513</b>		<b>6,684</b>	<b>21,871</b>	<b>432,068</b>

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**MISSILE DEFENSE AGENCY**  
**Operation and Maintenance, Defense-Wide**  
**Fiscal Year (FY) 2016 Budget Estimates**

	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Change</u> <u>FY 2015/2016</u>
Contractor FTEs (Total)	903	909	982	73

**Personnel Summary Explanations:**

The FY 2014 to FY 2015 contractor FTE increase is due to the additional CLS team and training support required for the 5th THAAD Battery to begin New Equipment Training in FY 2015.

The FY 2015 to FY 2016 contractor FTE increase is due to increased operations and maintenance activities to support deployed Aegis weapon and missile systems, and additional 8 FTEs CLS team and training support required for the 6th THAAD Battery and 5 FTEs in AN/TPY-2 Radars for battery support to begin New Equipment Training in FY 2016.

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**MISSILE DEFENSE AGENCY**  
**Operation and Maintenance, Defense-Wide**  
**Fiscal Year (FY) 2016 Budget Estimates**

	<u>TOTAL</u>
<b>FY 2015 President's Budget Request (Amended, if applicable)</b>	<b>416,644</b>
1. Congressional Adjustments	
a. Distributed Adjustments	
1) BMDS AN/TPY-2 Radars Excess Forward Financing	-13,000
b. Undistributed Adjustments	
c. Adjustments to Meet Congressional Intent	
d. General Provisions	
1) Section 8035 (Indian Lands) (\$12M) - Various	-131
<b>FY 2015 Appropriated Amount</b>	<b>403,513</b>
2. War-Related and Disaster Supplemental Appropriations	
3. Fact-of-Life Changes	
<b>FY 2015 Baseline Funding</b>	<b>403,513</b>
4. Reprogrammings (Requiring 1415 Actions)	
<b>Revised FY 2015 Estimate</b>	<b>403,513</b>
5. Less: Item 2, War-Related and Disaster Supplemental Appropriations and Item 4, Reprogrammings	
<b>FY 2015 Normalized Current Estimate</b>	<b>403,513</b>
6. Price Change	6,684
7. Functional Transfers	
8. Program Increases	
a. Annualization of New FY 2015 Program	
b. One-Time FY 2016 Increases	
c. Program Growth in FY 2016	
1) Aegis BMD program increase is due to a progression	34,783

**MISSILE DEFENSE AGENCY**  
**Operation and Maintenance, Defense-Wide**  
**Fiscal Year (FY) 2016 Budget Estimates**

	<u><b>TOTAL</b></u>
of the life cycle of the deployed Aegis program to O&M which includes Aegis Ashore. (FY 2015 baseline \$11,662K, +0 FTE)	
2) BMDs Radar program increase is due to the execution of (1) Electronic Equipment Unit retrofits at Letterkenny Army Depot and the fielding of (1) THAAD battery radar. (FY2015 baseline \$169,989K +0 FTE)	17,497
<b>9. Program Decreases</b>	
a. Annualization of FY 2015 Program Decreases	
b. One-Time FY 2015 Increases	
c. Program Decreases in FY 2016	
1) THAAD program decrease is due to updated THAAD Fielding and Sustainment Contract projections. (FY 2015 baseline \$75,689K, +0 FTE)	-15,372
2) BMD Midcourse Defense Segment decrease due to baselining funding of projected efforts with O&S. Decrease is offset by equal increase of RDT&E. (FY 2015 baseline \$146,172K, +0 FTE)	-15,037
<b>FY 2016 Budget Request</b>	<b>432,068</b>



**Operation and Maintenance, Defense-Wide  
Fiscal Year (FY) 2016 Budget Estimates**

**Operation and Maintenance, Defense-Wide Summary (\$ in thousands)  
Budget Activity (BA) 1: Operating Forces  
Subactivity Group 11A**

	FY 2014 <u>Actual</u>	Price <u>Change</u>	Program <u>Change</u>	FY 2015 <u>Estimate</u>	Price <u>Change</u>	Program <u>Change</u>	FY 2016 <u>Estimate</u>
MDA	377,672	6,807	19,034	403,513	6,684	21,871	432,068

**I. Description of Operations Financed:**

A. Aegis Ballistic Missile Defense (BMD). Aegis Ballistic Missile Defense (BMD) funding will support a wide range of activities in support of the Aegis BMD Program. Three main segments of the program will require Operations and Maintenance funding: Standard Missile-3 (SM-3) Sustainment, Weapon System Sustainment, and operational sustainment for Aegis Ashore facilities. The SM-3 program includes the recertification of the SM-3 missiles that will be due at their 4 year mid-life, repair efforts during recertification, demilitarization of the SM-3 missiles due at their 8 year service-life in FY 2016, and Ordnance Assessment/Surveillance. Funding will also support SM-3 first destination All Up Round (AUR) transportation post recertification, ballistic barrier maintenance for transportation, system maintenance spares, and SM-3 operational support to fleet forces. Weapon System sustainment ensures system readiness in support of the Aegis BMD mission and capabilities for all fielded BMD weapon system baselines. This is supported by efforts such as In-Service Engineering Agents (ISEAs), Lifetime Support Engineering Agent (LSEA), and Technical Design Agent, etc. to provide systems engineering services and analysis, integrated logistics support, and technical documentation. This includes fleet support, assessing fleet feedback, analyzing test observations and troubleshooting weapons system software onboard deployed BMD ships and ashore. Multiple analytical tasks are also required in order to execute BMD sustainment efforts, such as the collection of Reliability, Maintainability & Availability metrics, review/implement maintenance concepts, monitor the health of Diminishing Manufacturing Sources

**Operation and Maintenance, Defense-Wide  
Fiscal Year (FY) 2016 Budget Estimates**

**I. Description of Operations Financed (cont.)**

(DMS)/obsolete material. Support also includes select operations and maintenance costs for the Aegis Ashore Hawaii and Romania sites, to include: Personnel support, Aegis Weapon System sparing and consumables, Command, Control, Communications, Computers and Intelligence (C4I) engineering support, facility operations support including transportation, power and communications, ISEA and LSEA engineering support of the site and equipment.

B. Ballistic Missile Defense (BMD) Midcourse Defense Segment. The Ground-based Midcourse Defense (GMD) program is the element of the Ballistic Missile Defense System (BMDS) that provides combatant commanders with a continuously available (24 hours a day, 7 days a week, 365 days a year) capability to defend the Homeland against limited intermediate and long-range ballistic missile threats in the midcourse battle space. Missile Defense Agency (MDA) funding supports the operations and sustainment of the GMD weapon system that consists of Ground Based Interceptors (GBI), GMD Fire Control (GFC) systems, GMD Communications Network (GCN), In-Flight Interceptor Communications System Data Terminals (IDT) and all of the ground Launch Support Systems (LSS), silos, Silo Interface Vaults (SIVs), environmental control systems, Command Launch Equipment (CLE), firing circuits and safety systems. This funding provides support for the fielded capabilities including the GBIs at Fort Greely, Alaska (FGA) and Vandenberg Air Force Base (VAFB), California and IDTs at Eareckson Air Station (EAS), Alaska, FGA, VAFB and Fort Drum, New York. It also provides for the maintenance, repair, training, sustainment and supply support, sustaining engineering, network operations, integrated logistics support, execution and management of day-to-day planning, configuration control, scheduling, execution control, system transitioning and performance reporting functions at FGA, VAFB, EAS, Fort Drum and the Missile Defense Integration Operations Center (MDIOC), at Colorado Springs, Colorado. Additionally, the funding provides Base Operations Support (BOS) for facility sustainment and maintenance at the various GMD sites. BOS includes funding for utilities, facility maintenance, communications infrastructure support, physical security, grounds

**Operation and Maintenance, Defense-Wide  
Fiscal Year (FY) 2016 Budget Estimates**

**I. Description of Operations Financed (cont.)**

maintenance, snow removal and other services required to support the fielded weapon system.

C. Ballistic Missile Defense Systems (BMDS) AN/TPY-2 Radars. This funding provides for the Upgraded Early Warning Radar (UEWR)/Cobra Dane Radar Software Sustainment unique to the Missile Defense mission. FY 2016 funding also provides training, sustainment and daily operations and maintenance of 12 Army Navy/Transportable Radar Surveillance and Control-2 radars: five forward-based radars, and seven Terminal High Altitude Area Defense. This funding will also include the execution of one (1) Electronic Equipment Unit retrofit (EEU) at Letterkenny Army Depot to enhance radar capability.

D. Terminal High Altitude Area Defense (THAAD). As described in the BMDS Transition and Transfer (T2) Annex, the MDA is responsible for the sustainment of the missile defense unique or developmental items and the U.S. Army is responsible for the operations and sustainment of the common items. MDA funding accomplishes the following efforts: Provides field and sustainment level supply, maintenance, modernization, hazardous materials / waste and disposal, and Depot level maintenance support in the THAAD missile defense unique equipment. Provides spares, repair parts, and maintenance capability at the location of each THAAD battery. Spares and repair parts include the contractor transportation, packaging and handling of Line Replaceable Units (LRUs) and inventory control and storage of repair parts, LRUs, and spares. Provides engineering support for the THAAD missile defense unique equipment. Provides missile transportation and handling from the missile storage location to the site of the THAAD launchers. Updates logistics management information in support of the Interactive Electronic Technical Manual (IETM) with the most current data and provide software user's guide up-dates and certify each revision of the software. Provides maintenance and upkeep for all THAAD training devices. Provides supply, maintenance and transportation support for all new Equipment Training and any Delta training for fielded units required due to design changes for replacement

**Operation and Maintenance, Defense-Wide  
Fiscal Year (FY) 2016 Budget Estimates**

**I. Description of Operations Financed (cont.)**

soldiers. Provides Special Tools and Test Equipment for the organic depot. Continues to support the RESET program. Ensures THAAD assets are properly maintained and the crews are trained to meet Combatant Commanders needs.

**II. Force Structure Summary:**

A. Aegis Ballistic Missile Defense (BMD). The Aegis Ballistic Missile Defense (Aegis BMD) mission is to deliver an enduring, operationally effective and supportable Ballistic Missile Defense capability to defend the nation, deployed forces, friends and allies. The Aegis BMD element of the BMDS capitalizes upon and evolves from the existing United States Navy Aegis Weapons System (AWS) and Standard Missile (SM) infrastructures. Aegis BMD provides a forward-deployable, mobile capability to detect and track Ballistic Missiles of all ranges, and the ability to destroy Short-Range Ballistic Missiles (SRBM), Medium-Range Ballistic Missiles (MRBM), and Intermediate-Range Ballistic Missiles (IRBM) in the midcourse phase of flight and shorter range missile in terminal phase. Aegis BMD also provides a Long Range Surveillance and Track (LRS&T) capability to the BMDS.

B. Ballistic Missile Defense Midcourse Defense Segment. The GMD fielded weapon system is under the command of U.S. Northern Command (NORTHCOM) and consists of soldiers from the 100<sup>th</sup> Missile Defense Brigade (five crews) headquartered at Colorado Springs, Colorado, and its 49<sup>th</sup> Missile Defense Battalion (five crews) at Fort Greely, Alaska. By end of FY 2016 MDA will support 36 operationally deployed GBIs located at FGA (32 GBIs) and VAFB (four GBIs). Each GBI delivers a single Exoatmospheric Kill Vehicle (EKV) to defeat threat warheads in space during the midcourse phase of the ballistic trajectory. The GMD Fire Control System consists of redundant fire control nodes at FGA (two each) and the MDIOC (two each). IDTs are currently located at FGA, VAFB, EAS and the MDA plans to field

**Operation and Maintenance, Defense-Wide  
Fiscal Year (FY) 2016 Budget Estimates**

**II. Force Structure Summary (cont.)**

an additional IDT at Fort Drum, New York with an Initial Operational Capability (IOC) in 1st QTR FY 2016.

C. Ballistic Missile Defense Systems (BMDS) AN/TPY-2 Radars. This funding provides for the Upgraded Early Warning Radar (UEWR)/Cobra Dane Radar Software Sustainment in support of the Missile Defense mission. The Air Force is responsible for the day to day operations and Maintenance of the UEWRs and Cobra Dane Radar. The FY 2016 funding also provides for the training, sustainment and daily operation of 12 Army Navy/Transportable Radar Surveillance and Control-2 (AN/TPY-2) radars: five forward-based radars are stand alone, and the remaining seven radars are a component of Terminal High Altitude Area Defense battery configuration. These services are furnished through Consolidated Contractor Logistics Support (CCLS) contracts. This funding will also support one (1) AN/TPY-2 Electronics Equipment Unit (EEU) retrofit at Letterkenny Army Depot to enhance capability in FY 2016. Army force structure for Missile Defense Batteries (MDB) is currently set at five batteries with five AN/TPY-2 forward-based radars operated at fixed radar sites by 65 Soldiers. The battery is organized to conduct 24 hours a day, 7 days a week, 365 days a year annual deployments of rotational soldiers. This operational tempo is currently met by a combination of CCLS and Soldiers operating and maintaining the radar. The increase in the FY 2016 O&M estimate is due to to the execution of one (1) EEU retrofit at Letterkenny Army Depot and the fielding of one (1) Terminal High Altitude Area Defense battery radar.

D. Terminal High Altitude Area Defense (THAAD). Army force structure for THAAD is currently set at seven batteries with six launchers operated by 95 soldiers. The battery is organized to conduct 120-day deployments (45 days of entry operations and 75 days of 17-hour/day combat operations). This operational tempo can be increased with appropriate attachments and support. The battery requires support from the Army for communications, security, common supplies, and services. THAAD missile defense unique supplies are routed

**Operation and Maintenance, Defense-Wide  
Fiscal Year (FY) 2016 Budget Estimates**

**II. Force Structure Summary (cont.)**

to a non-theater contractor supply and specialized maintenance chain. To this end, the battery brings with it a 13 person contractor support team with its own complement of equipment. The contractor team will be documented on an Army Table of Distribution and Allowances (TDA) to facilitate movement into a war zone with the battery. Interceptors are not considered part of battery force structure and are allocated by commanders in accordance with the mission and threat. Batteries will be doctrinally assigned to the theater Army Air and Missile Defense Command. Engagements will be coordinated through the theater Air Operations Center. With the provision of specialized communications and radar software, the battery will be able to communicate directly with the Ballistic Missile Defense System Command and Control Battle Management and Communications (C2BMC) system making it capable of performing surveillance and tracking missions in addition to its normal active defense engagement mission.

**Operation and Maintenance, Defense-Wide  
Fiscal Year (FY) 2016 Budget Estimates**

**III. Financial Summary (\$ in thousands)**

	FY 2015							FY 2016 <u>Estimate</u>
	FY 2014 <u>Actual</u>	Budget <u>Request</u>	<u>Congressional Action</u>			Current <u>Estimate</u>		
			<u>Amount</u>	<u>Percent</u>	<u>Appropriated</u>			
<b>A. <u>BA Subactivities</u></b>								
<b>1. <u>Operational Support</u></b>	<b>377,672</b>	<b>416,644</b>	<b>-13,131</b>	<b>-3.2</b>	<b>403,513</b>	<b>403,513</b>	<b>432,068</b>	
Aegis Ballistic Missile Defense (BMD)	12,174	11,666	-4	0.0	11,662	11,662	46,445	
Ballistic Missile Defense (BMD)	140,580	146,218	-45	0.0	146,173	146,173	134,477	
Midcourse Defense Segment								
Ballistic Missile Defense Systems (BMDS)	166,258	183,047	-13,058	-7.1	169,989	169,989	187,486	
AN/TPY-2 Radars								
Terminal High Altitude Area Defense (THAAD)	58,660	75,713	-24	0.0	75,689	75,689	63,660	
<b>Total</b>	<b>377,672</b>	<b>416,644</b>	<b>-13,131</b>	<b>-3.2</b>	<b>403,513</b>	<b>403,513</b>	<b>432,068</b>	

Operation and Maintenance, Defense-Wide  
Fiscal Year (FY) 2016 Budget Estimates

III. Financial Summary (\$ in thousands)

<u>B. Reconciliation Summary</u>	<u>Change</u> <u>FY 2015/FY 2015</u>	<u>Change</u> <u>FY 2015/FY 2016</u>
<b>Baseline Funding</b>	<b>416,644</b>	<b>403,513</b>
Congressional Adjustments (Distributed)	-13,000	
Congressional Adjustments (Undistributed)		
Adjustments to Meet Congressional Intent		
Congressional Adjustments (General Provisions)	-131	
<b>Subtotal Appropriated Amount</b>	<b>403,513</b>	
Fact-of-Life Changes (2015 to 2015 Only)		
<b>Subtotal Baseline Funding</b>	<b>403,513</b>	
Supplemental		
Reprogrammings		
Price Changes		6,684
Functional Transfers		
Program Changes		21,871
<b>Current Estimate</b>	<b>403,513</b>	<b>432,068</b>
Less: Wartime Supplemental		
<b>Normalized Current Estimate</b>	<b>403,513</b>	



**Operation and Maintenance, Defense-Wide  
Fiscal Year (FY) 2016 Budget Estimates**

**III. Financial Summary (\$ in thousands)**

<b><u>C. Reconciliation of Increases and Decreases</u></b>	<b><u>Amount</u></b>	<b><u>Totals</u></b>
<b>FY 2015 President's Budget Request (Amended, if applicable)</b>		<b>416,644</b>
1. Congressional Adjustments		-13,131
a. Distributed Adjustments		
1) BMDS AN/TPY-2 Radars Excess Forward Financing	-13,000	
b. Undistributed Adjustments		
c. Adjustments to Meet Congressional Intent		
d. General Provisions		
1) Section 8035 (Indian Lands) (\$12M) - Various	-131	
<b>FY 2015 Appropriated Amount</b>		<b>403,513</b>
2. War-Related and Disaster Supplemental Appropriations		
3. Fact-of-Life Changes		
<b>FY 2015 Baseline Funding</b>		<b>403,513</b>
4. Reprogrammings (Requiring 1415 Actions)		
<b>Revised FY 2015 Estimate</b>		<b>403,513</b>
5. Less: Item 2, War-Related and Disaster Supplemental Appropriations and Item 4, Reprogrammings		
<b>FY 2015 Normalized Current Estimate</b>		<b>403,513</b>
6. Price Change		6,684
7. Functional Transfers		
8. Program Increases		52,280
a. Annualization of New FY 2015 Program		
b. One-Time FY 2016 Increases		
c. Program Growth in FY 2016		
1) Aegis BMD program increase is due to a progression of the life cycle of the deployed Aegis program to O&M which includes Aegis Ashore. (FY 2015 baseline \$11,662K, +0 FTE)	34,783	
2) BMDS Radar program increase is due to the execution of (1) Electronic Equipment Unit retrofits at Letterkenny Army Depot and the fielding of (1) THAAD	17,497	

**Operation and Maintenance, Defense-Wide  
Fiscal Year (FY) 2016 Budget Estimates**

**III. Financial Summary (\$ in thousands)**

<b>C. <u>Reconciliation of Increases and Decreases</u></b>	<b><u>Amount</u></b>	<b><u>Totals</u></b>
battery radar. (FY2015 baseline \$169,989K +0 FTE)		
9. Program Decreases		-30,409
a. Annualization of FY 2015 Program Decreases		
b. One-Time FY 2015 Increases		
c. Program Decreases in FY 2016		
1) THAAD program decrease is due to updated THAAD Fielding and Sustainment Contract projections. (FY 2015 baseline \$75,689K, +0 FTE)	-15,372	
2) BMD Midcourse Defense Segment decrease due to baselining funding of projected efforts with O&S. Decrease is offset by equal increase of RDT&E. (FY 2015 baseline \$146,172K, +0 FTE)	-15,037	
<b>FY 2016 Budget Request</b>		<b>432,068</b>

**Operation and Maintenance, Defense-Wide  
Fiscal Year (FY) 2016 Budget Estimates**

**IV. Performance Criteria and Evaluation Summary:**

A. Aegis Ballistic Missile Defense BMD Standard Missile 3 Performance Objectives are defined in the SM-3 contracts as follows: The performance incentive of the SM-3 Cost Plus/ Incentive Fee/Award Fee (CP/IF/AF) contracts is determined by a formula designed to focus on reduction of overall maintenance cost and efficiency of recertification and the timely return of SM-3s to the fleet.

B. Ballistic Missile Defense Midcourse Defense Segment. The Ground-Based Midcourse System utilizes a performance clause on the Development and Sustainment Contract (DSC) with Boeing using GMD System Availability SA and GBI Availability GA criteria as the primary operational readiness metric to gauge the DSC Prime Contractor's sustainment performance.

The intent of using SA and GA criteria are to: 1) Maximize availability of the GMD weapon system to the warfighter for the Homeland Defense mission; and 2) Maximize the availability of operational interceptors to the Warfighter. Specifically, at any given time during performance of the contract, the DSC Contractor is responsible for making a minimum number of healthy GBIs available, and ensuring that COCOM minimum asset availability is maintained per established COCOM readiness criteria.

Specific SA and GA Calculation: All calculations are based on times measured to the nearest minute.

$$SA = \frac{(TT - TCM - TPM - \text{Government Directed Down Time})}{(TT - \text{Government Directed Down Time})}$$

**Operation and Maintenance, Defense-Wide  
Fiscal Year (FY) 2016 Budget Estimates**

**IV. Performance Criteria and Evaluation Summary:**

$$GA = \frac{(TT - \text{Government Directed Down Time} - \text{Time that fewer than } x^* \text{ GBIs Healthy})}{(TT - \text{Government Directed Down Time})}$$

SA and GA Calculation Notes:

TT	Total Time (24 hrs/X days in Month)
TCM	Total downtime due to corrective maintenance actions including logistics
TPM	Total downtime due to preventative maintenance actions including logistics delay
Government Directed Down Time	When the Government expressly directs the Contractor to take the system or selected prime mission equipment asset(s) out of an operational state for a specified period of time for activities that are neither CM nor PM. Further, GDDT includes periods when the system or assets are turned off based on unforeseen or scheduled events (beyond the control, fault or negligence of the contractor or any of its subcontractors) which created conditions that render the system unavailable to the Warfighter GDDT does not include scheduled Corrective Maintenance (CM) and Preventive Maintenance (PM) activities covered in the Warfighter Asset Management Process. Under Performance Based Logistics (PBL), the

**Operation and Maintenance, Defense-Wide  
Fiscal Year (FY) 2016 Budget Estimates**

**IV. Performance Criteria and Evaluation Summary:**

	DSC Contractor should schedule maintenance using the Asset Management Process in a way that minimizes down time.
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C. Ballistic Missile Defense Systems (BMDS) AN/TPY-2 Radars.

Upgraded Early Warning Radars (UEWR) and Cobra Dane operations and sustainment are managed by Air Force Space to maintain radar mission capability and meet specified operational availability requirements to maintain and enhance the Missile Defense mission for these radars.

For Army Navy/Transportable Radar Surveillance and Control-2 (AN/TPY-2) radars, the contractor's performance in operations and sustainment will be measured by the radars' demonstrated operational demonstrated availability (Ao), defined as:

$$A_o = \frac{\text{Total Time} - \text{Non Mission Capable Time}}{\text{Total Time}}$$

For AN/TPY-2 radars: "Total time" is defined as 24 hours per day times the number of days in the period of performance of the task order. Performance measurement does not include contractually-defined conditions that are outside the control of the Contractor and are exceptions to A downtime. For AN/TPY-2 radars, performance incentives are calculated as follows:

**Operation and Maintenance, Defense-Wide  
Fiscal Year (FY) 2016 Budget Estimates**

**IV. Performance Criteria and Evaluation Summary:**

Target $A_o = 95\%$	
$A_o > 95\%$	100% of Performance Incentive Pool
$A_o \geq 70\%, < 95\%$	Actual $A_o\%$ achieved times pool amount
$A_o < 70\%$	Performance Fee = 0%

D. Terminal High Altitude Area Defense (THAAD). THAAD utilizes a Performance Clause in the Interim Contractor Support (ICS) contract with LM to incentivize LM for THAAD weapon system readiness. The assessment of the performance clause is based on evaluation of Battery Operational Readiness and Minimum Capability:

Operational Readiness (OR) is calculated by dividing the number of hours the required components (1 or 2 TSG's and 3 or 6 Launchers depending on battery) are available to accomplish the mission during a rating period by the number of hours possible during the rating period. For OR levels greater than 70% and less than or equal to 100%, the contractor is awarded an incentive fee on a sliding scale for that portion. Minimum Capability (MC) is also calculated by dividing the number of hours the required components (1 TSG and 2 Launchers) are available to accomplish the mission during a rating period by the number of hours possible during the rating period. For MC readiness levels less than 100% the contractor is awarded zero fee for that portion.

**Operation and Maintenance, Defense-Wide  
Fiscal Year (FY) 2016 Budget Estimates**

<b>V. <u>Personnel Summary</u></b>	<b><u>FY 2014</u></b>	<b><u>FY 2015</u></b>	<b><u>FY 2016</u></b>	<b><u>Change FY 2014/ FY 2015</u></b>	<b><u>Change FY 2015/ FY 2016</u></b>
<u>Contractor FTEs (Total)</u>	<u>903</u>	<u>909</u>	<u>982</u>	<u>6</u>	<u>73</u>

The FY 2014 to FY 2015 contractor FTE increase is due to the additional CLS team and training support required for the 5th THAAD Battery to begin New Equipment Training in FY 2015.

The FY 2015 to FY 2016 contractor FTE increase is due to increased operations and maintenance activities to support deployed Aegis weapon and missile systems, and additional 8 FTEs CLS team and training support required for the 6th THAAD Battery and 5 FTEs in AN/TPY-2 Radars for battery support to begin New Equipment Training in FY 2016.

**Operation and Maintenance, Defense-Wide  
Fiscal Year (FY) 2016 Budget Estimates**

**VI. OP 32 Line Items as Applicable (Dollars in thousands):**

<u>OP 32 Line</u>	<u>FY 2014</u> <u>Actual</u>	<u>Change</u> <u>FY 2014/FY 2015</u>		<u>FY 2015</u> <u>Estimate</u>	<u>Change</u> <u>FY 2015/FY 2016</u>		<u>FY 2016</u> <u>Estimate</u>
		<u>Price</u>	<u>Program</u>		<u>Price</u>	<u>Program</u>	
401 DLA Energy (Fuel Products)	1,172	26	711	1,909	-139	-205	1,565
<b>499 Total Supplies &amp; Materials</b>	<b>1,172</b>	<b>26</b>	<b>711</b>	<b>1,909</b>	<b>-139</b>	<b>-205</b>	<b>1,565</b>
677 DISA Telecomm Svcs - Reimbursable	63	5	-68	0	0	0	0
<b>699 Total DWCF Purchases</b>	<b>63</b>	<b>5</b>	<b>-68</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
771 Commercial Transport	3,271	59	165	3,495	59	188	3,742
<b>799 Total Transportation</b>	<b>3,271</b>	<b>59</b>	<b>165</b>	<b>3,495</b>	<b>59</b>	<b>188</b>	<b>3,742</b>
913 Purchased Utilities (Non-Fund)	2,994	54	218	3,266	56	175	3,497
920 Supplies & Materials (Non-Fund)	9,553	172	-228	9,497	161	994	10,652
922 Equipment Maintenance By Contract	263,065	4,735	24,887	292,687	4,976	5,920	303,583
923 Facilities Sust, Rest, & Mod by Contract	28,437	512	-10,257	18,692	318	-1,654	17,356
930 Other Depot Maintenance (Non-Fund)	0	0	0	0	0	9,443	9,443
932 Mgt Prof Support Svcs	7,188	129	363	7,680	131	412	8,223
937 Locally Purchased Fuel (Non-Fund)	0	0	53	53	-4	4	53
987 Other Intra-Govt Purch	19,491	351	983	20,825	354	1,119	22,298
989 Other Services	42,294	761	2,133	45,188	768	2,430	48,386
990 IT Contract Support Services	144	3	74	221	4	3,045	3,270
<b>999 Total Other Purchases</b>	<b>373,166</b>	<b>6,717</b>	<b>18,226</b>	<b>398,109</b>	<b>6,764</b>	<b>21,888</b>	<b>426,761</b>
<b>Total</b>	<b>377,672</b>	<b>6,807</b>	<b>19,034</b>	<b>403,513</b>	<b>6,684</b>	<b>21,871</b>	<b>432,068</b>



**MISSILE DEFENSE AGENCY**  
**Operation and Maintenance, Defense-Wide**  
**Fiscal Year (FY) 2016 Budget Estimates**

**CONTRACT SERVICES FUNDING**  
**(\$ in Millions)**

Line	By PB/OP-32 Inflation Category Code	FY 2014	FY 2015	FY 2015	FY 2016	FY 2016
		Base & OCO Actual <sup>/1</sup>	Base Request <sup>/2</sup>	OCO Request <sup>/2</sup>	Base Request	OCO Request
931	Contract Consultants					
932	Mgmt and Professional Support Services	7	8	0	8	0
933	Studies, Analysis and Evaluations					
934	Engineering and Technical Services					
	<b>Total 25.1 - Advisory and Assistance Services</b>	<b>7</b>	<b>8</b>	<b>0</b>	<b>8</b>	<b>0</b>
989	Other Contracts	42	45	0	48	0
926	Other Overseas Purchases					
	<b>Total 25.2 - Other Services</b>	<b>42</b>	<b>45</b>	<b>0</b>	<b>48</b>	<b>0</b>
923	Facility Maintenance	28	19	0	17	0
	<b>Total 25.4 - Operation and Maintenance of Facilities</b>	<b>28</b>	<b>19</b>	<b>0</b>	<b>17</b>	<b>0</b>
985	Research and Development Contracts					
	<b>Total 25.5 - Research and Development Contracts</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
986	Medical Care					
	<b>Total 25.6 - Medical Care</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
922	Equipment Maintenance - Contract	263	293	0	304	
927	Air Defense Contracts					0
928	Ship Maintenance by Contract					
929	Aircraft Rework by Contract					
930	Other Depot Maintenance (Non-Fund)	0	0	0	9	
990	IT Contract Support Services	1	2	0	3	0
	<b>Total 25.7 - Operation and Maintenance of Equipment</b>	<b>264</b>	<b>295</b>	<b>0</b>	<b>316</b>	<b>0</b>
964	Subsistence Contracts					
	<b>Total 25.8- Subsistence and Support of Persons</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
	<b>Total</b>	<b>341</b>	<b>367</b>	<b>0</b>	<b>389</b>	<b>0</b>

**MISSILE DEFENSE AGENCY**  
**Operation and Maintenance, Defense-Wide**  
**Fiscal Year (FY) 2016 Budget Estimates**

Line	<u>By PB/OP-32 Inflation Category Code</u>	FY 2014	FY 2015	FY 2015	FY 2016	FY 2016
		Base & OCO	Base	OCO	Base	OCO
		<u>Actual</u> <sup>/1</sup>	<u>Request</u>	<u>Request</u>	<u>Request</u>	<u>Request</u>
931	Contract Consultants					
932	Mgmt and Professional Support Services	46	14	0	14	0
933	Studies, Analysis and Evaluations					
934	Engineering and Technical Services					
	<b>Total 25.1 - Advisory and Assistance Services</b>	<b>46</b>	<b>14</b>	<b>0</b>	<b>14</b>	<b>0</b>
989	Other Contracts	47	20	0	30	0
926	Other Overseas Purchases					
	<b>Total 25.2 - Other Services</b>	<b>47</b>	<b>20</b>	<b>0</b>	<b>30</b>	<b>0</b>
923	Facility Maintenance	129	129	0	138	0
	<b>Total 25.4 - Operation and Maintenance of Facilities</b>	<b>129</b>	<b>129</b>	<b>0</b>	<b>138</b>	<b>0</b>
985	Research and Development Contracts					
	<b>Total 25.5 - Research and Development Contracts</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
986	Medical Care					
	<b>Total 25.6 - Medical Care</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
922	Equipment Maintenance - Contract	679	744	0	750	0
927	Air Defense Contracts					
928	Ship Maintenance by Contract					
929	Aircraft Rework by Contract					
930	Other Depot Maintenance (Non-Fund)	0	0		39	
990	IT Contract Support Services	2	2		11	0
	<b>Total 25.7 - Operation and Maintenance of Equipment</b>	<b>681</b>	<b>746</b>	<b>0</b>	<b>800</b>	<b>0</b>
964	Subsistence Contracts					
	<b>Total 25.8- Subsistence and Support of Persons</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
	<b>Total</b>	<b>903</b>	<b>909</b>	<b>0</b>	<b>982</b>	<b>0</b>

**MISSILE DEFENSE AGENCY**  
**Operation and Maintenance, Defense-Wide**  
**Fiscal Year (FY) 2016 Budget Estimates**

**CONTRACT SERVICES**

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**Defense-Wide Missile Defense Agency**  
**Operation and Maintenance**  
**Justification Narrative**

**Description of Services Financed:**

A. Aegis Ballistic Missile Defense (BMD). Aegis Ballistic Missile Defense (BMD) funding will support a wide range of activities in support of the Aegis BMD Program. Three main segments of the program will require Operations and Maintenance funding: Standard Missile-3 (SM-3) Sustainment, Weapon System Sustainment, and operational sustainment for Aegis Ashore facilities. The SM-3 program includes the recertification of the SM-3 missile at 4 year mid-life, repair efforts during recertification, demilitarization of the SM-3 at 8 year service-life, and Ordnance Assessment/Surveillance. Funding will also support SM-3 first destination All Up Round (AUR) transportation post recertification, ballistic barrier maintenance for transportation, system maintenance spares, and SM-3 operational support to fleet forces. Weapon System sustainment ensures system readiness in support of the Aegis BMD mission and capabilities for all fielded BMD weapon system baselines. This is supported by efforts such as In-Service Engineering Agents (ISEAs), Lifetime Support Engineering Agent (LSEA), and Technical Design Agent, etc. to provide systems engineering services and analysis, integrated logistics support, and technical documentation. This includes fleet support, assessing fleet feedback, analyzing test observations and troubleshooting weapons system software onboard deployed BMD ships. Multiple analytical tasks are also required in order to execute BMD sustainment efforts, such as the collection of Reliability, Maintainability & Availability metrics, review/implement maintenance concepts, monitor the health of Diminishing Manufacturing Sources (DMS)/obsolete material. Support also includes select operations and maintenance costs for the Aegis Ashore Romania and Poland sites, to include: Personnel support, Aegis Weapon System sparing and consumables, Command, Control, Communications, Computers and Intelligence (C4I) engineering support, facility operations support including transportation, power and communications, ISEA and LSEA engineering support of the site and equipment.

B. Ballistic Missile Defense (BMD) Midcourse Defense Segment. The Ground-based Midcourse Defense (GMD) program is the element of the Ballistic Missile Defense System (BMDS) that provides combatant commanders with a continuously available (24 hours a day, 7 days a week, 365 days a year) capability to defend the Homeland against limited intermediate and long-range ballistic missile threats in the midcourse battle space. Missile Defense Agency (MDA) funding supports the operations and sustainment of the GMD weapon

**MISSILE DEFENSE AGENCY**  
**Operation and Maintenance, Defense-Wide**  
**Fiscal Year (FY) 2016 Budget Estimates**

system that consists of Ground Based Interceptors (GBI), GMD Fire Control (GFC) systems, GMD Communications Network (GCN), In-Flight Interceptor Communications System Data Terminals (IDT) and all of the ground Launch Support Systems (LSS), silos, Silo Interface Vaults (SIVs), environmental control systems, Command Launch Equipment (CLE), firing circuits and safety systems. This funding provides support for the fielded capabilities including the GBIs at Fort Greely, Alaska (FGA) and Vandenberg Air Force Base (VAFB), California and IDTs at Eareckson Air Station (EAS), Alaska, FGA, VAFB and Fort Drum, New York. It also provides for the maintenance, repair, training, sustainment and supply support, sustaining engineering, network operations, integrated logistics support, execution and management of day-to-day planning, configuration control, scheduling, execution control, system transitioning and performance reporting functions at FGA, VAFB, EAS, Fort Drum and the Missile Defense Integration Operations Center (MDIOC), at Colorado Springs, Colorado. Additionally, the funding provides Base Operations Support (BOS) for facility sustainment and maintenance at the various GMD sites. BOS includes funding for utilities, facility maintenance, communications infrastructure support, physical security, grounds maintenance, snow removal and other services required to support the fielded weapon system.

C. Ballistic Missile Defense Systems (BMDS) AN/TPY-2 Radars. This funding provides for the Upgraded Early Warning Radar (UEWR)/Cobra Dane Radar Software Sustainment unique to the Missile Defense mission. FY 2016 funding also provides training, sustainment and daily operations and maintenance of 12 Army Navy/Transportable Radar Surveillance and Control-2 radars: five forward-based radars, and seven Terminal High Altitude Area Defense. This funding will also include the execution of one (1) Electronic Equipment Unit retrofit (EEU) at Letterkenny Army Depot to enhance radar capability.

D. Terminal High Altitude Area Defense (THAAD). As described in the BMDS Transition and Transfer (T2) Annex, the MDA is responsible for the sustainment of the missile defense unique or developmental items and the U.S. Army is responsible for the operations and sustainment of the common items. MDA funding accomplishes the following efforts: Provides field and sustainment level supply, maintenance, modernization, hazardous materials / waste and disposal, and Depot level maintenance support in the THAAD missile defense unique equipment. Provides spares, repair parts, and maintenance capability at the location of each THAAD battery. Spares and repair parts include the contractor transportation, packaging and handling of Line Replaceable Units (LRUs) and inventory control and storage of repair parts, LRUs, and spares. Provides engineering support for the THAAD missile defense unique equipment. Provides missile transportation and handling from the missile storage location to the site of the THAAD launchers. Updates logistics management information in support of the Interactive Electronic Technical Manual (IETM) with the most current data and provide software user's guide up-dates and certify each revision of the software. Provides maintenance and upkeep for all THAAD training devices. Provides supply, maintenance and

**MISSILE DEFENSE AGENCY**  
**Operation and Maintenance, Defense-Wide**  
**Fiscal Year (FY) 2016 Budget Estimates**

transportation for all New Equipment Training and any Delta training for fielded units required due to design changes for replacement soldiers. Provides Special Tools and Test Equipment for the organic depot. Continues to support the RESET program. Ensures THAAD assets are properly maintained and the crews are trained to meet Combatant Commanders needs.

**Reporting Limitations:**

N/A

**Summary of Increases/Decreases:**

A. Aegis BMD program increase is due to a progression of the life cycle of the program. As Aegis missiles and weapon systems continue to be deployed, sustainment of fielded systems transitions to operations and maintenance. Equivalent offset is noticed within other Aegis BMD appropriations.

B. Ballistic Missile Defense (BMD) Midcourse Defense Segment. The BMD Midcourse Defense Segment program decrease is due to refined estimates based on actuals and refined forecast.

C. Ballistic Missile Defense Systems (BMDS) AN/TPY-2 Radars. The BMDS AN/TPY-2 Radars program increase in FY 2016 O&M estimate is due to the execution of one (1) Electronic Equipment Unit (EEU) retrofit at Letterkenny Army Depot and the fielding of one (1) Terminal High Altitude Area Defense battery radar.

D. THAAD program decrease is due to improved estimates based on actual costs for contract performance.

DATE PREPARED: 9 January 2015

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**MISSILE DEFENSE AGENCY**  
**Operation and Maintenance, Defense-Wide**  
**Fiscal Year (FY) 2016 Budget Estimates**

<u>Appropriation/Fund</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>
I. Management & Professional Support Services			
FFRDC Work	0	0	0
Non-FFRDC Work	<u>7,188</u>	<u>7,680</u>	<u>8,223</u>
Subtotal	7,188	7,680	8,223
II. Studies, Analysis & Evaluations			
FFRDC Work	0	0	0
Non-FFRDC Work	<u>0</u>	<u>0</u>	<u>0</u>
Subtotal	0	0	0
III. Engineering & Technical Services			
FFRDC Work	0	0	0
Non-FFRDC Work	<u>0</u>	<u>0</u>	<u>0</u>
Subtotal	0	0	0
TOTAL			
<b>FFRDC Work</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Non-FFRDC Work</b>	<b>7,188</b>	<b>7,680</b>	<b>8,223</b>
Reimbursable	0	0	0

**MISSILE DEFENSE AGENCY**  
**Operation and Maintenance, Defense-Wide**  
**Fiscal Year (FY) 2016 Budget Estimates**

**Explanation of Funding Changes (FY 2014 to FY 2015):**

The FY 2015 amount captured in this exhibit is for the THAAD Hybrid Cell. THAAD Hybrid Cell provides Doctrine, Training, Leadership, Organization, Materiel, Soldier (DTLOMS) support for the THAAD system. The Hybrid Cell provides technical and logistical guidance, financial management, cost and schedule performance analysis, cost estimation and analysis, integration activities, and sub-contract management to ensure effective use of appropriated resources for Program Support Items activity.

**Explanation of Funding Changes (FY 2015 to FY 2016):**

The FY 2016 amount captured in this exhibit is for the THAAD Hybrid Cell. THAAD Hybrid Cell provides Doctrine, Training, Leadership, Organization, Materiel, Soldier (DTLOMS) support for the THAAD system. The Hybrid Cell provides technical and logistical guidance, financial management, cost and schedule performance analysis, cost estimation and analysis, integration activities, and sub-contract management to ensure effective use of appropriated resources for Program Support Items activity.

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**MISSILE DEFENSE AGENCY**  
**Operation and Maintenance, Defense-Wide**  
**Fiscal Year (FY) 2016 Budget Estimates**

(Dollars in Thousands)

Appropriation/Fund: RDT&E (0400)		<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>
<b>1. Management &amp; Professional Support Services</b>				
FFRDC Work	932	7,287	7,288	7,288
Non-FFRDC Work	932	<u>220,135</u>	<u>220,175</u>	<u>220,174</u>
Sub-Total		227,422	227,463	227,462
<b>2. Studies, Analysis &amp; Evaluations</b>				
FFRDC Work	933	2,701	3,392	3,393
Non-FFRDC Work	933	<u>5,111</u>	<u>6,421</u>	<u>6,421</u>
Sub-Total		7,812	9,813	9,814
<b>3. Engineering &amp; Technical Services</b>				
FFRDC Work	934	131,798	131,666	131,535
Non-FFRDC Work	934	<u>162,106</u>	<u>151,108</u>	<u>142,938</u>
Sub-Total		293,904	282,774	274,473
<b>TOTAL</b>		<b>529,138</b>	<b>520,050</b>	<b>511,749</b>
<b>FFRDC Work</b>		<b>141,786</b>	<b>142,347</b>	<b>142,215</b>
<b>Non-FFRDC Work</b>		<b>387,352</b>	<b>377,703</b>	<b>369,534</b>

**MISSILE DEFENSE AGENCY**  
**Operation and Maintenance, Defense-Wide**  
**Fiscal Year (FY) 2016 Budget Estimates**

DATE PREPARED: 5 January 2015  
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**MISSILE DEFENSE AGENCY**  
**Operation and Maintenance, Defense-Wide**  
**Fiscal Year (FY) 2016 Budget Estimates**

<b>MISSILE DEFENSE AGENCY</b>	<u>US Direct Hire</u>	<u>Foreign National</u>		<u>Total</u>
		<u>Direct Hire</u>	<u>Indirect Hire</u>	
1. FY 2014 FTEs	0	0	0	0
2. FY 2015 FTEs	0	0	0	0
3. FY 2016 FTEs	0	0	0	0

**4. SUMMARY**

	<u>US Direct Hire</u>	<u>Foreign National</u>		<u>Total</u>
		<u>Direct Hire</u>	<u>Indirect Hire</u>	
<b>FY 2014</b>				
RDT&E Total	2,388	0	0	2,388
Direct Funded	2,303	0	0	2,303
Reimbursable Funded	85	0	0	85
Total Component	2,388	0	0	2,388
Direct Funded	2,303	0	0	2,303
Reimbursable Funded	85	0	0	85
<b>FY 2015</b>				
RDT&E Total	2,727	0	0	2,727
Direct Funded	2,692	0	0	2,692
Reimbursable Funded	35	0	0	35
Total Component	2,727	0	0	2,727
Direct Funded	2,692	0	0	2,692
Reimbursable Funded	35	0	0	35
<b>FY 2016</b>				
RDT&E Total	2,551	0	0	2,551
Direct Funded	2,517	0	0	2,517
Reimbursable Funded	34	0	0	34
Total Component	2,551	0	0	2,551
Direct Funded	2,517	0	0	2,517

**MISSILE DEFENSE AGENCY**  
**Operation and Maintenance, Defense-Wide**  
**Fiscal Year (FY) 2016 Budget Estimates**

Reimbursable Funded	34	0	0	34
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**MISSILE DEFENSE AGENCY**  
**Operation and Maintenance, Defense-Wide**  
**Fiscal Year (FY) 2016 Budget Estimates**

**5. Summary of Changes**

**Research, Development, Test and Evaluation (RDT&E)**

**Change from FY 2014 to FY 2015:**

MDA's net increase of 339 FTE in FY 2015 is due to an increased emphasis on hiring actions to fill vacancies resulting from attrition, retirements and sequestration imposed hiring limitations. Recruitment emphasis will be on the backfill of acquisition workforce positions and the continuation of the Missile Defense Career Development Program (MDCDP), a 3-year rotational development program for entry-level employees.

**Change from FY 2015 to FY 2016:**

MDA's net decrease of 176 FTE in FY 2016 reflects the implementation of civilian FTE efficiencies resulting from the Department's Civilian Workload Analysis initiative and the 20% reduction to Management Headquarters operating budgets.

DATE PREPARED: 12 January 2015

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**Missile Defense Agency  
Operation and Maintenance, Defense-Wide  
Fiscal Year (FY) 2016 Budget Estimates**

**Fiscal Year: FY 2014**

**Appropriation Account: Operation & Maintenance, MDA**

A. SUMMARY OF CIVILIAN PAY:	
1. Total Civilian Pay	0
2. Reimbursable Civilian Pay	3,280
B. REIMBURSABLE CIVILIAN PAY DISTRIBUTION BY SOURCE:	
3. INTRA ACCOUNT	<u>0</u>
4. INTRA SERVICE	<u>0</u>
5. INTER SERVICE	<u>0</u>
6. ALL OTHER	<u>3,280</u>
6a. FMS CASE	3,280
C. CIVILIAN PAY REIMBURSED TO OTHER SERVICES/DEFENSE AGENCIES:	
7. Civilian Pay <u>REIMBURSED</u> from O&M MDA to	<u>0</u>

**Missile Defense Agency  
Operation and Maintenance, Defense-Wide  
Fiscal Year (FY) 2016 Budget Estimates**

**Fiscal Year: FY 2015**

**Appropriation Account: Operation & Maintenance, MDA**

A. SUMMARY OF CIVILIAN PAY:		
1. Total Civilian Pay		0
2. Reimbursable Civilian Pay		4,996
B. REIMBURSABLE CIVILIAN PAY DISTRIBUTION BY SOURCE:		
3. INTRA ACCOUNT		<u>0</u>
4. INTRA SERVICE		<u>0</u>
5. INTER SERVICE		<u>1,904</u>
5a. DSCA, FMS (Approp 8242)		1,831
5b. DAU, DAWDF (Approp 0111)		73
6. ALL OTHER		<u>3,092</u>
6a. FMS CASE		3,092
C. CIVILIAN PAY REIMBURSED TO OTHER SERVICES/DEFENSE AGENCIES:		
7. Civilian Pay <u>REIMBURSED</u> from O&M MDA to		<u>0</u>



**Missile Defense Agency  
 Operation and Maintenance, Defense-Wide  
 Fiscal Year (FY) 2016 Budget Estimates**

**Fiscal Year: FY 2016**

**Appropriation Account: Operation & Maintenance, MDA**

A. SUMMARY OF CIVILIAN PAY:		
1. Total Civilian Pay		0
2. Reimbursable Civilian Pay		5,006
B. REIMBURSABLE CIVILIAN PAY DISTRIBUTION BY SOURCE:		
3. INTRA ACCOUNT		<u>0</u>
4. INTRA SERVICE		<u>0</u>
5. INTER SERVICE		<u>1,861</u>
5a. DSCA, FMS (Approp 8242)		1,861
6. ALL OTHER		<u>3,145</u>
6a. FMS CASE		3,145
C. CIVILIAN PAY REIMBURSED TO OTHER SERVICES/DEFENSE AGENCIES:		
7. Civilian Pay <u>REIMBURSED</u> from O&M MDA to		<u>0</u>

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# **Missile Defense Agency**

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**Fiscal Year 2016**

**President's Budget Submittal**

**Military Construction Exhibit**



**February 2015**

**MISSILE DEFENSE AGENCY  
FY 2016 MILITARY CONSTRUCTION  
PRESIDENT'S BUDGET SUBMITTAL  
DESCRIPTIVE SUMMARIES**

(\$ in Thousands)

<b><u>Program</u></b>	<b><u>Authorization</u></b>	<b><u>Appropriation</u></b>
Major Construction	169,153	169,153
Unspecified Minor Construction	0	0
MILCON Planning & Design	<u>0</u>	<u>0</u>
<b>TOTAL MILITARY CONSTRUCTION</b>	<b>169,153</b>	<b>169,153</b>

**MISSILE DEFENSE AGENCY  
FY 2016 MILITARY CONSTRUCTION  
PROJECT SUMMARY  
BY LOCATION**

(\$ in Thousands)

<u>State/Country/Installation/Project</u>	<u>Auth Request</u>	<u>Approp Request</u>	<u>New/Current Mission</u>
<b>Major Construction</b>			
<b>Poland</b>			
Redzikowo Base Aegis Ashore Missile Defense System Complex	169,153	169,153	New
<b>Unspecified Minor Construction</b>			
<b>MILCON Planning and Design</b>			
<b>TOTAL MILITARY CONSTRUCTION</b>	169,153	169,153	

<b>1. COMPONENT</b> MDA	<b>FY 2016 MILITARY CONSTRUCTION PROJECT DATA</b>							<b>2. DATE</b> Feb 2015		
<b>3. INSTALLATION AND LOCATION</b> Redzikowo Base, Poland					<b>4. COMMAND</b> Missile Defense Agency			<b>5. AREA CONSTR. COST INDEX</b> 0.97		
<b>6. PERSONNEL</b>  STRENGTH: N/A: Tenant of U.S. Navy	PERMANENT			STUDENTS			SUPPORTED			
	OFFICER	ENLISTED	CIVILIAN	OFFICER	ENLISTED	CIVILIAN	OFFICER	ENLISTED	CIVILIAN	TOTAL
<b>7. INVENTORY DATA (\$000)</b>										
A. TOTAL ACERAGE ..... N/A										
B. INVENTORY TOTAL AS OF ..... N/A										
C. AUTHORIZATION NOT YET IN INVENTORY ..... 0										
D. AUTHORIZATION REQUESTED IN THE FY2016 ..... 169,153										
E. AUTHORIZATION REQUESTED IN THE FY2017 ..... 0										
F. PLANNED IN NEXT THREE PROGRAM YEARS ..... 0										
G. REMAINING DEFICIENCY ..... 0										
H. GRAND TOTAL ..... 169,153										
<b>8. PROJECTS REQUESTED IN THE FY2016 PROGRAM:</b>										
CATEGORY		PROJECT TITLE		SCOPE		COST (\$000)		DESIGN STATUS		
CODE								START		COMPLETE
1456		Aegis Ashore Missile Defense System Complex		1 EA		169,153		Apr 14		Apr 15
<b>9. FUTURE PROJECTS:</b>										
CATEGORY		PROJECT TITLE		SCOPE		COST (\$000)				
CODE										
<b>10. MISSION OR MAJOR FUNCTIONS:</b> The mission of the Missile Defense Agency (MDA) is to develop and field an integrated, layered Ballistic Missile Defense System (BMDS) to defend the United States, our deployed forces, allies, and friends against all ranges of enemy ballistic missiles in all phases of flight. The Aegis Ashore facility supports fulfilling the European Phased Adaptive Approach (EPAA) Phase III requirement for regional ballistic missile defense against medium and intermediate range threats to European Allies and deployed troops.										
<b>11. OUTSTANDING POLLUTION AND SAFETY DEFICIENCIES:</b>										
A. Air Pollution:				N/A						
B. Water pollution:				N/A						
C. Occupational safety and health (OSH):				N/A						

1. COMPONENT MDA	FY 2016 MILITARY CONSTRUCTION PROJECT DATA			2. DATE Feb 2015	
3. INSTALLATION AND LOCATION Redzikowo Base, Poland		4. PROJECT TITLE Aegis Ashore Missile Defense System Complex			
5. PROGRAM ELEMENT 0603892C	6. CATEGORY CODE 1456	7. PROJECT NUMBER MDA 640	8. PROJECT COST (\$000) 169,153		
<b>9. COST ESTIMATES</b>					
<b>ITEM</b>	<b>U/M (M/E)</b>	<b>QUANTITY</b>		<b>UNIT COST</b>	<b>COST (\$000)</b>
<u>PRIMARY FACILITIES</u>					
Launch Area Infrastructure (14945)	EA	3		420,246	81,330 (1,261)
HEMP Radar Support Building (89009)	m2 (SF)	2,703 (29,100)		10,802 (1,004)	(29,203)
Deckhouse Area Foundation	LS				(1,480)
Special Construction	LS				(6,101)
Installed Equipment	LS				(2,421)
HEMP Power Infrastructure	LS				(28,200)
50Hz Backup Power Generation Equip	LS				(3,372)
Missile Storage Facility (42172)	m2 (SF)	111 (1,200)		2,396 (223)	(267)
Communications Equipment Pad (93210)	m2 (SF)	1,301 (14,000)		161 (15)	(210)
Secure Warehouse (44120)	m2 (SF)	234 (2,520)		3,587 (333)	(840)
Entry Control Facility (73025)	m2 (SF)	260 (2,800)		5,831 (541)	(1,516)
Sec Fence/Lighting/ESS (81240/87211)	m (LF)	12,192 (40,000)		493 (150)	(6,016)
Fuel System and Storage Fac (41130)	BL (GA)	4,127 (130,000)		107 (3)	(443)
<u>SUPPORTING FACILITIES</u>					
Site Electrical	LS				69,936 (1,791)
Power (50Hz) distribution	LS				(19,558)
HEMP Power Distribution ductbank	LS				(11,560)
Water, Sewer, Gas	LS				(3,276)
Water Supply Building and Storage	LS				(4,736)
Site Improvement/Demo	LS				(8,147)
Pavements & Walks	LS				(6,068)
Information/Communication Systems	LS				(4,901)
Antiterrorism/Force Protection	LS				(1,433)
Temporary Infrastructure Mob/Demob	LS				(8,466)
<u>SUBTOTAL</u>					
CONTINGENCY (5.00%)					151,266 7,563
TOTAL CONTRACT COST					158,829
SIOH (6.50%)					10,324
TOTAL REQUEST					169,153
TOTAL ROUNDED REQUEST					169,153
INSTALLED EQUIPMENT-OTHER APPROP					(402,079)
<b>10. DESCRIPTION OF PROPOSED CONSTRUCTION:</b>					
<p>This project constructs the second operational Aegis Ashore Missile Defense System site utilizing the Aegis shipboard weapon system; launcher, radar, and command and control components. The first site was constructed in Romania. The Poland site will consist of three Mark-41 launcher foundations, aprons and crane pads; Radar Deckhouse foundation and a reconstitutable High-Altitude Electromagnetic Pulse (HEMP) protected Aegis Radar Deckhouse Support Building; 4MW of HEMP protected backup power, with a redundant N+2 capacity using relocatable generators, switchgear and transformer components; HEMP protected power distribution system; communications equipment pad; missile storage facility; secure warehouse; 120,000 gallon diesel fuel storage for backup generators; 10,000 gallon diesel fuel storage tank and fuel truck offload facility; two 100,000 gallon fire water storage tanks and suppression pumps; entry control facility; electronic security system infrastructure; site boundary and restricted area security fencing, gates, patrol roads, and access paving.</p>					

<b>1. COMPONENT</b> MDA	<b>FY 2016 MILITARY CONSTRUCTION PROJECT DATA</b>	<b>2. DATE</b> Feb 2015
<b>3. INSTALLATION AND LOCATION</b> Redzikowo Base, Poland		
<b>4. PROJECT TITLE :</b> Aegis Ashore Missile Defense System Complex		<b>5. PROJECT NUMBER</b> MDA 640
<p><b>10. DESCRIPTION OF PROPOSED CONSTRUCTION: (cont)</b></p> <p>Supporting facilities include overall site development: electrical services; water; sewer; paving; walks; storm drainage; fire protection and alarm systems; site improvements and demolition; telecommunication point of presence and information management systems. The project also includes a sewage lift station; water supply wells; water treatment plant; and a 40,000 gallon potable water storage tank. Access for handicapped will be provided. Temporary infrastructure will support mobilization, site activation, construction oversight, and equipment installation.</p> <p>The launcher pads, radar deckhouse, and deckhouse support building foundations include special features to meet technical stability requirements and fill material to provide positive drainage away from facilities.</p> <p>Special construction includes lightning protection, equipment grounding systems, and Electromagnetic Interference (EMI) shielding and testing in mission support areas. The radar deckhouse and support building will receive Nuclear/Biological/Chemical protection.</p> <p>Installed equipment includes special flooring, redundant mechanical and electrical systems, uninterruptible power system and electronic controls to monitor building systems and the base infrastructure.</p>		
<p><b>11. REQUIREMENT:</b> 1 EA                                ADEQUATE: None                                SUBSTANDARD: None</p> <p><u>PROJECT:</u> Construct a new Aegis Ashore Missile Defense System Complex in Poland. (New Mission)</p> <p><u>REQUIREMENT:</u> This project is required to provide added regional ballistic missile defense through the European Phased Adaptive Approach Phase III against medium and intermediate range ballistic missile threats to European Allies and deployed troops.</p> <p><u>CURRENT SITUATION:</u> In keeping with the 17 September 2009 announcement by the President of the United States, this project is necessary to provide the European Phased Adaptive Approach of a land-based Aegis ballistic missile defense system configuration with additional capability in Poland by 2018.</p> <p><u>IMPACT IF NOT PROVIDED:</u> If this project is not provided, Aegis Ashore capability will not be deployed in Poland by 2018, and the Phased Adaptive Approach Phase III timeline to deploy additional land-based Aegis ballistic missile defense capability in Europe, as announced by the President of the United States, will not be met.</p> <p><u>ADDITIONAL INFORMATION:</u> The Navy is programming a parallel related project (FY16 Navy Worldwide P500, Aegis Ashore Missile Defense Complex) that will provide Base Operations Support for this Aegis Ashore Missile Defense System site. The Navy funded project will include living, dining, and recreation space for site personnel as well as central security control, administration, medical treatment, fire station, and base maintenance and warehouse space.</p> <p>Extension of upgraded commercial power to the site will be acquired during site activation, funded with other appropriations, and provided in accordance with applicable Defense Federal Acquisition Regulations (DFARs) for utility service contracts.</p> <p>Site activation requirements for site security and material surveillance will be RDT&amp;E funded.</p>		
<b>Volume 2b - lxx</b>		



<b>1. COMPONENT</b> MDA	<b>FY 2016 MILITARY CONSTRUCTION PROJECT DATA</b>	<b>2. DATE</b> Feb 2015																																																									
<b>3. INSTALLATION AND LOCATION</b> Redzikowo Base, Poland																																																											
<b>4. PROJECT TITLE :</b> Aegis Ashore Missile Defense System Complex		<b>5. PROJECT NUMBER</b> MDA 640																																																									
<b>11. REQUIREMENT: (cont)</b> <p>The reconstitutable Radar Deckhouse will be fabricated, erected and tested as a Procurement effort on the deckhouse foundation and integrated into the deckhouse support infrastructure on site.</p> <p>Cost estimates were derived based on similar designed facilities that are being constructed at the initial Aegis Ashore complex at Deveselu, Romania, and at the Pacific Missile Range Facility, HI. This project is being coordinated with the appropriate physical security plans. Required physical security and/or anti-terrorism and force protection measures will be included. All requirements of Executive Order 12114, Environmental Effects Abroad of Major Federal Actions, will be completed prior to construction start.</p>																																																											
<b>12. SUPPLEMENTAL DATA:</b> <p>A. Estimated Design Data</p> <table border="0"> <tr> <td colspan="3">(1) Status:</td> </tr> <tr> <td>    (a) Date Design Started</td> <td></td> <td style="text-align: right;">Apr 2014</td> </tr> <tr> <td>    (b) Percent Complete As Of January 2015</td> <td></td> <td style="text-align: right;">65%</td> </tr> <tr> <td>    (c) Date 35% Design Complete</td> <td></td> <td style="text-align: right;">Aug 2014</td> </tr> <tr> <td>    (d) Date Design Complete</td> <td></td> <td style="text-align: right;">Apr 2015</td> </tr> <tr> <td>    (e) Parametric Cost Estimating Used To Develop Cost</td> <td></td> <td style="text-align: right;">No</td> </tr> <tr> <td>    (f) Type of Design Contract</td> <td></td> <td style="text-align: right;">Design-Bid-Build</td> </tr> <tr> <td colspan="3">(2) Basis:</td> </tr> <tr> <td>    (a) Standard or Repetitive Design</td> <td></td> <td style="text-align: right;">Yes</td> </tr> <tr> <td>    (b) Where Design Was Most Recently Used</td> <td></td> <td style="text-align: right;">Deveselu, Romania</td> </tr> <tr> <td colspan="3">(3) Total Design Cost (c) = (a)+(b) or (d)+(e) (\$000)</td> </tr> <tr> <td>    (a) Production of Plans and Specifications</td> <td></td> <td style="text-align: right;">9,500</td> </tr> <tr> <td>    (b) All Other Design Costs</td> <td></td> <td style="text-align: right;">6,300</td> </tr> <tr> <td>    (c) Total Design Costs</td> <td></td> <td style="text-align: right;">15,800</td> </tr> <tr> <td>    (d) Contract</td> <td></td> <td style="text-align: right;">11,060</td> </tr> <tr> <td>    (e) In-House</td> <td></td> <td style="text-align: right;">4,740</td> </tr> <tr> <td>(4) Contract Award</td> <td></td> <td style="text-align: right;">Jan 2016</td> </tr> <tr> <td>(5) Construction Start</td> <td></td> <td style="text-align: right;">Apr 2016</td> </tr> <tr> <td>(6) Construction Completion</td> <td></td> <td style="text-align: right;">Apr 2018</td> </tr> </table>			(1) Status:			(a) Date Design Started		Apr 2014	(b) Percent Complete As Of January 2015		65%	(c) Date 35% Design Complete		Aug 2014	(d) Date Design Complete		Apr 2015	(e) Parametric Cost Estimating Used To Develop Cost		No	(f) Type of Design Contract		Design-Bid-Build	(2) Basis:			(a) Standard or Repetitive Design		Yes	(b) Where Design Was Most Recently Used		Deveselu, Romania	(3) Total Design Cost (c) = (a)+(b) or (d)+(e) (\$000)			(a) Production of Plans and Specifications		9,500	(b) All Other Design Costs		6,300	(c) Total Design Costs		15,800	(d) Contract		11,060	(e) In-House		4,740	(4) Contract Award		Jan 2016	(5) Construction Start		Apr 2016	(6) Construction Completion		Apr 2018
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1. COMPONENT MDA	<b>FY 2016 MILITARY CONSTRUCTION PROJECT DATA</b>	2. DATE Feb 2015
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3. INSTALLATION AND LOCATION  
Redzikowo Base, Poland

4. PROJECT TITLE : Aegis Ashore Missile Defense System Complex	5. PROJECT NUMBER MDA 640
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12. SUPPLEMENTAL DATA: (cont)

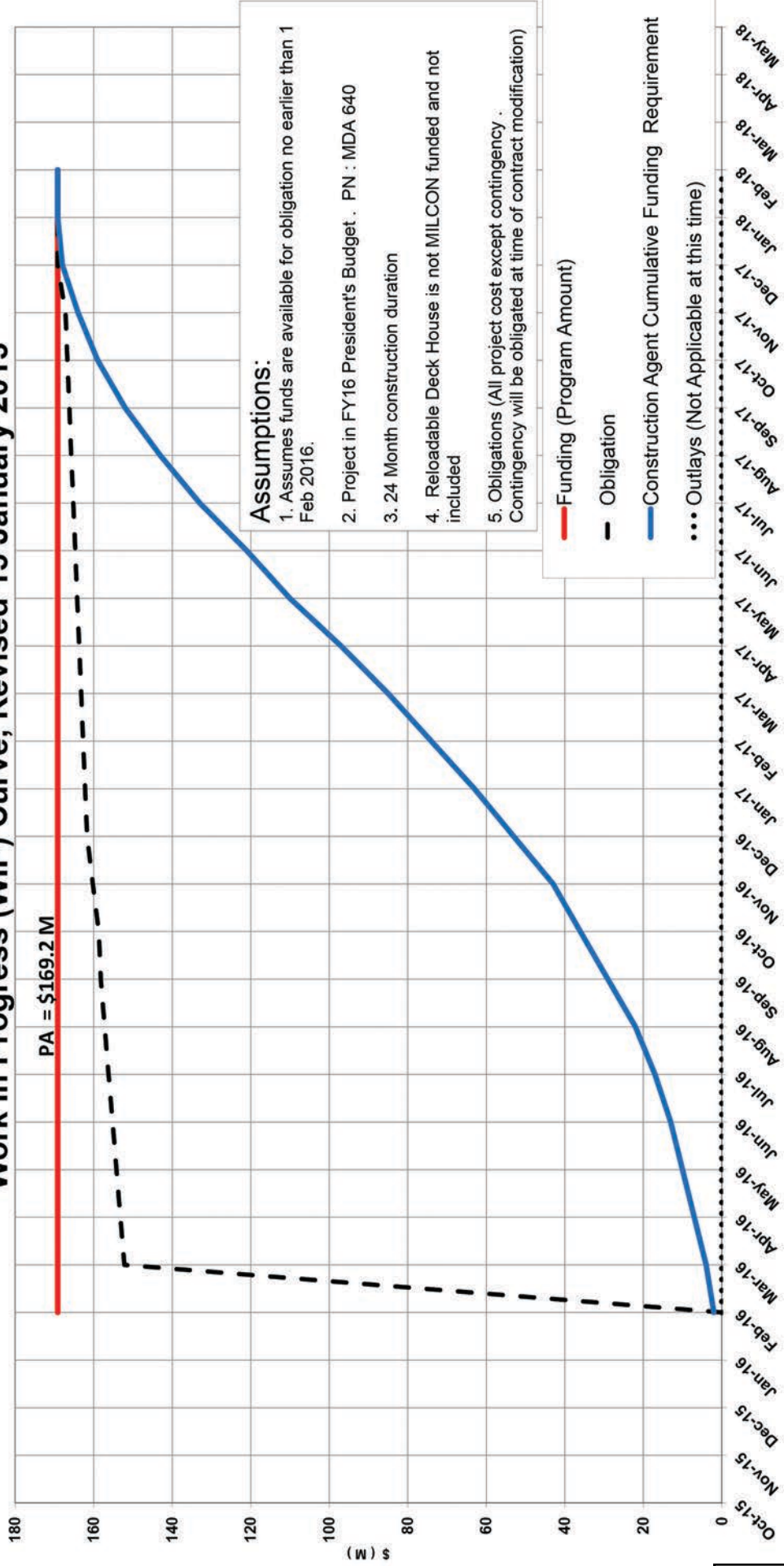
B. Equipment associated with this project which will be provided from other appropriations:

Equipment Nomenclature	Appropriation	FY Appropriated or Requested	Cost \$(000)
Aegis Weapon System Equipment	Procurement	FY14/15	241,800
Aegis Ashore Launch Equipment	Procurement	FY15	36,000
Non-Mission Communications Equipment	Procurement	FY15/16	3,800
Mission Communications Equipment	Procurement	FY15/16	8,500
Command and Control Equipment	Procurement	FY14/15	27,000
Ancillary Equipment	Procurement	FY15/16	41,500
		SUB-TOTAL	358,600
Extension of Commercial Power Site Activation Facilities (Equipment)	RDT&E	FY15/16	4,700
	RDT&E	FY15	3,705
		SUB-TOTAL	8,405
<u>Reconstitutable Deckhouse</u>			
Deckhouse Procurement	Procurement	FY15	24,584
Deckhouse Install in Poland	Procurement	FY15/16	10,490
		SUB-TOTAL	35,074
		TOTAL:	402,079



US Army Corps of Engineers

# Missile Defense Agency (MDA) Aegis Ashore Missile Defense Complex, Poland - Work In Progress (WIP) Curve, Revised 15 January 2015



**Assumptions:**

1. Assumes funds are available for obligation no earlier than 1 Feb 2016.
2. Project in FY16 President's Budget . PN : MDA 640
3. 24 Month construction duration
4. Reloadable Deck House is not MILCON funded and not included
5. Obligations (All project cost except contingency . Contingency will be obligated at time of contract modification)

- Funding (Program Amount)
- - - Obligation
- Construction Agent Cumulative Funding Requirement
- ... Outlays (Not Applicable at this time)

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**Exhibit MYP-1, Multiyear Procurement Criteria**Date:  
February 2015**Appropriation / Budget Activity:**

0300 Missile Procurement - Defensewide / Major Equipment (BA-01)

**P-1 Item Nomenclature:**

Aegis BMD Standard Missile-3 (SM-3) Block IB

**1. Multiyear Procurement Description:**

This proposed Multiyear Procurement (MYP) covers the purchase of 196 Standard Missile-3 (SM-3) Block IB Aegis ballistic missile interceptors in FY 2016 through FY 2019 under a single four-year fixed price type contract. The SM-3 Block IB program includes three years of initial production (FY 2012 - FY 2014) and Full Production beginning in FY 2015.

This multiyear contract uses Economic Order Quantity Advance Procurement funding to provide the U.S. Government maximum savings in price and delivery schedule. Advance Procurement funding in FY 2016 - FY 2018 will enable Raytheon Missile Systems to authorize and place order materials, equipment suppliers and subcontractors with sufficient lead time to support the planned delivery schedule within the context of the multiyear funding, prices, and cancellation ceilings.

**2. Benefit to the Government:****a. Substantial Savings:**

This multiyear contract will provide the U.S. Government maximum savings in both price and delivery schedule. Implementation of this proposed MYP will yield substantial savings through the term of the contract. Specifically, savings for the FY 2016 through FY 2019 attributable to this multiyear procurement (MYP) strategy is estimated at \$306.42 million (TY\$s), for a total of 14.1%.

**b. Stability of Requirement:**

The SM-3 Block IB incorporates a two-color, all reflective infrared seeker, enabling longer range acquisition and increased threat discrimination over the previous SM-3 Block IA. A Throttleable Divert Attitude Control System (TDACS) provides a more flexible and lower cost alternative to the Solid Divert Attitude Control System in the Block IA. Initial Production of the SM-3 Block IB began in FY 2012 (12) with larger rate production quantities in FY 2013 (33) and FY 2014 (52). In accordance with the full rate production acquisition decision memorandum, the production rate objective through the multiyear period is up to 52 missiles per year.

**c. Stability of Funding:**

Sufficient funding exists within the current budget controls to execute this procurement. The Missile Defense Agency has demonstrated its commitment to a stable funding stream for the SM-3 Block IB MYP through every step of this year's budget process by fully funding the requirement. This commitment was reaffirmed by top level DoD leadership through its support to the final budget submission. In addition, the Secretary of Defense supports the quantities and funding profile provided in this request. The budget submission includes sufficient funding to execute the program.

**d. Stable Configuration:**

SM-3 Block IB was found to be Operationally Suitable and Effective by Commander Operational Test and Evaluation Force October 2014 following the assessment of Developmental Test/Operational Tests. The missile has been in initial production since the FY 2012 contract. The 68th SM-3 BLK IB will be produced in late calendar year

**Exhibit MYP-1, Multiyear Procurement Criteria**

Date:  
February 2015

**Appropriation / Budget Activity:**

0300 Missile Procurement - Defensewide / Major Equipment (BA-01)

**P-1 Item Nomenclature:**

Aegis BMD Standard Missile-3 (SM-3) Block IB

2015. SM-3 Block IB configuration is governed by a rigorous control process at both the Government and contractor facilities. All SM-3 Block IB procured under the multi-year contract would be of the same design. Concurrent procurement of material will ensure that sufficient parts exist to maintain the stable configuration.

**e. Realistic Cost Estimate:**

Cost estimates reflect experience with Standard Missile 3 (SM-3) manufacturing since 2005, including 139 procured SM-3 Block 1A and 120 Block IB through June 2014. The cost estimates for the multi-year are based on 10 years of SM-3 procurement history and established learning curves and quantity curves. The savings shown in these exhibits are based on historical experience, contract awards, and surveys of primary equipment vendors. There is a high degree of confidence the SM-3 Block IB program can achieve the stated savings and procure the multiyear procurement (MYP) missiles within the funding identified. This MYP will be a fixed price incentive firm contract.

**f. National Security:**

The QDR and DPG emphasize the criticality of the planned antiballistic missile infrastructure, including investments in defensive interceptors such as the SM-3 Block IB. The SM-3 Block IB is deployed on DDG and CG class ships and planned for the Aegis Ashore platform defending U.S. interests at home and abroad. The current SM-3 Block IB inventory is significantly lower than force structure requirements, making the procurement of additional SM-3 Block IBs critical for the defense of the homeland and protection of U.S. forces and interests abroad.

**3. Source of Savings:**

The stability and upfront material purchase of a multiyear contract for the SM-3 IB Missile will enable Raytheon Missile Systems and its suppliers to implement a more efficient planning and manufacturing cycle predicated on a production rate that supports the delivery cycle.

	<u>\$ in Millions</u>
Inflation	\$ 7.166
Vendor Procurement	\$ 239.406
Manufacturing	\$ 59.851
Design/Engineering	\$ 0.000
Tool Design	\$ 0.000
Support Equipment	\$ 0.000
Other	\$ 0.000
Workload Savings	\$ 0.000
<b>Total</b>	<b>\$ 306.423</b>

**4. Advantages of the MYP:**

The proposed multi-year contract provides significant savings over a year-by-year contracting approach. It provides enhanced stability to the configuration of the missile by

**Exhibit MYP-1, Multiyear Procurement Criteria**

Date:  
February 2015

**Appropriation / Budget Activity:**

0300 Missile Procurement - Defensewide / Major Equipment (BA-01)

**P-1 Item Nomenclature:**

Aegis BMD Standard Missile-3 (SM-3) Block IB

protecting against the potential loss of vendors at low procurement quantities. It also provides increased stability to the engineering base for the program by providing a predictable workload over the 4 year period. Each of these is a significant benefit over the year-by-year contracting approach. This MYP strategy has been structured to achieve significant savings and will eliminate the need to develop an annual plan on a yearly basis; one year of planning will replace four independent years of planning. Savings resulting from economic order quantities and independent planning result in benefit to industry and government.

**5. Impact on Defense Industrial Base:**

The stability afforded by the use of a multiyear procurement will allow the prime contractor to enter into long term agreements with suppliers, at every tier, which provide substantial benefit. Such long term agreements incentivize both the prime and subcontractors to invest in process improvements that yield long term benefits in terms of product quality and cost. The contractor and subcontractor will be at a reduced risk when implementing production process improvements, facility improvements, tooling design improvements, and fabrication process improvements. The ability for the government and industry to enter into a long-term agreement will allow industry the opportunity to place capital investments upfront, which reduces the overall cost and improves the quality of the SM-3 Block IB.

**6. Multiyear Procurement Summary:**

	<u>Annual Contracts</u>	<u>MultiYear Contract</u>
Quantity	196	196
Total Contract Price	\$ 2,178.918	\$ 1,872.495
Cancellation Ceiling (highest point)		
Funded		\$ 0.000
Unfunded		\$ 0.000
\$ Cost Avoidance Over Annual		\$ 306.423
% Cost Avoidance Over Annual		14.1 %

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Exhibit MYP-2 Total Program Funding Plan (MDA)						Date: February 2015							
PROCUREMENT						P-1 Line Item Nomenclature - Aegis BMD Standard Missile-3 (SM-3) Block IB (MDA)							
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TOTAL
<b>Procurement Quantity</b>			40	52	52	52							196
<b>Annual Procurement</b>													
Gross Cost			452.6	572.2	575.0	579.1							2178.9
Less PY Adv Procurement				(86.9)	(88.6)	(90.2)							(265.7)
Net Procurement (= P-1)			452.6	485.3	486.5	488.9							1913.2
Plus CY Adv Procurement			86.9	88.6	90.2								265.7
Weapon System Cost			539.5	573.9	576.7	488.9							2178.9
<b>Multiyear Procurement</b>													
Gross Cost (P-1)			389.4	491.6	494.0	497.5							1872.5
Less PY Adv Procurement				(61.0)	(71.9)	(87.3)							(220.2)
Net Procurement (= P-1)			389.4	430.5	422.1	410.2							1652.3
<b>Advance Procurement</b>													
'For FY17			61.0										61.0
'For FY18			48.4	23.5									71.9
'For FY19			38.3	28.2	20.8								87.3
Plus CY Adv Procurement			147.8	51.7	20.8								220.2
Weapon System Cost			537.2	482.2	442.8	410.2							1872.5
<b>Multiyear Savings (\$)</b>			2.3	91.6	133.9	78.7							306.4
Multiyear Savings (%) (total only)													14.1 %
Cancellation Ceiling, Funded													
Cancellation Ceiling, Unfunded													
<b>OUTLAYS</b>													
Annual			129.5	342.7	486.0	512.0	383.2	188.6	74.0	37.3	18.4	7.3	2178.9
Multiyear			128.9	319.9	418.5	420.1	314.7	157.1	61.9	30.4	14.8	6.2	1872.5
Savings			0.5	22.9	67.5	91.9	68.5	31.5	12.1	6.8	3.6	1.2	306.4

Exhibit MYP-2, Total Program Funding Plan

\* Numbers may not add due to rounding.



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Exhibit MYP-3 Total Contract Funding Plan (MDA)						Date: February 2015							
PROCUREMENT						P-1 Line Item Nomenclature - Aegis BMD Standard Missile-3 (SM-3) Block IB (MDA)							
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TOTAL
<b>Procurement Quantity</b>			40	52	52	52							196
<b>Annual Procurement</b>													
Gross Cost			452.6	572.2	575.0	579.1							2178.9
Less PY Adv Procurement				(86.9)	(88.6)	(90.2)							(265.7)
Net Procurement (= P-1)			452.6	485.3	486.5	488.9							1913.2
Plus CY Adv Procurement			86.9	88.6	90.2								265.7
Contract Price			539.5	573.9	576.7	488.9							2178.9
<b>Multiyear Procurement</b>													
Gross Cost (P-1)			389.4	491.6	494.0	497.5							1872.5
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Plus CY Adv Procurement			147.8	51.7	20.8								220.2
Contract Price			537.2	482.2	442.8	410.2							1872.5
<b>Multiyear Savings (\$)</b>			2.3	91.6	133.9	78.7							306.4
Multiyear Savings (%) (total only)													14.1 %
Cancellation Ceiling, Funded													
Cancellation Ceiling, Unfunded													
<b>OUTLAYS</b>													
Annual			129.5	342.7	486.0	512.0	383.2	188.6	74.0	37.3	18.4	7.3	2178.9
Multiyear			128.9	319.9	418.5	420.1	314.7	157.1	61.9	30.4	14.8	6.2	1872.5
Savings			0.5	22.9	67.5	91.9	68.5	31.5	12.1	6.8	3.6	1.2	306.4

Exhibit MYP-3, Total Contract Funding Plan

\* Numbers may not add due to rounding.

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Exhibit MYP-4 Present Value Analysis (MDA)						Date: February 2015							
PROCUREMENT						P-1 Line Item Nomenclature - Aegis BMD Standard Missile-3 (SM-3) Block IB (MDA)							
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TOTAL
<b>Annual Proposal</b>													
Then Year Cost			129.5	342.7	486.0	512.0	383.2	188.6	74.0	37.3	18.4	7.3	2178.9
Constant Year Cost			127.2	330.9	460.8	476.9	350.7	169.5	65.3	32.3	15.7	6.1	2035.6
Present Value			124.1	319.5	440.7	451.5	328.7	157.3	60.0	29.4	14.1	5.5	1930.9
<b>Multiyear Proposal</b>													
Then Year Cost			128.9	319.9	418.5	420.1	314.7	157.1	61.9	30.4	14.8	6.2	1872.5
Constant Year Cost			126.7	308.8	396.8	391.3	288.0	141.2	54.7	26.4	12.7	5.2	1751.7
Present Value			123.6	298.2	379.5	370.5	270.0	131.0	50.2	24.0	11.4	4.6	1663.0
<b>Difference</b>													
Then Year Cost			0.5	22.9	67.5	91.9	68.5	31.5	12.1	6.8	3.6	1.2	306.4
Constant Year Cost			0.5	22.1	64.0	85.6	62.7	28.3	10.6	5.9	3.1	1.0	283.8
Present Value			0.5	21.3	61.2	81.0	58.8	26.3	9.8	5.4	2.7	0.9	267.9
<b>Multiyear Savings (\$)</b>													
			0.5	22.9	67.5	91.9	68.5	31.5	12.1	6.8	3.6	1.2	306.4

**NOTE:** MYP Procurement Period is 10 years. Real Interest Rate for MYP Procurement Period of 10 years is 1.01000000%.  
(OMB Circular No. A-94, January 2014)

Exhibit MYP-4 Present Value Analysis

\* Numbers may not add due to rounding.

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**Exhibit P-40, Budget Line Item Justification:** PB 2016 Missile Defense Agency **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D: Procurement, Defense-Wide / BA 01: Major Equipment / BSA 17: Major Equipment, Missile Defense Agency	<b>P-1 Line Item Number / Title:</b> MD07 / THAAD
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ID Code (A=Service Ready, B=Not Service Ready) : B	Program Elements for Code B Items: 0603884C, 0603881C	Other Related Program Elements: 0603881C, 0603884C
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Line Item MDAP/MAIS Code: 362	Item MDAP/MAIS Code(s):
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Resource Summary	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	128	27	31	30	-	30	18	18	17	17	167	453
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	2,128.811	571.851	449.824	464.067	-	464.067	362.605	330.003	317.414	313.631	3,289.952	8,228.158
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P1) ( <i>\$ in Millions</i> )	2,128.811	571.851	449.824	464.067	-	464.067	362.605	330.003	317.414	313.631	3,289.952	8,228.158
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>2,128.811</b>	<b>571.851</b>	<b>449.824</b>	<b>464.067</b>	<b>-</b>	<b>464.067</b>	<b>362.605</b>	<b>330.003</b>	<b>317.414</b>	<b>313.631</b>	<b>3,289.952</b>	<b>8,228.158</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Millions</i> )	11.453	11.022	12.367	12.553	-	12.553	15.100	15.339	15.611	15.864	17.293	14.337
Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> )	16.631	21.180	14.510	15.469	-	15.469	20.145	18.334	18.671	18.449	19.700	18.164

**Description:**

Terminal High Altitude Area Defense (THAAD) is an element of the Terminal Defense Segment (TDS) of the Ballistic Missile Defense System (BMDS). THAAD enhances the TDS by deepening, complementing, and extending the BMDS battlespace and capability to engage ballistic targets in the late mid-course and terminal phases of their trajectory. THAAD Army Navy / Transportable Radar Surveillance - Model 2 (AN/TPY-2) is a surveillance sensor providing data to cue other elements of the BMDS. The THAAD system, in conjunction with the fielded PATRIOT system, provides the TDS for the Missile Defense Agency (MDA) objective of enhancing the BMDS capability. Five major components (Interceptors, Launchers, AN/TPY-2 Radar, THAAD Fire Control and Communication (TFCC) Tactical Station Groups (TSG), and Peculiar Support Equipment) comprise the THAAD system and will be integrated into the BMDS.

Concurrent with the FY 2012 - FY 2014 U.S. procurements, the THAAD element is executing a Foreign Military Sales (FMS) Case for two (2) Batteries and 192 Interceptors. The magnitude of the U.S. and FMS combined buy procurement reduced the unit price. The FY 2016 procurement is planned to be a standalone purchase of a significantly lower quantity resulting in an interceptor unit price increase.

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**Exhibit P-40, Budget Line Item Justification:** PB 2016 Missile Defense Agency **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D: Procurement, Defense-Wide / BA 01: Major Equipment / BSA 17: Major Equipment, Missile Defense Agency	<b>P-1 Line Item Number / Title:</b> MD07 / THAAD
--	--

**ID Code** (A=Service Ready, B=Not Service Ready) : B **Program Elements for Code B Items:** 0603884C, 0603881C **Other Related Program Elements:** 0603881C, 0603884C

**Line Item MDAP/MAIS Code:** 362 **Item MDAP/MAIS Code(s):**

Exhibits Schedule			Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title*	Exhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
THAAD	P-5, P-5a, P-21	B	128 / 2,128.811	27 / 571.851	31 / 449.824	30 / 464.067	- / -	30 / 464.067
<b>Total Gross/Weapon System Cost</b>			<b>128 / 2,128.811</b>	<b>27 / 571.851</b>	<b>31 / 449.824</b>	<b>30 / 464.067</b>	<b>- / -</b>	<b>30 / 464.067</b>

Exhibits Schedule			FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Title*	Exhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
THAAD	P-5, P-5a, P-21	B	18 / 362.605	18 / 330.003	17 / 317.414	17 / 313.631	167 / 3,289.952	453 / 8,228.158
<b>Total Gross/Weapon System Cost</b>			<b>18 / 362.605</b>	<b>18 / 330.003</b>	<b>17 / 317.414</b>	<b>17 / 313.631</b>	<b>167 / 3,289.952</b>	<b>453 / 8,228.158</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or add due to rounding.

**Justification:**  
 The FY 2016 budget request funds 30 THAAD interceptors, and includes Missile Round Pallet modifications, the THAAD Stockpile Reliability Program, obsolescence mitigation efforts, battery modernization, modifications, and training efforts such as one Radar Training Device and New Equipment Training for battery 6.  
  
 The PB 2016 interceptor quantity procurement plan supports the Army's deployment plan for 7 THAAD batteries.  
  
 RDT&E funded tactical hardware (first two THAAD batteries) are not included in the costs above.  
  
 "Procurement Quantity" and "Flyaway Unit Cost" above represent interceptors only, but the "Net Procurement" cost above includes the costs of all hardware. Prior FYs and FY 2014 funding includes procurement of ground components, which affects the "Gross Weapon System Unit Cost".

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**Exhibit P-5, Cost Analysis: PB 2016 Missile Defense Agency** **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17	<b>P-1 Line Item Number / Title:</b> MD07 / THAAD	<b>Item Number / Title [DODIC]:</b> - / THAAD
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**ID Code** (A=Service Ready, B=Not Service Ready) : B **MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	128	27	31	30	-	30	18	18	17	17	167	453
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	2,128.811	571.851	449.824	464.067	-	464.067	362.605	330.003	317.414	313.631	3,289.952	8,228.158
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P1) ( <i>\$ in Millions</i> )	2,128.811	571.851	449.824	464.067	-	464.067	362.605	330.003	317.414	313.631	3,289.952	8,228.158
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>2,128.811</b>	<b>571.851</b>	<b>449.824</b>	<b>464.067</b>	<b>-</b>	<b>464.067</b>	<b>362.605</b>	<b>330.003</b>	<b>317.414</b>	<b>313.631</b>	<b>3,289.952</b>	<b>8,228.158</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> )	16.631	21.180	14.510	15.469	-	15.469	20.145	18.334	18.671	18.449	19.700	18.164

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or add, due to rounding.

Cost Elements	Prior Years			FY 2014			FY 2015			FY 2016 Base			FY 2016 OCO			FY 2016 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
<b>Hardware Cost</b>																		
<b>Recurring Cost</b>																		
Interceptor <sup>(†)</sup>	11.453	128	1,466.047	11.022	27	297.587	12.367	31	383.377	12.553	30	376.591	-	-	-	12.553	30	376.591
Launcher <sup>(†)</sup>	7.641	24	183.377	9.050	12	108.600	-	-	-	-	-	-	-	-	-	-	-	-
Support Equipment	24.060	4	96.239	40.089	1	40.089	-	-	-	-	-	-	-	-	-	-	-	-
TFCC Tactical Station Group <sup>(†)</sup>	10.086	8	80.690	3.489	1	3.489	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	1,826.353	-	-	449.765	-	-	383.377	-	-	376.591	-	-	-	-	-	376.591
<i>Subtotal: Hardware Cost</i>	-	-	1,826.353	-	-	449.765	-	-	383.377	-	-	376.591	-	-	-	-	-	376.591
<b>Support Cost</b>																		
Obsolescence and Modifications	10.870	1	10.870	31.057	1	31.057	32.181	1	32.181	34.312	1	34.312	-	-	-	34.312	1	34.312
Production Support & Testing	137.508	2	275.016	47.161	1	47.161	25.368	1	25.368	16.838	1	16.838	-	-	-	16.838	1	16.838
Training	8.286	2	16.572	43.868	1	43.868	8.898	1	8.898	36.326	1	36.326	-	-	-	36.326	1	36.326
<i>Subtotal: Support Cost</i>	-	-	302.458	-	-	122.086	-	-	66.447	-	-	87.476	-	-	-	-	-	87.476
<b>Gross/Weapon System Cost</b>	<b>16.631</b>	<b>128</b>	<b>2,128.811</b>	<b>21.180</b>	<b>27</b>	<b>571.851</b>	<b>14.510</b>	<b>31</b>	<b>449.824</b>	<b>15.469</b>	<b>30</b>	<b>464.067</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>15.469</b>	<b>30</b>	<b>464.067</b>

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<b>Exhibit P-5, Cost Analysis: PB 2016 Missile Defense Agency</b>													<b>Date:</b> February 2015					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17							<b>P-1 Line Item Number / Title:</b> MD07 / THAAD						<b>Item Number / Title [DODIC]:</b> - / THAAD					

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B										<b>MDAP/MAIS Code:</b>							
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Cost Elements	FY 2017			FY 2018			FY 2019			FY 2020			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware Cost																		
Recurring Cost																		
Interceptor <sup>(t)</sup>	15.100	18	271.795	15.339	18	276.099	15.611	17	265.383	15.864	17	269.688	17.293	167	2,888.002	14.337	453	6,494.569
Launcher <sup>(t)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.110	36	291.977
Support Equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.266	5	136.328
TFCC Tactical Station Group <sup>(t)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.353	9	84.179
<i>Subtotal: Recurring Cost</i>	-	-	271.795	-	-	276.099	-	-	265.383	-	-	269.688	-	-	2,888.002	-	-	7,007.053
<i>Subtotal: Hardware Cost</i>	-	-	271.795	-	-	276.099	-	-	265.383	-	-	269.688	-	-	2,888.002	-	-	7,007.053
Support Cost																		
Obsolescence and Modifications	33.467	1	33.467	32.992	1	32.992	29.801	1	29.801	23.201	1	23.201	235.083	1	235.083	51.440	9	462.964
Production Support & Testing	18.402	1	18.402	20.912	1	20.912	22.230	1	22.230	20.742	1	20.742	166.867	1	166.867	61.354	10	613.536
Training	38.941	1	38.941	-	-	-	-	-	-	-	-	-	-	-	-	24.101	6	144.605
<i>Subtotal: Support Cost</i>	-	-	90.810	-	-	53.904	-	-	52.031	-	-	43.943	-	-	401.950	-	-	1,221.105
<b>Gross/Weapon System Cost</b>	<b>20.145</b>	<b>18</b>	<b>362.605</b>	<b>18.334</b>	<b>18</b>	<b>330.003</b>	<b>18.671</b>	<b>17</b>	<b>317.414</b>	<b>18.449</b>	<b>17</b>	<b>313.631</b>	<b>19.700</b>	<b>167</b>	<b>3,289.952</b>	<b>18.164</b>	<b>453</b>	<b>8,228.158</b>

**Remarks:**

"Procurement Quantity" above represents interceptors only, but the "Net Procurement" cost above includes the costs of all hardware. Prior FYs and FY 2014 funding includes procurement of ground components, which affects the "Gross Weapon System Unit Cost". Support Equipment captures miscellaneous items such as THAAD Active Leak Sensor System (TALSS) and Battery Support Center (BSC) that support the THAAD Batteries and varies from year to year.

Concurrent with the FY 2012 - FY 2014 U.S. procurements, the THAAD element is executing a Foreign Military Sales (FMS) Case for two (2) Batteries and 192 Interceptors. The magnitude of the U.S. and FMS combined buy procurement reduced the unit price. The FY 2016 procurement is planned to be a standalone purchase of a significantly lower quantity resulting in an interceptor unit price increase.

The increase in the Training line above from FY 2015 to FY 2016 is due to the procurement of a Radar Training Device to support the Institutional Training Base used to train THAAD soldiers.

Obsolescence above encompasses mitigation activities that protects the system design and ensures a producible technical data package. This preserves an affordable future product cost within an acceptable production schedule. Examples of mitigation activities include component replacement parts, materials, qualification, alternative source/parts qualification, and piece part/material bridge buys to support subsequent years' production lots.

(t) indicates the presence of a P-5a

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**Exhibit P-5a, Procurement History and Planning: PB 2016 Missile Defense Agency** **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17	<b>P-1 Line Item Number / Title:</b> MD07 / THAAD	<b>Item Number / Title [DODIC]:</b> - / THAAD
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ M)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Interceptor - Lot 1 <sup>(t)</sup>		2010	Lockheed Martin / Troy, AL	SS / FPIF	MDA, Huntsville, AL	Mar 2011	Jul 2012	26	14.480	Y		Oct 2009
Interceptor - Lot 2 <sup>(t)</sup>		2011	Lockheed Martin / Troy, AL	SS / FPIF	MDA, Huntsville, AL	Mar 2011	Jul 2013	22	12.100	Y		Oct 2009
Interceptor - Lot 4 <sup>(t)</sup>		2012	Lockheed Martin / Troy, AL	SS / FPIF	MDA, Huntsville, AL	Aug 2012	Jun 2015	46	11.022	Y		Aug 2011
Interceptor - Lot 5 <sup>(t)</sup>		2013	Lockheed Martin / Troy, AL	SS / FPIF	MDA, Huntsville, AL	Sep 2013	Jul 2016	34	11.022	Y		Aug 2011
Interceptor - Lot 6 <sup>(t)</sup>		2014	Lockheed Martin / Troy, AL	SS / FPIF	MDA, Huntsville, AL	Dec 2013	Mar 2017	27	11.022	Y		Jun 2013
Interceptor - Lot 7 <sup>(t)</sup>		2015	Lockheed Martin / Troy, AL	SS / FPIF	MDA, Huntsville, AL	Jun 2015	Oct 2017	31	12.367	Y		Mar 2014
Interceptor - Lot 8 <sup>(t)</sup>		2016	Lockheed Martin / Troy, AL	SS / FPIF	MDA, Huntsville, AL	Jan 2016	Jun 2018	30	12.553	Y		Apr 2015
Launcher - Lot 1 <sup>(t)</sup>		2010	Lockheed Martin / Camden, AR	SS / FFP	MDA, Huntsville, AL	May 2011	Apr 2013	6	9.170	Y		Oct 2009
Launcher - Lot 3 <sup>(t)</sup>		2011	Lockheed Martin / Camden, AR	SS / FFP	MDA, Huntsville, AL	Jul 2012	May 2014	6	9.130	Y		Aug 2011
Launcher - Lot 2 <sup>(t)</sup>		2011	Lockheed Martin / Camden, AR	SS / FFP	MDA, Huntsville, AL	May 2011	Oct 2013	6	9.130	Y		Oct 2009
Launcher - Lot 4 <sup>(t)</sup>		2012	Lockheed Martin / Camden, AR	SS / FFP	MDA, Huntsville, AL	Jul 2012	Nov 2014	6	7.490	Y		Aug 2011
Launcher - Lot 6 <sup>(t)</sup>		2014	Lockheed Martin / Camden, AR	SS / FFP	MDA, Huntsville, AL	Aug 2014	Mar 2016	12	9.050	Y		Jun 2013
TFCC Tactical Station Group - Lot 2 <sup>(t)</sup>		2011	Lockheed Martin / Camden, AR	SS / FFP	MDA, Huntsville, AL	Mar 2011	May 2013	4	10.100	Y		Oct 2009
TFCC Tactical Station Group - Lot 3 <sup>(t)</sup>		2011	Lockheed Martin / Camden, AR	SS / FFP	MDA, Huntsville, AL	Jul 2012	Aug 2014	2	10.100	Y		Aug 2011
TFCC Tactical Station Group - Lot 4 <sup>(t)</sup>		2012	Lockheed Martin / Camden, AR	SS / FFP	MDA, Huntsville, AL	Jul 2012	Oct 2014	2	9.260	Y		Aug 2011

<sup>(t)</sup> indicates the presence of a P-21

**Remarks:**

- Lot 3 Interceptors were removed due to a Congressional Mark in FY 2011; - Lot numbers relate to groupings in fiscal years and no Launcher or Tactical Fire Control and Communication (TFCC) Tactical Station Groups (TSGs) were scheduled for procurement in FY 2013, therefore Lot 5 is an interceptor only Lot; - Delivery of Battery 3 completed in FY 2013; - Delivery of Battery 4 completes in FY 2014; - Delivery of Battery 5 completes in FY 2015; - Delivery of Battery 6 completes in FY 2016; - Delivery of Battery 7 completes in FY 2017; - Concurrent with the FY 2012-FY 2014 U.S. procurements, MDA THAAD is executing a Foreign Military Sales (FMS) Case for two (2) Batteries and 192 Interceptors. The magnitude of the USG and FMS combined buy reduced the unit price. FY 2016 is planned as a standalone procurement of a significantly lower quantity resulting in an interceptor unit price increase.

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<b>Exhibit P-21, Production Schedule:</b> PB 2016 Missile Defense Agency	<b>Date:</b> February 2015
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<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17	<b>P-1 Line Item Number / Title:</b> MD07 / THAAD	<b>Item Number / Title [DODIC]:</b> - / THAAD
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Cost Elements <i>(Units in Each)</i>						Fiscal Year 2011													Fiscal Year 2012																		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2010	BAL DUE AS OF 1 OCT	Calendar Year 2011													Calendar Year 2012																	
							O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	B						
							C	V	E	A	E	A	P	A	U	U	U	P	T	V	E	A	P	A	U	U	U	P	A	L							
Interceptor - Lot 1																																					
1	2010	MDA	26	-	26												A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	25		
Interceptor - Lot 2																																					
2	2011	MDA	22	-	22												A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22		
Interceptor - Lot 4																																					
3	2012	MDA	46	-	46																														46		
Interceptor - Lot 5																																					
4	2013	MDA	34	-	34																														34		
Interceptor - Lot 6																																					
5	2014	MDA	27	-	27																														27		
Interceptor - Lot 7																																					
6	2015	MDA	31	-	31																														31		
Interceptor - Lot 8																																					
7	2016	MDA	30	-	30																														30		
Launcher - Lot 1																																					
8	2010	MDA	6	-	6												A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6		
Launcher - Lot 3																																					
9	2011	MDA	6	-	6																											A -	-	-	6		
Launcher - Lot 2																																					
10	2011	MDA	6	-	6												A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6		
Launcher - Lot 4																																					
11	2012	MDA	6	-	6																											A -	-	-	6		
Launcher - Lot 6																																					
12	2014	MDA	12	-	12																														12		
TFCC Tactical Station Group - Lot 2																																					
13	2011	MDA	4	-	4												A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4		
TFCC Tactical Station Group - Lot 3																																					
14	2011	MDA	2	-	2																											A -	-	-	2		
TFCC Tactical Station Group - Lot 4																																					
15	2012	MDA	2	-	2																												A -	-	-	2	
							O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	B						
							C	V	E	A	E	A	P	A	U	U	U	P	T	V	E	A	P	A	U	U	U	P	A	L	L	L	L	L	L	L	L



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**Exhibit P-21, Production Schedule:** PB 2016 Missile Defense Agency **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17	<b>P-1 Line Item Number / Title:</b> MD07 / THAAD	<b>Item Number / Title [DODIC]:</b> - / THAAD
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Cost Elements <i>(Units in Each)</i>					Fiscal Year 2013													Fiscal Year 2014																			
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 2	BAL D U E A S O F 1 O C T	Calendar Year 2013													Calendar Year 2014																	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L						
Interceptor - Lot 1																																					
1		2010	MDA	26	1	25	-	-	-	-	-	-	3	6	6	7	3																			-	
Interceptor - Lot 2																																					
2		2011	MDA	22	-	22	-	-	-	-	-	-	-	-	-	-	4	4	4	3	3	3	-	-	-	-	1										-
Interceptor - Lot 4																																					
3		2012	MDA	46	-	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46		
Interceptor - Lot 5																																					
4		2013	MDA	34	-	34																													34		
Interceptor - Lot 6																																					
5		2014	MDA	27	-	27																													27		
Interceptor - Lot 7																																					
6		2015	MDA	31	-	31																													31		
Interceptor - Lot 8																																					
7		2016	MDA	30	-	30																													30		
Launcher - Lot 1																																					
8		2010	MDA	6	-	6	-	-	-	-	-	-	1	2	-	-	3																			-	
Launcher - Lot 3																																					
9		2011	MDA	6	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1			
Launcher - Lot 2																																					
10		2011	MDA	6	-	6	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1										-		
Launcher - Lot 4																																					
11		2012	MDA	6	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6			
Launcher - Lot 6																																					
12		2014	MDA	12	-	12																													12		
TFCC Tactical Station Group - Lot 2																																					
13		2011	MDA	4	-	4	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	2														-	
TFCC Tactical Station Group - Lot 3																																					
14		2011	MDA	2	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-			
TFCC Tactical Station Group - Lot 4																																					
15		2012	MDA	2	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L						

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**Exhibit P-21, Production Schedule:** PB 2016 Missile Defense Agency **Date:** February 2015

**Appropriation / Budget Activity / Budget Sub Activity:** 0300D / 01 / 17 **P-1 Line Item Number / Title:** MD07 / THAAD **Item Number / Title [DODIC]:** - / THAAD

Cost Elements <i>(Units in Each)</i>					Fiscal Year 2015													Fiscal Year 2016														
O C C #	M F R FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 4	BAL D U E A S O F 1 O C T	Calendar Year 2015													Calendar Year 2016													
						O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L		
Interceptor - Lot 1																																
1	2010	MDA	26	26	-																											
Interceptor - Lot 2																																
2	2011	MDA	22	22	-																											
Interceptor - Lot 4																																
3	2012	MDA	46	-	46	-	-	-	-	-	-	-	-	3	-	1	5	4	4	4	4	4	4	4	4	4	4	1				
Interceptor - Lot 5																																
4	2013	MDA	34	-	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	4	4		23	
Interceptor - Lot 6																																
5	2014	MDA	27	-	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		27
Interceptor - Lot 7																																
6	2015	MDA	31	-	31									A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		31
Interceptor - Lot 8																																
7	2016	MDA	30	-	30																											30
Launcher - Lot 1																																
8	2010	MDA	6	6	-																											
Launcher - Lot 3																																
9	2011	MDA	6	5	1	1																										
Launcher - Lot 2																																
10	2011	MDA	6	6	-																											
Launcher - Lot 4																																
11	2012	MDA	6	-	6	-	1	1	1	1	1	1																				
Launcher - Lot 6																																
12	2014	MDA	12	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	1	1	1	2	1			2
TFCC Tactical Station Group - Lot 2																																
13	2011	MDA	4	4	-																											
TFCC Tactical Station Group - Lot 3																																
14	2011	MDA	2	2	-																											
TFCC Tactical Station Group - Lot 4																																
15	2012	MDA	2	-	2	1	1																									
						O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L		



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**Exhibit P-21, Production Schedule:** PB 2016 Missile Defense Agency **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17	<b>P-1 Line Item Number / Title:</b> MD07 / THAAD	<b>Item Number / Title [DODIC]:</b> - / THAAD
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Cost Elements <i>(Units in Each)</i>					Fiscal Year 2019													Fiscal Year 2020													
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 8	BAL D U E A S O F 1 O C T	Calendar Year 2019													Calendar Year 2020											
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L
Interceptor - Lot 1																															
1		2010	MDA	26	26	-																									
Interceptor - Lot 2																															
2		2011	MDA	22	22	-																									
Interceptor - Lot 4																															
3		2012	MDA	46	46	-																									
Interceptor - Lot 5																															
4		2013	MDA	34	34	-																									
Interceptor - Lot 6																															
5		2014	MDA	27	27	-																									
Interceptor - Lot 7																															
6		2015	MDA	31	31	-																									
Interceptor - Lot 8																															
7		2016	MDA	30	12	18	3	3	3	3	3	3																			
Launcher - Lot 1																															
8		2010	MDA	6	6	-																									
Launcher - Lot 3																															
9		2011	MDA	6	6	-																									
Launcher - Lot 2																															
10		2011	MDA	6	6	-																									
Launcher - Lot 4																															
11		2012	MDA	6	6	-																									
Launcher - Lot 6																															
12		2014	MDA	12	12	-																									
TFCC Tactical Station Group - Lot 2																															
13		2011	MDA	4	4	-																									
TFCC Tactical Station Group - Lot 3																															
14		2011	MDA	2	2	-																									
TFCC Tactical Station Group - Lot 4																															
15		2012	MDA	2	2	-																									
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L

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<b>Exhibit P-21, Production Schedule:</b> PB 2016 Missile Defense Agency		<b>Date:</b> February 2015
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17		<b>P-1 Line Item Number / Title:</b> MD07 / THAAD
<b>Item Number / Title [DODIC]:</b> - / THAAD		

MFR Ref #	MFR Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2016	1-8-5 For 2016	MAX For 2016	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Mfg PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Mfg PLT	Total After Oct 1
1	Lockheed Martin - Troy, AL	1	4	7	6	6	16	22	6	4	27	31
2	Lockheed Martin - Troy, AL	1	4	5	6	6	28	34	6	4	27	31
3	Lockheed Martin - Troy, AL	1	4	5	6	11	27	38	6	4	27	31
4	Lockheed Martin - Troy, AL	1	4	5	6	12	31	43	6	4	27	31
5	Lockheed Martin - Troy, AL	1	4	5	6	3	37	40	6	4	27	31
6	Lockheed Martin - Troy, AL	1	4	5	6	6	31	37	6	4	27	31
7	Lockheed Martin - Troy, AL	1	4	4	6	3	27	30	6	-	27	27
8	Lockheed Martin - Camden, AR	1	1	3	6	8	23	31	6	4	21	25
9	Lockheed Martin - Camden, AR	1	1	2	6	10	22	32	6	4	21	25
10	Lockheed Martin - Camden, AR	1	1	2	6	8	29	37	6	4	21	25
11	Lockheed Martin - Camden, AR	1	1	2	6	10	28	38	6	3	21	24
12	Lockheed Martin - Camden, AR	1	1	2	6	6	22	28	6	4	21	25
13	Lockheed Martin - Camden, AR	1	2	2	6	6	26	32	6	4	24	28
14	Lockheed Martin - Camden, AR	1	1	1	6	10	25	35	6	4	24	28
15	Lockheed Martin - Camden, AR	1	1	1	6	10	27	37	6	3	24	27

**Remarks:**

- Concurrent with the FY 2012 - FY 2014 U.S. procurements, the THAAD element is executing a Foreign Military Sales (FMS) Case for two (2) Batteries and 192 Interceptors. The magnitude of the U.S. and FMS combined buy procurement reduced the unit price. The FY 2016 procurement is planned to be a standalone purchase of a significantly lower quantity resulting in an interceptor unit price increase.
- Manufacturing lead times can vary due to factors such as managing multiple lot buys concurrently to achieve price discounts, increasing the lead time for the second awarded lot buy.
- A Lot 4 Interceptor mission computer static random access memory failure, root cause analysis, and corrective action resulted in a seven (7) month production delay from November 2014 to June 2015. Interceptor Lots 5, 6 and 7 are being delivered on an accelerated schedule to mitigate prior delays in interceptor deliveries.

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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**Exhibit P-40, Budget Line Item Justification:** PB 2016 Missile Defense Agency **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D: Procurement, Defense-Wide / BA 01: Major Equipment / BSA 17: Major Equipment, Missile Defense Agency	<b>P-1 Line Item Number / Title:</b> MD09 / AEGIS BMD
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B	<b>Program Elements for Code B Items:</b> 0603892C, 0604881C	<b>Other Related Program Elements:</b> 0604881C, 0603892C
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<b>Line Item MDAP/MAIS Code:</b> 362	<b>Item MDAP/MAIS Code(s):</b>
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Resource Summary	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	102	52	49	40	-	40	60	65	71	76	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	1,452.604	580.814	643.810	558.916	-	558.916	897.723	1,031.367	1,239.619	1,175.375	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	61.047	71.896	87.290	78.744	Continuing	Continuing
Net Procurement (P1) ( <i>\$ in Millions</i> )	1,452.604	580.814	643.810	558.916	-	558.916	836.676	959.471	1,152.329	1,096.631	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	147.765	-	147.765	51.716	20.752	78.744	198.238	Continuing	Continuing
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>1,452.604</b>	<b>580.814</b>	<b>643.810</b>	<b>706.681</b>	<b>-</b>	<b>706.681</b>	<b>888.392</b>	<b>980.223</b>	<b>1,231.073</b>	<b>1,294.869</b>	<b>Continuing</b>	<b>Continuing</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Millions</i> )	12.509	10.236	11.639	9.736	-	9.736	9.453	9.500	9.567	9.749	Continuing	Continuing
Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> )	14.241	11.170	13.139	13.973	-	13.973	14.962	15.867	17.459	15.465	Continuing	Continuing

**Description:**

Note: Prior Year procurement quantity of 102 includes 55 Standard Missile 3 (SM-3) Block IAs and 47 SM-3 Block IBs. Flyaway costs are for the SM-3 Block IB missile only. Net Procurement and Gross/Weapon System costs include all hardware and support costs. Advance Procurement is for the SM-3 Block IB missiles only.

The Standard Missile (SM)-3 Block IB incorporates a two-color, all reflective infrared seeker that enables longer range acquisition and increased threat discrimination. A Throttleable Divert Attitude Control System (TDACS) will provide a more flexible and lower cost alternative to the Solid Divert Attitude Control System (SDACS). Initial production of the SM-3 Block IB began in FY 2012 (quantity of 14), with a larger rate production procured in FY 2013 (quantity of 33), and an increased production quantity in FY 2014 (quantity of 52). In order to provide long term cost savings to the government as well as maintain perpetual procurement quantities of 52 missiles per year, Advanced Procurement for material using a Multiyear Procurement (FY 2016 - FY 2019) Economic Order Quantity (EOQ) buy is utilized starting in FY 2016.

The Standard Missile (SM)-3 Block IIA incorporates a 21 inch diameter rocket motor propulsion stack, double seeker sensitivity, and a more robust advance Kinetic Warhead (KW). The SM-3 Block IIA will increase the area that can be defended by Aegis Ballistic Missile Defense (BMD) and increase the probability of kill against a larger threat set. Procurement of eight (8) SM-3 Block IIAs begins in FY 2017.

For FY 2016:

Missiles:

The FY 2016 request procures 40 SM-3 Block IBs, 41 SM-3 Block IB Canisters, Diminishing Manufacturing Sources Mitigation (DMSM), SM-3 Block IB Production Engineering, and 16 Ballistic Barriers for SM-3 Block IB transportation that are all necessary to full production of the SM-3 Block IB Missile.

Procure quantity of 40 SM-3 Block IBs, as well as, provide a total of \$147.765 million for future buys (FY 2017 thru FY 2019) to utilize Multiyear Procurement (MYP) authority reducing out-year production costs to provide identified cost efficiencies through Economic Order Quantity (EOQ) buys. These items include, but are not limited to, components such as the MK104 Dual Thrust Rocket Motors, MK72 Boosters, Integrated Dewar Assemblies, Circuit Card Assemblies, Third Stage Rocket Motors (TSRM), Throtteable Divert Attitude Control System (TDACS), Nosecone Assemblies, Kinetic Warhead Guidance Units, and Guidance Section Assemblies. These Multiyear Procurement EOQ buys will result in an estimated long term cost savings of 14%.

The FY 2016 request also procures 41 SM-3 Block IB Canisters, Diminishing Manufacturing Sources Mitigation (DMSM), SM-3 Block IB Production Engineering, and 16 Ballistic Barriers for SM-3 Block IB transportation that are all necessary to full production of the SM-3 Block IB Missile.

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2016 Missile Defense Agency		<b>Date:</b> February 2015
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D: Procurement, Defense-Wide / BA 01: Major Equipment / BSA 17: Major Equipment, Missile Defense Agency		<b>P-1 Line Item Number / Title:</b> MD09 / AEGIS BMD
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B	<b>Program Elements for Code B Items:</b> 0603892C, 0604881C	<b>Other Related Program Elements:</b> 0604881C, 0603892C
<b>Line Item MDAP/MAIS Code:</b> 362	<b>Item MDAP/MAIS Code(s):</b>	
<p>FY 2016: Full funding for 40 SM-3 Block IBs for delivery beginning in FY 2018  FY 2017: Full funding for 52 SM-3 Block IBs for delivery in FY 2019, and 8 SM-3 Block IIAs for delivery in FY 2020  FY 2018: Full funding for 52 SM-3 Block IBs for delivery in FY 2020, and 13 SM-3 Block IIAs for delivery in FY 2021  FY 2019: Full funding for 52 SM-3 Block IBs for delivery in FY 2021, and 19 SM-3 Block IIAs for delivery in FY 2022  FY 2020: Full funding for 52 SM-3 Block IBs for delivery in FY 2022, and 24 SM-3 Block IIAs for delivery in FY 2023</p> <p>Shipsets:  A ship set consists of the procurement of cabinets, cabling, equipment, and other material required for the installation of the Aegis Ballistic Missile Defense baselines on a ship.  Upgrading the 3.6 and 4.0 ships to 4.1 adds capability and capacity in achieving the European Phased Adaptive Approach (EPAA), Phase II in CY 2015.  Upgrading the 5.x ships to 5.1 adds capability and capacity in achieving the European Phased Adaptive Approach (EPAA), Phase III in CY 2018.</p> <p>The FY 2016 request procures 2 Aegis BMD 3.6 to 4.x Hardware Shipsets, 11 Aegis BMD 5.0CU to 5.1 Hardware Shipsets, 2 Aegis BMD 9.c.2 (5.x) Hardware Shipsets as well as 2 Aegis BMD 3.6 to 4.x Installs, 1 Aegis BMD 9.c.1 (5.0CU) Install, 2 Aegis BMD 9.c.2 (5.x) Installs, and 6 Aegis BMD 4.0 to 4.1 Software Installs that are all necessary to align with the Navy Modernization schedule.</p>		



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**Exhibit P-40, Budget Line Item Justification:** PB 2016 Missile Defense Agency **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D: Procurement, Defense-Wide / BA 01: Major Equipment / BSA 17: Major Equipment, Missile Defense Agency	<b>P-1 Line Item Number / Title:</b> MD09 / AEGIS BMD
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**ID Code** (A=Service Ready, B=Not Service Ready) : B **Program Elements for Code B Items:** 0603892C, 0604881C **Other Related Program Elements:** 0604881C, 0603892C

**Line Item MDAP/MAIS Code:** 362 **Item MDAP/MAIS Code(s):**

Exhibits Schedule			Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title*	Exhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
Aegis BMD	P-5, P-5a, P-21	B	102 / 1,452.604	52 / 580.814	49 / 643.810	40 / 558.916	- / -	40 / 558.916
<b>Total Gross/Weapon System Cost</b>			<b>102 / 1,452.604</b>	<b>52 / 580.814</b>	<b>49 / 643.810</b>	<b>40 / 558.916</b>	<b>- / -</b>	<b>40 / 558.916</b>

Exhibits Schedule			FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Title*	Exhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
Aegis BMD	P-5, P-5a, P-21	B	60 / 897.723	65 / 1,031.367	71 / 1,239.619	76 / 1,175.375	Continuing	Continuing
<b>Total Gross/Weapon System Cost</b>			<b>60 / 897.723</b>	<b>65 / 1,031.367</b>	<b>71 / 1,239.619</b>	<b>76 / 1,175.375</b>	<b>Continuing</b>	<b>Continuing</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or add due to rounding.

**Justification:**

**Missiles:**

FY 2016 Flyaway Cost consists of 40 SM-3 Block IBs for \$389.433 million  
 FY 2017 Flyaway Cost consists of 52 SM-3 Block IBs for \$491.577 million and 8 SM-3 Block IIAs for \$203.358 million  
 FY 2018 Flyaway Cost consists of 52 SM-3 Block IBs for \$493.989 million and 13 SM-3 Block IIAs for \$306.059 million  
 FY 2019 Flyaway Cost consists of 52 SM-3 Block IBs for \$497.496 million and 19 SM-3 Block IIAs for \$442.035 million  
 FY 2020 Flyaway Cost consists of 52 SM-3 Block IBs for \$506.949 million and 24 SM-3 Block IIAs for \$496.167 million

**Shipset Procurements:**

FY 2016: BMD 3.6 to 4.x Hardware Procurements (2 shipsets)  
 BMD 9C.2 (5.x) Hardware Procurements (2 shipsets)  
 BMD 5.0CU to 5.1 Hardware Procurements (11 shipsets)

FY 2017: BMD 3.6 to 4.x Hardware Procurements (3 shipsets)  
 BMD 9C.2 (5.x) Hardware Procurements (2 shipsets)

FY 2018: BMD 3.6 to 4.x Hardware Procurements (1 shipsets)  
 BMD 9C.2 (5.x) Hardware Procurements (3 shipsets)

FY 2019: BMD 3.6 to 4.x Hardware Procurements (4 shipsets)  
 BMD 9C.2 (5.x) Hardware Procurements (3 shipsets)

FY 2020: BMD 9C.2 (5.x) Hardware Procurements (3 shipsets)

**Shipset Installs:**

FY 2016: BMD 3.6 to 4.x Hardware Installs (2 shipsets)

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2016 Missile Defense Agency		<b>Date:</b> February 2015
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D: Procurement, Defense-Wide / BA 01: Major Equipment / BSA 17: Major Equipment, Missile Defense Agency		<b>P-1 Line Item Number / Title:</b> MD09 / AEGIS BMD
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B	<b>Program Elements for Code B Items:</b> 0603892C, 0604881C	<b>Other Related Program Elements:</b> 0604881C, 0603892C
<b>Line Item MDAP/MAIS Code:</b> 362	<b>Item MDAP/MAIS Code(s):</b>	
BMD 9.C1 (5.0CU) Installs (1 shipsets)		
FY 2017: BMD 3.6 to 4.x Hardware Installs (1 shipsets) BMD 9.C1 (5.0CU) Installs (3 shipsets)		
FY 2018: BMD 3.6 to 4.x Hardware Installs (2 shipsets) BMD 9C.2 (5.x) Hardware Installs (2 shipsets) BMD 5.0CU to 5.1 Hardware Installs (11 shipsets)		
FY 2019: BMD 3.6 to 4.x Hardware Installs (3 shipsets) BMD 9C.2 (5.x) Hardware Installs (2 shipsets)		
FY 2020: BMD 3.6 to 4.x Hardware Installs (1 shipsets) BMD 9C.2 (5.x) Hardware Installs (3 shipsets)		
Software Installs:		
FY 2016: Aegis BMD 4.0 to 4.1 Software Installs (6)		
FY 2017: Aegis BMD 4.0 to 4.1 Software Installs (4)		

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<b>Exhibit P-5, Cost Analysis: PB 2016 Missile Defense Agency</b>								<b>Date:</b> February 2015			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17				<b>P-1 Line Item Number / Title:</b> MD09 / AEGIS BMD				<b>Item Number / Title [DODIC]:</b> - / Aegis BMD			

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B						<b>MDAP/MAIS Code:</b>					
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Resource Summary	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	102	52	49	40	-	40	60	65	71	76	Continuing	Continuing
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	1,452.604	580.814	643.810	558.916	-	558.916	897.723	1,031.367	1,239.619	1,175.375	Continuing	Continuing
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	61.047	71.896	87.290	78.744	Continuing	Continuing
Net Procurement (P1) ( <i>\$ in Millions</i> )	1,452.604	580.814	643.810	558.916	-	558.916	836.676	959.471	1,152.329	1,096.631	Continuing	Continuing
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	147.765	-	147.765	51.716	20.752	78.744	198.238	Continuing	Continuing
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>1,452.604</b>	<b>580.814</b>	<b>643.810</b>	<b>706.681</b>	<b>-</b>	<b>706.681</b>	<b>888.392</b>	<b>980.223</b>	<b>1,231.073</b>	<b>1,294.869</b>	<b>Continuing</b>	<b>Continuing</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> )	14.241	11.170	13.139	13.973	-	13.973	14.962	15.867	17.459	15.465	Continuing	Continuing

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or add, due to rounding.

Cost Elements	Prior Years			FY 2014			FY 2015			FY 2016 Base			FY 2016 OCO			FY 2016 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)

Flyaway Cost																		
Recurring Cost																		
SM-3 Block IA Procurement <sup>(†)</sup>	13.941	55	766.765	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SM-3 Block IB Procurement <sup>(†)</sup>	12.509	47	587.900	10.236	52	532.260	11.639	49	570.319	9.736	40	389.433	-	-	-	9.736	40	389.433
SM-3 Block IIA Procurement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	1,354.665	-	-	532.260	-	-	570.319	-	-	389.433	-	-	-	-	-	389.433
<i>Subtotal: Flyaway Cost</i>	-	-	1,354.665	-	-	532.260	-	-	570.319	-	-	389.433	-	-	-	-	-	389.433

Hardware Cost

Recurring Cost																		
Aegis BMD 3.6 to 4.x Hardware Procurements	-	-	-	-	-	-	17.500	1	17.500	18.800	2	37.600	-	-	-	18.800	2	37.600
Aegis BMD 3.6 to 4.x Installs	-	-	-	-	-	-	-	-	-	18.800	2	37.600	-	-	-	18.800	2	37.600
Aegis BMD 5.0CU to 5.1 Hardware and Installs	-	-	-	-	-	-	-	-	-	2.009	11	22.097	-	-	-	2.009	11	22.097
Aegis BMD 9.C1 (5.0CU) Hardware Procurements	-	-	-	-	-	-	4.500	3	13.500	-	-	-	-	-	-	-	-	-

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**Exhibit P-5, Cost Analysis: PB 2016 Missile Defense Agency** **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17	<b>P-1 Line Item Number / Title:</b> MD09 / AEGIS BMD	<b>Item Number / Title [DODIC]:</b> - / Aegis BMD
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**ID Code** (A=Service Ready, B=Not Service Ready) : B **MDAP/MAIS Code:**

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or add, due to rounding.

Cost Elements	Prior Years			FY 2014			FY 2015			FY 2016 Base			FY 2016 OCO			FY 2016 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Aegis BMD 9.C1 (5.0CU) Installs	-	-	-	-	-	-	1.400	3	4.200	1.400	1	1.400	-	-	-	1.400	1	1.400
Aegis BMD 9C.2 (5.x) Hardware and Installs	-	-	-	-	-	-	2.408	1	2.408	4.502	2	9.003	-	-	-	4.502	2	9.003
Ballistic Barriers for Transportation SM-3 BLK IB/IIA	-	-	-	-	-	-	-	-	-	0.259	16	4.146	-	-	-	0.259	16	4.146
Canisters Procurement SM-3 Block IA/IB	0.242	58	14.018	0.223	52	11.590	0.285	50	14.250	0.285	41	11.687	-	-	-	0.285	41	11.687
Canisters Procurement SM-3 Block IIA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	14.018	-	-	11.590	-	-	51.858	-	-	123.533	-	-	-	-	-	123.533
<i>Subtotal: Hardware Cost</i>	-	-	14.018	-	-	11.590	-	-	51.858	-	-	123.533	-	-	-	-	-	123.533
<b>Software Cost</b>																		
<b>Recurring Cost</b>																		
Aegis BMD 3.6.1 Software and Installs	11.250	2	22.500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aegis BMD 4.0 to 4.1 Software Installs	-	-	-	-	-	-	-	-	-	0.533	6	3.200	-	-	-	0.533	6	3.200
<i>Subtotal: Recurring Cost</i>	-	-	22.500	-	-	-	-	-	-	-	-	3.200	-	-	-	-	-	3.200
<i>Subtotal: Software Cost</i>	-	-	22.500	-	-	-	-	-	-	-	-	3.200	-	-	-	-	-	3.200
<b>Support Cost</b>																		
Diminishing Manufacturing Sources Mitigation	-	-	-	-	-	-	-	-	-	5.300	1	5.300	-	-	-	5.300	1	5.300
SM-3 BLK IB Service Life Evaluation Program	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SM-3 BLK IIA Service Life Evaluation Program	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SM-3 Block IB Production Engineering	30.711	2	61.421	36.964	1	36.964	21.633	1	21.633	37.450	1	37.450	-	-	-	37.450	1	37.450
SM-3 Block IIA Production Engineering	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support Cost</i>	-	-	61.421	-	-	36.964	-	-	21.633	-	-	42.750	-	-	-	-	-	42.750
<b>Gross/Weapon System Cost</b>	<b>14.241</b>	<b>102</b>	<b>1,452.604</b>	<b>11.170</b>	<b>52</b>	<b>580.814</b>	<b>13.139</b>	<b>49</b>	<b>643.810</b>	<b>13.973</b>	<b>40</b>	<b>558.916</b>	-	-	-	<b>13.973</b>	<b>40</b>	<b>558.916</b>

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Exhibit P-5, Cost Analysis: PB 2016 Missile Defense Agency													Date: February 2015					
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17						P-1 Line Item Number / Title: MD09 / AEGIS BMD						Item Number / Title [DODIC]: - / Aegis BMD						
ID Code (A=Service Ready, B=Not Service Ready) : B										MDAP/MAIS Code:								
Cost Elements	FY 2017			FY 2018			FY 2019			FY 2020			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
SM-3 Block IA Procurement <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.941	55	766.765
SM-3 Block IB Procurement <sup>(†)</sup>	9.453	52	491.577	9.500	52	493.989	9.567	52	497.496	9.749	52	506.949	Continuing			Continuing		
SM-3 Block IIA Procurement	25.420	8	203.358	23.543	13	306.059	23.265	19	442.035	20.674	24	496.167	Continuing			Continuing		
<i>Subtotal: Recurring Cost</i>	-	-	694.935	-	-	800.048	-	-	939.531	-	-	1,003.116	Continuing			Continuing		
<i>Subtotal: Flyaway Cost</i>	-	-	694.935	-	-	800.048	-	-	939.531	-	-	1,003.116	Continuing			Continuing		
Hardware Cost																		
Recurring Cost																		
Aegis BMD 3.6 to 4.x Hardware Procurements	20.800	3	62.400	21.600	1	21.600	22.720	4	90.880	-	-	-	Continuing			Continuing		
Aegis BMD 3.6 to 4.x Installs	20.500	1	20.500	20.900	2	41.800	22.207	3	66.620	21.000	1	21.000	Continuing			Continuing		
Aegis BMD 5.0CU to 5.1 Hardware and Installs	-	-	-	2.750	11	30.250	-	-	-	-	-	-	-	-	-	2.379	22	52.347
Aegis BMD 9.C1 (5.0CU) Hardware Procurements	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.500	3	13.500
Aegis BMD 9.C1 (5.0CU) Installs	1.467	3	4.400	-	-	-	-	-	-	-	-	-	-	-	1.429	7	10.000	
Aegis BMD 9C.2 (5.x) Hardware and Installs	4.700	2	9.400	7.028	5	35.140	5.500	5	27.500	3.483	6	20.900	Continuing			Continuing		
Ballistic Barriers for Transportation SM-3 BLK IB/IIA	0.657	12	7.881	-	-	-	-	-	-	-	-	-	-	-	0.430	28	12.027	
Canisters Procurement SM-3 Block IA/IB	0.285	53	15.084	0.289	53	15.340	0.294	53	15.601	0.302	53	16.003	Continuing			Continuing		
Canisters Procurement SM-3 Block IIA	0.569	8	4.555	0.555	13	7.213	0.544	19	10.332	0.536	24	12.873	Continuing			Continuing		
<i>Subtotal: Recurring Cost</i>	-	-	124.220	-	-	151.343	-	-	210.933	-	-	70.776	Continuing			Continuing		
<i>Subtotal: Hardware Cost</i>	-	-	124.220	-	-	151.343	-	-	210.933	-	-	70.776	Continuing			Continuing		
Software Cost																		
Recurring Cost																		

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<b>Exhibit P-5, Cost Analysis: PB 2016 Missile Defense Agency</b>													<b>Date:</b> February 2015					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17							<b>P-1 Line Item Number / Title:</b> MD09 / AEGIS BMD						<b>Item Number / Title [DODIC]:</b> - / Aegis BMD					

**ID Code** (A=Service Ready, B=Not Service Ready) : B **MDAP/MAIS Code:**

Cost Elements	FY 2017			FY 2018			FY 2019			FY 2020			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Aegis BMD 3.6.1 Software and Installs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.250	2	22.500
Aegis BMD 4.0 to 4.1 Software Installs	0.525	4	2.100	-	-	-	-	-	-	-	-	-	-	-	-	0.530	10	5.300
<i>Subtotal: Recurring Cost</i>	-	-	2.100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.800
<i>Subtotal: Software Cost</i>	-	-	2.100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.800
<b>Support Cost</b>																		
Diminishing Manufacturing Sources Mitigation	4.900	1	4.900	4.700	1	4.700	4.300	1	4.300	4.100	1	4.100	Continuing			Continuing		
SM-3 BLK IB Service Life Evaluation Program	10.435	1	10.435	10.793	1	10.793	11.163	1	11.163	11.597	1	11.597	Continuing			Continuing		
SM-3 BLK IIA Service Life Evaluation Program	-	-	-	-	-	-	-	-	-	6.299	1	6.299	Continuing			Continuing		
SM-3 Block IB Production Engineering	42.729	1	42.729	42.300	1	42.300	39.270	1	39.270	38.087	1	38.087	Continuing			Continuing		
SM-3 Block IIA Production Engineering	18.404	1	18.404	22.183	1	22.183	34.422	1	34.422	41.400	1	41.400	Continuing			Continuing		
<i>Subtotal: Support Cost</i>	-	-	76.468	-	-	79.976	-	-	89.155	-	-	101.483	Continuing			Continuing		
<b>Gross/Weapon System Cost</b>	<b>14.962</b>	<b>60</b>	<b>897.723</b>	<b>15.867</b>	<b>65</b>	<b>1,031.367</b>	<b>17.459</b>	<b>71</b>	<b>1,239.619</b>	<b>15.465</b>	<b>76</b>	<b>1,175.375</b>	<b>Continuing</b>			<b>Continuing</b>		

**Remarks:**

SM-3 Block IB flyaway costs are dependent on number of units procured and the execution of Advanced Procurement for Multiyear Procurement Economic Order Quantity (EOQ) funding.

BMD 3.6 to 4.x Hardware and Installs: Quantities for procurement of hardware and installations attempt to align with Navy Modernization Plans available at the time of MDA budget planning.

FY 2016: Costs include two (2) procurements and two (2) installations.

FY 2017: Costs include three (3) procurements and one (1) installation.

FY 2018: Costs include one (1) procurement and two (2) installations.

FY 2019: Costs include four (4) procurements and three (3) installations.

FY 2020: Cost includes one (1) installation.

BMD 5.0CU to 5.1 Hardware and Installs: All hardware (11 units) will be procured in FY 2016. All procured units planned to be installed in FY 2018, pending Ship and Aegis Ashore site availability, to meet European Phased Adaptive Approach (EPAA) Phase III.

BMD 9.C1 (5.0CU) Procurement/Installs:

FY 2016: One installation of BMD 5.0CU

FY 2017: Three installations of BMD 5.0CU which include backfit and technical refresh of early BMD 5.0 ships installed in FY 2012 - FY2014

Aegis BMD 9C.2 (5.x) Hardware and Installs:

FY 2016: Costs include two (2) procurements.

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<b>Exhibit P-5, Cost Analysis:</b> PB 2016 Missile Defense Agency		<b>Date:</b> February 2015
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17	<b>P-1 Line Item Number / Title:</b> MD09 / AEGIS BMD	<b>Item Number / Title [DODIC]:</b> - / Aegis BMD
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B		<b>MDAP/MAIS Code:</b>
<p>FY 2017: Costs include two (2) procurements.  FY 2018: Costs include three (3) procurements and two (2) installations.  FY 2019: Costs include three (3) procurements and two (2) installations.  FY 2020: Costs include three (3) procurements and three (3) installations.</p> <p>SM-3 BLK IB/IIA Ballistic Barriers: Required costs dictated by Joint Service Insensitive Munitions Technical Panel (JSIMTP) and Naval Ordnance Safety and Security Activity (NOSSA) to transport missiles.  FY 2016: Costs include 16 Ballistic Barriers  FY 2017: Costs include 12 Ballistic Barriers</p> <p>Diminishing Manufacturing Sources Mitigation (DMSM) allows Aegis Ballistic Missile Defense to mitigate the loss, or impending loss, of manufacturers of items or suppliers of items or of raw materials caused by several factors including new or evolving science, detection limits, toxicity values, and regulations related to chemicals and materials resulting in significant impact on the supply chain and industrial base. This situation may cause shortages that endanger the life cycle support and capability of the weapon system or equipment. These issues often affect combat operations and safety.</p> <p>Production Engineering Support includes labor and material to support the production of SM-3 guided missiles. This includes obsolescence mitigation, ordnance assessment, new vendor qualification, configuration management, quality assurance, quality control, and test equipment maintenance. Production Engineering further covers applying design and analysis to produce a specified product as well as planning, specifying, and coordinating the application of required resources: analyzing producibility and production operations, processes, and systems.</p> <p>(t) indicates the presence of a P-5a</p>		

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**Exhibit P-5a, Procurement History and Planning: PB 2016 Missile Defense Agency** **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17	<b>P-1 Line Item Number / Title:</b> MD09 / AEGIS BMD	<b>Item Number / Title [DODIC]:</b> - / Aegis BMD
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ M)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
SM-3 Block IA Procurement <sup>(†)</sup>		2011	Raytheon / Tucson, AZ	C / CPIF	Dahlgren, VA	Sep 2011	Oct 2013	23	10.310	Y		Nov 2010
SM-3 Block IA Procurement <sup>(†)</sup>		2012	Raytheon / Tucson, AZ	C / CPIF	Dahlgren, VA	Aug 2012	Jul 2014	14	11.140	Y		Aug 2011
SM-3 Block IB Procurement <sup>(†)</sup>		2012	Raytheon / Tucson, AZ	C / CPIF	Dahlgren, VA	May 2012	Dec 2013	14	13.400	Y		Aug 2011
SM-3 Block IB Procurement <sup>(†)</sup>		2013	Raytheon / Tucson, AZ	C / CPIF	Dahlgren, VA	Jun 2013	Sep 2014	33	12.130	Y		Aug 2012
SM-3 Block IB Procurement <sup>(†)</sup>		2014	Raytheon / Tucson, AZ	C / CPIF	Dahlgren, VA	Apr 2014	Jan 2016	52	10.236	Y		Aug 2013
SM-3 Block IB Procurement <sup>(†)</sup>		2015	Raytheon / Tucson, AZ	SS / FP	Dahlgren, VA	Mar 2015	Apr 2017	49	11.639	Y		Aug 2014
SM-3 Block IB Procurement <sup>(†)</sup>		2016	Raytheon / Tucson, AZ	SS / FP	Dahlgren, VA	Mar 2016	Jul 2018	40	9.736	Y		Aug 2015
<b>Advance Procurement</b>												
AEGIS FY20 Long Lead Items		2019	Raytheon / Tucson, AZ	SS / FP	Dahlgren, VA	Feb 2019	Jul 2021	1	78.744	Y		Jun 2018
AEGIS MYP FY18		2016	Raytheon / Tucson, AZ	SS / FP	Dahlgren, VA	Feb 2016	Feb 2018	1	48.411	Y		Oct 2015
AEGIS MYP FY19		2016	Raytheon / Tucson, AZ	SS / FP	Dahlgren, VA	Feb 2016	Feb 2019	1	38.307	Y		Oct 2015
AEGIS MYP FY17		2016	Raytheon / Tucson, AZ	SS / FP	Dahlgren, VA	Feb 2016	Feb 2018	1	61.047	Y		Feb 2015

<sup>(†)</sup> indicates the presence of a P-21





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**Exhibit P-21, Production Schedule:** PB 2016 Missile Defense Agency **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17	<b>P-1 Line Item Number / Title:</b> MD09 / AEGIS BMD	<b>Item Number / Title [DODIC]:</b> - / Aegis BMD
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Cost Elements <i>(Units in Each)</i>					Fiscal Year 2013													Fiscal Year 2014																	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2012	BAL DUE AS OF 1 OCT	Calendar Year 2013													Calendar Year 2014															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L				
SM-3 Block IA Procurement																																			
Prior Years Deliveries: 18																																			
	1	2011	MDA	23	-	23	-	-	-	-	-	-	-	-	-	-	-	-	5	3	2	2	4	4	3										
	2	2012	MDA	14	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3			8
SM-3 Block IB Procurement																																			
	3	2012	MDA	14	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	2	3	1	2	2								
	3	2013	MDA	33	-	33								A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	29	
	3	2014	MDA	52	-	52																													52
	3	2015	MDA	49	-	49																													49
	3	2016	MDA	40	-	40																													40
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L				

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**Exhibit P-21, Production Schedule:** PB 2016 Missile Defense Agency **Date:** February 2015

**Appropriation / Budget Activity / Budget Sub Activity:** 0300D / 01 / 17 **P-1 Line Item Number / Title:** MD09 / AEGIS BMD **Item Number / Title [DODIC]:** - / Aegis BMD

Cost Elements <i>(Units in Each)</i>				Fiscal Year 2015														Fiscal Year 2016															
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2014	BAL DUE AS OF 1 OCT	Calendar Year 2015														Calendar Year 2016												B A L
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			
SM-3 Block IA Procurement																																	
Prior Years Deliveries: 18																																	
	1	2011	MDA	23	23	-																							-				
	2	2012	MDA	14	6	8	2	3	3																				-				
SM-3 Block IB Procurement																																	
	3	2012	MDA	14	14	-																							-				
	3	2013	MDA	33	4	29	3	3	3	-	-	-	1	2	2	2	2	3	3	2	3								-				
	3	2014	MDA	52	-	52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	5	4	4	5	4	4	5	13			
	3	2015	MDA	49	-	49							A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49				
	3	2016	MDA	40	-	40																							40				
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L		

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**Exhibit P-21, Production Schedule:** PB 2016 Missile Defense Agency **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17	<b>P-1 Line Item Number / Title:</b> MD09 / AEGIS BMD	<b>Item Number / Title [DODIC]:</b> - / Aegis BMD
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Cost Elements <i>(Units in Each)</i>					Fiscal Year 2017												Fiscal Year 2018														
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 6	BAL D U E A S O F 1 O C T	Calendar Year 2017												Calendar Year 2018												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L
SM-3 Block IA Procurement																															
Prior Years Deliveries: 18																															
	1	2011	MDA	23	23	-																									
	2	2012	MDA	14	14	-																									
SM-3 Block IB Procurement																															
	3	2012	MDA	14	14	-																									
	3	2013	MDA	33	33	-																									
	3	2014	MDA	52	39	13	4																								
	3	2015	MDA	49	-	49	-	-	-	-	-	-	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
	3	2016	MDA	40	-	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L

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**Exhibit P-21, Production Schedule:** PB 2016 Missile Defense Agency **Date:** February 2015

**Appropriation / Budget Activity / Budget Sub Activity:** 0300D / 01 / 17 **P-1 Line Item Number / Title:** MD09 / AEGIS BMD **Item Number / Title [DODIC]:** - / Aegis BMD

Cost Elements <i>(Units in Each)</i>					Fiscal Year 2019													Fiscal Year 2020																	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019													Calendar Year 2020															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L				
SM-3 Block IA Procurement																																			
Prior Years Deliveries: 18																																			
	1	2011	MDA	23	23	-																													
	2	2012	MDA	14	14	-																													
SM-3 Block IB Procurement																																			
	3	2012	MDA	14	14	-																													
	3	2013	MDA	33	33	-																													
	3	2014	MDA	52	52	-																													
	3	2015	MDA	49	49	-																													
	3	2016	MDA	40	10	30	4	3	3	4	3	3	4	3	3																				
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L				

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**Exhibit P-21, Production Schedule:** PB 2016 Missile Defense Agency **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17	<b>P-1 Line Item Number / Title:</b> MD09 / AEGIS BMD	<b>Item Number / Title [DODIC]:</b> - / Aegis BMD
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MFR Ref #	MFR Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2016	1-8-5 For 2016	MAX For 2016	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Mfg PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Mfg PLT	Total After Oct 1
1	Raytheon - Tucson, AZ	1	4	8	4	-	30	30	4	-	30	30
2	Raytheon - Tucson, AZ	1	4	8	4	1	24	25	4	-	24	24
3	Raytheon - Tucson, AZ	1	4	8	4	-	24	24	4	-	24	24

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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**Exhibit P-40, Advance Procurement Budget Line Item Justification:** PB 2016 Missile Defense Agency **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D: Procurement, Defense-Wide / BA 01: Major Equipment / BSA 17: Major Equipment, Missile Defense Agency	<b>P-1 Line Item Number / Title:</b> MD09 / AEGIS BMD
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<b>Program Elements for Code B Items:</b> 0603892C, 0604881C	<b>Other Related Program Elements:</b> 0604881C, 0603892C
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<b>Line Item MDAP/MAIS Code:</b> 362	<b>Item MDAP/MAIS Code(s):</b>
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Resource Summary	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	-	-	147.765	-	147.765	51.716	20.752	78.744	198.238	Continuing	Continuing
Net Procurement (P1) ( <i>\$ in Millions</i> )	-	-	-	147.765	-	147.765	51.716	20.752	78.744	198.238	Continuing	Continuing
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	-	-	-	<b>147.765</b>	-	<b>147.765</b>	<b>51.716</b>	<b>20.752</b>	<b>78.744</b>	<b>198.238</b>	<b>Continuing</b>	<b>Continuing</b>

**Description:**

FY 2016 Advance Procurement funding totaling of \$147.765 to procure the Standard Missile-3 (SM-3) Block IB following components:

Examples of Economic Orders include:

1. Third Stage Rocket Motors with estimated savings of 15% across Fiscal Year Defense Plan (FYDP).
  2. Throttleable Divert Attitude Control System with estimated savings of 16% across FYDP.
  3. Nosecone Assembly with estimated savings of 19% across FYDP.
  4. Kinetic Warhead Guidance Unit with estimated savings of 17% across FYDP.
  5. Guidance Section (Gravity Switch, Thermal Batteries) with estimated savings of 3% across FYDP.
- Any reduction or delay in approval of advanced procurement funding would result in significant cost increase and schedule delay to the SM-3 Block IB program.

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**Exhibit P-40, Advance Procurement Budget Line Item Justification:** PB 2016 Missile Defense Agency **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D: Procurement, Defense-Wide / BA 01: Major Equipment / BSA 17: Major Equipment, Missile Defense Agency	<b>P-1 Line Item Number / Title:</b> MD09 / AEGIS BMD
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<b>Program Elements for Code B Items:</b> 0603892C, 0604881C	<b>Other Related Program Elements:</b> 0604881C, 0603892C
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<b>Line Item MDAP/MAIS Code:</b> 362	<b>Item MDAP/MAIS Code(s):</b>
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Exhibits Schedule			Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title*	Exhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
/ Aegis BMD	P-10		- / -	- / -	- / -	- / 147.765	- / -	- / 147.765
<b>Total Gross/Weapon System Cost</b>			- / -	- / -	- / -	- / 147.765	- / -	- / 147.765

Exhibits Schedule			FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Title*	Exhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
/ Aegis BMD	P-10		- / 51.716	- / 20.752	- / 78.744	- / 198.238	Continuing	Continuing
<b>Total Gross/Weapon System Cost</b>			- / 51.716	- / 20.752	- / 78.744	- / 198.238	<b>Continuing</b>	<b>Continuing</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or add due to rounding.

**Justification:**  
 FY 2016 Advance Procurement funding totaling of \$147.765 million is to obtain long-term cost savings to the government by utilizing Economic Order Quantity (EOQ) buys.

Funding to establish multiyear procurement contracts would provide the following benefits: (1) generate cost savings compared to annual procurement cost estimates; (2) provide stable production of SM-3 Block IBs; (3) provide a long-term commitment to the low density aerospace industrial base that stabilizes aerospace employment levels; (4) provide an incentive for industry capital investment for productivity improvements that would benefit several Department of Defense missile programs; and (5) reduce disruptions in vendor delivery schedules. Overall savings is estimated at approximately 14% across the Fiscal Year Defense Plan for the SM-3 Block IB.

Any reduction or delay in approval of Advanced Procurement funding would result in a significant cost increase and lead to schedule delays to the SM-3 Block 1B program.



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<b>Exhibit P-10, Advance Procurement Requirements Analysis (page 1 - Budget Funding Justification):</b> PB 2016 Missile Defense Agency										<b>Date:</b> February 2015			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17				<b>P-1 Line Item Number / Title:</b> MD09 / AEGIS BMD						<b>P-5 Number / Title:</b> - / Aegis BMD			
<b>First System (2016) Award Date:</b> February 2015			<b>First System (2016) Completion Date:</b> January 2018				<b>Interval Between Systems:</b> 1 Months						
<b>Aegis BMD</b>			<b>Production Leadtime</b> (Months)	<b>Prior Years</b> (Each)	<b>FY 2014</b> (Each)	<b>FY 2015</b> (Each)	<b>FY 2016</b> (Each)	<b>FY 2017</b> (Each)	<b>FY 2018</b> (Each)	<b>FY 2019</b> (Each)	<b>FY 2020</b> (Each)	<b>To Complete</b> (Each)	<b>Total</b> (Each)
Quantity			35	102	52	49	40	60	65	71	76	-	-
<b>Cost Element</b>			<b>When Rqd</b> (Months)	<b>Prior Years</b> (\$ M)	<b>FY 2014</b> (\$ M)	<b>FY 2015</b> (\$ M)	<b>FY 2016</b> (\$ M)	<b>FY 2017</b> (\$ M)	<b>FY 2018</b> (\$ M)	<b>FY 2019</b> (\$ M)	<b>FY 2020</b> (\$ M)	<b>To Complete</b> (\$ M)	<b>Total</b> (\$ M)
<b>CFE</b>													
AEGIS FY20 Long Lead Items <sup>(†)</sup>			29	-	-	-	-	-	-	78.744	-	Continuing	Continuing
<i>Total: CFE</i>				<i>0.000</i>	-	-	-	-	-	<i>78.744</i>	-	<i>Continuing</i>	<i>Continuing</i>
<b>EOQ</b>													
AEGIS MYP FY18 <sup>(†)</sup>			0	-	-	-	48.411	23.485	-	-	-	-	71.896
For FY 2018				-	-	-	48.411	23.485	-	-	-	-	71.896
AEGIS MYP FY19 <sup>(†)</sup>			0	-	-	-	38.307	28.231	20.752	-	-	-	87.290
For FY 2019				-	-	-	38.307	28.231	20.752	-	-	-	87.290
AEGIS MYP FY21			0	-	-	-	-	-	-	-	77.445	-	77.445
For FY 2021				-	-	-	-	-	-	-	77.445	-	77.445
AEGIS MYP FY22			0	-	-	-	-	-	-	-	85.696	-	85.696
For FY 2022				-	-	-	-	-	-	-	85.696	-	85.696
AEGIS MYP FY23			0	-	-	-	-	-	-	-	35.097	-	35.097
For FY 2023				-	-	-	-	-	-	-	35.097	-	35.097
AEGIS MYP FY17 <sup>(†)</sup>			0	-	-	-	61.047	-	-	-	-	-	61.047
For FY 2017				-	-	-	61.047	-	-	-	-	-	61.047
<i>Total: EOQ</i>				<i>0.000</i>	-	-	<i>147.765</i>	<i>51.716</i>	<i>20.752</i>	-	<i>198.238</i>	-	<i>418.471</i>
<b>Total Advance Procurement/Obligation Authority</b>				-	-	-	<b>147.765</b>	<b>51.716</b>	<b>20.752</b>	<b>78.744</b>	<b>198.238</b>	<b>Continuing</b>	<b>Continuing</b>

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<b>Exhibit P-10, Advance Procurement Requirements Analysis (page 2 - Budget Funding Justification):</b> PB 2016 Missile Defense Agency						<b>Date:</b> February 2015	
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17			<b>P-1 Line Item Number / Title:</b> MD09 / AEGIS BMD			<b>P-5 Number / Title:</b> - / Aegis BMD	
<b>Cost Elements</b>	<b>QPA</b> <i>(Each)</i>	<b>FY 2016</b>					<b>Total Cost Request</b> <i>(\$ M)</i>
		<b>Production Leadtime</b> <i>(Months)</i>	<b>Unit Cost</b> <i>(\$ M)</i>	<b>Contract Forecast Date</b>	<b>2016 Qty</b> <i>(Each)</i>	<b>For FY</b>	
<b>CFE</b>							
AEGIS FY20 Long Lead Items <sup>(t)</sup>	1					2020	-
<b>Total: CFE</b>							-
<b>EOQ</b>							
AEGIS MYP FY18 <sup>(t)</sup>	1	24	48.411	Feb 2016	1		48.411
For FY 2018	-					2018	48.411
AEGIS MYP FY19 <sup>(t)</sup>	1	24	38.307	Feb 2016	1		38.307
For FY 2019	-					2019	38.307
AEGIS MYP FY21	1						-
For FY 2021	-					2021	-
AEGIS MYP FY22	1						-
For FY 2022	-					2022	-
AEGIS MYP FY23	1						-
For FY 2023	-					2023	-
AEGIS MYP FY17 <sup>(t)</sup>	1	24	61.047	Feb 2016	1		61.047
For FY 2017	-					2017	61.047
<b>Total: EOQ</b>							<b>147.765</b>
<b>Total Advance Procurement/Obligation Authority</b>							<b>147.765</b>

**Description:**  
 FY 2019 advance procurement funding totaling of \$78.744M to procure long lead items for FY 2020 Economic Order Quantity missile buy in order to maintain the planned production schedule. These long lead items include items such as MK104 Dual Thrust Rocket Motors (26 month lead time), MK72 Boosters (29 month lead time), Integrated Dewar Assemblies (35 month lead time), and Circuit Card Assemblies (26 month lead time).

<sup>(t)</sup> indicates the presence of Contract Data presented in the associated P-5 Item's P-5a exhibit.

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**Exhibit P-40, Budget Line Item Justification:** PB 2016 Missile Defense Agency **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D: Procurement, Defense-Wide / BA 01: Major Equipment / BSA 17: Major Equipment, Missile Defense Agency	<b>P-1 Line Item Number / Title:</b> MD11 / BMDS AN/TPY-2 Radars
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>Program Elements for Code B Items:</b> 0603881C, 0603884C	<b>Other Related Program Elements:</b> 0603881C, 0603884C
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<b>Line Item MDAP/MAIS Code:</b> 362	<b>Item MDAP/MAIS Code(s):</b>
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Resource Summary	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	5	-	-	-	-	-	-	-	-	-	-	5
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	949.850	55.800	88.140	78.634	-	78.634	15.965	2.741	6.840	70.439	-	1,268.409
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P1) ( <i>\$ in Millions</i> )	949.850	55.800	88.140	78.634	-	78.634	15.965	2.741	6.840	70.439	-	1,268.409
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>949.850</b>	<b>55.800</b>	<b>88.140</b>	<b>78.634</b>	<b>-</b>	<b>78.634</b>	<b>15.965</b>	<b>2.741</b>	<b>6.840</b>	<b>70.439</b>	<b>-</b>	<b>1,268.409</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	10.901	-	-	-	-	-	-	-	-	-	-	10.901
Flyaway Unit Cost ( <i>\$ in Millions</i> )	172.502	-	-	-	-	-	-	-	-	-	Continuing	Continuing
Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> )	189.970	-	-	-	-	-	-	-	-	-	-	253.682

**Description:**

The Army Navy/Transportable Radar Surveillance and Control (AN/TPY-2) radar is an integral component of the Ballistic Missile Defense System (BMDS) layered network of sensors. It is easily transported and can be configured to operate either as a Terminal High Altitude Area Defense (THAAD) Fire Unit Radar (terminal mode) or Forward-Based Radar. The forward-based AN/TPY-2 provides detection and tracking during the boost phase. This significantly reduces the uncertainty in target discrimination and reaction time, increasing the probability of a successful BMDS engagement. In forward-based mode, the AN/TPY-2 also provides acquisition and track data via the Ballistic Missile Defense System Command, Control, Battle Management and Communications (C2BMC) and Link 16 to the Aegis missile defense system for cueing. The AN/TPY-2 used in terminal mode is an integral component of the THAAD Battery. The THAAD battery radar is capable of tracking multiple threats and multiple interceptors during engagements in the terminal phase. It provides surveillance, acquisition, track, discrimination, interceptor communications, and hit assessment data collection for fire control.

Procurement funding procured five of the seven AN/TPY-2 Radars required to complete the THAAD Battery acquisitions, with the initial two AN/TPY-2 radars funded from RDT&E. "Procurement Quantity" and "Flyaway Unit Cost" above represent AN/TPY-2 radar systems (one Antenna Equipment Unit, one Cooling Equipment Unit, one Electronic Equipment Unit, and two Prime Power Units) only, but the "Net Procurement" cost above plus the Initial Spares amount includes the costs of all hardware. The FY 2014 funding included procurement of one Float Cooling Equipment Unit (CEU) to include reliability upgrades, one Float Electronic Equipment Unit (EEU) and critical spares. The FY 2015 funding included procurement of long lead Transmit/Receive Integrated Microwave Modules (TRIMMs) for the Float Antenna Equipment Unit (AEU) to include initial Gallium Nitride (GaN) TRIMMS procurement transition. The FY 2015 funding also included two Electronic Equipment Unit (EEU) Modification Kits, four Antenna Equipment Unit (AEU) Transformers to include completion of reliability enhancements and qualification testing, contractor production line set-up and certification and critical spares.

The FY 2016 funding includes the procurement of one Float Antenna Equipment Unit (AEU) structure, population of long lead TRIMMs and final delivery, one Electronic Equipment Unit (EEU) Modification Kit and four Antenna Equipment Unit (AEU) transformers.

The FY 2017 - FY 2020 funding includes procurement of nine Electronic Equipment Unit (EEU) Modification Kits, eight Antenna Equipment Unit (AEU) transformers and four Prime Power Units (PPUs).

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**Exhibit P-40, Budget Line Item Justification:** PB 2016 Missile Defense Agency **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D: Procurement, Defense-Wide / BA 01: Major Equipment / BSA 17: Major Equipment, Missile Defense Agency	<b>P-1 Line Item Number / Title:</b> MD11 / BMDS AN/TPY-2 Radars
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**ID Code** (A=Service Ready, B=Not Service Ready) : A **Program Elements for Code B Items:** 0603881C, 0603884C **Other Related Program Elements:** 0603881C, 0603884C

**Line Item MDAP/MAIS Code:** 362 **Item MDAP/MAIS Code(s):**

Exhibits Schedule			Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title*	Exhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
BMDS AN/TPY-2 Radars	P-5, P-5a, P-21	A	5 / 949.850	- / 55.800	- / 88.140	- / 78.634	- / -	- / 78.634
<b>Total Gross/Weapon System Cost</b>			<b>5 / 949.850</b>	<b>- / 55.800</b>	<b>- / 88.140</b>	<b>- / 78.634</b>	<b>- / -</b>	<b>- / 78.634</b>

Exhibits Schedule			FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Title*	Exhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
BMDS AN/TPY-2 Radars	P-5, P-5a, P-21	A	- / 15.965	- / 2.741	- / 6.840	- / 70.439	- / -	5 / 1,268.409
<b>Total Gross/Weapon System Cost</b>			<b>- / 15.965</b>	<b>- / 2.741</b>	<b>- / 6.840</b>	<b>- / 70.439</b>	<b>- / -</b>	<b>5 / 1,268.409</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or add due to rounding.

**Justification:**  
 FY 2014: Procured one Float Cooling Equipment Unit (CEU) to include reliability upgrades, one Float Electronic Equipment Unit (EEU) and critical spares  
 FY 2015: Procured long lead Transmit/Receive Integrated Microwave Modules (TRIMMs) for the Float Antenna Equipment Unit (AEU) to include initial Gallium Nitride (GaN) TRIMMS procurement transition. Also procured two Electronic Equipment Unit (EEU) Modification Kits, four Antenna Equipment Unit (AEU) Transformers to include completion of reliability enhancements and qualification testing, contractor production line set-up and certification and critical spares.  
 FY 2016: Procure one Float Antenna Equipment Unit (AEU) structure, population of long lead Transmit/Receive Integrated Microwave Modules (TRIMMs) and final delivery, one Electronic Equipment Unit (EEU) Modification Kit and four Antenna Equipment Unit (AEU) transformers.

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**Exhibit P-5, Cost Analysis: PB 2016 Missile Defense Agency** **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17	<b>P-1 Line Item Number / Title:</b> MD11 / BMDS AN/TPY-2 Radars	<b>Item Number / Title [DODIC]:</b> - / BMDS AN/TPY-2 Radars
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**ID Code** (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	5	-	-	-	-	-	-	-	-	-	-	5
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	949.850	55.800	88.140	78.634	-	78.634	15.965	2.741	6.840	70.439	-	1,268.409
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P1) ( <i>\$ in Millions</i> )	949.850	55.800	88.140	78.634	-	78.634	15.965	2.741	6.840	70.439	-	1,268.409
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>949.850</b>	<b>55.800</b>	<b>88.140</b>	<b>78.634</b>	<b>-</b>	<b>78.634</b>	<b>15.965</b>	<b>2.741</b>	<b>6.840</b>	<b>70.439</b>	<b>-</b>	<b>1,268.409</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> )	189.970	-	-	-	-	-	-	-	-	-	-	253.682

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or add, due to rounding.

Cost Elements	Prior Years			FY 2014			FY 2015			FY 2016 Base			FY 2016 OCO			FY 2016 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware Cost																		
Recurring Cost																		
Antenna Equipment Unit (AEU) <sup>(†)</sup>	130.482	5	652.411	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antenna Equipment Unit (AEU) Transformer <sup>(†)</sup>	-	-	-	-	-	-	2.425	4	9.700	0.685	4	2.740	-	-	-	0.685	4	2.740
Cooling Equipment Unit (CEU) <sup>(†)</sup>	6.996	5	34.982	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Spares <sup>(†)</sup>	-	-	-	14.361	1	14.361	4.200	1	4.200	-	-	-	-	-	-	-	-	-
Electronic Equipment Unit (EEU) <sup>(†)</sup>	20.914	5	104.572	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electronic Equipment Unit (EEU) Modification Kit <sup>(†)</sup>	-	-	-	-	-	-	3.120	2	6.240	3.171	1	3.171	-	-	-	3.171	1	3.171
Float Antenna Equipment Unit (AEU) <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	72.723	1	72.723	-	-	-	72.723	1	72.723
Float Cooling Equipment Unit (CEU) <sup>(†)</sup>	7.136	1	7.136	18.721	1	18.721	-	-	-	-	-	-	-	-	-	-	-	-

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<b>Exhibit P-5, Cost Analysis: PB 2016 Missile Defense Agency</b>													<b>Date:</b> February 2015					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17						<b>P-1 Line Item Number / Title:</b> MD11 / BMDS AN/TPY-2 Radars						<b>Item Number / Title [DODIC]:</b> - / BMDS AN/TPY-2 Radars						
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A										<b>MDAP/MAIS Code:</b>								

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or add, due to rounding.

Cost Elements	Prior Years			FY 2014			FY 2015			FY 2016 Base			FY 2016 OCO			FY 2016 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Float Electronic Equipment Unit (EEU) <sup>(†)</sup>	20.264	1	20.264	22.718	1	22.718	-	-	-	-	-	-	-	-	-	-	-	-
Forward-Based Mode Prime Power Units (PPU) <sup>(†)</sup>	10.985	4	43.940	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Prime Power Unit (PPUs - 2 each radar system) <sup>(†)</sup>	14.109	5	70.545	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transmit/Receive Integrated Microwave Module (TRIMMs) <sup>(†)</sup>	-	-	-	-	-	-	44.500	1	44.500	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	933.850	-	-	55.800	-	-	64.640	-	-	78.634	-	-	-	-	-	78.634
<b>Non Recurring Cost</b>																		
Contractor Certification <sup>(†)</sup>	-	-	-	-	-	-	2.900	1	2.900	-	-	-	-	-	-	-	-	-
Gallium Nitride (GaN) Transmit/Receive Integrated Microwave Module (TRIMMs) Transition <sup>(†)</sup>	-	-	-	-	-	-	20.600	1	20.600	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	23.500	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware Cost</i>	-	-	933.850	-	-	55.800	-	-	88.140	-	-	78.634	-	-	-	-	-	78.634
<b>Support Cost</b>																		
Program Support*	16.000	1	16.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support Cost</i>	-	-	16.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Gross/Weapon System Cost</b>	<b>189.970</b>	<b>5</b>	<b>949.850</b>	<b>-</b>	<b>-</b>	<b>55.800</b>	<b>-</b>	<b>-</b>	<b>88.140</b>	<b>-</b>	<b>-</b>	<b>78.634</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>78.634</b>

Cost Elements	FY 2017			FY 2018			FY 2019			FY 2020			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
<b>Hardware Cost</b>																		
<b>Recurring Cost</b>																		
Antenna Equipment Unit (AEU) <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	130.482	5	652.411

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Exhibit P-5, Cost Analysis: PB 2016 Missile Defense Agency													Date: February 2015						
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17						P-1 Line Item Number / Title: MD11 / BMDS AN/TPY-2 Radars						Item Number / Title [DODIC]: - / BMDS AN/TPY-2 Radars							
ID Code (A=Service Ready, B=Not Service Ready) : A										MDAP/MAIS Code:									
Cost Elements	FY 2017			FY 2018			FY 2019			FY 2020			To Complete			Total Cost			
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	
Antenna Equipment Unit (AEU) Transformer <sup>(†)</sup>	0.695	4	2.780	0.685	4	2.741	-	-	-	-	-	-	-	-	-	-	1.123	16	17.961
Cooling Equipment Unit (CEU) <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.996	5	34.982
Critical Spares <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.281	2	18.561
Electronic Equipment Unit (EEU) <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.914	5	104.572
Electronic Equipment Unit (EEU) Modification Kit <sup>(†)</sup>	3.296	4	13.185	-	-	-	3.420	2	6.840	3.551	3	10.654	-	-	-	-	3.341	12	40.090
Float Antenna Equipment Unit (AEU) <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72.723	1	72.723
Float Cooling Equipment Unit (CEU) <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.929	2	25.857
Float Electronic Equipment Unit (EEU) <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.491	2	42.982
Forward-Based Mode Prime Power Units (PPU) <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	14.946	4	59.785	-	-	-	-	12.966	8	103.725
Prime Power Unit (PPUs - 2 each radar system) <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.109	5	70.545
Transmit/Receive Integrated Microwave Module (TRIMMs) <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44.500	1	44.500
<b>Subtotal: Recurring Cost</b>	-	-	15.965	-	-	2.741	-	-	6.840	-	-	70.439	-	-	-	-	-	-	1,228.909
<b>Non Recurring Cost</b>																			
Contractor Certification <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.900	1	2.900
Gallium Nitride (GaN) Transmit/Receive Integrated Microwave Module (TRIMMs) Transition <sup>(†)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.600	1	20.600
<b>Subtotal: Non Recurring Cost</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.500
<b>Subtotal: Hardware Cost</b>	-	-	15.965	-	-	2.741	-	-	6.840	-	-	70.439	-	-	-	-	-	-	1,252.409

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**Exhibit P-5, Cost Analysis: PB 2016 Missile Defense Agency** **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17	<b>P-1 Line Item Number / Title:</b> MD11 / BMDS AN/TPY-2 Radars	<b>Item Number / Title [DODIC]:</b> - / BMDS AN/TPY-2 Radars
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**ID Code** (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Cost Elements	FY 2017			FY 2018			FY 2019			FY 2020			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Support Cost																		
Program Support*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.000	1	16.000
<i>Subtotal: Support Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.000
<b>Gross/Weapon System Cost</b>	-	-	15.965	-	-	2.741	-	-	6.840	-	-	70.439	-	-	-	253.682	5	1,268.409

**Remarks:**  
AN/TPY-2 Radar consists of one Antenna Equipment Unit (AEU), one Cooling Equipment Unit (CEU), one Electronic Equipment Unit (EEU) and two Prime Power Units (PPUs).

(t) indicates the presence of a P-5a



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**Exhibit P-5a, Procurement History and Planning: PB 2016 Missile Defense Agency** **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17	<b>P-1 Line Item Number / Title:</b> MD11 / BMDS AN/TPY-2 Radars	<b>Item Number / Title [DODIC]:</b> - / BMDS AN/TPY-2 Radars
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ M)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Antenna Equipment Unit (AEU) <sup>(†)</sup>		2010	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Jun 2010	Dec 2012	1	144.290	Y		
Antenna Equipment Unit (AEU) <sup>(†)</sup>		2012	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2011	Jun 2014	2	144.090	Y		
Antenna Equipment Unit (AEU) - 1 <sup>(†)</sup>		2013	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2012	Jun 2015	1	126.400	Y		
Antenna Equipment Unit (AEU) - 2 <sup>(†)</sup>		2013	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2013	Jun 2016	1	126.400	Y		
Antenna Equipment Unit (AEU) Transformer <sup>(†)</sup>		2015	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2014	Sep 2015	4	2.425	Y		
Antenna Equipment Unit (AEU) Transformer <sup>(†)</sup>		2016	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2015	Sep 2016	4	0.685	Y		
Antenna Equipment Unit (AEU) Transformer <sup>(†)</sup>		2017	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2016	Sep 2017	4	0.695	Y		
Antenna Equipment Unit (AEU) Transformer <sup>(†)</sup>		2018	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2017	Sep 2018	4	0.685	Y		
Cooling Equipment Unit (CEU) <sup>(†)</sup>		2010	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Jun 2010	Dec 2012	1	7.800	Y		
Cooling Equipment Unit (CEU) <sup>(†)</sup>		2012	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2011	Jun 2014	2	7.668	Y		
Cooling Equipment Unit (CEU) - 1 <sup>(†)</sup>		2013	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2012	Jun 2015	1	6.802	Y		
Cooling Equipment Unit (CEU) - 2 <sup>(†)</sup>		2013	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2013	Jun 2016	1	6.802	Y		
Critical Spares <sup>(†)</sup>		2014	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	May 2014	May 2015	1	14.361	Y		
Critical Spares <sup>(†)</sup>		2015	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2014	Dec 2015	1	4.200	Y		
Electronic Equipment Unit (EEU) <sup>(†)</sup>		2010	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Jun 2010	Dec 2012	1	23.400	Y		
Electronic Equipment Unit (EEU) <sup>(†)</sup>		2012	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2011	Jun 2014	2	23.000	Y		
Electronic Equipment Unit (EEU) - 1 <sup>(†)</sup>		2013	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2012	Jun 2015	1	20.220	Y		
Electronic Equipment Unit (EEU) - 2 <sup>(†)</sup>		2013	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2013	Jun 2016	1	20.220	Y		
Electronic Equipment Unit (EEU) Modification Kit <sup>(†)</sup>		2015	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2014	Jun 2015	2	3.120	Y		
Electronic Equipment Unit (EEU) Modification Kit <sup>(†)</sup>		2016	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2015	Jun 2016	1	3.171	Y		
Electronic Equipment Unit (EEU) Modification Kit <sup>(†)</sup>		2017	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2016	Jun 2017	4	3.296	Y		

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**Exhibit P-5a, Procurement History and Planning: PB 2016 Missile Defense Agency** **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17	<b>P-1 Line Item Number / Title:</b> MD11 / BMDS AN/TPY-2 Radars	<b>Item Number / Title [DODIC]:</b> - / BMDS AN/TPY-2 Radars
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$ M)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
Electronic Equipment Unit (EEU) Modification Kit <sup>(†)</sup>		2019	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2018	Jun 2019	2	3.420	Y		
Electronic Equipment Unit (EEU) Modification Kit <sup>(†)</sup>		2020	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2019	Jun 2020	3	3.551	Y		
Float Antenna Equipment Unit (AEU) <sup>(†)</sup>		2016	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2015	Jun 2018	1	72.723	N		
Float Cooling Equipment Unit (CEU) <sup>(†)</sup>		2012	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2011	Jun 2014	1	7.140	Y		
Float Cooling Equipment Unit (CEU) <sup>(†)</sup>		2014	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Sep 2014	Dec 2015	1	18.721	Y		
Float Electronic Equipment Unit (EEU) <sup>(†)</sup>		2012	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2011	Jun 2014	1	20.260	Y		
Float Electronic Equipment Unit (EEU) <sup>(†)</sup>		2014	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Sep 2014	Sep 2016	1	22.718	Y		
Forward-Based Mode Prime Power Units (PPU) <sup>(†)</sup>		2013	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2012	Dec 2014	4	10.985	Y		
Forward-Based Mode Prime Power Units (PPU) <sup>(†)</sup>		2020	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2020	Dec 2022	4	14.946	Y		
Prime Power Unit (PPUs - 2 each radar system) <sup>(†)</sup>		2010	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Jun 2010	Dec 2012	1	15.600	Y		
Prime Power Unit (PPUs - 2 each radar system) <sup>(†)</sup>		2012	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2011	Jun 2014	2	15.336	Y		
Prime Power Unit (PPUs - 2 each radar system) - 1 <sup>(†)</sup>		2013	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2012	Jun 2015	1	13.895	Y		
Prime Power Unit (PPUs - 2 each radar system) - 2 <sup>(†)</sup>		2013	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2013	Jun 2016	1	13.895	Y		
Transmit/Receive Integrated Microwave Module (TRIMMs) <sup>(†)</sup>		2015	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2014	Jun 2016	1	44.500	Y		
Contractor Certification <sup>(†)</sup>		2015	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2014	Dec 2015	1	2.900	Y		
Gallium Nitride (GaN) Transmit/Receive Integrated Microwave Module (TRIMMs) Transition <sup>(†)</sup>		2015	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2014	Jun 2016	1	20.600	N		

<sup>(†)</sup> indicates the presence of a P-21

**Remarks:**

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**Exhibit P-5a, Procurement History and Planning:** PB 2016 Missile Defense Agency **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b>	<b>P-1 Line Item Number / Title:</b>	<b>Item Number / Title [DODIC]:</b>
0300D / 01 / 17	MD11 / BMDS AN/TPY-2 Radars	- / BMDS AN/TPY-2 Radars

N/A

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**Exhibit P-21, Production Schedule:** PB 2016 Missile Defense Agency **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17	<b>P-1 Line Item Number / Title:</b> MD11 / BMDS AN/TPY-2 Radars	<b>Item Number / Title [DODIC]:</b> - / BMDS AN/TPY-2 Radars
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Cost Elements <i>(Units in Each)</i>						Fiscal Year 2010															Fiscal Year 2011															
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2009	BAL DUE AS OF 1 OCT	Calendar Year 2010															Calendar Year 2011														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L					
Antenna Equipment Unit (AEU)																																				
1	2010	MDA	1	-	1																														1	
1	2012	MDA	2	-	2																															2
Antenna Equipment Unit (AEU) - 1																																				
1	2013	MDA	1	-	1																															1
Antenna Equipment Unit (AEU) - 2																																				
1	2013	MDA	1	-	1																															1
Antenna Equipment Unit (AEU) Transformer																																				
2	2015	MDA	4	-	4																															4
2	2016	MDA	4	-	4																															4
2	2017	MDA	4	-	4																															4
2	2018	MDA	4	-	4																															4
Cooling Equipment Unit (CEU)																																				
3	2010	MDA	1	-	1																															1
3	2012	MDA	2	-	2																															2
Cooling Equipment Unit (CEU) - 1																																				
3	2013	MDA	1	-	1																															1
Cooling Equipment Unit (CEU) - 2																																				
3	2013	MDA	1	-	1																															1
Critical Spares																																				
4	2014	MDA	1	-	1																															1
4	2015	MDA	1	-	1																															1
Electronic Equipment Unit (EEU)																																				
5	2010	MDA	1	-	1																															1
5	2012	MDA	2	-	2																															2
Electronic Equipment Unit (EEU) - 1																																				
5	2013	MDA	1	-	1																															1
Electronic Equipment Unit (EEU) - 2																																				
5	2013	MDA	1	-	1																															1
Electronic Equipment Unit (EEU) Modification Kit																																				
6	2015	MDA	2	-	2																															2
6	2016	MDA	1	-	1																															1
6	2017	MDA	4	-	4																															4

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Exhibit P-21, Production Schedule: PB 2016 Missile Defense Agency Date: February 2015

Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17 P-1 Line Item Number / Title: MD11 / BMDS AN/TPY-2 Radars Item Number / Title [DODIC]: - / BMDS AN/TPY-2 Radars

Table with columns: Cost Elements (Units in Each), Fiscal Year 2010 (Calendar Year 2010), Fiscal Year 2011 (Calendar Year 2011). Rows include equipment units like Float Antenna Equipment Unit (AEU), Float Cooling Equipment Unit (CEU), Float Electronic Equipment Unit (EEU), Forward-Based Mode Prime Power Units (PPU), Prime Power Unit (PPUs - 2 each radar system), Transmit/Receive Integrated Microwave Module (TRIMMs), and Gallium Nitride (GaN) Transmit/Receive Integrated Microwave Module (TRIMMs) Transition.

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**Exhibit P-21, Production Schedule:** PB 2016 Missile Defense Agency **Date:** February 2015

**Appropriation / Budget Activity / Budget Sub Activity:** 0300D / 01 / 17 **P-1 Line Item Number / Title:** MD11 / BMDS AN/TPY-2 Radars **Item Number / Title [DODIC]:** - / BMDS AN/TPY-2 Radars

Cost Elements <i>(Units in Each)</i>					Fiscal Year 2012															Fiscal Year 2013																
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 1	BAL D U E A S O F 1 O C T	Calendar Year 2012															Calendar Year 2013														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L					
Antenna Equipment Unit (AEU)																																				
	1	2010	MDA	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1	2012	MDA	2	-	2			A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Antenna Equipment Unit (AEU) - 1																																				
	1	2013	MDA	1	-	1																														
Antenna Equipment Unit (AEU) - 2																																				
	1	2013	MDA	1	-	1																														
Antenna Equipment Unit (AEU) Transformer																																				
	2	2015	MDA	4	-	4																														
	2	2016	MDA	4	-	4																														
	2	2017	MDA	4	-	4																														
	2	2018	MDA	4	-	4																														
Cooling Equipment Unit (CEU)																																				
	3	2010	MDA	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	3	2012	MDA	2	-	2			A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Cooling Equipment Unit (CEU) - 1																																				
	3	2013	MDA	1	-	1																														
Cooling Equipment Unit (CEU) - 2																																				
	3	2013	MDA	1	-	1																														
Critical Spares																																				
	4	2014	MDA	1	-	1																														
	4	2015	MDA	1	-	1																														
Electronic Equipment Unit (EEU)																																				
	5	2010	MDA	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	5	2012	MDA	2	-	2			A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electronic Equipment Unit (EEU) - 1																																				
	5	2013	MDA	1	-	1																														
Electronic Equipment Unit (EEU) - 2																																				
	5	2013	MDA	1	-	1																														
Electronic Equipment Unit (EEU) Modification Kit																																				
	6	2015	MDA	2	-	2																														
	6	2016	MDA	1	-	1																														
	6	2017	MDA	4	-	4																														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L					

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**Exhibit P-21, Production Schedule:** PB 2016 Missile Defense Agency **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17	<b>P-1 Line Item Number / Title:</b> MD11 / BMDS AN/TPY-2 Radars	<b>Item Number / Title [DODIC]:</b> - / BMDS AN/TPY-2 Radars
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Cost Elements <i>(Units in Each)</i>					Fiscal Year 2012														Fiscal Year 2013														
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEP PRIOR TO 1 OCT 2011	BAL DUE AS OF 1 OCT	Calendar Year 2012														Calendar Year 2013												B A L
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			
6	2019	MDA		2	-	2																						2					
6	2020	MDA		3	-	3																						3					
Float Antenna Equipment Unit (AEU)																																	
7	2016	MDA		1	-	1																						1					
Float Cooling Equipment Unit (CEU)																																	
8	2012	MDA		1	-	1			A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1					
8	2014	MDA		1	-	1																						1					
Float Electronic Equipment Unit (EEU)																																	
9	2012	MDA		1	-	1			A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1					
9	2014	MDA		1	-	1																						1					
Forward-Based Mode Prime Power Units (PPU)																																	
10	2013	MDA		4	-	4																						4					
10	2020	MDA		4	-	4																						4					
Prime Power Unit (PPUs - 2 each radar system)																																	
11	2010	MDA		1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
11	2012	MDA		2	-	2			A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2					
Prime Power Unit (PPUs - 2 each radar system) - 1																																	
11	2013	MDA		1	-	1																						1					
Prime Power Unit (PPUs - 2 each radar system) - 2																																	
11	2013	MDA		1	-	1																						1					
Transmit/Receive Integrated Microwave Module (TRIMMs)																																	
12	2015	MDA		1	-	1																						1					
Contractor Certification																																	
13	2015	MDA		1	-	1																						1					
Gallium Nitride (GaN) Transmit/Receive Integrated Microwave Module (TRIMMs) Transition																																	
14	2015	MDA		1	-	1																						1					
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L		

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**Exhibit P-21, Production Schedule:** PB 2016 Missile Defense Agency **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17	<b>P-1 Line Item Number / Title:</b> MD11 / BMDS AN/TPY-2 Radars	<b>Item Number / Title [DODIC]:</b> - / BMDS AN/TPY-2 Radars
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Cost Elements <i>(Units in Each)</i>					Fiscal Year 2014													Fiscal Year 2015																					
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 3	BAL D U E A S O F 1 O C T	Calendar Year 2014													Calendar Year 2015																			
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L								
Antenna Equipment Unit (AEU)																																							
	1	2010	MDA	1	1	-																																-	
	1	2012	MDA	2	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Antenna Equipment Unit (AEU) - 1																																							
	1	2013	MDA	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-		
Antenna Equipment Unit (AEU) - 2																																							
	1	2013	MDA	1	-	1			A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1		
Antenna Equipment Unit (AEU) Transformer																																							
	2	2015	MDA	4	-	4																														1	3		
	2	2016	MDA	4	-	4																															4		
	2	2017	MDA	4	-	4																															4		
	2	2018	MDA	4	-	4																															4		
Cooling Equipment Unit (CEU)																																							
	3	2010	MDA	1	1	-																															-		
	3	2012	MDA	2	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Cooling Equipment Unit (CEU) - 1																																							
	3	2013	MDA	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-		
Cooling Equipment Unit (CEU) - 2																																							
	3	2013	MDA	1	-	1			A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1		
Critical Spares																																							
	4	2014	MDA	1	-	1																													1	-	-		
	4	2015	MDA	1	-	1																															1		
Electronic Equipment Unit (EEU)																																							
	5	2010	MDA	1	1	-																															-		
	5	2012	MDA	2	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Electronic Equipment Unit (EEU) - 1																																							
	5	2013	MDA	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-		
Electronic Equipment Unit (EEU) - 2																																							
	5	2013	MDA	1	-	1			A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1		
Electronic Equipment Unit (EEU) Modification Kit																																							
	6	2015	MDA	2	-	2																														1	-	1	-
	6	2016	MDA	1	-	1																																1	
	6	2017	MDA	4	-	4																																4	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L								





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**Exhibit P-21, Production Schedule:** PB 2016 Missile Defense Agency **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17	<b>P-1 Line Item Number / Title:</b> MD11 / BMDS AN/TPY-2 Radars	<b>Item Number / Title [DODIC]:</b> - / BMDS AN/TPY-2 Radars
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Cost Elements (Units in Each)					Fiscal Year 2016																	Fiscal Year 2017															
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	Calendar Year 2016																	Calendar Year 2017													
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L						
Antenna Equipment Unit (AEU)																																					
1		2010	MDA	1	1	-																														-	
1		2012	MDA	2	2	-																														-	
Antenna Equipment Unit (AEU) - 1																																					
1		2013	MDA	1	1	-																														-	
Antenna Equipment Unit (AEU) - 2																																					
1		2013	MDA	1	-	1	-	-	-	-	-	-	-	-	-	1																					-
Antenna Equipment Unit (AEU) Transformer																																					
2		2015	MDA	4	1	3	-	1	-	1	-	1																								-	
2		2016	MDA	4	-	4			A	-	-	-	-	-	-	-	1	-	1	-	1	-	1														-
2		2017	MDA	4	-	4															A	-	-	-	-	-	-	-	-	-	-	-	1	3			
2		2018	MDA	4	-	4																													4		
Cooling Equipment Unit (CEU)																																					
3		2010	MDA	1	1	-																													-		
3		2012	MDA	2	2	-																													-		
Cooling Equipment Unit (CEU) - 1																																					
3		2013	MDA	1	1	-																													-		
Cooling Equipment Unit (CEU) - 2																																					
3		2013	MDA	1	-	1	-	-	-	-	-	-	-	-	-	1																					-
Critical Spares																																					
4		2014	MDA	1	1	-																													-		
4		2015	MDA	1	-	1	-	-	1																											-	
Electronic Equipment Unit (EEU)																																					
5		2010	MDA	1	1	-																													-		
5		2012	MDA	2	2	-																													-		
Electronic Equipment Unit (EEU) - 1																																					
5		2013	MDA	1	1	-																													-		
Electronic Equipment Unit (EEU) - 2																																					
5		2013	MDA	1	-	1	-	-	-	-	-	-	-	-	-	1																					-
Electronic Equipment Unit (EEU) Modification Kit																																					
6		2015	MDA	2	2	-																													-		
6		2016	MDA	1	-	1			A	-	-	-	-	-	-	1																					-
6		2017	MDA	4	-	4																														-	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L						

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<b>Exhibit P-21, Production Schedule: PB 2016 Missile Defense Agency</b>																		<b>Date:</b> February 2015																			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17										<b>P-1 Line Item Number / Title:</b> MD11 / BMDS AN/TPY-2 Radars										<b>Item Number / Title [DODIC]:</b> - / BMDS AN/TPY-2 Radars																	
<b>Cost Elements</b> (Units in Each)				<b>Fiscal Year 2016</b>															<b>Fiscal Year 2017</b>																		
<b>O</b>	<b>C</b>	<b>F</b>	<b>R</b>	<b>Q</b>	<b>Q</b>	<b>ACCEP</b>	<b>TO 1</b>	<b>OCT</b>	<b>2015</b>	<b>BAL</b>	<b>DUE</b>	<b>AS OF</b>	<b>1 OCT</b>	<b>Calendar Year 2016</b>												<b>Calendar Year 2017</b>											
														<b>O</b>	<b>C</b>	<b>N</b>	<b>O</b>	<b>D</b>	<b>E</b>	<b>J</b>	<b>F</b>	<b>M</b>	<b>A</b>	<b>M</b>	<b>J</b>	<b>J</b>	<b>A</b>	<b>S</b>	<b>O</b>	<b>N</b>	<b>D</b>	<b>J</b>	<b>F</b>	<b>M</b>	<b>A</b>	<b>M</b>	<b>J</b>
6		2019	MDA		2			-		2																								2			
6		2020	MDA		3			-		3																								3			
Float Antenna Equipment Unit (AEU)																																					
7		2016	MDA		1			-		1																								1			
Float Cooling Equipment Unit (CEU)																																					
8		2012	MDA		1			1		-																								-			
8		2014	MDA		1			-		1	-		-																					-			
Float Electronic Equipment Unit (EEU)																																					
9		2012	MDA		1			1		-																								-			
9		2014	MDA		1			-		1	-		-																					-			
Forward-Based Mode Prime Power Units (PPU)																																					
10		2013	MDA		4			3		1																								1			
10		2020	MDA		4			-		4																								4			
Prime Power Unit (PPUs - 2 each radar system)																																					
11		2010	MDA		1			1		-																								-			
11		2012	MDA		2			2		-																								-			
Prime Power Unit (PPUs - 2 each radar system) - 1																																					
11		2013	MDA		1			1		-																								-			
Prime Power Unit (PPUs - 2 each radar system) - 2																																					
11		2013	MDA		1			-		1	-		-																					-			
Transmit/Receive Integrated Microwave Module (TRIMMs)																																					
12		2015	MDA		1			-		1	-		-																					-			
Contractor Certification																																					
13		2015	MDA		1			-		1	-		-																					-			
Gallium Nitride (GaN) Transmit/Receive Integrated Microwave Module (TRIMMs) Transition																																					
14		2015	MDA		1			-		1	-		-																					-			
								<b>O</b>	<b>N</b>	<b>D</b>	<b>J</b>	<b>F</b>	<b>M</b>	<b>A</b>	<b>M</b>	<b>J</b>	<b>J</b>	<b>A</b>	<b>S</b>	<b>O</b>	<b>N</b>	<b>D</b>	<b>J</b>	<b>F</b>	<b>M</b>	<b>A</b>	<b>M</b>	<b>J</b>	<b>J</b>	<b>A</b>	<b>S</b>	<b>B</b>					
								<b>C</b>	<b>V</b>	<b>E</b>	<b>A</b>	<b>E</b>	<b>A</b>	<b>P</b>	<b>A</b>	<b>U</b>	<b>U</b>	<b>G</b>	<b>E</b>	<b>C</b>	<b>O</b>	<b>V</b>	<b>E</b>	<b>C</b>	<b>A</b>	<b>F</b>	<b>A</b>	<b>P</b>	<b>A</b>	<b>M</b>	<b>J</b>	<b>J</b>	<b>A</b>	<b>S</b>	<b>E</b>	<b>P</b>	
								<b>T</b>	<b>O</b>	<b>C</b>	<b>N</b>	<b>B</b>	<b>R</b>	<b>R</b>	<b>Y</b>	<b>N</b>	<b>L</b>	<b>G</b>	<b>P</b>	<b>T</b>	<b>O</b>	<b>V</b>	<b>E</b>	<b>C</b>	<b>A</b>	<b>F</b>	<b>A</b>	<b>P</b>	<b>A</b>	<b>M</b>	<b>J</b>	<b>J</b>	<b>A</b>	<b>S</b>	<b>E</b>	<b>P</b>	<b>A</b>
								<b>L</b>	<b>V</b>	<b>C</b>	<b>N</b>	<b>B</b>	<b>R</b>	<b>R</b>	<b>Y</b>	<b>N</b>	<b>L</b>	<b>G</b>	<b>P</b>	<b>T</b>	<b>O</b>	<b>V</b>	<b>E</b>	<b>C</b>	<b>A</b>	<b>F</b>	<b>A</b>	<b>P</b>	<b>A</b>	<b>M</b>	<b>J</b>	<b>J</b>	<b>A</b>	<b>S</b>	<b>E</b>	<b>P</b>	<b>A</b>

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Exhibit P-21, Production Schedule: PB 2016 Missile Defense Agency Date: February 2015

Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17 P-1 Line Item Number / Title: MD11 / BMDS AN/TPY-2 Radars Item Number / Title [DODIC]: - / BMDS AN/TPY-2 Radars

Table with columns for Cost Elements (OC #, MF #, FY, SERVICE, PROC QTY, ACCEP T O 1 OCT 2017, BAL DUE AS OF 1 OCT), Fiscal Year 2018 (Calendar Year 2018 months), and Fiscal Year 2019 (Calendar Year 2019 months). Rows include equipment units for Antenna, Cooling, and Electronic equipment with their respective quantities and fiscal year allocations.



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**Exhibit P-21, Production Schedule:** PB 2016 Missile Defense Agency **Date:** February 2015

**Appropriation / Budget Activity / Budget Sub Activity:** 0300D / 01 / 17 **P-1 Line Item Number / Title:** MD11 / BMDS AN/TPY-2 Radars **Item Number / Title [DODIC]:** - / BMDS AN/TPY-2 Radars

Cost Elements <i>(Units in Each)</i>					Fiscal Year 2020													Fiscal Year 2021														
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020													Calendar Year 2021												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L	
Antenna Equipment Unit (AEU)																																
	1	2010	MDA	1	1	-																							-			
	1	2012	MDA	2	2	-																							-			
Antenna Equipment Unit (AEU) - 1																																
	1	2013	MDA	1	1	-																							-			
Antenna Equipment Unit (AEU) - 2																																
	1	2013	MDA	1	1	-																							-			
Antenna Equipment Unit (AEU) Transformer																																
	2	2015	MDA	4	4	-																							-			
	2	2016	MDA	4	4	-																							-			
	2	2017	MDA	4	4	-																							-			
	2	2018	MDA	4	4	-																							-			
Cooling Equipment Unit (CEU)																																
	3	2010	MDA	1	1	-																							-			
	3	2012	MDA	2	2	-																							-			
Cooling Equipment Unit (CEU) - 1																																
	3	2013	MDA	1	1	-																							-			
Cooling Equipment Unit (CEU) - 2																																
	3	2013	MDA	1	1	-																							-			
Critical Spares																																
	4	2014	MDA	1	1	-																							-			
	4	2015	MDA	1	1	-																							-			
Electronic Equipment Unit (EEU)																																
	5	2010	MDA	1	1	-																							-			
	5	2012	MDA	2	2	-																							-			
Electronic Equipment Unit (EEU) - 1																																
	5	2013	MDA	1	1	-																							-			
Electronic Equipment Unit (EEU) - 2																																
	5	2013	MDA	1	1	-																							-			
Electronic Equipment Unit (EEU) Modification Kit																																
	6	2015	MDA	2	2	-																							-			
	6	2016	MDA	1	1	-																							-			
	6	2017	MDA	4	4	-																							-			
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L	

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**Exhibit P-21, Production Schedule:** PB 2016 Missile Defense Agency **Date:** February 2015

**Appropriation / Budget Activity / Budget Sub Activity:** 0300D / 01 / 17 **P-1 Line Item Number / Title:** MD11 / BMDS AN/TPY-2 Radars **Item Number / Title [DODIC]:** - / BMDS AN/TPY-2 Radars

Cost Elements (Units in Each)				Fiscal Year 2020																	Fiscal Year 2021															
O C C O	M F R #	F Y	S E R V I C E	P R O C Q T Y	A C C E P T P R I O R T O 1 O C T 2 0 1 9	B A L D U E A S O F 1 O C T	Calendar Year 2020																	Calendar Year 2021												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L					
6	2019	MDA		2	2	-																							-							
6	2020	MDA		3	-	3			A	-	-	-	-	-	-	1	-	1	-	1									-							
Float Antenna Equipment Unit (AEU)																																				
7	2016	MDA		1	1	-																						-								
Float Cooling Equipment Unit (CEU)																																				
8	2012	MDA		1	1	-																						-								
8	2014	MDA		1	1	-																						-								
Float Electronic Equipment Unit (EEU)																																				
9	2012	MDA		1	1	-																						-								
9	2014	MDA		1	1	-																						-								
Forward-Based Mode Prime Power Units (PPU)																																				
10	2013	MDA		4	3	1																						1								
10	2020	MDA		4	-	4															A	-	-	-	-	-	-	4								
Prime Power Unit (PPUs - 2 each radar system)																																				
11	2010	MDA		1	1	-																						-								
11	2012	MDA		2	2	-																						-								
Prime Power Unit (PPUs - 2 each radar system) - 1																																				
11	2013	MDA		1	1	-																						-								
Prime Power Unit (PPUs - 2 each radar system) - 2																																				
11	2013	MDA		1	1	-																						-								
Transmit/Receive Integrated Microwave Module (TRIMMs)																																				
12	2015	MDA		1	1	-																						-								
Contractor Certification																																				
13	2015	MDA		1	1	-																						-								
Gallium Nitride (GaN) Transmit/Receive Integrated Microwave Module (TRIMMs) Transition																																				
14	2015	MDA		1	1	-																						-								
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L					

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**Exhibit P-21, Production Schedule:** PB 2016 Missile Defense Agency **Date:** February 2015

**Appropriation / Budget Activity / Budget Sub Activity:** 0300D / 01 / 17 **P-1 Line Item Number / Title:** MD11 / BMDS AN/TPY-2 Radars **Item Number / Title [DODIC]:** - / BMDS AN/TPY-2 Radars

Cost Elements (Units in Each)						Fiscal Year 2022													Fiscal Year 2023																	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022													Calendar Year 2023																
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L					
Antenna Equipment Unit (AEU)																																				
	1	2010	MDA	1	1	-																														-
	1	2012	MDA	2	2	-																														-
Antenna Equipment Unit (AEU) - 1																																				
	1	2013	MDA	1	1	-																														-
Antenna Equipment Unit (AEU) - 2																																				
	1	2013	MDA	1	1	-																														-
Antenna Equipment Unit (AEU) Transformer																																				
	2	2015	MDA	4	4	-																														-
	2	2016	MDA	4	4	-																														-
	2	2017	MDA	4	4	-																														-
	2	2018	MDA	4	4	-																														-
Cooling Equipment Unit (CEU)																																				
	3	2010	MDA	1	1	-																														-
	3	2012	MDA	2	2	-																														-
Cooling Equipment Unit (CEU) - 1																																				
	3	2013	MDA	1	1	-																														-
Cooling Equipment Unit (CEU) - 2																																				
	3	2013	MDA	1	1	-																														-
Critical Spares																																				
	4	2014	MDA	1	1	-																														-
	4	2015	MDA	1	1	-																														-
Electronic Equipment Unit (EEU)																																				
	5	2010	MDA	1	1	-																														-
	5	2012	MDA	2	2	-																														-
Electronic Equipment Unit (EEU) - 1																																				
	5	2013	MDA	1	1	-																														-
Electronic Equipment Unit (EEU) - 2																																				
	5	2013	MDA	1	1	-																														-
Electronic Equipment Unit (EEU) Modification Kit																																				
	6	2015	MDA	2	2	-																														-
	6	2016	MDA	1	1	-																														-
	6	2017	MDA	4	4	-																														-
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	B A L					



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Exhibit P-21, Production Schedule: PB 2016 Missile Defense Agency																								Date: February 2015						
Appropriation / Budget Activity / Budget Sub Activity:						P-1 Line Item Number / Title:											Item Number / Title [DODIC]:													
0300D / 01 / 17						MD11 / BMDS AN/TPY-2 Radars											- / BMDS AN/TPY-2 Radars													
Cost Elements (Units in Each)						Fiscal Year 2022											Fiscal Year 2023													
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022														Calendar Year 2023									
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P
6	2019		MDA	2	2	-																								-
6	2020		MDA	3	3	-																								-
Float Antenna Equipment Unit (AEU)																														
7	2016		MDA	1	1	-																							-	
Float Cooling Equipment Unit (CEU)																														
8	2012		MDA	1	1	-																							-	
8	2014		MDA	1	1	-																							-	
Float Electronic Equipment Unit (EEU)																														
9	2012		MDA	1	1	-																							-	
9	2014		MDA	1	1	-																							-	
Forward-Based Mode Prime Power Units (PPU)																														
10	2013		MDA	4	3	1																							1	
10	2020		MDA	4	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Prime Power Unit (PPUs - 2 each radar system)																														
11	2010		MDA	1	1	-																							-	
11	2012		MDA	2	2	-																							-	
Prime Power Unit (PPUs - 2 each radar system) - 1																														
11	2013		MDA	1	1	-																							-	
Prime Power Unit (PPUs - 2 each radar system) - 2																														
11	2013		MDA	1	1	-																							-	
Transmit/Receive Integrated Microwave Module (TRIMMs)																														
12	2015		MDA	1	1	-																							-	
Contractor Certification																														
13	2015		MDA	1	1	-																							-	
Gallium Nitride (GaN) Transmit/Receive Integrated Microwave Module (TRIMMs) Transition																														
14	2015		MDA	1	1	-																							-	

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**Exhibit P-21, Production Schedule:** PB 2016 Missile Defense Agency **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17	<b>P-1 Line Item Number / Title:</b> MD11 / BMDS AN/TPY-2 Radars	<b>Item Number / Title [DODIC]:</b> - / BMDS AN/TPY-2 Radars
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MFR Ref #	MFR Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2016	1-8-5 For 2016	MAX For 2016	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Mfg PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Mfg PLT	Total After Oct 1
1	Raytheon - Woburn, MA	1	1	4	4	3	30	33	-	-	-	-
2	Raytheon - Woburn, MA	1	4	4	2	3	9	12	2	3	9	12
3	Raytheon - Woburn, MA	1	1	4	4	2	30	32	-	-	-	-
4	Raytheon - Woburn, MA	1	1	4	4	2	12	14	4	2	12	14
5	Raytheon - Woburn, MA	1	1	4	4	2	30	32	-	-	-	-
6	Raytheon - Woburn, MA	1	2	4	2	3	6	9	2	3	6	9
7	Raytheon - Woburn, MA	1	1	4	4	2	30	32	-	-	-	-
8	Raytheon - Woburn, MA	1	1	4	4	2	15	17	-	-	-	-
9	Raytheon - Woburn, MA	1	1	4	4	2	24	26	-	-	-	-
10	Raytheon - Woburn, MA	1	1	4	4	2	30	32	-	-	-	-
11	Raytheon - Woburn, MA	1	1	4	4	2	30	32	-	-	-	-
12	Raytheon - Woburn, MA	1	1	4	4	2	18	20	4	2	18	20
13	Raytheon - Woburn, MA	1	1	1	3	2	12	14	3	2	12	14
14	Raytheon - Woburn, MA	1	1	4	4	2	18	20	4	2	18	20

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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**Exhibit P-40, Budget Line Item Justification:** PB 2016 Missile Defense Agency **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D: Procurement, Defense-Wide / BA 01: Major Equipment / BSA 17: Major Equipment, Missile Defense Agency	<b>P-1 Line Item Number / Title:</b> MD73 / Aegis Ashore Phase III
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ID Code (A=Service Ready, B=Not Service Ready) : B	Program Elements for Code B Items: 0603892C, 0604880C, 0604881C	Other Related Program Elements: 0604880C
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Line Item MDAP/MAIS Code: 362	Item MDAP/MAIS Code(s):
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Resource Summary	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	1	-	-	-	-	-	-	-	-	-	1
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	131.400	225.774	30.587	-	30.587	62.903	70.599	-	-	-	521.263
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P1) ( <i>\$ in Millions</i> )	-	131.400	225.774	30.587	-	30.587	62.903	70.599	-	-	-	521.263
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	-	<b>131.400</b>	<b>225.774</b>	<b>30.587</b>	-	<b>30.587</b>	<b>62.903</b>	<b>70.599</b>	-	-	-	<b>521.263</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> )	-	131.400	-	-	-	-	-	-	-	-	-	521.263

**Description:**

This program supports the procurement of Aegis Ashore. On 17 September 2009, the President announced an overarching policy to provide regional missile defense to U.S. deployed forces, allies and partners in Europe called the European Phased Adaptive Approach (EPAA). Within this policy, a European PAA specifically addresses a timeline to deploy a mix of afloat and land-based Ballistic Missile Defense (BMD) capabilities. Aegis Ashore represents one of these land-based capabilities.

Phase III of EPAA (2018 timeframe): Deploys a land based Aegis Ashore in Poland, and introduces an upgraded Standard Missile, the SM-3 Block IIA. This missile brings improved coverage against medium and intermediate range ballistic threats, and extends coverage to the majority of the European continent.

Aegis Ashore is a key component of Phases II and III in the European PAA and will provide Aegis Missile Defense capability against short and medium range ballistic missiles in an ashore configuration. It will be similar to the Aegis At-Sea BMD capability inherent in the new Arleigh Burke-class Aegis destroyers (DDG-113 and following ships) to facilitate training and logistical support by the lead service, Navy. Aegis Ashore re-hosts the required BMD components of a Navy Destroyer in an ashore configuration to include a Deckhouse structure and weapon system comprised of a SPY radar, Vertical Launch System (VLS), computing infrastructure, Command, Control, Communications, Computers and Intelligence (C4I) systems, and operator consoles. It will provide sophisticated engagement strategies. Aegis Ashore can adapt to the threat and can be deployed/redeployed worldwide to areas needed to provide persistent coverage for the Geographic Combatant Commanders.

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**Exhibit P-40, Budget Line Item Justification:** PB 2016 Missile Defense Agency **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D: Procurement, Defense-Wide / BA 01: Major Equipment / BSA 17: Major Equipment, Missile Defense Agency	<b>P-1 Line Item Number / Title:</b> MD73 / Aegis Ashore Phase III
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ID Code (A=Service Ready, B=Not Service Ready) : B	Program Elements for Code B Items: 0603892C, 0604880C, 0604881C	Other Related Program Elements: 0604880C
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Line Item MDAP/MAIS Code: 362	Item MDAP/MAIS Code(s):
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Exhibits Schedule			Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title*	Exhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
Aegis Ashore Poland, Equipment and Deckhouse	P-5	B	- / -	1 / 131.400	- / 225.774	- / 30.587	- / -	- / 30.587
<b>Total Gross/Weapon System Cost</b>			- / -	1 / 131.400	- / 225.774	- / 30.587	- / -	- / 30.587
Exhibits Schedule			FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Title*	Exhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
Aegis Ashore Poland, Equipment and Deckhouse	P-5	B	- / 62.903	- / 70.599	- / -	- / -	- / -	1 / 521.263
<b>Total Gross/Weapon System Cost</b>			- / 62.903	- / 70.599	- / -	- / -	- / -	1 / 521.263

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or add due to rounding.

**Justification:**

The Aegis Ashore to be installed in Poland contains a Deckhouse structure and weapon system comprised of a SPY radar, Vertical Launch System (VLS), computing infrastructure, Command, Control, Communications, Computers and Intelligence (C4I) systems, and operator consoles with very diverse procurement lead times from multiple contracts. The funding profile addresses the multiple actions required to field the Aegis Ashore end item in Poland in 2018, keep the individual components up to date with the Navy's destroyer modernization plan and install modifications as required to enhance co-existence with Broadband Wireless Access systems in the European theater.

FY 2015 Procure remainder of the Aegis Ashore Weapon System components, Vertical Launching System (VLS), Command, Control, Communications, Computers and Intelligence (C4I) systems, and Aegis Ashore Deckhouse structure. Start site preparations in Poland.

FY 2016 Start site activation and assembly of Aegis Ashore Deckhouse structure in Poland.

FY 2017 Pack and ship all Weapon System components to Poland. Install Aegis Ashore Weapon System in the Aegis Ashore Deckhouse structure in Poland.

FY 2018 Conduct final configuration test validation

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<b>Exhibit P-5, Cost Analysis: PB 2016 Missile Defense Agency</b>		<b>Date:</b> February 2015
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17	<b>P-1 Line Item Number / Title:</b> MD73 / Aegis Ashore Phase III	<b>Item Number / Title [DODIC]:</b> - / Aegis Ashore Poland, Equipment and Deckhouse

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B	<b>MDAP/MAIS Code:</b>
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Resource Summary	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	-	1	-	-	-	-	-	-	-	-	-	1
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	-	131.400	225.774	30.587	-	30.587	62.903	70.599	-	-	-	521.263
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P1) ( <i>\$ in Millions</i> )	-	131.400	225.774	30.587	-	30.587	62.903	70.599	-	-	-	521.263
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority</b> ( <i>\$ in Millions</i> )	-	<b>131.400</b>	<b>225.774</b>	<b>30.587</b>	-	<b>30.587</b>	<b>62.903</b>	<b>70.599</b>	-	-	-	<b>521.263</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> )	-	131.400	-	-	-	-	-	-	-	-	-	521.263

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or add, due to rounding.

Cost Elements	Prior Years			FY 2014			FY 2015			FY 2016 Base			FY 2016 OCO			FY 2016 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Aegis Ashore Poland, Equipment and Deckhouse	-	-	-	131.400	1	131.400	225.774	1	225.774	30.587	1	30.587	-	-	-	30.587	1	30.587
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	131.400	-	-	225.774	-	-	30.587	-	-	-	-	-	30.587
<i>Subtotal: Flyaway Cost</i>	-	-	-	-	-	131.400	-	-	225.774	-	-	30.587	-	-	-	-	-	30.587
<b>Gross/Weapon System Cost</b>	-	-	-	<b>131.400</b>	<b>1</b>	<b>131.400</b>	-	-	<b>225.774</b>	-	-	<b>30.587</b>	-	-	-	-	-	<b>30.587</b>

Cost Elements	FY 2017			FY 2018			FY 2019			FY 2020			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
Aegis Ashore Poland, Equipment and Deckhouse	62.903	1	62.903	70.599	1	70.599	-	-	-	-	-	-	-	-	-	104.253	5	521.263
<i>Subtotal: Recurring Cost</i>	-	-	62.903	-	-	70.599	-	-	-	-	-	-	-	-	-	-	-	521.263
<i>Subtotal: Flyaway Cost</i>	-	-	62.903	-	-	70.599	-	-	-	-	-	-	-	-	-	-	-	521.263

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<b>Exhibit P-5, Cost Analysis:</b> PB 2016 Missile Defense Agency												<b>Date:</b> February 2015					
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17						<b>P-1 Line Item Number / Title:</b> MD73 / Aegis Ashore Phase III						<b>Item Number / Title [DODIC]:</b> - / Aegis Ashore Poland, Equipment and Deckhouse					

<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : B										<b>MDAP/MAIS Code:</b>							
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Cost Elements	FY 2017			FY 2018			FY 2019			FY 2020			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Gross/Weapon System Cost	-	-	62.903	-	-	70.599	-	-	-	-	-	-	-	-	-	521.263	1	521.263

**Remarks:**  
 FY 2015 Procure remainder of the Aegis Ashore Weapon System components, Vertical Launching System (VLS), Command, Control, Communications, Computers and Intelligence (C4I) systems, and Aegis Ashore Deckhouse structure. Start site preparations in Poland.  
 FY 2016 Start site activation and assembly of Aegis Ashore Deckhouse structure in Poland.  
 FY 2017 Pack and ship all Weapon System components to Poland. Install Aegis Ashore Weapon System in the Aegis Ashore Deckhouse structure in Poland.  
 FY 2018 Conduct final configuration test validation.

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**Exhibit P-40, Budget Line Item Justification:** PB 2016 Missile Defense Agency **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D: Procurement, Defense-Wide / BA 01: Major Equipment / BSA 17: Major Equipment, Missile Defense Agency	<b>P-1 Line Item Number / Title:</b> MD83 / Iron Dome
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A	<b>Program Elements for Code B Items:</b>	<b>Other Related Program Elements:</b> 0603913C
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<b>Line Item MDAP/MAIS Code:</b> 362	<b>Item MDAP/MAIS Code(s):</b>
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Resource Summary	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Procurement Quantity <i>(Units in Each)</i>	2	1	1	1	-	1	-	-	-	-	-	5
Gross/Weapon System Cost <i>(\$ in Millions)</i>	398.349	445.309	350.972	55.000	-	55.000	-	-	-	-	-	1,249.630
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P1) <i>(\$ in Millions)</i>	398.349	445.309	350.972	55.000	-	55.000	-	-	-	-	-	1,249.630
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority <i>(\$ in Millions)</i></b>	<b>398.349</b>	<b>445.309</b>	<b>350.972</b>	<b>55.000</b>	<b>-</b>	<b>55.000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,249.630</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Millions)</i>	199.175	445.309	350.972	55.000	-	55.000	-	-	-	-	-	249.926

**Description:**

Provides funding to the Government of Israel to procure Iron Dome batteries and Tamir Missiles to counter short-range rocket threats.

Quantities are classified. The unit quantity of one is used as a proxy in each Fiscal Year with funding.

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**Exhibit P-40, Budget Line Item Justification:** PB 2016 Missile Defense Agency **Date:** February 2015

**Appropriation / Budget Activity / Budget Sub Activity:**  
0300D: Procurement, Defense-Wide / BA 01: Major Equipment / BSA 17: Major Equipment, Missile Defense Agency

**P-1 Line Item Number / Title:**  
MD83 / Iron Dome

**ID Code** (A=Service Ready, B=Not Service Ready) : A **Program Elements for Code B Items:** **Other Related Program Elements:** 0603913C

**Line Item MDAP/MAIS Code:** 362 **Item MDAP/MAIS Code(s):**

Exhibits Schedule			Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title*	Exhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
Iron Dome	P-5	A	2 / 398.349	1 / 445.309	1 / 350.972	1 / 55.000	- / -	1 / 55.000
<b>Total Gross/Weapon System Cost</b>			<b>2 / 398.349</b>	<b>1 / 445.309</b>	<b>1 / 350.972</b>	<b>1 / 55.000</b>	<b>- / -</b>	<b>1 / 55.000</b>

Exhibits Schedule			FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Title*	Exhibits	ID CD	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
Iron Dome	P-5	A	- / -	- / -	- / -	- / -	- / -	5 / 1,249.630
<b>Total Gross/Weapon System Cost</b>			<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>- / -</b>	<b>5 / 1,249.630</b>

\*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or add due to rounding.

**Justification:**  
 FY 2014: Procurement for batteries of the Iron Dome weapon system.  
  
 FY 2015: Continued procurement of batteries and Tamir Interceptors of the Iron Dome weapon system.  
  
 FY 2016: Procurement of additional Iron Dome radars and associated equipment.



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**Exhibit P-5, Cost Analysis: PB 2016 Missile Defense Agency** **Date:** February 2015

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17	<b>P-1 Line Item Number / Title:</b> MD83 / Iron Dome	<b>Item Number / Title [DODIC]:</b> - / Iron Dome
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**ID Code** (A=Service Ready, B=Not Service Ready) : A **MDAP/MAIS Code:**

Resource Summary	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Procurement Quantity ( <i>Units in Each</i> )	2	1	1	1	-	1	-	-	-	-	-	5
Gross/Weapon System Cost ( <i>\$ in Millions</i> )	398.349	445.309	350.972	55.000	-	55.000	-	-	-	-	-	1,249.630
Less PY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P1) ( <i>\$ in Millions</i> )	398.349	445.309	350.972	55.000	-	55.000	-	-	-	-	-	1,249.630
Plus CY Advance Procurement ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (<i>\$ in Millions</i>)</b>	<b>398.349</b>	<b>445.309</b>	<b>350.972</b>	<b>55.000</b>	<b>-</b>	<b>55.000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,249.630</b>

*(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)*

Initial Spares ( <i>\$ in Millions</i> )	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost ( <i>\$ in Millions</i> )	199.175	445.309	350.972	55.000	-	55.000	-	-	-	-	-	249.926

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or add, due to rounding.

Cost Elements	Prior Years			FY 2014			FY 2015			FY 2016 Base			FY 2016 OCO			FY 2016 Total		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware Cost																		
Recurring Cost																		
Iron Dome	199.175	2	398.349	445.309	1	445.309	350.972	1	350.972	55.000	1	55.000	-	-	-	55.000	1	55.000
<i>Subtotal: Recurring Cost</i>	-	-	398.349	-	-	445.309	-	-	350.972	-	-	55.000	-	-	-	-	-	55.000
<i>Subtotal: Hardware Cost</i>	-	-	398.349	-	-	445.309	-	-	350.972	-	-	55.000	-	-	-	-	-	55.000
<b>Gross/Weapon System Cost</b>	<b>199.175</b>	<b>2</b>	<b>398.349</b>	<b>445.309</b>	<b>1</b>	<b>445.309</b>	<b>350.972</b>	<b>1</b>	<b>350.972</b>	<b>55.000</b>	<b>1</b>	<b>55.000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>55.000</b>	<b>1</b>	<b>55.000</b>

Cost Elements	FY 2017			FY 2018			FY 2019			FY 2020			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware Cost																		
Recurring Cost																		
Iron Dome	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	249.926	5	1,249.630
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,249.630
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,249.630
<b>Gross/Weapon System Cost</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>249.926</b>	<b>5</b>	<b>1,249.630</b>

**Remarks:**

Quantities are classified. The unit quantity of one is used as a proxy in each Fiscal Year with funding.

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<b>Exhibit P-5, Cost Analysis:</b> PB 2016 Missile Defense Agency		<b>Date:</b> February 2015
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0300D / 01 / 17	<b>P-1 Line Item Number / Title:</b> MD83 / Iron Dome	<b>Item Number / Title [DODIC]:</b> - / Iron Dome
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) : A		<b>MDAP/MAIS Code:</b>