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**Department of Defense
Fiscal Year (FY) 2017 President's Budget Submission**

February 2016



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 2017 • 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.....	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 2017 • Procurement

Joint Urgent Operational Needs Fund.....Volume 1

Missile Defense Agency.....Volume 2

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Volume 2b - ii

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Missile Defense Agency • President's Budget Submission FY 2017 • 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
Operations and Maintenance.....	Volume 2b - xiii
Supplemental Document.....	Volume 2b - lxvii
Exhibit P-40s.....	Volume 2b - 1

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Introduction & Explanation of Contents

The Department of Defense FY2017 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 2017 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 2017 President's Budget
Exhibit P-1 FY 2017 President's Budget
Total Obligational Authority
(Dollars in Thousands)

29 Jan 2016

Appropriation: 0300D Procurement, Defense-Wide

Line No	Item Nomenclature	Ident Code	FY 2015 (Base & OCO)		FY 2016 Base Enacted		FY 2016 OCO Enacted		FY 2016 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	38	449,478	34	447,971			34	447,971	U
24	Aegis BMD	B	52	663,316	49	566,711			49	566,711	U
25	BMDS AN/TPY-2 Radars	A		87,803		78,634				78,634	U
26	Arrow Upper Tier	B				15,000				15,000	U
27	David's Sling	A				150,000				150,000	U
28	Aegis Ashore Phase III	B		205,601		30,587				30,587	U
29	Iron Dome	A	1	350,972	1	55,000			1	55,000	U
30	Aegis BMD Hardware and Software	A			26	145,300			26	145,300	U
Total Major Equipment				1,757,170		1,489,203				1,489,203	
Total Procurement, Defense-Wide				1,757,170		1,489,203				1,489,203	

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Defense-Wide
FY 2017 President's Budget
Exhibit P-1 FY 2017 President's Budget
Total Obligational Authority
(Dollars in Thousands)

29 Jan 2016

Appropriation: 0300D Procurement, Defense-Wide

Line No	Item Nomenclature	Ident Code	FY 2017 Base		FY 2017 OCO		FY 2017 Total		S e c -
			Quantity	Cost	Quantity	Cost	Quantity	Cost	
Budget Activity 01: Major Equipment									
Major Equipment, Missile Defense Agency									
23	THAAD	B	24	369,608			24	369,608	U
24	Aegis BMD	B	35	463,801			35	463,801	U
25	BMDS AN/TPY-2 Radars	A		5,503			5,503	U	
26	Arrow Upper Tier	B						U	
27	David's Sling	A						U	
28	Aegis Ashore Phase III	B		57,493			57,493	U	
29	Iron Dome	A		42,000			42,000	U	
30	Aegis BMD Hardware and Software	A	6	50,098			6	50,098	U
Total Major Equipment				988,503			988,503		
Total Procurement, Defense-Wide				988,503			988,503		

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Missile Defense Agency • President's Budget Submission FY 2017 • Procurement

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

Appropriation 0300D: Procurement, Defense-Wide

Line #	BA	BSA	Line Item Number	Line Item Title	Page
23	01	17	MD07	THAAD.....	Volume 2b - 1
24	01	17	MD09	AEGIS BMD.....	Volume 2b - 13
25	01	17	MD11	BMDS AN/TPY-2 Radars.....	Volume 2b - 31
26	01	17	MD20	Arrow Upper Tier.....	Volume 2b - 55
27	01	17	MD34	David's Sling.....	Volume 2b - 59
28	01	17	MD73	Aegis Ashore Phase III.....	Volume 2b - 63
29	01	17	MD83	Iron Dome.....	Volume 2b - 67
30	01	17	MD90	Aegis BMD Hardware and Software.....	Volume 2b - 71

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Missile Defense Agency • President's Budget Submission FY 2017 • Procurement

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

Line Item Title	Line Item Number	Line #	BA	BSA	Page
AEGIS BMD	MD09	24	01	17.....	Volume 2b - 13
Aegis Ashore Phase III	MD73	28	01	17.....	Volume 2b - 63
Aegis BMD Hardware and Software	MD90	30	01	17.....	Volume 2b - 71
Arrow Upper Tier	MD20	26	01	17.....	Volume 2b - 55
BMDS AN/TPY-2 Radars	MD11	25	01	17.....	Volume 2b - 31
David's Sling	MD34	27	01	17.....	Volume 2b - 59
Iron Dome	MD83	29	01	17.....	Volume 2b - 67
THAAD	MD07	23	01	17.....	Volume 2b - 1

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Fiscal Year 2017 President's Budget

Missile Defense Agency (MDA)



February 2016

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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	33
PB-15 - Advisory and Assistance Services	39
PB-15 - RDT&E	41
PB-31Q - Manpower Changes in Full-Time Equivalent	43
OP-8 Part II, Civilian Personnel Costs	47

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MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

<u>Appropriation Summary</u>	<u>FY 2015 Actual</u>	<u>Price Change</u>	<u>Program Change</u>	<u>FY 2016 Enacted</u>	<u>Price Change</u>	<u>Program Change</u>	<u>FY 2017 Estimate</u>
O&M, Defense-Wide	\$402.5	\$6.7	\$14.9	\$424.1	\$7.5	\$15.4	\$447.0

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MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

	FY 2015 <u>Actual</u>	FY 2016 <u>Enacted</u>	FY 2017 <u>Estimate</u>
1. Operational Support	402,462	424,069	446,975
Aegis Ballistic Missile Defense (BMD)	11,632	46,111	73,039
Ballistic Missile Defense (BMD) Midcourse Defense Segment	150,892	133,511	129,281
Ballistic Missile Defense Systems (BMDS) AN/TPY-2 Radars	177,859	186,139	172,556
Terminal High Altitude Area Defense (THAAD)	62,079	58,308	72,099
Total Operation and Maintenance, Defense-Wide	402,462	424,069	446,975

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MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

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MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

		<u>FY 2015 Program</u>	<u>Price Growth Percent</u>	<u>Price Growth</u>	<u>Program Growth</u>	<u>FY 2016 Program</u>	<u>Price Growth Percent</u>	<u>Price Growth</u>	<u>Program Growth</u>	<u>FY 2017 Program</u>
<u>Travel</u>										
308	Travel of Persons	0	1.70%	0	337	337	1.80%	6	-4	339
399	Total Travel	0		0	337	337		6	-4	339
<u>Supplies & Materials</u>										
401	DLA Energy (Fuel Products)	1,909	-7.30%	-139	-690	1,080	-8.20%	-89	88	1,079
499	Total Supplies & Materials	1,909		-139	-690	1,080		-89	88	1,079
<u>Transportation</u>										
771	Commercial Transport	3,495	1.70%	59	-1,532	2,022	1.80%	36	-155	1,903
799	Total Transportation	3,495		59	-1,532	2,022		36	-155	1,903
<u>Other Purchases</u>										
912	Rental Payments to GSA (SLUC)	0	1.70%	0	0	0	1.80%	0	244	244
913	Purchased Utilities (Non-Fund)	3,365	1.70%	57	-530	2,892	1.80%	52	95	3,039
914	Purchased Communications (Non-Fund)	0	1.70%	0	1,211	1,211	1.80%	22	-19	1,214
915	Rents (Non-GSA)	0	1.70%	0	238	238	1.80%	4	-4	238
917	Postal Services (U.S.P.S.)	0	1.70%	0	5	5	1.80%	0	0	5
920	Supplies & Materials (Non-Fund)	9,497	1.70%	161	4,378	14,036	1.80%	253	4,969	19,258
922	Equipment Maintenance By Contract	291,636	1.70%	4,958	16,599	313,193	1.80%	5,637	-37,243	281,587
923	Facilities Sust, Rest, & Mod by Contract	18,692	1.70%	318	-8,089	10,921	1.80%	197	2,222	13,340
925	Equipment Purchases (Non-Fund)	0	1.70%	0	13,957	13,957	1.80%	251	2,173	16,381
930	Other Depot Maintenance (Non-Fund)	0	1.70%	0	10,432	10,432	1.80%	188	7,812	18,432
932	Mgt Prof Support Svcs	7,680	1.70%	131	3,259	11,070	1.80%	199	672	11,941
933	Studies, Analysis & Eval	0	1.70%	0	21	21	1.80%	0	3,664	3,685
934	Engineering & Tech Svcs	0	1.70%	0	1,647	1,647	1.80%	30	463	2,140
937	Locally Purchased Fuel (Non-Fund)	53	-7.30%	-4	-49	0	-8.20%	0	1,510	1,510

OP-32 Exhibit, Appropriation Summary of Price/Program Growth
MDA-7

MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

		<u>Price Growth Program</u>	<u>Price Growth Percent</u>	<u>Program Growth</u>	<u>Price Growth Program</u>	<u>Price Growth Percent</u>	<u>Program Growth</u>	<u>FY 2017 Program</u>		
987	Other Intra-Govt Purch	20,726	1.70%	352	-11,391	9,687	1.80%	174	8,779	18,640
989	Other Services	45,188	1.70%	768	-30,036	15,920	1.80%	287	6,682	22,889
990	IT Contract Support Services	221	1.70%	4	15,175	15,400	1.80%	277	13,434	29,111
999	Total Other Purchases	397,058		6,745	16,827	420,630		7,571	15,453	443,654
	Total	402,462		6,665	14,942	424,069		7,524	15,382	446,975

MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

		<u>FY 2015 Program</u>	<u>Price Growth Percent</u>	<u>Price Growth</u>	<u>Program Growth</u>	<u>FY 2016 Program</u>	<u>Price Growth Percent</u>	<u>Price Growth</u>	<u>Program Growth</u>	<u>FY 2017 Program</u>
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917	Postal Services (U.S.P.S.)	0	1.70%	0	5	5	1.80%	0	0	5
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925	Equipment Purchases (Non-Fund)	0	1.70%	0	13,957	13,957	1.80%	251	2,173	16,381
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934	Engineering & Tech Svcs	0	1.70%	0	1,647	1,647	1.80%	30	463	2,140
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OP-32A Exhibit, Appropriation Summary of Price/Program Growth
MDA-9

MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

		<u>Price Growth Program</u>	<u>Price Growth</u>	<u>Program Growth</u>	<u>Price Growth Program</u>	<u>Price Growth Percent</u>	<u>Program Growth</u>	<u>FY 2017 Program</u>
987	Other Intra-Govt Purch	20,726	1.70%	352	-11,391	9,687	1.80%	174
989	Other Services	45,188	1.70%	768	-30,036	15,920	1.80%	287
990	IT Contract Support Services	221	1.70%	4	15,175	15,400	1.80%	277
999	Total Other Purchases	397,058		6,745	16,827	420,630		15,453
	Total	402,462		6,665	14,942	424,069		15,382
							7,524	443,654
								446,975

OP-32A Exhibit, Appropriation Summary of Price/Program Growth
MDA-10

MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Change</u> <u>FY 2016/2017</u>
Contractor FTEs (Total)	909	941	964	23

Personnel Summary Explanations:

The FY 2015 to FY 2016 growth provides increased operation and maintenance activities for additional deployed Aegis weapon and missile systems, and increased THAAD contractor logistics support (CLS) team and training support for the 6th THAAD Battery and AN/TPY-2 Radars.

The FY 2016 to FY 2017 growth provides increased operations and maintenance activities for additional deployed Aegis weapon and missile systems, additional Aegis missile recertifications at Maintenance Depots, post deployment Aegis computer program baseline support, initiates CLS support for the 7th THAAD Battery delivered in FY 2017, provides additional recurring THAAD training, and funds FTEs transitioned from Research, Development, Test and Evaluation (RDT&E) that are now funded with Operation and Maintenance (O&M) to provide sustainment of fielded THAAD software.

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**MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget**

	<u>TOTAL</u>
FY 2016 President's Budget Request (Amended, if applicable)	432,068
1. Congressional Adjustments	
a. Distributed Adjustments	
1) Decrease of THAAD Batteries sustainment funded early to need	-4,900
2) Unaccounted program transfer to OUSD (C)	-2,600
b. Undistributed Adjustments	
c. Adjustments to Meet Congressional Intent	
d. General Provisions	
1) Section 8128 (Fuel Savings)	-332
2) Section 8037 (Indian Lands)	-160
3) Section 8024 (FFRDC)	-7
FY 2016 Appropriated Amount	424,069
2. War-Related and Disaster Supplemental Appropriations	
3. Fact-of-Life Changes	
FY 2016 Baseline Funding	424,069
4. Reprogrammings (Requiring 1415 Actions)	
Revised FY 2016 Estimate	424,069
5. Less: Item 2, War-Related and Disaster Supplemental Appropriations and Item 4, Reprogrammings	
FY 2016 Normalized Current Estimate	424,069
6. Price Change	7,524
7. Functional Transfers	
8. Program Increases	
a. Annualization of New FY 2016 Program	

**MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget**

	<u>TOTAL</u>
b. One-Time FY 2017 Increases	
1) Aegis BMD program	11,900
c. Program Growth in FY 2017	
1) THAAD program	12,502
2) Aegis SM-3 program	8,580
3) Aegis BMD program	5,153
9. Program Decreases	
a. Annualization of FY 2016 Program Decreases	
b. One-Time FY 2016 Increases	
c. Program Decreases in FY 2017	
1) BMDS Radar program	-16,408
2) Midcourse Defense Segment program	-6,345
FY 2017 Budget Request	446,975

Missile Defense Agency
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

Operation and Maintenance, Defense-Wide Summary (\$ in thousands)

Budget Activity (BA) 1: Operating Forces

Subactivity Group 11A

	FY 2015 <u>Actual</u>	Price <u>Change</u>	Program <u>Change</u>	FY 2016 <u>Enacted</u>	Price <u>Change</u>	Program <u>Change</u>	FY 2017 <u>Estimate</u>
MDA	402,462	6,665	14,942	424,069	7,524	15,382	446,975

I. Description of Operations Financed:

A. Aegis Ballistic Missile Defense (BMD). Funding provides a wide range of support activities for deployed Aegis BMD ships and Ashore facilities. The three main segments of Operations and Maintenance support include Standard Missile-3 (SM-3) Sustainment, Aegis Weapon System (AWS) Sustainment, and Operational Sustainment for Aegis Ashore facilities.

The SM-3 sustainment program includes the recertification of missiles that have reached their four-year mid-life, repair during recertification, installation of Third Stage Rocket Motor (TSRM) nozzle reliability enhancements into SM-3 Block IB, demilitarization of SM-3 missiles that have reached their end of the eight-year service-life, Ordnance Assessment/Surveillance, modeling and simulation and logistics efforts. Funding also provides SM-3 first destination All Up Round (AUR) transportation post recertification, ballistic barrier maintenance for transportation, system maintenance spares replenishment, and SM-3 operational support to fleet forces. Funding in FY 2017 also includes a one-time cost to standup the Seal Beach Missile Recertification Facility to support future increased SM-3 recertification requirements.

Weapon System sustainment includes system readiness support for all fielded Aegis BMD Weapon System baselines including In-Service Engineering Agent (ISEA), Lifetime Support Engineering Agent (LSEA), and Technical Design Agent support to provide systems engineering services and analysis, integrated logistics support, and technical

**Missile Defense Agency
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget**

I. Description of Operations Financed (cont.)

documentation maintenance. Funding provides fleet support, identification and resolution of software operability issues with Aegis Combat System elements, correction of Weapon System software deficiencies identified after completion of operational testing, certification/delivery of updated weapon systems capabilities, Reliability, Maintainability & Availability analysis/metrics, review/implementation of maintenance concepts, and analysis/resolution of Diminishing Manufacturing Sources/obsolete material issues.

Operational sustainment support for the Aegis Ashore Hawaii and Romania sites and equipment includes AWS sparing and consumables, facility operations including transportation, power and communications, and Command, Control, Communications, Computers and Intelligence (C4I), ISEA and LSEA engineering. Funds also provide portable Aegis BMD Mission Planning tools for Fleet Maritime Operation Centers, Regional BMD Commanders, and Training Commands which enables off-line planning by senior BMD staffs to develop and revise regional and homeland defense plans, Pre-Planned Responses and Global Force Management requests.

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. The GMD weapon system consists of Ground Based Interceptors (GBI), GMD Fire Control systems (GFC), GMD Communications Network (GCN), In-Flight Interceptor Communications System (IFICS) 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. Funding provides sustainment of fielded GBIs located at Fort Greely, Alaska (FGA) and Vandenberg Air Force Base (VAFB), California; and IDTs located at Eareckson Air Station (EAS), Alaska, FGA, VAFB and Fort Drum, New York.

Missile Defense Agency
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

I. Description of Operations Financed (cont.)

Funding provides maintenance, repair, training, supply support, sustaining engineering, network operations, integrated logistics support, configuration control, scheduling, execution control, system transitioning and performance reporting functions.

Additionally, funding provides Base Operations Support (BOS) for facility sustainment and maintenance at the various GMD sites including 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. Funding provides sustainment of 12 Army Navy/Transportable Radar Surveillance and Control-2 radars including 5 forward-based radars and 7 Terminal High Altitude Area Defense configured radars to include supply support, repair, maintenance, modernization, transportation, parts storage, Special Tools and Test Equipment for the organic depot, recurring and delta training, training device maintenance, engineering support, Interactive Electronic Technical Manual (IETM) updates, software user guide up-dates, software revision certification and depot-level maintenance for the Forward Based Mode (FBM) missile defense unique equipment. Funding also provides Electronic Equipment Unit (EEU) retrofits at Letterkenny Army Depot to enhance radar capability, and provides Upgraded Early Warning Radar (UEWR)/COBRA DANE Radar sustainment which is unique to the Missile Defense mission, which MDA sustains and operates in conjunction with the US Air Force.

D. Terminal High Altitude Area Defense (THAAD). The increase in THAAD program funding provides additional sustainment for the 7th THAAD Battery delivered in FY 2017. Computer programs and updates have transitioned from development to sustainment. Therefore, funding requested has moved from RDT&E to O&M to now sustain fielded THAAD software. 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, while the U.S. Army is responsible for the operations and sustainment of the common

**Missile Defense Agency
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget**

I. Description of Operations Financed (cont.)

items. Beginning in FY 2017 THAAD will initiate sustainment for Battery 7 upon hardware delivery including hardware maintenance and Contractor Logistics Support (CLS). (Funding for conduct of non-recurring New Equipment Training is included in THAAD's FY 2017 Procurement request). MDA funding also provides: 1) Field and sustainment level supply, maintenance, modernization, hazardous materials/waste and disposal, and Depot level maintenance support for THAAD missile defense unique equipment. 2) Spares, repair parts, and maintenance capability at the location of each THAAD battery. 3) Engineering support for the THAAD missile defense unique equipment. 4) Software support for fielded software, to include reviewing deficiency reports, correcting errors, adding incremental capability improvements, and maintaining compatibility with hardware or other system interfaces. 5) Missile transportation and handling from the missile storage location to the site of the THAAD launchers. 6) Interactive Electronic Technical Manual (IETM) and Software user guide updates, and Software revision certification. 7) THAAD training device maintenance. 8) Supply, maintenance and transportation support for recurring equipment training and delta training for fielded units. 9) Special Tools and Test Equipment for the organic depot. 10) 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),

**Missile Defense Agency
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget**

II. Force Structure Summary (cont.)

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 is operated by Soldiers from the 100th Missile Defense Brigade (five crews) headquartered at Colorado Springs, Colorado, and its 49th Missile Defense Battalion (five crews) at Fort Greely, Alaska. By the end of CY 2017 MDA will support 44 operationally deployed GBIs located at FGA (40 GBIs) and VAFB (4 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 Missile Defense Integration and Operations Center (MDIOC) (two each). IDTs are currently located at FGA, VAFB, EAS, and Fort Drum, New York.

C. Ballistic Missile Defense Systems (BMDS) AN/TPY-2 Radars. MDA sustains 12 Army Navy/Transportable Radar Surveillance and Control-2 (AN/TPY-2) radars including 5 stand-alone forward-based radars, and 7 radars which are a component of THAAD battery configuration. These services are furnished through Consolidated Contractor Logistics Support (CCLS) contracts. Army force structure for Missile Defense Batteries (MDB) is currently set at 5 batteries with 5 AN/TPY-2 forward-based radars operated at fixed radar sites by 65 Soldiers. The battery is organized to conduct deployments 24 hours a day, 7 days a week, 365 days a year. This operational tempo is currently met by a combination of CCLS and Soldiers operating and maintaining the radar.

D. Terminal High Altitude Area Defense (THAAD). Army force structure for THAAD is currently set at 7 batteries with 6 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). The battery requires support from the Army for

**Missile Defense Agency
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget**

II. Force Structure Summary (cont.)

communications, security, common supplies, and services. THAAD missile defense unique supplies are routed 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 facilitate movement of the battery into a war zone. 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.

Missile Defense Agency
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

III. Financial Summary (\$ in thousands)

A. <u>BA Subactivities</u>	FY 2015 <u>Actual</u>	FY 2016					Current <u>Enacted</u>	FY 2017 <u>Estimate</u>		
		Congressional Action			<u>Appropriated</u>					
		<u>Budget Request</u>	<u>Amount</u>	<u>Percent</u>						
1. Operational Support	402,462	432,068	-7,999	-1.9	424,069	424,069	424,069	446,975		
Aegis Ballistic Missile Defense (BMD)	11,632	46,445	-334	-0.7	46,111	46,111	46,111	73,039		
Ballistic Missile Defense (BMD)	150,892	134,477	-966	-0.7	133,511	133,511	133,511	129,281		
Midcourse Defense Segment										
Ballistic Missile Defense Systems (BMDS)	177,859	187,486	-1,347	-0.7	186,139	186,139	186,139	172,556		
AN/TPY-2 Radars										
Terminal High Altitude Area Defense (THAAD)	62,079	63,660	-5,352	-8.4	58,308	58,308	58,308	72,099		
Total	402,462	432,068	-7,999	-1.9	424,069	424,069	424,069	446,975		

**Missile Defense Agency
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget**

III. Financial Summary (\$ in thousands)

	Change	Change
	FY 2016/FY 2016	FY 2016/FY 2017
B. Reconciliation Summary		
Baseline Funding		
Congressional Adjustments (Distributed)	-7,500	
Congressional Adjustments (Undistributed)		
Adjustments to Meet Congressional Intent		
Congressional Adjustments (General Provisions)	-499	
Subtotal Appropriated Amount	424,069	
Fact-of-Life Changes (2016 to 2016 Only)		
Subtotal Baseline Funding	424,069	
Supplemental		
Reprogrammings		
Price Changes	7,524	
Functional Transfers		
Program Changes	15,382	
Current Estimate	424,069	446,975
Less: Wartime Supplemental		
Normalized Current Estimate	424,069	

Missile Defense Agency
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

III. Financial Summary (\$ in thousands)

C. Reconciliation of Increases and Decreases	Amount	Totals
FY 2016 President's Budget Request (Amended, if applicable)		432,068
1. Congressional Adjustments		-7,999
a. Distributed Adjustments		
1) Decrease of THAAD Batteries sustainment funded early to need	-4,900	
2) Unaccounted program transfer to OUSD (C)	-2,600	
b. Undistributed Adjustments		
c. Adjustments to Meet Congressional Intent		
d. General Provisions		
1) Section 8128 (Fuel Savings)	-332	
2) Section 8037 (Indian Lands)	-160	
3) Section 8024 (FFRDC)	-7	
FY 2016 Appropriated Amount		424,069
2. War-Related and Disaster Supplemental Appropriations		
3. Fact-of-Life Changes		
FY 2016 Baseline Funding		424,069
4. Reprogrammings (Requiring 1415 Actions)		
Revised FY 2016 Estimate		424,069
5. Less: Item 2, War-Related and Disaster Supplemental Appropriations and Item 4, Reprogrammings		
FY 2016 Normalized Current Estimate		424,069
6. Price Change		7,524
7. Functional Transfers		
8. Program Increases		38,135
a. Annualization of New FY 2016 Program		
b. One-Time FY 2017 Increases		
1) Aegis BMD program	11,900	
Growth provides non-recurring stand-up cost for the Seal Beach recertification facility in order to support future increased Standard Missile-3 (SM-3)		

Missile Defense Agency
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

III. Financial Summary (\$ in thousands)

C. <u>Reconciliation of Increases and Decreases</u>	<u>Amount</u>	<u>Totals</u>
recertification requirements.		
c. Program Growth in FY 2017		
1) THAAD program	12,502	
Growth initiates CLS support for the 7th THAAD Battery delivered in FY 2017, increases recurring THAAD training, and funds contractor FTEs to sustain fielded THAAD software. (FY 2016 Baseline \$58,308 thousand, 0 FTEs)		
2) Aegis SM-3 program	8,580	
Growth is due to FY 2017 initiation of IA service life extensions, IB mid-life recertifications and Third Stage Rocket Motor nozzle retrofit installations. (FY2016 Baseline \$46,111 thousand, 0 FTEs)		
3) Aegis BMD program	5,153	
Growth initiates sustainment costs of software for BMD 4.x (4.0.3). (FY 2016 Baseline \$0 thousand, 0 FTEs)		
9. Program Decreases		-22,753
a. Annualization of FY 2016 Program Decreases		
b. One-Time FY 2016 Increases		
c. Program Decreases in FY 2017		
1) BMDS Radar program	-16,408	
Decrease in contractor services requirements for logistics support and deferred radar spare purchases. (FY 2016 Baseline \$186,139 thousand, 0 FTEs)		
2) Midcourse Defense Segment program	-6,345	
Decrease is due to the reduction and deferment of all FY 2017 non-mission critical facility FSRM efforts. (FY 2016 Baseline \$133,511 thousand, 0 FTEs)		

**Missile Defense Agency
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget**

III. Financial Summary (\$ in thousands)

C. <u>Reconciliation of Increases and Decreases</u> FY 2017 Budget Request	<u>Amount</u>	<u>Totals</u>
		446,975

**Missile Defense Agency
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget**

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) criteria as the primary operational readiness metric to gauge the DSC Prime Contractor's sustainment performance.

The intent of using SA criteria is to maximize availability of the GMD weapon system to the warfighter for the Homeland Defense mission and to 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 Combatant Command minimum asset availability is maintained per established readiness criteria.

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

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

**Missile Defense Agency
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget**

IV. Performance Criteria and Evaluation Summary:

SA 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 Corrective Maintenance (CM) nor Preventive Maintenance (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 CM and PM activities covered in the Warfighter Asset Management Process. Under Performance Based Logistics (PBL), the DSC Contractor should schedule maintenance using the Asset Management Process in a way that minimizes down time.

**Missile Defense Agency
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget**

IV. Performance Criteria and Evaluation Summary:

C. Ballistic Missile Defense Systems (BMDS) AN/TPY-2 Radars. Upgraded Early Warning Radars (UEWR) and COBRA DANE operations and sustainment are managed by the Air Force to maintain radars' multi-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:

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

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 Ao downtime. For AN/TPY-2 radars, performance incentives are calculated as follows:

**Missile Defense Agency
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget**

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 Lockheed Martin (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 Tactical Statin Groups's (TSG) 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.

**Missile Defense Agency
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget**

V. Personnel Summary	FY 2015	FY 2016	FY 2017	Change FY 2015/ FY 2016	Change FY 2016/ FY 2017
<u>Contractor FTEs (Total)</u>	<u>909</u>	<u>941</u>	<u>964</u>	<u>32</u>	<u>23</u>

The FY 2015 to FY 2016 growth provides increased operation and maintenance activities for additional deployed Aegis weapon and missile systems, and increased THAAD contractor logistics support (CLS) team and training support for the 6th THAAD Battery and AN/TPY-2 Radars.

The FY 2016 to FY 2017 growth provides increased operations and maintenance activities for additional deployed Aegis weapon and missile systems, additional Aegis missile recertifications at Maintenance Depots, post deployment Aegis computer program baseline support, initiates CLS support for the 7th THAAD Battery delivered in FY 2017, provides additional recurring THAAD training, and funds FTEs transitioned from Research, Development, Test and Evaluation (RDT&E) that are now funded with Operation and Maintenance (O&M) to provide sustainment of fielded THAAD software.

Missile Defense Agency
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

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

OP 32 Line	Change			Change			FY 2017
	FY 2015	FY 2015/FY 2016	FY 2016	FY 2016	FY 2016/FY 2017	FY 2017	
	Actual	Price	Program	Enacted	Price	Program	Estimate
308 Travel of Persons	0	0	337	337	6	-4	339
399 Total Travel	0	0	337	337	6	-4	339
401 DLA Energy (Fuel Products)	1,909	-139	-690	1,080	-89	88	1,079
499 Total Supplies & Materials	1,909	-139	-690	1,080	-89	88	1,079
771 Commercial Transport	3,495	59	-1,532	2,022	36	-155	1,903
799 Total Transportation	3,495	59	-1,532	2,022	36	-155	1,903
912 Rental Payments to GSA (SLUC)	0	0	0	0	0	244	244
913 Purchased Utilities (Non-Fund)	3,365	57	-530	2,892	52	95	3,039
914 Purchased Communications (Non-Fund)	0	0	1,211	1,211	22	-19	1,214
915 Rents (Non-GSA)	0	0	238	238	4	-4	238
917 Postal Services (U.S.P.S.)	0	0	5	5	0	0	5
920 Supplies & Materials (Non-Fund)	9,497	161	4,378	14,036	253	4,969	19,258
922 Equipment Maintenance By Contract	291,636	4,958	16,599	313,193	5,637	-37,243	281,587
923 Facilities Sust, Rest, & Mod by Contract	18,692	318	-8,089	10,921	197	2,222	13,340
925 Equipment Purchases (Non-Fund)	0	0	13,957	13,957	251	2,173	16,381
930 Other Depot Maintenance (Non-Fund)	0	0	10,432	10,432	188	7,812	18,432
932 Mgt Prof Support Svcs	7,680	131	3,259	11,070	199	672	11,941
933 Studies, Analysis & Eval	0	0	21	21	0	3,664	3,685
934 Engineering & Tech Svcs	0	0	1,647	1,647	30	463	2,140
937 Locally Purchased Fuel (Non-Fund)	53	-4	-49	0	0	1,510	1,510
987 Other Intra-Govt Purch	20,726	352	-11,391	9,687	174	8,779	18,640
989 Other Services	45,188	768	-30,036	15,920	287	6,682	22,889
990 IT Contract Support Services	221	4	15,175	15,400	277	13,434	29,111
999 Total Other Purchases	397,058	6,745	16,827	420,630	7,571	15,453	443,654
Total	402,462	6,665	14,942	424,069	7,524	15,382	446,975

**Missile Defense Agency
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget**

The difference between the OP-32 and the Program Resources Collection

Process (PRCP) system for object classes 922 (Equipment Maintenance by

Contract) and 923 (Facilities Sustainment, Restoration, and Modernization by

Contract) for the FY 2016 Enacted and FY 2017 Estimate columns is due to a

data entry error that was not discovered until after PRCP had locked. The

error has been corrected in the above OP-32.

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MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

CONTRACT SERVICES FUNDING
(\$ in Millions)

Line	<u>By PB/OP-32 Inflation Category Code</u>	FY 2015		FY 2016		FY 2016		FY 2017		FY 2017	
		Base & OCO <u>Actual</u>	Request	Base	OCO <u>Request</u>	Base	Request	Base	OCO <u>Request</u>	Base	Request
914	Purchased Communications (Non-Fund)	0		1	0	0		1		0	
	Total 23.1 - Communications, Utilities, and Misc. Charges	0		1		0		1		0	
932	Mgmt and Professional Support Services	8		11	0	0		12		0	
934	Engineering and Technical Services	0		2	0	0		2		0	
	Total 25.1 - Advisory and Assistance Services	8		13		0		14		0	
989	Other Contracts	45		16	0	0		23		0	
926	Other Overseas Purchases										
	Total 25.2 - Other Services	45		16		0		23		0	
987	Other Intra-Government Purchases	0		10	0	0		19		0	
	Total 25.3 - Other Goods and Services from Federal Sources	0		10		0		19		0	
923	Facility Maintenance	19		11	0	0		13		0	
	Total 25.4 - Operation and Maintenance of Facilities	19		11		0		13		0	
985	Research and Development Contracts										
	Total 25.5 - Research and Development Contracts	0		0		0		0		0	
922	Equipment Maintenance - Contract	292		313	0	0		282		0	
930	Other Depot Maintenance (Non-Fund)	0		10	0	0		18		0	
990	IT Contract Support Services	1		15	0	0		29		0	
	Total 25.7 - Operation and Maintenance of Equipment	293		338		0		329		0	
964	Subsistence Contracts										
	Total 25.8- Subsistence and Support of Persons	0		0		0		0		0	
	Total	365		389		0		399		0	

Source: Program Resources Collection Process as of 05 January, 2016

Numbers may not add due to rounding

MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

Contractor Full-Time Equivalents

Line	By PB/OP-32 Inflation Category Code	FY 2015		FY 2016		FY 2016		FY 2017	
		Base & OCO Actual	Request	Base	OCO Request	Base	Request	OCO Request	
914	Purchased Communications (Non-Fund)	0		4	0		4	0	
	Total 23.1 - Communications, Utilities and Misc. Charges	0		4	0		4	0	
932	Mgmt and Professional Support Services	14		29	0		29	0	
934	Engineering and Technical Services			11			25		
	Total 25.1 - Advisory and Assistance Services	14		40	0		54	0	
989	Other Contracts	20		22	0		31	0	
926	Other Overseas Purchases			11			25		
	Total 25.2 - Other Services	20		22	0		31	0	
987	Other Intra-Government Purchases	0		1	0		1	0	
	Total 25.3 - Other Goods and Services from Federal Sources	0		1	0		1	0	
923	Facility Maintenance	129		104	0		104	0	
	Total 25.4 - Operation and Maintenance of Facilities	129		104	0		104	0	
985	Research and Development Contracts	0		0	0		0	0	
	Total 25.5 - Research and Development Contracts	0		0	0		0	0	
922	Equipment Maintenance - Contract	744		716	0		716	0	
930	Other Depot Maintenance (Non-Fund)	0		22			22		
990	IT Contract Support Services	2		32			32	0	
	Total 25.7 - Operation and Maintenance of Equipment	746		770	0		770	0	
	Total	909		941	0		964	0	

Source: Program Resources Collection Process as of 05 January, 2016

Numbers may not add due to rounding

MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

CONTRACT SERVICES

Defense-Wide Missile Defense Agency
Operation and Maintenance
Justification Narrative

Description of Services Financed:

A. Aegis Ballistic Missile Defense (BMD). Funding provides a wide range of support activities for deployed Aegis BMD ships and Ashore facilities. The three main segments of Operations and Maintenance support include Standard Missile-3 (SM-3) Sustainment, Aegis Weapon System (AWS) Sustainment, and Operational Sustainment for Aegis Ashore facilities.

The SM-3 sustainment program includes the recertification of missiles that have reached their four-year mid-life, repair during recertification, installation of Third Stage Rocket Motor (TSRM) nozzle reliability enhancements into SM-3 Block IB, demilitarization of SM-3 missiles that have reached their end of eight-year service-life, Ordnance Assessment/Surveillance, modeling and simulation and logistics efforts. Funding also provides SM-3 first destination All Up Round (AUR) transportation post recertification, ballistic barrier maintenance for transportation, system maintenance spares replenishment, and SM-3 operational support to fleet forces. Funding in FY 2017 also includes a one-time cost to standup the Seal Beach Missile Recertification Facility to support future increased SM-3 recertification requirements.

Weapon System sustainment includes system readiness support for all fielded Aegis BMD Weapon System baselines including In-Service Engineering Agent (ISEA), Lifetime Support Engineering Agent (LSEA), and Technical Design Agent support to provide systems engineering services and analysis, integrated logistics support, and technical documentation maintenance. Funding provides fleet support, identification and resolution of software operability issues with Aegis Combat System elements, correction of Weapon System software deficiencies identified after completion of operational testing, certification/delivery of updated weapon systems capabilities, Reliability, Maintainability & Availability analysis/metrics,

MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

review/implementation of maintenance concepts, and analysis/resolution of Diminishing Manufacturing Sources/obsolete material issues.

Operational sustainment support for the Aegis Ashore Hawaii and Romania sites and equipment includes AWS sparing and consumables, facility operations including transportation, power and communications, and Command, Control, Communications, Computers and Intelligence (C4I), ISEA and LSEA engineering. Funds also provide portable Aegis BMD Mission Planning tools for Fleet Maritime Operation Centers, Regional BMD Commanders, and Training Commands which enables off-line planning by senior BMD staffs to develop and revise regional and homeland defense plans, Pre-Planned Responses and Global Force Management requests.

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. The GMD weapon system consists of Ground Based Interceptors (GBI), GMD Fire Control systems (GFC), GMD Communications Network (GCN), In-Flight Interceptor Communications System (IFICS) 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. Funding provides sustainment of fielded GBIs located at Fort Greely, Alaska (FGA) and Vandenberg Air Force Base (VAFB), California; and IDTs located at Eareckson Air Station (EAS), Alaska, FGA, VAFB and Fort Drum, New York. Funding provides maintenance, repair, training, supply support, sustaining engineering, network operations, integrated logistics support, configuration control, scheduling, execution control, system transitioning and performance reporting functions. Additionally, funding provides Base Operations Support (BOS) for facility sustainment and maintenance at the various GMD sites including 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. Funding provides sustainment of 12 Army Navy/Transportable Radar Surveillance and Control-2 radars including 5 forward-based radars and 7 Terminal High Altitude Area Defense configured radars to include supply support, repair, maintenance, modernization, transportation, parts storage, Special Tools and Test Equipment for the organic depot, recurring and delta training, training device maintenance, engineering support, Interactive Electronic Technical Manual (IETM) updates, software user guide up-dates, software revision certification and depot-level maintenance for the Forward Based Mode (FBM) missile defense unique equipment. Funding also provides Electronic Equipment Unit (EEU) retrofits at Letterkenny Army Depot to enhance radar capability, and provides Upgraded Early Warning

MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

Radar (UEWR)/COBRA DANE Radar sustainment which is unique to the Missile Defense mission, which MDA sustains and operates in conjunction with the US Air Force.

D. Terminal High Altitude Area Defense (THAAD). The increase in THAAD program funding provides additional sustainment for the 7th THAAD Battery delivered in FY 2017. Computer programs and updates have transitioned from development to sustainment. Therefore, funding requested has moved from RDT&E to O&M to now sustain fielded THAAD software. 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, while the U.S. Army is responsible for the operations and sustainment of the common items. Beginning in FY 2017 THAAD will initiate sustainment for Battery 7 upon hardware delivery including hardware maintenance and Contractor Logistics Support (CLS). (Funding for conduct of non-recurring New Equipment Training is included in THAAD's FY 2017 Procurement request). MDA funding also provides: 1) Field and sustainment level supply, maintenance, modernization, hazardous materials/waste and disposal, and Depot level maintenance support for THAAD missile defense unique equipment. 2) Spares, repair parts, and maintenance capability at the location of each THAAD battery. 3) Engineering support for the THAAD missile defense unique equipment. 4) Software support for fielded software, to include reviewing deficiency reports, correcting errors, adding incremental capability improvements, and maintaining compatibility with hardware or other system interfaces. 5) Missile transportation and handling from the missile storage location to the site of the THAAD launchers. 6) Interactive Electronic Technical Manual (IETM) and Software user guide updates, and Software revision certification. 7) THAAD training device maintenance. 8) Supply, maintenance and transportation support for all recurring equipment training and delta training for fielded units. 9) Special Tools and Test Equipment for the organic depot. 10.) 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 includes a one-time stand-up cost for the Seal Beach missile recertification facility in order to support future increased SM-3 recertification requirements, provides additional

MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

missile certifications due to the increased number of deployed Aegis weapon and missile systems, and adds software sustainment for Baseline 4.x (4.0.3).

B. Midcourse Defense Segment program decrease is due to the reduction and deferment of all FY 2017 non-mission critical facility SRM efforts.

C. Ballistic Missile Defense Systems (BMDS) AN/TPY-2 Radars program decrease in contractor services requirements for logistics support and deferred radar spare purchases.

D. THAAD program growth initiates CLS support for the 7th THAAD Battery delivered in FY 2017, increases recurring THAAD training, and funds FTEs transitioned from RDT&E that are now funded with O&M to provide sustainment of fielded THAAD software.

DATE PREPARED: 6 January 2016
POC: Tracy Flores
TELEPHONE: 256-450-3620

MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

<u>Appropriation/Fund</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>
	<u>Actual</u>	<u>Enacted</u>	<u>Estimate</u>
I. Management & Professional Support Services			
FFRDC Work	0	84	305
Non-FFRDC Work	<u>7,680</u>	<u>10,986</u>	<u>11,636</u>
Subtotal	<u>7,680</u>	<u>11,070</u>	<u>11,941</u>
II. Studies, Analysis & Evaluations			
FFRDC Work	0	0	0
Non-FFRDC Work	<u>0</u>	<u>21</u>	<u>3,685</u>
Subtotal	<u>0</u>	<u>21</u>	<u>3,685</u>
III. Engineering & Technical Services			
FFRDC Work	0	889	1,143
Non-FFRDC Work	<u>0</u>	<u>758</u>	<u>997</u>
Subtotal	<u>0</u>	<u>1,647</u>	<u>2,140</u>
TOTAL			
FFRDC Work	0	973	1,448
Non-FFRDC Work	<u>7,680</u>	<u>11,765</u>	<u>16,318</u>
Reimbursable	0	0	0

MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

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

The FY2015 to FY2016 growth provides additional engineering and technical services required to sustain new Aegis BMD computer program baseline variants (BMD 3.6 and 4.0) after completion of development and operational testing. Growth is also attributed to additional technical assessments, recommendations and assistance to Aegis BMD on all aspects of the SM-3 missile(s) design and performance analysis as missiles process through recertification and sustainment of the Upgraded Early Warning Radars and COBRA DANE Radar.

Explanation of Funding Changes (FY 2016 to FY 2017):

The FY 2016 to FY2017 growth provides additional deployment software support for THAAD fielded software and delineates sustainment support from all other THAAD software development activities. Further, the growth is attributed to increased engineering and technical services required to sustain new Aegis BMD computer program baseline variants (BMD 5.0CU) after completion of development and operational testing and additional technical assessments, recommendations and assistance to Aegis BMD on all aspects of the SM-3 missile(s) design and performance analysis as missiles process through recertification.

DATE PREPARED: 5 January 2016

POC: Tracy Flores

TELEPHONE: 256-450-3620

MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

		<u>(Dollars in Thousands)</u>		
		FY 2015	FY 2016	FY 2017
Appropriation/Fund: RDT&E (0400)				
1. Management & Professional Support Services				
	FFRDC Work	932	7,288	7,288
	Non-FFRDC Work	932	<u>220,175</u>	<u>220,174</u>
	Sub-Total	227,463	227,462	224,882
2. Studies, Analysis & Evaluations				
	FFRDC Work	933	3,392	3,393
	Non-FFRDC Work	933	<u>6,421</u>	<u>6,421</u>
	Sub-Total	9,813	9,814	9,784
3. Engineering & Technical Services				
	FFRDC Work	934	131,666	131,535
	Non-FFRDC Work	934	<u>151,108</u>	<u>142,938</u>
	Sub-Total	282,774	274,473	267,739
	TOTAL		520,050	511,749
	FFRDC Work		142,347	142,215
	Non-FFRDC Work		377,703	369,534
				375,974

DATE PREPARED: 6 January 2016
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MDA-41

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MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

MISSILE DEFENSE AGENCY

		<u>Foreign National</u>			
	<u>US Direct Hire</u>	<u>Direct Hire</u>	<u>Indirect Hire</u>		<u>Total</u>
1. FY 2015 FTEs	0	0	0		0
2. FY 2016 FTEs	0	0	0		0
3. FY 2017 FTEs	0	0	0		0

MDA - Operation and Maintenance (O&M)

		<u>Foreign National</u>			
	<u>US Direct Hire</u>	<u>Direct Hire</u>	<u>Indirect Hire</u>		<u>Total</u>
1. FY 2015 FTEs	0	0	0		0
2. FY 2016 FTEs	0	0	0		0
3. FY 2017 FTEs	0	0	0		0

MDA - Research, Development, Test and Evaluation (RDT&E)

		<u>Foreign National</u>			
	<u>US Direct Hire</u>	<u>Direct Hire</u>	<u>Indirect Hire</u>		<u>Total</u>
1. FY 2015 FTEs	0	0	0		0
2. FY 2016 FTEs	0	0	0		0
3. FY 2017 FTEs	0	0	0		0

MDA - Defense Working Capital Fund (DWCF)

		<u>Foreign National</u>			
	<u>US Direct Hire</u>	<u>Direct Hire</u>	<u>Indirect Hire</u>		<u>Total</u>
1. FY 2015 FTEs	0	0	0		0
2. FY 2016 FTEs	0	0	0		0
3. FY 2017 FTEs	0	0	0		0

4. SUMMARY

		<u>Foreign National</u>			
	<u>US Direct Hire</u>	<u>Direct Hire</u>	<u>Indirect Hire</u>		<u>Total</u>
FY 2015	0	0	0		0

MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

RDT&E Total	2,338	0	0	2,338
Direct Funded	2,300	0	0	2,300
Reimbursable Funded	38	0	0	38
Total Component	2,338	0	0	2,338
Direct Funded	2,300	0	0	2,300
Reimbursable Funded	38	0	0	38
FY 2016				
RDT&E Total	2,551	0	0	2,551
Direct Funded	2,484	0	0	2,484
Reimbursable Funded	67	0	0	67
Total Component	2,551	0	0	2,551
Direct Funded	2,484	0	0	2,484
Reimbursable Funded	67	0	0	67
FY 2017				
RDT&E Total	2,388	0	0	2,388
Direct Funded	2,295	0	0	2,295
Reimbursable Funded	93	0	0	93
Total Component	2,388	0	0	2,388
Direct Funded	2,295	0	0	2,295
Reimbursable Funded	93	0	0	93

**MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget**

5. Summary of Changes

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

Change from FY 2015 to FY 2016:

Due to continued hiring limitations and delays in hiring civilians for the FY2015 Missile Defense Career Development Program, actual FTE for FY2015 is lower than the FY2015 Civilian Target of 2,727. Due to under executing in FY2015, there appears to be growth from FY2015 to FY2016.

Change from FY 2016 to FY 2017:

MDA's net decrease of 163 FTE in FY 2016 reflects the implementation of civilian FTE efficiencies resulting from the Department's Civilian Workload Analysis initiative and the 25% reduction to Management Headquarters operating budgets

DATE PREPARED: 6 January 2016

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**Missile Defense Agency
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget**

Fiscal Year: FY 2015

Appropriation Account: Operation & Maintenance, MDA

A. SUMMARY OF CIVILIAN PAY:

- | | |
|------------------------------|---|
| 1. Total Civilian Pay | 0 |
| 2. Reimbursable Civilian Pay | 0 |

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> |
| 5a. DSCA, FMS (Approp 8242) | 0 |
| 5b. DAU, DAWDF (Approp 0111) | 0 |
| 6. ALL OTHER | <u>0</u> |
| 6a. FMS CASE | 0 |

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) 2017 President's Budget**

Fiscal Year: FY 2016

Appropriation Account: Operation & Maintenance, MDA

A. SUMMARY OF CIVILIAN PAY:

- | | |
|------------------------------|---|
| 1. Total Civilian Pay | 0 |
| 2. Reimbursable Civilian Pay | 0 |

B. REIMBURSABLE CIVILIAN PAY DISTRIBUTION BY SOURCE:

- | | |
|-----------------------------|---|
| 3. INTRA ACCOUNT | 0 |
| 4. INTRA SERVICE | 0 |
| 5. INTER SERVICE | 0 |
| 5a. DSCA, FMS (Approp 8242) | 0 |
| 6. ALL OTHER | 0 |
| 6a. FMS CASE | 0 |

C. CIVILIAN PAY REIMBURSED TO OTHER SERVICES/DEFENSE AGENCIES:

- | | |
|---|---|
| 7. Civilian Pay <u>REIMBURSED</u> from O&M MDA to | 0 |
|---|---|

**Missile Defense Agency
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget**

Fiscal Year: FY 2017

Appropriation Account: Operation & Maintenance, MDA

A. SUMMARY OF CIVILIAN PAY:

- | | |
|------------------------------|---|
| 1. Total Civilian Pay | 0 |
| 2. Reimbursable Civilian Pay | 0 |

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> |
| 5a. DSCA, FMS (Approp 8242) | 0 |
| 5b. DAU, DAWDF | 0 |
| 6. ALL OTHER | <u>0</u> |
| 6a. FMS CASE | 0 |

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

Fiscal Year 2017

President's Budget Submittal

Military Construction Exhibit



February 2016

**MISSILE DEFENSE AGENCY
FY 2017 MILITARY CONSTRUCTION
PRESIDENTS BUDGET SUBMITTAL
DESCRIPTIVE SUMMARIES**

(\$ in Thousands)

<u>Program</u>	<u>Authorization</u>	<u>Appropriation</u>
Major Construction	176,230	176,230
Unspecified Minor Construction	2,414	2,414
MILCON Planning & Design	_____0	_____0
TOTAL MILITARY CONSTRUCTION	178,644	178,644

**MISSILE DEFENSE AGENCY
FY 2017 MILITARY CONSTRUCTION, DEFENSE-WIDE
PROJECT SUMMARY
BY LOCATION**

(\$ in Thousands)

<u>State/Country/Installation/Project</u>	<u>Authorization Request</u>	<u>Approp. Request</u>	<u>New/Current Mission</u>	<u>Page No.</u>
Major Construction				
Alaska				
Clear Air Force Station (AFS)				
Long Range Discrimination Radar System Complex, Phase 1	155,000	155,000	N	4
Fort Greely				
Missile Defense Complex Switchgear Facility	9,560	9,560	C	9
Wake Island				
Wake Island Air Base Test Support Facility	11,670	11,670	C	13
Unspecified Minor Construction	2,414	2,414		17
MILCON Planning and Design	0	0		
TOTAL MILITARY CONSTRUCTION	178,644	178,644		

1. COMPONENT MDA	FY 2017 MILITARY CONSTRUCTION PROJECT DATA								2. DATE Feb 2016		
3. INSTALLATION AND LOCATION Clear AFS, Alaska				4. COMMAND Missile Defense Agency				5. AREA CONSTR. COST INDEX 2.44			
6. PERSONNEL N/A: Tenant of U.S. Air Force STRENGTH:	PERMANENT			STUDENTS			SUPPORTED				
	OFFICER	ENLISTED	CIVILIAN	OFFICER	ENLISTED	CIVILIAN	OFFICER	ENLISTED	CIVILIAN	TOTAL	
7. INVENTORY DATA (\$000)											
A. TOTAL ACERAGE				N/A						
B. INVENTORY TOTAL AS OF				N/A						
C. AUTHORIZATION NOT YET IN INVENTORY				0						
D. AUTHORIZATION REQUESTED IN THE FY2017				155,000						
E. AUTHORIZATION REQUESTED IN THE FY2018				0						
F. PLANNED IN NEXT THREE PROGRAM YEARS				150,000						
G. REMAINING DEFICIENCY				0						
H. GRAND TOTAL.				305,000						
8. PROJECTS REQUESTED IN THE FY2017 PROGRAM:											
CATEGORY CODE	PROJECT TITLE	SCOPE	COST (\$000)	DESIGN STATUS	START	COMPLETE					
1413	Long Range Discrimination Radar System Complex, Phase 1	1 EA	155,000	Jan 15	Sep 16						
9. FUTURE PROJECTS:											
CATEGORY CODE	PROJECT TITLE	SCOPE	COST (\$000)								
8111	Long Range Discrimination Radar System Complex, Phase 2	1 EA	150,000								
										Total: 150,000	
10. MISSION OR MAJOR FUNCTIONS: 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 Long Range Discrimination Radar project is required for deployment of a new midcourse tracking radar that will provide persistent coverage and improve lethal object discrimination capabilities against threats to the homeland from the Pacific theater.											
11. OUTSTANDING POLLUTION AND SAFETY DEFICIENCIES:											
A. Air Pollution:	N/A										
B. Water pollution:	N/A										
C. Occupational safety and health (OSH):	N/A										

1. COMPONENT MDA	FY 2017 MILITARY CONSTRUCTION PROJECT DATA				2. DATE Feb 2016
3. INSTALLATION AND LOCATION Clear AFS, Alaska		4. PROJECT TITLE Long Range Discrimination Radar System Complex, Phase 1			
8. PROGRAM ELEMENT 0604873C	6. CATEGORY CODE 1413	7. PROJECT NUMBER MDA 657	8. PROJECT COST (\$000) 155,000		
9. COST ESTIMATES					
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)	
<u>PRIMARY FACILITIES</u>					
Mission Control Facility (141391)	m2 (SF)	5,574 (60,000)	10,646 (989)	75,751 (59,340)	
Radar Foundation	LS			(2,607)	
Special Construction	LS			(9,150)	
Nearfield Antenna (132134)	EA	2	350,000	(700)	
Entry Control Facility (730837)	m2 (SF)	102 (1,100)	7,280 (676)	(744)	
Antiterrorism/Force Protection	LS			(2,180)	
Security Infrastructure/ESS	LS			(1,030)	
<u>SUPPORTING FACILITIES</u>				62,857	
Electric Service	LS			(24,491)	
Water, Sewer	LS			(11,179)	
Paving, Walks	LS			(1,137)	
Site Imp (11.5M) / Demo (1.4M)	LS			(12,900)	
Information/Communication Systems	LS			(4,060)	
Temporary Infrastructure Mob/Demob	LS			(9,090)	
SUBTOTAL				138,608	
CONTINGENCY (5.00%)				6,931	
TOTAL CONTRACT COST				145,539	
SIOH (6.50%)				9,461	
TOTAL REQUEST				155,000	
TOTAL ROUNDED REQUEST				155,000	
INSTALLED EQUIPMENT-OTHER APPROP				(893,728)	
10. DESCRIPTION OF PROPOSED CONSTRUCTION: This project constructs a Long Range Discrimination Radar (LRDR) System Complex at Clear AFS, Alaska, supporting missile defense command and control components. The complex will consist of high-altitude electromagnetic pulse (HEMP) constructed LRDR infrastructure to include a mission control facility and foundation for the radar equipment. The complex will be within a System Security Level A (SSL-A) secure boundary with an entry control facility. Additional construction includes lightning protection, equipment grounding systems, nearfield antennas, electronic security system infrastructure, site boundary and restricted area security fencing, barriers, and gates.					
Special Construction includes HEMP/Electro-Magnetic Interference (EMI) shielding and testing in mission support areas. Mission facilities will include features to meet site specific ground motion and seismic requirements. The constructed Mission Control Facility will be designed to obtain LEED Silver Certification.					
Supporting facilities include overall site development, electrical services, utility building and commercial power electric substation, water, sewer, cooling water wells, paving, walks, storm drainage, fire protection and alarm systems, site improvements and demolition, telecommunication distribution and information management systems. The project also includes wastewater, sewage collection and disposal designed as a septic tank / leach field system.					
Temporary infrastructure will support site improvements and preparation for construction. Improvements include temporary roads, construction site fence, temporary power, mobilization and demobilization.					
Installed building equipment includes special flooring, redundant mechanical and electrical systems, uninterruptable power system and electronic controls to monitor building systems and the base infrastructure. A/C is estimated at 140 tons.					

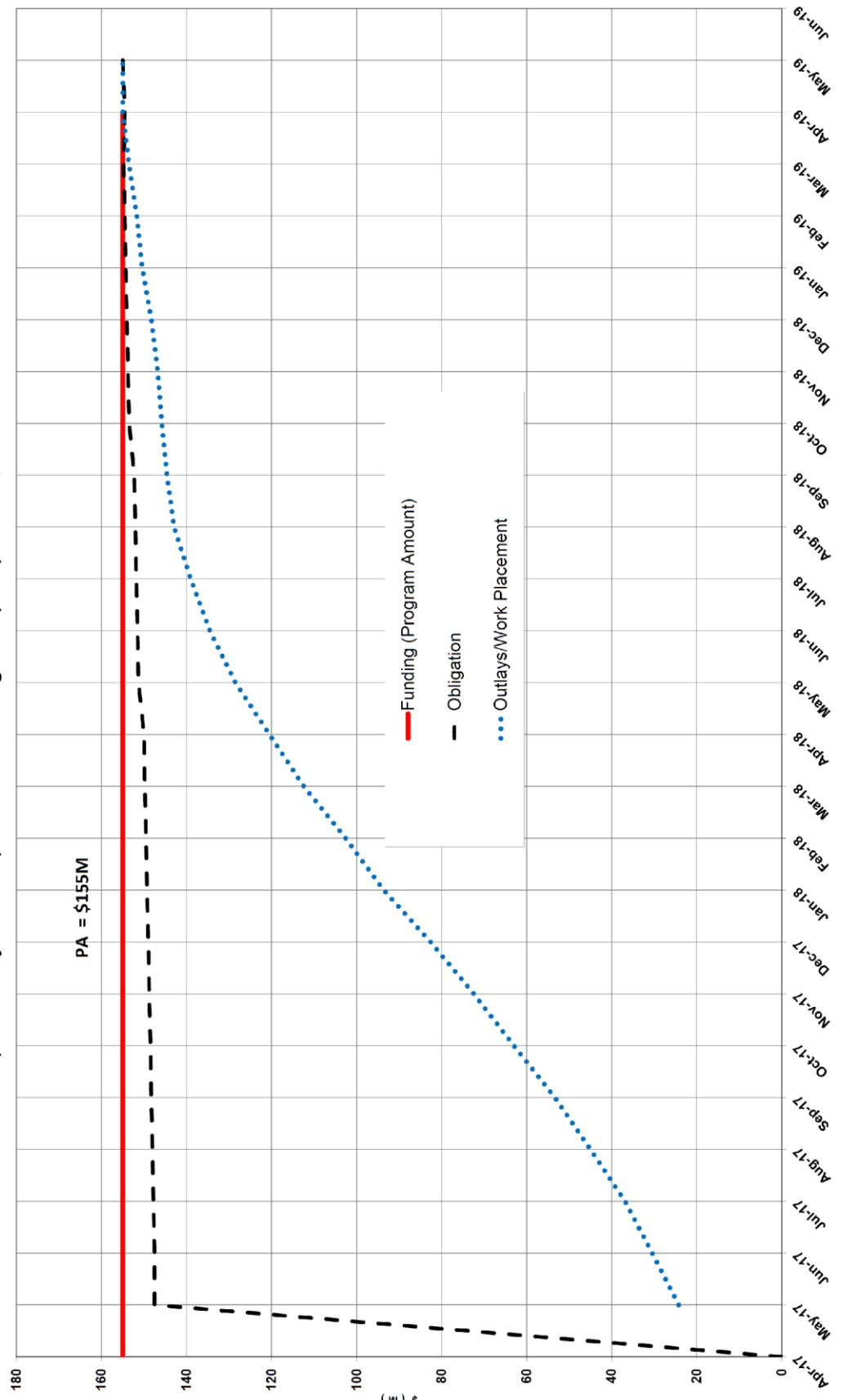
1. COMPONENT MDA	FY 2017 MILITARY CONSTRUCTION PROJECT DATA		2. DATE Feb 2016
3. INSTALLATION AND LOCATION Clear AFS, Alaska			
4. PROJECT TITLE Long Range Discrimination Radar System Complex, Phase 1		5. PROJECT NUMBER MDA 657	
11. REQUIRED: 1 EA Complex		ADEQUATE: NONE	SUBSTANDARD: NONE
PROJECT: Construct a new Long Range Discrimination Radar System Complex at Clear AFS, Alaska. (New Mission)			
<p>REQUIREMENT: This project is required for deployment of a new midcourse sensor that will provide midcourse Ballistic Missile Defense System (BMDS) discrimination capability to defend the United States from ballistic missile attacks and meet the 2020 MDA Enhanced Homeland Defense Capability. When complete, this radar will function as part of the BMDS and be functionally capable through the MDA Command, Control, Battle Management and Communications (C2BMC) system. Construction is planned to allow radar prime contractor integration in 2019. In addition, Air Force Space Command envisions using LRDR's inherent space situational awareness capabilities to augment the Space Surveillance Network.</p> <p>CURRENT SITUATION: There are no existing facilities that can be modified to house a new midcourse sensor. The new LRDR complex will expand radar coverage and increase the level of sophistication in radar discrimination beyond what is currently available to support the BMDS.</p> <p>IMPACT IF NOT PROVIDED: If this project is not provided, enhanced midcourse sensor discrimination capability will not be deployed and the BMDS will be less capable against expected threats in 2020 and beyond.</p> <p>ADDITIONAL INFORMATION: As applicable, this project shall comply with UFC 1-200-01, "General Building Requirements", providing model building codes and government-unique criteria for typical design disciplines and building systems, as well as for accessibility, antiterrorism, security, sustainability, and safety. All required NEPA and/or EO 12114 analyses will be completed prior to the start of construction. The project is being coordinated with the Installation Master Plan.</p> <p>Research, Development, Test & Evaluation (RDT&E) funds are programmed to provide security control and a temporary man camp to support lodging and dining in support of site activation. In addition, an RDT&E effort will demilitarize and remove the remaining BMEWS AN/FPS-50 detection radar fixed antenna, transmitter equipment, and two tracking radars.</p> <p>The Radar structure, enclosure, and associated equipment will be provided with other appropriations by the radar prime contractor.</p> <p>A follow-on Phase 2 project is planned to construct a mission power plant, diesel fuel storage and load/unload point, an on-site maintenance facility, and associated site support. Portions of the Mission Facilities must be HEMP protected in accordance with MIL-STD-188-125 "High Altitude Electromagnetic Pulse (HEMP) Protection".</p> <p>This project has been evaluated for compliance with Executive Orders 11988 Flood Plain Management and 11990 Protection of Wetlands and the Flood Plain Management Guidelines of U.S. Water Resources Council. The project is not sited in the 100-year flood plain and will be sited to preserve and enhance the natural and beneficial values of wetlands; and minimize the destruction, loss or degradation of wetlands.</p> <p>Cost estimates were derived from the LRDR System Complex 35% design.</p>			

1. COMPONENT MDA	FY 2017 MILITARY CONSTRUCTION PROJECT DATA		2. DATE Feb 2016
3. INSTALLATION AND LOCATION Clear AFS, Alaska			
4. PROJECT TITLE Long Range Discrimination Radar System Complex, Phase 1	5. PROJECT NUMBER MDA 657		
12. SUPPLEMENTAL DATA:			
A. Estimated Design Data			
(1) Status:			
(a) Date Design Started	Jan 2015		
(b) Percent Complete As Of January 2016	50%		
(c) Date 35% Design Complete	Oct 2015		
(d) Date Design Complete	Sep 2016		
(e) Parametric Cost Estimating Used To Develop Cost	No		
(f) Type of Design Contract	Design-Bid-Build		
(2) Basis:			
(a) Standard or Repetitive Design	No		
(b) Where Design Was Most Recently Used	N/A		
(3) Total Design Cost (c) = (a)+(b) or (d)+(e)	(\$000)		
(a) Production of Plans and Specifications	9,300		
(b) All Other Design Costs	6,200		
(c) Total Design Costs	15,500		
(d) Contract	10,850		
(e) In-House	4,650		
(4) Contract Award	Mar 2017		
(5) Construction Start	Jun 2017		
(6) Construction Completion	Aug 2020		
B. Equipment associated with this project which will be provided from other appropriations:			
Equipment Nomenclature	Appropriation	FY Appropriated or Requested	Cost \$ (000)
Radar System Equipment & Encl.	RDT&E	FY16-FY21	868,758
Mission Comms Equipment			
Security Equipment (IESS)			
Installed Building Equipment			
Commercial Power Extension			
Demil/Remove BMEWS Antenna/Equip/Radars	RDT&E	FY16-FY17	100
Site Activation	RDT&E	FY16-FY18	24,870
		TOTAL:	893,728



US Army Corps
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Missile Defense Agency (MDA) Long Range Discrimination Radar System Complex, Phase 1
Alaska (MDA Project #657) - Work In Progress (WIP) Curve , date 19 Jan 2016



1. COMPONENT MDA	FY 2017 MILITARY CONSTRUCTION PROJECT DATA								2. DATE Feb 2016		
3. INSTALLATION AND LOCATION Fort Greely, Alaska				4. COMMAND Missile Defense Agency				5. AREA CONSTR. COST INDEX 2.45			
6. PERSONNEL STRENGTH: N/A: Tenant of U.S. Army	PERMANENT			STUDENTS			SUPPORTED				
	OFFICER	ENLISTED	CIVILIAN	OFFICER	ENLISTED	CIVILIAN	OFFICER	ENLISTED	CIVILIAN	TOTAL	
7. INVENTORY DATA (\$000)											
A. TOTAL ACERAGE						N/A				
B. INVENTORY TOTAL AS OF						N/A				
C. AUTHORIZATION NOT YET IN INVENTORY						0				
D. AUTHORIZATION REQUESTED IN THE FY2017						9,560				
E. AUTHORIZATION REQUESTED IN THE FY2018						0				
F. PLANNED IN NEXT THREE PROGRAM YEARS						0				
G. REMAINING DEFICIENCY						0				
H. GRAND TOTAL.						9,560				
8. PROJECTS REQUESTED IN THE FY2017 PROGRAM:											
CATEGORY CODE	PROJECT TITLE	SCOPE	COST (\$000)	DESIGN STATUS START COMPLETE							
89113	Missile Defense Complex Switchgear Facility	1,400 SF	9,560	Jul 15 Sep 16							
9. FUTURE PROJECTS:											
CATEGORY CODE	PROJECT TITLE	SCOPE	COST (\$000)								
10. MISSION OR MAJOR FUNCTIONS: 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 Switchgear facility project is required to provide the Ground-Based Midcourse Defense System with increased capabilities for homeland defense. This project constructs a shielded Switchgear Facility providing redundant switchgear units and site electrical infrastructure upgrades to support current survivability and reliability, availability, and maintainability (RAM) requirements.											
11. OUTSTANDING POLLUTION AND SAFETY DEFICIENCIES:											
A. Air Pollution:	N/A										
B. Water pollution:	N/A										
C. Occupational safety and health (OSH):	N/A										

1. COMPONENT MDA	FY 2017 MILITARY CONSTRUCTION PROJECT DATA			2. DATE Feb 2016
3. INSTALLATION AND LOCATION Fort Greely, Alaska		4. PROJECT TITLE Missile Defense Complex Switchgear Facility		
8. PROGRAM ELEMENT 0603882C	6. CATEGORY CODE 89113	7. PROJECT NUMBER MDA 653	8. PROJECT COST (\$000) 9,560	
9. COST ESTIMATES				
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)
<u>PRIMARY FACILITIES</u>				
Switchgear Facility (89113)	m2 (SF)	130 (1,400)	31,831 (2,956)	7,590 (4,138)
Electrical Switching Station (81350)	KV	12.47	151,083	(1,884)
Special Construction	LS			(914)
Switchgear Pad (85225)	m3 (CY)	77 (100)	263 (480)	(48)
Transformer (81360)	KV	12.47	244	(366)
Security Fence/Force Protection/ESS	LS			(240)
<u>SUPPORTING FACILITIES</u>				
Electrical	LS			959 (675)
Water, Sewer, Gas	LS			(5)
Paving, Walks	LS			(50)
Mob / Demob	LS			(200)
Site Improvements / Demo	LS			(20)
Information/Communication Systems	LS			(9)
<u>SUBTOTAL</u>				8,549
CONTINGENCY (5.00%)				427
TOTAL CONTRACT COST				8,976
SIOH (6.50%)				583
TOTAL REQUEST				9,560
TOTAL REQUEST ROUNDED				9,560
INSTALLED EQUIPMENT-OTHER APPROP				(100)
10. DESCRIPTION OF PROPOSED CONSTRUCTION: Construct a shielded Switchgear Facility to include a switching station with switchgear and all necessary safety and security equipment, two shielded enclosures, concrete pad, and associated electrical infrastructure upgrades at Fort Greely, Alaska. The Switchgear Facility will provide redundant automatic switchgear units and other electrical equipment supporting the two existing In-Flight Interceptor Communications System (IFICS) Data Terminals (IDTs).				
The shielded Switchgear Facility construction will contain the primary power equipment to support the IDT units: redundant switchgear units, electrical breakers, and two - 750 KVA transformers. The Switchgear Facilities' protection includes 1/4-inch thick steel plates and IDT test connection points. The shielding requires testing and certification.				
The switchgear concrete pad construction will include features to meet site specific ground motion and seismic requirements. Security infrastructure will include fencing, bollards, and an electronic security system.				
Supporting facilities include: site electrical power system and grounding system upgrades; coordination improvements, electrical conduits and manhole upgrades, paving, fire protection and alarm systems, and information management systems. Site preparation includes clearing, grubbing, site grading, and demolition of a fence and existing transformers.				

1. COMPONENT MDA	FY 2017 MILITARY CONSTRUCTION PROJECT DATA		2. DATE Feb 2016
3. INSTALLATION AND LOCATION Fort Greely, Alaska			
4. PROJECT TITLE Missile Defense Complex Switchgear Facility		5. PROJECT NUMBER MDA 653	
11. REQUIRED: 1,400 SF	ADEQUATE: NONE	SUBSTANDARD: NONE	
<p>PROJECT: Construct a shielded Switchgear Facility, associated electrical infrastructure upgrades, and supporting facilities. (Current Mission)</p> <p>REQUIREMENT: This project is required to provide the Ground-Based Midcourse Defense System with increased capabilities for homeland defense. This project constructs a shielded Switchgear Facility providing redundant switchgear units and site electrical infrastructure upgrades to support current survivability and reliability, availability, and maintainability (RAM) requirements. The redundant switchgear units will support the two existing IDT units on the Missile Defense Complex (MDC) at Fort Greely, Alaska. The shielded Switchgear Facility and site electrical infrastructure upgrades will contribute to the end-to-end protection of the mission assets on the MDC.</p> <p>CURRENT SITUATION: The lack of this new shielded switchgear for the IDT units limits improvements to the mission readiness and capability of the Ground-Based Midcourse System to perform missile defense operations.</p> <p>IMPACT IF NOT PROVIDED: Planned enhancements for the shielded protection of the Ballistic Missile Defense System will not be available for our Nation's homeland defense.</p> <p>ADDITIONAL INFORMATION: This project is being coordinated with the appropriate physical security plans and includes required physical security and/or combating terrorism measures. All required NEPA and/or EO 12114 analyses will be completed prior to the start of construction. The project has been coordinated with the Installation Master Plan, and will be located on the Missile Defense Complex.</p> <p>This project has been evaluated for compliance with Executive Orders 11988 Flood Plain Management and 11990 Protection of Wetlands and the Flood Plain Management Guidelines of U.S. Water Resources Council. The project has been sited to manage the risk of flood loss; minimize the impact of floods on human safety, health and welfare; preserve and enhance the natural and beneficial values of wetlands; and minimize the destruction, loss or degradation of wetlands.</p> <p>The Switchgear Facility is an uninhabited space; and therefore exempt from Americans with Disabilities Act and Leadership in Energy and Environmental Design requirements.</p>			

1. COMPONENT MDA	FY 2017 MILITARY CONSTRUCTION PROJECT DATA		2. DATE Feb 2016
3. INSTALLATION AND LOCATION Fort Greely, Alaska			
4. PROJECT TITLE Missile Defense Complex Switchgear Facility	5. PROJECT NUMBER MDA 653		
12. SUPPLEMENTAL DATA:			
A. Estimated Design Data			
(1) Status:			
(a) Date Design Started	Jul 2015		
(b) Percent Complete As Of January 2016	35%		
(c) Date 35% Design Complete	Jan 2016		
(d) Date Design Complete	Sep 2016		
(e) Analogous Cost Estimating Used To Develop Cost	Yes		
(f) Type of Design Contract	Design-Bid-Build		
(2) Basis:			
(a) Standard or Repetitive Design	No		
(b) Where Design Was Most Recently Used	N/A		
(3) Total Design Cost (c) = (a)+(b) or (d)+(e)	(\$000)		
(a) Production of Plans and Specifications	519		
(b) All Other Design Costs	346		
(c) Total Design Costs	865		
(d) Contract	606		
(e) In-House	259		
(4) Contract Award	Mar 2017		
(5) Construction Start	May 2017		
(6) Construction Completion	Aug 2019		
B. Equipment associated with this project which will be provided from other appropriations:			
Equipment Nomenclature	Procuring Appropriation	FY Appropriated or Requested	Cost \$ (000)
Security Equipment	RDT&E	FY17	100
		Total:	100

1. COMPONENT MDA	FY 2017 MILITARY CONSTRUCTION PROJECT DATA								2. DATE Feb 2016	
3. INSTALLATION AND LOCATION Wake Island				4. COMMAND Missile Defense Agency				5. AREA CONSTR. COST INDEX 2.61		
6. PERSONNEL STRENGTH: N/A: Tenant of U.S. Air Force	PERMANENT			STUDENTS			SUPPORTED			
	OFFICER	ENLISTED	CIVILIAN	OFFICER	ENLISTED	CIVILIAN	OFFICER	ENLISTED	CIVILIAN	TOTAL
7. INVENTORY DATA (\$000)										
A. TOTAL ACERAGE					N/A				
B. INVENTORY TOTAL AS OF					N/A				
C. AUTHORIZATION NOT YET IN INVENTORY					0				
D. AUTHORIZATION REQUESTED IN THE FY2017					11,670				
E. AUTHORIZATION REQUESTED IN THE FY2018					0				
F. PLANNED IN NEXT THREE PROGRAM YEARS					0				
G. REMAINING DEFICIENCY					0				
H. GRAND TOTAL.					11,670				
8. PROJECTS REQUESTED IN THE FY2017 PROGRAM:										
CATEGORY CODE	PROJECT TITLE	SCOPE	COST (\$000)	DESIGN STATUS START	COMPLETE					
37110	Test Support Facility	8,200 SF	11,670	Oct 15	Oct 16					
9. FUTURE PROJECTS:										
CATEGORY CODE	PROJECT TITLE	SCOPE	COST (\$000)							
10. MISSION OR MAJOR FUNCTIONS: 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 Test Support Facility project is required to support at least 12 flight tests planned at Wake Island through 2024 per the MDA Integrated Master Test Plan including FTO-03 E2 which is currently scheduled for 4th QTR FY18.										
11. OUTSTANDING POLLUTION AND SAFETY DEFICIENCIES:										
A. Air Pollution:	N/A									
B. Water pollution:	N/A									
C. Occupational safety and health (OSH):	N/A									

1. COMPONENT MDA	FY 2017 MILITARY CONSTRUCTION PROJECT DATA			2. DATE Feb 2016
3. INSTALLATION AND LOCATION Wake Island		4. PROJECT TITLE Test Support Facility		
5. PROGRAM ELEMENT 0603914C	6. CATEGORY CODE 37110	7. PROJECT NUMBER MDA 662	8. PROJECT COST (\$000) 11,670	
9. COST ESTIMATES				
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)
<u>PRIMARY FACILITIES</u> Test Support Facility (37110)	m ² (SF)	762 (8,200)	11,205 (1,041)	8,536 (8,536)
<u>SUPPORTING FACILITIES</u> Site Electrical Water, Sewer Paving, Walks Site Improvement/Demo Information/Communications Systems Antiterrorism/Force Protection	LS			1,929 (863) (388) (233) (213) (174) (58)
SUBTOTAL CONTINGENCY (5.00%) TOTAL CONTRACT COST SIOH (6.20%) TOTAL REQUEST TOTAL REQUEST ROUNDED				10,465 523 10,988 682 11,670 11,670
INSTALLED EQUIPMENT-OTHER APPROP				(500)
10. DESCRIPTION OF PROPOSED CONSTRUCTION: Construct supporting foundation and procure and install an insulated, pre-engineered, single-story, metal building. The facility includes mission execution workspace, office space, conference room, elevated storage, restrooms, and mechanical-electrical room. The project includes air conditioning (A/C), plumbing, power, lighting, lightning protection, fire alarm, and fire suppression.				
Supporting facilities include site work to extend utilities to the facility; an aggregate access road; paving and walkways; information/communication infrastructure; connections to support backup power; and antiterrorism/force protection. The constructed facility will be designed to obtain LEED Silver Certification. A/C is estimated at 25 tons. The facility will provide work space for approximately 60 deployed personnel during test events.				
11. REQUIRED: 8,200 SF	ADEQUATE: NONE	SUBSTANDARD: 7,100 SF		
PROJECT: Construct a new test support facility on Wake Island for Ballistic Missile Defense System test missions. (Current Mission)				
REQUIREMENT: MDA has an established test capability on and around Wake Island with an operational area covering almost a million square kilometers. The highly complex integrated test deployments executed by the Agency require extensive support. The Test Support Facility (TSF) is required to provide mission-critical support that would otherwise be unavailable on-island. The facility supports multiple Ballistic Missile Defense Test Stakeholders, including flight test communications and infrastructure personnel responsible for time critical infrastructure build-up activities; the Mission Execution Team responsible for managing and executing inherent on-island activities to support flight test execution; Operational Test Authority and other Warfighter representatives; and special dedicated contract Subject Matter Experts supporting birth to death test execution activities. The facility is a central hub from which test build-up, test support, and test execution personnel can support and manage all on-island mission activities. The facility also provides critical functionality necessary for forward deployed asset managers and test support personnel to coordinate with CONUS-based leadership prior to and during test execution, including voice communications, MDA network connectivity, and conference room				

1. COMPONENT MDA	FY 2017 MILITARY CONSTRUCTION PROJECT DATA		2. DATE Feb 2016																												
3. INSTALLATION AND LOCATION Wake Island																															
4. PROJECT TITLE Test Support Facility	5. PROJECT NUMBER MDA 662																														
<p>11. REQUIRED (CONTINUED): capacity to support MDA leadership. This facility enables deployed personnel to safely and securely meet all test support and test safety requirements on Wake Island. The new facility is required to replace the current functionality of Building 1601. Due to the facility's poor condition and lack of other similar and available space on Wake, future mission personnel will have to be re-located into a new facility.</p> <p>CURRENT SITUATION: The current support facility, Building 1601, has been heavily damaged by the corrosive environment on Wake Island and is now in a state of disrepair. The 611th Civil Engineering Squadron inspects Building 1601 annually and estimates it must be vacated within five years or less due to its poor condition. There are no other on-island facilities available to provide sufficient operations and support space.</p> <p>IMPACT IF NOT PROVIDED: If not funded, MDA will have insufficient test support space required during test deployments to ensure successful completion of 12 future flight tests presently planned at Wake Island through 2024 (per MDA Integrated Master Test Plan). Building 1601 stands to be condemned within five years. Without a new facility to replace its capabilities, MDA will incur interoperability and test support space deficiencies. The new facility need date is based on the FTO-03 E2 test event scheduled for 4th QTR FY18.</p> <p>ADDITIONAL INFORMATION: This project shall comply with UFC 1-200-01, "General Building Requirements", providing model building codes and government-unique criteria for typical design disciplines and building systems, as well as for accessibility, antiterrorism, security, sustainability, and safety. All required NEPA and/or EO 12114 analyses will be completed prior to the start of construction. The siting master plan has been coordinated with the host installation and MDA will receive site approval prior to construction.</p> <p>This project has been evaluated for compliance with Executive Order 11988 Flood Plain Management. Wake Island is subject to tsunamis and rogue waves which occasionally affect the island. The project has been sited to manage the risk of flood loss and minimize the impact of floods on human safety, health and welfare. Design will incorporate mitigation measures where feasible, and in accordance with current Air Force policy on island.</p>																															
12. SUPPLEMENTAL DATA:																															
<p>A. Estimated Design Date</p> <p>(1) Status:</p> <table> <tbody> <tr> <td>(a) Date Design Started</td> <td>Oct 2015</td> </tr> <tr> <td>(b) Percent Complete As Of Jan 2016</td> <td>5%</td> </tr> <tr> <td>(c) Date 35% Design Complete</td> <td>May 2016</td> </tr> <tr> <td>(d) Date Design Complete</td> <td>Oct 2016</td> </tr> <tr> <td>(e) Parametric Cost Estimating Used To Develop Cost</td> <td>No</td> </tr> <tr> <td>(f) Type of Design Contract</td> <td>Design-Bid-Build</td> </tr> </tbody> </table> <p>(2) Basis:</p> <table> <tbody> <tr> <td>(a) Standard or Repetitive Design</td> <td>No</td> </tr> <tr> <td>(b) Where Design Was Most Recently Used</td> <td>N/A</td> </tr> </tbody> </table> <p>(3) Total Cost (c) = (a) + (b) or (d) + (e)</p> <table> <thead> <tr> <th></th> <th>(\$000)</th> </tr> </thead> <tbody> <tr> <td>(a) Production of Plans and Specifications</td> <td>588</td> </tr> <tr> <td>(b) All Other Design Costs</td> <td>392</td> </tr> <tr> <td>(c) Total Design Costs</td> <td>980</td> </tr> <tr> <td>(d) Contract</td> <td>800</td> </tr> <tr> <td>(e) In-House</td> <td>180</td> </tr> </tbody> </table>				(a) Date Design Started	Oct 2015	(b) Percent Complete As Of Jan 2016	5%	(c) Date 35% Design Complete	May 2016	(d) Date Design Complete	Oct 2016	(e) Parametric Cost Estimating Used To Develop Cost	No	(f) Type of Design Contract	Design-Bid-Build	(a) Standard or Repetitive Design	No	(b) Where Design Was Most Recently Used	N/A		(\$000)	(a) Production of Plans and Specifications	588	(b) All Other Design Costs	392	(c) Total Design Costs	980	(d) Contract	800	(e) In-House	180
(a) Date Design Started	Oct 2015																														
(b) Percent Complete As Of Jan 2016	5%																														
(c) Date 35% Design Complete	May 2016																														
(d) Date Design Complete	Oct 2016																														
(e) Parametric Cost Estimating Used To Develop Cost	No																														
(f) Type of Design Contract	Design-Bid-Build																														
(a) Standard or Repetitive Design	No																														
(b) Where Design Was Most Recently Used	N/A																														
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(e) In-House	180																														

1. COMPONENT MDA	FY 2017 MILITARY CONSTRUCTION PROJECT DATA		2. DATE Feb 2016
3. INSTALLATION AND LOCATION Wake Island			
4. PROJECT TITLE Test Support Facility	5. PROJECT NUMBER MDA 662		
12. SUPPLEMENTAL DATA (CONTINUED):			
(4) Contract Award	Apr 2017		
(5) Construction Start	Jul 2017		
(6) Construction Completion	Mar 2018		
B. Equipment associated with this project which will be provided from other appropriations:			
Equipment Nomenclature	Procuring Appropriation	FY Appropriated or Requested	Cost \$ (000)
Furniture, Fixtures & Equipment	RDT&E	FY17	500
		Total:	500

1. COMPONENT MDA	FY 2017 MILITARY CONSTRUCTION PROJECT DATA			2. DATE Feb 2016
3. INSTALLATION AND LOCATION Various Worldwide Locations		4. PROJECT TITLE Unspecified Minor Construction		
5. PROGRAM ELEMENT N/A	6. CATEGORY CODE N/A	7. PROJECT NUMBER N/A	8. PROJECT COST (\$000) 2,414	
9. COST ESTIMATES				
ITEM	U/M	QUANTITY	UNIT COST	COST (\$000)
Unspecified Minor Construction	LS			2,414
<u>SUBTOTAL</u> CONTINGENCY PERCENT (0.0%) TOTAL CONTRACT COST SUPERVISION, INSPECTION & OVERHEAD (0.0%) TOTAL REQUEST TOTAL REQUEST (ROUNDED) INSTALLED EQPT-OTHER APPROPRIATIONS				2,414 2,414 0 2,414 2,414 (0)
10. DESCRIPTION OF PROPOSED CONSTRUCTION: Provide a lump sum amount for unspecified construction projects, not otherwise authorized by law, having a funded cost of \$3 million or less, including normal construction, alteration or conversion of permanent or temporary facilities and projects having a funded cost of \$4 million or less that are intended solely to correct a deficiency that is life-threatening, health-threatening, or safety-threatening, in accordance with 10 USC Section 2805.				
11. REQUIREMENT: As required				
<p><u>REQUIREMENT:</u> These funds provide MDA the capability to react in FY 2017 to requirements for construction, alteration, or modification of facilities resulting from unforeseen situations affecting mission performance or safety of life or property. Included would be projects to support mission critical research and development requirements of the Ballistic Missile Defense System.</p> <p>All required NEPA and/or EO 12114 analyses will be completed prior to the start of construction for each unspecified construction project.</p>				

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Exhibit P-40, Budget Line Item Justification: PB 2017 Missile Defense Agency										Date: February 2016			
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: MD07 / THAAD			
ID Code (A=Service Ready, B=Not Service Ready): B										Program Elements for Code B Items: 0603884C, 0603881C			
Line Item MDAP/MAIS Code: 362		Item MDAP/MAIS Code(s): N/A											
Resource Summary		Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)		155	38	34	24	-	24	35	32	30	28	77	453
Gross/Weapon System Cost (\$ in Millions)		2,700.662	449.478	447.971	369.608	-	369.608	451.592	440.883	405.015	420.829	1,427.710	7,113.748
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		2,700.662	449.478	447.971	369.608	-	369.608	451.592	440.883	405.015	420.829	1,427.710	7,113.748
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)		2,700.662	449.478	447.971	369.608	-	369.608	451.592	440.883	405.015	420.829	1,427.710	7,113.748
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>													
Initial Spares (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Millions)		11.378	10.100	10.100	11.765	-	11.765	11.765	12.031	12.031	13.713	17.037	14.337
Gross/Weapon System Unit Cost (\$ in Millions)		17.424	11.828	13.176	15.400	-	15.400	12.903	13.778	13.501	15.030	18.542	15.704
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.													

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Exhibit P-40, Budget Line Item Justification: PB 2017 Missile Defense Agency								Date: February 2016	
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: MD07 / THAAD					
ID Code (A=Service Ready, B=Not Service Ready): B				Program Elements for Code B Items: 0603884C, 0603881C					
Line Item MDAP/MAIS Code: 362		Item MDAP/MAIS Code(s): N/A							
Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	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)
P-5	THAAD	P-5a, P-21	B	155 / 2,700.662	38 / 449.478	34 / 447.971	24 / 369.608	- / -	24 / 369.608
P-40	Total Gross/Weapon System Cost			155 / 2,700.662	38 / 449.478	34 / 447.971	24 / 369.608	- / -	24 / 369.608
Exhibits Schedule				FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Exhibit Type	Title*	Subexhibits	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)
P-5	THAAD	P-5a, P-21	B	35 / 451.592	32 / 440.883	30 / 405.015	28 / 420.829	77 / 1,427.710	453 / 7,113.748
P-40	Total Gross/Weapon System Cost			35 / 451.592	32 / 440.883	30 / 405.015	28 / 420.829	77 / 1,427.710	453 / 7,113.748

*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 sum exactly due to rounding.

Justification:

The FY 2017 budget request decrease from FY 2016 is driven primarily by a decrease in THAAD interceptor procurement quantity from 30 to 24. The FY 2017 budget request funds 24 THAAD Interceptors, and includes the THAAD Stockpile Reliability Program, obsolescence mitigation efforts, battery modernization, Missile Round Pallet modifications, and training efforts such as one Radar Training Device (RTD), RTD spares, and non-recurring New Equipment Training (NET) for Battery 7 being delivered in FY 2017. Funding for the FY 2017 Battery 7 sustainment requirement is included as part of THAAD's 2017 Operations and Maintenance request.

The Radar Training Device provides THAAD soldiers with hands-on radar and fire control training that cannot be achieved through simulation. The procurement of an RTD is considerably more cost effective than the alternative of procuring a tactical AN/TPY-2 radar with which to train.

Beginning in FY 2015, the THAAD Project Office pursued a "synergy" lot buy approach to Interceptor purchases. This approach entails awarding a contract that includes an option for the following fiscal year, by utilizing this approach the THAAD Project Office will achieve savings in material costs in multiple fiscal years. This will result in a higher Interceptor quantity buy at a lower average unit price.

Such a Lot 9 Interceptor procurement approach in FY2017 is planned as a synergy buy with the FY2018 Lot 10. However, potential future Foreign Military Sales of Interceptors may be combined with a Lot 9 and 10 synergy buy or with USG annual Lot procurements to further reduce the average unit price and enable the procurement of additional Interceptors.

The PB 2017 interceptor quantity procurement plan supports the Army's deployment plan for seven (7) THAAD batteries.

The first two (2) THAAD Batteries were RDT&E funded in PE 0603881C, thus 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 funding included procurement of ground components, which affected the "Gross Weapon System Unit Cost".

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Exhibit P-5, Cost Analysis: PB 2017 Missile Defense Agency												Date: February 2016						
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17				P-1 Line Item Number / Title: MD07 / THAAD								Item Number / Title [DODIC]: - / THAAD						
ID Code (A=Service Ready, B=Not Service Ready) : B												MDAP/MAIS Code:						
Resource Summary		Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total					
Procurement Quantity (<i>Units in Each</i>)		155	38	34	24	-	24	35	32	30	28	77	453					
Gross/Weapon System Cost (\$ in Millions)		2,700.662	449.478	447.971	369.608	-	369.608	451.592	440.883	405.015	420.829	1,427.710	7,113.748					
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-					
Net Procurement (P-1) (\$ in Millions)		2,700.662	449.478	447.971	369.608	-	369.608	451.592	440.883	405.015	420.829	1,427.710	7,113.748					
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-					
Total Obligation Authority (\$ in Millions)		2,700.662	449.478	447.971	369.608	-	369.608	451.592	440.883	405.015	420.829	1,427.710	7,113.748					
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Gross/Weapon System Unit Cost (\$ in Millions)		17.424	11.828	13.176	15.400	-	15.400	12.903	13.778	13.501	15.030	18.542	15.704					
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 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																		
Interceptor ^(†)	11.378	155	1,763.634	10.100	38	383.800	10.100	34	343.400	11.765	24	282.353	-	-	-	11.765	24	282.353
Launcher ^(†)	8.110	36	291.977	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support Equipment	27.266	5	136.328	13.658	1	13.658	-	-	-	-	-	-	-	-	-	-	-	-
TFCC Tactical Station Group ^(†)	10.522	8	84.179	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	2,276.118	-	-	397.458	-	-	343.400	-	-	282.353	-	-	-	-	-	282.353
<i>Subtotal: Hardware Cost</i>	-	-	2,276.118	-	-	397.458	-	-	343.400	-	-	282.353	-	-	-	-	-	282.353
Support Cost																		
Obsolescence and Modifications	20.964	2	41.927	30.884	1	30.884	52.268	1	52.268	30.936	1	30.936	-	-	-	30.936	1	30.936
Production Support & Testing	107.392	3	322.177	9.617	1	9.617	17.690	1	17.690	13.190	1	13.190	-	-	-	13.190	1	13.190
Training	20.147	3	60.440	11.519	1	11.519	34.613	1	34.613	43.129	1	43.129	-	-	-	43.129	1	43.129
<i>Subtotal: Support Cost</i>	-	-	424.544	-	-	52.020	-	-	104.571	-	-	87.255	-	-	-	-	-	87.255
Gross/Weapon System Cost	17.424	155	2,700.662	11.828	38	449.478	13.176	34	447.971	15.400	24	369.608	-	-	-	15.400	24	369.608

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Exhibit P-5, Cost Analysis: PB 2017 Missile Defense Agency														Date: February 2016									
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17							P-1 Line Item Number / Title: MD07 / THAAD							Item Number / Title [DODIC]: - / THAAD									
ID Code (A=Service Ready, B=Not Service Ready) : B														MDAP/MAIS Code:									
Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			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 ^(†)	11.765	35	411.765	12.031	32	384.996	12.031	30	360.933	13.713	28	383.969	14.984	77	1,153.801	12.072	453	5,468.651					
Launcher ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.110	36	291.977					
Support Equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.998	6	149.986					
TFCC Tactical Station Group ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.522	8	84.179					
<i>Subtotal: Recurring Cost</i>	-	-	411.765	-	-	384.996	-	-	360.933	-	-	383.969	-	-	1,153.801	-	-	5,994.793					
<i>Subtotal: Hardware Cost</i>	-	-	411.765	-	-	384.996	-	-	360.933	-	-	383.969	-	-	1,153.801	-	-	5,994.793					
Support Cost																							
Obsolescence and Modifications	23.515	1	23.515	37.405	1	37.405	26.088	1	26.088	17.657	1	17.657	176.901	1	176.901	43.758	10	437.581					
Production Support & Testing	16.312	1	16.312	18.482	1	18.482	17.994	1	17.994	19.203	1	19.203	97.008	1	97.008	48.334	11	531.673					
Training	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.950	6	149.701					
<i>Subtotal: Support Cost</i>	-	-	39.827	-	-	55.887	-	-	44.082	-	-	36.860	-	-	273.909	-	-	1,118.955					
Gross/Weapon System Cost	12.903	35	451.592	13.778	32	440.883	13.501	30	405.015	15.030	28	420.829	18.542	77	1,427.710	15.704	453	7,113.748					
Remarks:																							
"Procurement Quantity" above represents interceptors only, but the "Net Procurement" cost above includes the costs of all hardware. Prior FYs and FY 2015 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.																							
The increase in the Interceptor Unit Cost above from FY 2016 to FY 2017 is primarily driven by the lower quantity of interceptors purchased in FY 2017. Additional requirements to increase overall product quality and avoid counterfeit parts in the prime contractor and supply chain to improve reliability of the THAAD Interceptors also contribute to the increase in Unit Cost.																							
The increase in the Training line above from FY 2016 to FY 2017 is due to the procurement of Radar Training Device (RTD) spares to support the Institutional Training Base (ITB) used to train THAAD soldiers and AN/TPY-2 Forward Based Mode soldiers. The RTDs at the ITB are essential to radar crewmember training, as they avert the need to pull tactical AN/TPY-2 Radars from fielded THAAD Batteries and thus eliminate degradation of the Army's THAAD deployment plans. Without the RTD sufficient replacement soldiers cannot be trained to operate and maintain the AN/TPY-2 Radar for the fielded THAAD Batteries or fielded in Forward Based Mode.																							
Obsolescence above encompasses mitigation activities that protect the system design and ensure 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.																							
(†) indicates the presence of a P-5a																							

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Exhibit P-5a, Procurement History and Planning: PB 2017 Missile Defense Agency								Date: February 2016				
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17			P-1 Line Item Number / Title: MD07 / THAAD					Item Number / Title [DODIC]: - / THAAD				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ M)	Specs Avail Now?	Date Revision Available	RFP Issue Date
Interceptor - Lot 1 ^(†)		2010	Lockheed Martin / Troy, AL	SS / FPIF	MDA, Huntsville, AL	Mar 2011	Jul 2012	26	14.480	Y		Oct 2009
Interceptor - Lot 2 ^(†)		2011	Lockheed Martin / Troy, AL	SS / FPIF	MDA, Huntsville, AL	Mar 2011	Jul 2013	22	12.100	Y		Oct 2009
Interceptor - Lot 4 ^(†)		2012	Lockheed Martin / Troy, AL	SS / FPIF	MDA, Huntsville, AL	Aug 2012	Jun 2015	46	11.022	Y		Aug 2011
Interceptor - Lot 5 ^(†)		2013	Lockheed Martin / Troy, AL	SS / FPIF	MDA, Huntsville, AL	Sep 2013	Oct 2016	34	11.022	Y		Aug 2011
Interceptor - Lot 6 ^(†)		2014	Lockheed Martin / Troy, AL	SS / FPIF	MDA, Huntsville, AL	Dec 2013	Jul 2017	27	11.022	Y		Jun 2013
Interceptor - Lot 7 ^(†)		2015	Lockheed Martin / Troy, AL	SS / FPIF	MDA, Huntsville, AL	Dec 2015	Apr 2018	38	10.100	Y		Mar 2014
Interceptor - Lot 8 ^(†)		2016	Lockheed Martin / Troy, AL	SS / FPIF	MDA, Huntsville, AL	Dec 2015	Jan 2019	34	10.100	Y		Apr 2015
Interceptor - Lot 9 ^(†)		2017	Lockheed Martin / Troy, AL	SS / FPIF	MDA, Huntsville, AL	Sep 2017	Apr 2020	24	11.765	N		Mar 2016
Launcher - Lot 1 ^(†)		2010	Lockheed Martin / Camden, AR	SS / FFP	MDA, Huntsville, AL	May 2011	Apr 2013	6	9.170	Y		Oct 2009
Launcher - Lot 3 ^(†)		2011	Lockheed Martin / Camden, AR	SS / FFP	MDA, Huntsville, AL	Jul 2012	May 2014	6	9.130	Y		Aug 2011
Launcher - Lot 2 ^(†)		2011	Lockheed Martin / Camden, AR	SS / FFP	MDA, Huntsville, AL	May 2011	Oct 2013	6	9.130	Y		Oct 2009
Launcher - Lot 4 ^(†)		2012	Lockheed Martin / Camden, AR	SS / FFP	MDA, Huntsville, AL	Jul 2012	Nov 2014	6	7.490	Y		Aug 2011
Launcher - Lot 6 ^(†)		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 ^(†)		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 ^(†)		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 ^(†)		2012	Lockheed Martin / Camden, AR	SS / FFP	MDA, Huntsville, AL	Jul 2012	Oct 2014	2	9.260	Y		Aug 2011

^(†) 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 completed 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.

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency																					Date: February 2016																		
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17										P-1 Line Item Number / Title: MD07 / THAAD										Item Number / Title [DODIC]: - / THAAD																			
Cost Elements (Units in Each)						Fiscal Year 2011												Fiscal Year 2012																					
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2010	BAL DUE AS OF 1 OCT	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 A N C E									
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																								A -	-	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	38	-	38																										38		
Interceptor - Lot 8						7	2016	MDA	34	-	34																										34		
Interceptor - Lot 9						8	2017	MDA	24	-	24																										24		
Launcher - Lot 1						9	2010	MDA	6	-	6		A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6				
Launcher - Lot 3						10	2011	MDA	6	-	6																										A -	-	6
Launcher - Lot 2						11	2011	MDA	6	-	6		A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6			
Launcher - Lot 4						12	2012	MDA	6	-	6																										A -	-	6
Launcher - Lot 6						13	2014	MDA	12	-	12																										12		
TFCC Tactical Station Group - Lot 2						14	2011	MDA	4	-	4		A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4		
TFCC Tactical Station Group - Lot 3						15	2011	MDA	2	-	2																										A -	-	2
TFCC Tactical Station Group - Lot 4						16	2012	MDA	2	-	2																										A -	-	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										

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency

Date: February 2016

Appropriation / Budget Activity / Budget Sub Activity:

0300D / 01 / 17

P-1 Line Item Number / Title:

MD07 / THAAD

Item Number / Title [DODIC]:

- / THAAD

Cost Elements (Units in Each)										Fiscal Year 2013												Fiscal Year 2014												
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2012	BAL DUE AS OF 1 OCT	Calendar Year 2013												Calendar Year 2014												B A L A N C E				
						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					
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																																46		
3	2012	MDA	46	-	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46			
Interceptor - Lot 5																																34		
4	2013	MDA	34	-	34																													34
Interceptor - Lot 6																																27		
5	2014	MDA	27	-	27																													27
Interceptor - Lot 7																																38		
6	2015	MDA	38	-	38																													38
7	2016	MDA	34	-	34																													34
Interceptor - Lot 9																																24		
8	2017	MDA	24	-	24																													24
Launcher - Lot 1																																-		
9	2010	MDA	6	-	6	-	-	-	-	-	1	2	-	-	3																		-	
Launcher - Lot 3																																1		
10	2011	MDA	6	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1				
Launcher - Lot 2																																-		
11	2011	MDA	6	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1				
Launcher - Lot 4																																6		
Launcher - Lot 6																																A -		
13	2014	MDA	12	-	12																													12
TFCC Tactical Station Group - Lot 2																																-		
14	2011	MDA	4	-	4	-	-	-	-	-	1	1	-	-	-	-	2															-		
TFCC Tactical Station Group - Lot 3																																-		
15	2011	MDA	2	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1				
TFCC Tactical Station Group - Lot 4																																2		
16	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					

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency											Date: February 2016																										
Appropriation / Budget Activity / Budget Sub Activity:										P-1 Line Item Number / Title:										Item Number / Title [DODIC]:																	
0300D / 01 / 17										MD07 / THAAD										- / THAAD																	
Cost Elements (Units in Each)										Fiscal Year 2015										Fiscal Year 2016																	
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2014	BAL DUE AS OF 1 OCT	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 A N C E							
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	-	-	-	3	3	3	4	4	4	4	3	3	4	-		
Interceptor - Lot 5										4	2013	MDA	34	-	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34			
Interceptor - Lot 6										5	2014	MDA	27	-	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27			
Interceptor - Lot 7										6	2015	MDA	38	-	38																			38			
Interceptor - Lot 8										7	2016	MDA	34	-	34																			34			
Interceptor - Lot 9										8	2017	MDA	24	-	24																			24			
Launcher - Lot 1										9	2010	MDA	6	6	-																			-			
Launcher - Lot 3										10	2011	MDA	6	5	1	1																		-			
Launcher - Lot 2										11	2011	MDA	6	6	-																			-			
Launcher - Lot 4										12	2012	MDA	6	-	6	-	1	1	1	1	1												-				
Launcher - Lot 6										13	2014	MDA	12	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	1	1	2	1	2		
TFCC Tactical Station Group - Lot 2										14	2011	MDA	4	4	-																			-			
TFCC Tactical Station Group - Lot 3										15	2011	MDA	2	2	-																			-			
TFCC Tactical Station Group - Lot 4										16	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	

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency

Date: February 2016

Appropriation / Budget Activity / Budget Sub Activity:

0300D / 01 / 17

P-1 Line Item Number / Title:

MD07 / THAAD

Item Number / Title [DODIC]:

- / THAAD

Cost Elements (Units in Each)										Fiscal Year 2017												Fiscal Year 2018												B A L A N C E							
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017												Calendar Year 2018													B A L A N C E										
						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												
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	4	4	4	4	4	4	4	4	3	3																										
Interceptor - Lot 6																																									
5	2014	MDA	27	-	27	-	-	-	-	-	-	-	-	-	-	-	-	-	12	15																					
Interceptor - Lot 7																																									
6	2015	MDA	38	-	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	4	4	4	14						
Interceptor - Lot 8																																									
7	2016	MDA	34	-	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34							
Interceptor - Lot 9																																									
8	2017	MDA	24	-	24																																	24			
Launcher - Lot 1																																									
9	2010	MDA	6	6	-																																				
Launcher - Lot 3																																									
10	2011	MDA	6	6	-																																				
Launcher - Lot 2																																									
11	2011	MDA	6	6	-																																				
Launcher - Lot 4																																									
12	2012	MDA	6	6	-																																				
Launcher - Lot 6																																									
13	2014	MDA	12	10	2	1	1																																		
TFCC Tactical Station Group - Lot 2																																									
14	2011	MDA	4	4	-																																				
TFCC Tactical Station Group - Lot 3																																									
15	2011	MDA	2	2	-																																				
TFCC Tactical Station Group - Lot 4																																									
16	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 A N C E						

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency																				Date: February 2016																
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17										P-1 Line Item Number / Title: MD07 / THAAD										Item Number / Title [DODIC]: - / THAAD																
Cost Elements (Units in Each)					Fiscal Year 2019															Fiscal Year 2020																
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	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 A N C E						
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	38	24	14	4	4	4	2																				-		
Interceptor - Lot 8					7	2016	MDA	34	-	34	-	-	-	2	4	4	4	4	4	4	4	4	4	4										-		
Interceptor - Lot 9					8	2017	MDA	24	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	12	
Launcher - Lot 1					9	2010	MDA	6	6	-																									-	
Launcher - Lot 3					10	2011	MDA	6	6	-																										-
Launcher - Lot 2					11	2011	MDA	6	6	-																										-
Launcher - Lot 4					12	2012	MDA	6	6	-																										-
Launcher - Lot 6					13	2014	MDA	12	12	-																									-	
TFCC Tactical Station Group - Lot 2					14	2011	MDA	4	4	-																									-	
TFCC Tactical Station Group - Lot 3					15	2011	MDA	2	2	-																									-	
TFCC Tactical Station Group - Lot 4					16	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								

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency																				Date: February 2016																			
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17										P-1 Line Item Number / Title: MD07 / THAAD										Item Number / Title [DODIC]: - / THAAD																			
Cost Elements (Units in Each)					Fiscal Year 2021															Fiscal Year 2022																			
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	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 A N C E									
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	38	38	-																									-				
Interceptor - Lot 8					7	2016	MDA	34	34	-																									-				
Interceptor - Lot 9					8	2017	MDA	24	12	12	2	2	2	2	2	2																		-					
Launcher - Lot 1					9	2010	MDA	6	6	-																									-				
Launcher - Lot 3					10	2011	MDA	6	6	-																									-				
Launcher - Lot 2					11	2011	MDA	6	6	-																									-				
Launcher - Lot 4					12	2012	MDA	6	6	-																									-				
Launcher - Lot 6					13	2014	MDA	12	12	-																								-					
TFCC Tactical Station Group - Lot 2					14	2011	MDA	4	4	-																									-				
TFCC Tactical Station Group - Lot 3					15	2011	MDA	2	2	-																									-				
TFCC Tactical Station Group - Lot 4					16	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											

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency									Date: February 2016			
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17			P-1 Line Item Number / Title: MD07 / THAAD					Item Number / Title [DODIC]: - / THAAD				
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2017	1-8-5 For 2017	MAX For 2017	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing 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	36	47	6	11	36	47
4	Lockheed Martin - Troy, AL	1	4	5	6	12	37	49	6	12	37	49
5	Lockheed Martin - Troy, AL	1	4	5	6	3	43	46	6	3	43	46
6	Lockheed Martin - Troy, AL	1	4	5	6	12	31	43	6	12	31	43
7	Lockheed Martin - Troy, AL	1	4	4	6	4	39	43	6	4	39	43
8	Lockheed Martin - Troy, AL	1	4	5	6	12	31	43	6	12	31	43
9	Lockheed Martin - Camden, AR	1	1	3	6	8	23	31	6	4	21	25
10	Lockheed Martin - Camden, AR	1	1	2	6	10	22	32	6	4	21	25
11	Lockheed Martin - Camden, AR	1	1	2	6	8	29	37	6	4	21	25
12	Lockheed Martin - Camden, AR	1	1	2	6	10	28	38	6	3	21	24
13	Lockheed Martin - Camden, AR	1	1	2	6	6	22	28	6	4	21	25
14	Lockheed Martin - Camden, AR	1	2	2	6	6	26	32	6	4	24	28
15	Lockheed Martin - Camden, AR	1	1	1	6	10	25	35	6	4	24	28
16	Lockheed Martin - Camden, AR	1	1	1	6	10	27	37	6	3	24	27

Remarks:

- 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, corrective action, and incorporation of leap second software update resulted in a seven (7) month production delay from November 2014 to June 2015. Interceptor Lots 5 and 6 are being delivered on an accelerated schedule to mitigate prior delays in interceptor deliveries and recover to the original Lot 6 baseline end date.
- Any gaps in deliveries between U.S. Interceptor Lots are mitigated by FMS Interceptor production.

"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 2017 Missile Defense Agency								Date: February 2016				
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: MD09 / AEGIS BMD							
ID Code (A=Service Ready, B=Not Service Ready): B			Program Elements for Code B Items: 0604881C, 0603892C					Other Related Program Elements: 0603892C, 0604881C				
Line Item MDAP/MAIS Code: 362		Item MDAP/MAIS Code(s): N/A										
Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	172	67	49	35	-	35	46	51	58	75	Continuing	Continuing
Gross/Weapon System Cost (\$ in Millions)	2,033.418	663.316	566.711	463.801	-	463.801	727.291	962.410	1,079.913	1,221.081	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	2,033.418	663.316	566.711	463.801	-	463.801	727.291	962.410	1,079.913	1,221.081	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	2,033.418	663.316	566.711	463.801	-	463.801	727.291	962.410	1,079.913	1,221.081	Continuing	Continuing
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Millions)	11.315	11.639	10.439	10.896	-	10.896	11.003	11.181	11.040	10.360	Continuing	Continuing
Gross/Weapon System Unit Cost (\$ in Millions)	11.822	9.900	11.566	13.251	-	13.251	15.811	18.871	18.619	16.281	Continuing	Continuing
Description:												
Note: Beginning in FY 2016, funds transferred from MD09 "Aegis BMD" to the newly created MD90 "Aegis BMD Hardware and Software" line item in accordance with the FY 2016 Omnibus.												
Flyaway costs reflect the SM-3 Block IB only. Net Procurement and Gross Weapon System costs include all hardware and support costs but are detailed in separate P5s. Prior Year procurement quantity of 170 includes 71 Standard Missile 3 (SM-3) Block IAs and 99 SM-3 Block IBs.												
The 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).												
The 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 ABMD and increase the probability of kill against a larger threat set. Initial production decision anticipated 4Q FY 2017 with an initial procurement contract starting in FY 2018 for a planned quantity of 7.												
For FY 2017 Missiles: The FY 2017 request procures a quantity of 35 SM-3 Block IB All-Up Rounds (AURs. The request also includes Canisters, Diminishing Manufacturing Sources Mitigation (DMSM), Production Engineering and Ballistic Barriers for SM-3 transportation.												
MDA's P40 is correct for dollars and quantities and PRCP is correct for dollar values. However due to an oversight there were some quantities for Shipsets (Qty 15 in FY15) and SM3 IIA interceptors (Qty 71 FY18 and out) that were inadvertently left off in PRCP. MDA will adjust PRCP to include SM3 IIA and Shipsets at the next opportunity												

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Exhibit P-40, Budget Line Item Justification: PB 2017 Missile Defense Agency							Date: February 2016																																																										
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P-40	Total Gross/Weapon System Cost			172 / 2,033.418	67 / 663.316	49 / 566.711	35 / 463.801	- / -	35 / 463.801																																																								
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*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 sum exactly due to rounding.

Justification:

Justification of each end item reflected in P-5

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Exhibit P-5, Cost Analysis: PB 2017 Missile Defense Agency												Date: February 2016						
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17				P-1 Line Item Number / Title: MD09 / AEGIS BMD								Item Number / Title [DODIC]: - / Aegis BMD SM-3 Block IB						
ID Code (A=Service Ready, B=Not Service Ready) : B												MDAP/MAIS Code:						
Resource Summary		Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total					
Procurement Quantity (<i>Units in Each</i>)		170	52	49	35	-	35	39	33	35	52	Continuing	Continuing					
Gross/Weapon System Cost (\$ in Millions)		2,010.918	626.202	566.711	463.801	-	463.801	514.178	447.788	452.847	611.030	Continuing	Continuing					
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-					
Net Procurement (P-1) (\$ in Millions)		2,010.918	626.202	566.711	463.801	-	463.801	514.178	447.788	452.847	611.030	Continuing	Continuing					
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-					
Total Obligation Authority (\$ in Millions)		2,010.918	626.202	566.711	463.801	-	463.801	514.178	447.788	452.847	611.030	Continuing	Continuing					
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-					
Gross/Weapon System Unit Cost (\$ in Millions)		11.829	12.042	11.566	13.251	-	13.251	13.184	13.569	12.938	11.751	Continuing	Continuing					
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 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 ^(†)	10.800	71	766.765	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SM-3 Block IB Procurement ^(†)	11.315	99	1,120.160	11.411	52	593.383	10.439	49	511.493	10.896	35	381.370	-	-	-	10.896	35	381.370
<i>Subtotal: Recurring Cost</i>	-	-	<i>1,886.925</i>	-	-	<i>593.383</i>	-	-	<i>511.493</i>	-	-	<i>381.370</i>	-	-	-	-	-	<i>381.370</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>1,886.925</i>	-	-	<i>593.383</i>	-	-	<i>511.493</i>	-	-	<i>381.370</i>	-	-	-	-	-	<i>381.370</i>
Hardware Cost																		
Recurring Cost																		
Ballistic Barriers for Transportation SM-3 Block IB	-	-	-	-	-	-	0.259	16	4.146	0.590	12	7.075	-	-	-	0.590	12	7.075
Canisters Procurement SM-3 Block IA/IB	0.233	110	25.608	0.211	53	11.186	0.245	50	12.272	0.284	36	10.238	-	-	-	0.284	36	10.238
SM-3 Block IB Investment Spares	-	-	-	-	-	-	-	-	-	9.440	1	9.440	-	-	-	9.440	1	9.440
<i>Subtotal: Recurring Cost</i>	-	-	<i>25.608</i>	-	-	<i>11.186</i>	-	-	<i>16.418</i>	-	-	<i>26.753</i>	-	-	-	-	-	<i>26.753</i>
<i>Subtotal: Hardware Cost</i>	-	-	<i>25.608</i>	-	-	<i>11.186</i>	-	-	<i>16.418</i>	-	-	<i>26.753</i>	-	-	-	-	-	<i>26.753</i>
Support Cost																		

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Exhibit P-5, Cost Analysis: PB 2017 Missile Defense Agency													Date: February 2016								
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17				P-1 Line Item Number / Title: MD09 / AEGIS BMD										Item Number / Title [DODIC]: - / Aegis BMD SM-3 Block IB							
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 sum exactly due to rounding.																					
Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 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)			
Diminishing Manufacturing Sources Mitigation	-	-	-	-	-	-	5.300	1	5.300	3.829	1	3.829	-	-	-	3.829	1	3.829			
SM-3 Block IB Production Engineering	32.795	3	98.385	21.633	1	21.633	33.500	1	33.500	33.701	1	33.701	-	-	-	33.701	1	33.701			
SM-3 Block IB Service Life Evaluation Program	-	-	-	-	-	-	-	-	-	18.148	1	18.148	-	-	-	18.148	1	18.148			
<i>Subtotal: Support Cost</i>	-	-	98.385	-	-	21.633	-	-	38.800	-	-	55.678	-	-	-	-	-	55.678			
Gross/Weapon System Cost	11.829	170	2,010.918	12.042	52	626.202	11.566	49	566.711	13.251	35	463.801	-	-	-	13.251	35	463.801			
Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			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 ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.800	71	766.765			
SM-3 Block IB Procurement ^(†)	11.003	39	429.134	11.181	33	368.986	11.040	35	386.383	10.360	52	538.727	Continuing			Continuing					
<i>Subtotal: Recurring Cost</i>	-	-	429.134	-	-	368.986	-	-	386.383	-	-	538.727	Continuing			Continuing					
<i>Subtotal: Flyaway Cost</i>	-	-	429.134	-	-	368.986	-	-	386.383	-	-	538.727	Continuing			Continuing					
Hardware Cost																					
Recurring Cost																					
Ballistic Barriers for Transportation SM-3 Block IB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.401	28	11.221			
Canisters Procurement SM-3 Block IA/IB	0.290	40	11.613	0.296	34	10.067	0.302	36	10.874	0.307	53	16.276	Continuing			Continuing					
SM-3 Block IB Investment Spares	17.262	1	17.262	12.128	1	12.128	12.373	1	12.373	12.621	1	12.621	Continuing			Continuing					
<i>Subtotal: Recurring Cost</i>	-	-	28.875	-	-	22.195	-	-	23.247	-	-	28.897	Continuing			Continuing					
<i>Subtotal: Hardware Cost</i>	-	-	28.875	-	-	22.195	-	-	23.247	-	-	28.897	Continuing			Continuing					
Support Cost																					
Diminishing Manufacturing Sources Mitigation	3.909	1	3.909	3.987	1	3.987	4.067	1	4.067	4.148	1	4.148	Continuing			Continuing					

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Exhibit P-5, Cost Analysis: PB 2017 Missile Defense Agency													Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17				P-1 Line Item Number / Title: MD09 / AEGIS BMD									Item Number / Title [DODIC]: - / Aegis BMD SM-3 Block IB					
ID Code (A=Service Ready, B=Not Service Ready) : B													MDAP/MAIS Code:					
Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			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)
SM-3 Block IB Production Engineering	33.732	1	33.732	33.726	1	33.726	33.732	1	33.732	33.732	1	33.732	Continuing			Continuing		
SM-3 Block IB Service Life Evaluation Program	18.528	1	18.528	18.894	1	18.894	5.418	1	5.418	5.526	1	5.526	-	-	-	13.303	5	66.514
<i>Subtotal: Support Cost</i>	-	-	56.169	-	-	56.607	-	-	43.217	-	-	43.406	Continuing			Continuing		
Gross/Weapon System Cost	13.184	39	514.178	13.569	33	447.788	12.938	35	452.847	11.751	52	611.030	Continuing			Continuing		

Remarks:

SM-3 Block IB unit costs depend on number of units procured.

SM-3 Transportation of Ballistic Barriers are required costs dictated by Joint Service Insensitive Munitions Technical Panel (JSIMTP) and Naval Ordnance Safety and Security Activity (NOSSA) to transport missiles.

SM-3 Block IB Investment Spares are procured to coincide with the delivery of the missile and are required to support All Up Rounds (AURs) during 4 year maintenance period.

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.

SM-3 Block IB Service Life Evaluation Program includes testing and analysis to demonstrate the safety and suitability of the SM-3 for an extended service life; goal of 16 years.

Production Engineering Support includes labor and material to support the production of SM-3 guided missiles. This includes obsolescence mitigation, ordinance 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.

(†) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2017 Missile Defense Agency								Date: February 2016				
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17			P-1 Line Item Number / Title: MD09 / AEGIS BMD					Item Number / Title [DODIC]: - / Aegis BMD SM-3 Block IB				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ M)	Specs Avail Now?	Date Revision Available	RFP Issue Date
SM-3 Block IA Procurement ^(†)		2009	Raytheon / Tucson, AZ	C / CPIF	Dahlgren, VA	Feb 2008	Mar 2010	11	8.405	Y		Mar 2007
SM-3 Block IA Procurement ^(†)		2010	Raytheon / Tucson, AZ	C / CPIF	Dahlgren, VA	Apr 2008	Aug 2010	24	8.119	Y		Mar 2007
SM-3 Block IA Procurement ^(†)		2011	Raytheon / Tucson, AZ	C / CPIF	Dahlgren, VA	Aug 2012	Sep 2013	22	9.525	Y		Nov 2010
SM-3 Block IA Procurement ^(†)		2012	Raytheon / Tucson, AZ	C / CPIF	Dahlgren, VA	Aug 2012	Jul 2014	14	9.867	Y		Aug 2011
SM-3 Block IB Procurement ^(†)		2012	Raytheon / Tucson, AZ	C / CPIF	Dahlgren, VA	May 2012	Dec 2013	14	13.400	Y		Aug 2011
SM-3 Block IB Procurement ^(†)		2013	Raytheon / Tucson, AZ	C / CPIF	Dahlgren, VA	Jun 2013	Jun 2014	33	12.130	Y		Aug 2012
SM-3 Block IB Procurement ^(†)		2014	Raytheon / Tucson, AZ	C / CPIF	Dahlgren, VA	Apr 2014	Jan 2016	52	10.236	Y		Aug 2013
SM-3 Block IB Procurement ^(†)		2015	Raytheon / Tucson, AZ	SS / FP	Dahlgren, VA	Mar 2015	Apr 2017	52	11.411	Y		Aug 2014
SM-3 Block IB Procurement ^(†)		2016	Raytheon / Tucson, AZ	SS / FP	Dahlgren, VA	Mar 2016	Jul 2018	49	10.416	Y		Aug 2015
SM-3 Block IB Procurement ^(†)		2017	Raytheon / Tucson, AZ	SS / FP	Dahlgren, VA	Mar 2017	Oct 2019	35	10.896	Y		Aug 2016

^(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency																				Date: February 2016																	
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17										P-1 Line Item Number / Title: MD09 / AEGIS BMD										Item Number / Title [DODIC]: - / Aegis BMD SM-3 Block IB																	
Cost Elements (Units in Each)					Fiscal Year 2008															Fiscal Year 2009																	
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2007	BAL DUE AS OF 1 OCT	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 A N C E							
SM-3 Block IA Procurement					Calendar Year 2008															Calendar Year 2009																	
1	2009	MDA	11	-	11				A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11				
1	2010	MDA	24	-	24				A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24					
1	2011	MDA	22	-	22																														22		
1	2012	MDA	14	-	14																															14	
SM-3 Block IB Procurement																																			14		
2	2012	MDA	14	-	14																															14	
2	2013	MDA	33	-	33																															33	
2	2014	MDA	52	-	52																															52	
2	2015	MDA	52	-	52																																52
2	2016	MDA	49	-	49																																49
2	2017	MDA	35	-	35																																35
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2007	BAL DUE AS OF 1 OCT	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								

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency																					Date: February 2016																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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Procurement																															1	2009	MDA	11	-	11	-	-	-	-	2	-	-	-	2	2	-	-	-	-	-	1	1	3							-	1	2010	MDA	24	-	24	-	-	-	-	-	-	-	-	-	2	2	7	-	-	-	-	-	-	-	-	-	-	-	-	13	1	2011	MDA	22	-	22																										22	1	2012	MDA	14	-	14																										14	SM-3 Block IB Procurement																															2	2012	MDA	14	-	14																										14	2	2013	MDA	33	-	33																										33	2	2014	MDA	52	-	52																										52	2	2015	MDA	52	-	52																										52	2	2016	MDA	49	-	49																										49	2	2017	MDA	35	-	35																										35										
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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency

Date: February 2016

Appropriation / Budget Activity / Budget Sub Activity:
0300D / 01 / 17

P-1 Line Item Number / Title:
MD09 / AEGIS BMD

Item Number / Title [DODIC]:
- / Aegis BMD SM-3 Block IB

Cost Elements (Units in Each)						Fiscal Year 2012												Fiscal Year 2013												BALANCE	
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2011	BAL DUE AS OF 1 OCT	Calendar Year 2012												Calendar Year 2013												BALANCE
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
SM-3 Block IA Procurement																															
1	2009	MDA		11	11	-																								-	
1	2010	MDA		24	11	13	-	-	-	-	6	-	1	-	-	2	-	3	-	-	-	-	-	-	-	-	-	-	1		
1	2011	MDA		22	-	22																								21	
1	2012	MDA		14	-	14																								14	
SM-3 Block IB Procurement																															
2	2012	MDA		14	-	14																								14	
2	2013	MDA		33	-	33																								33	
2	2014	MDA		52	-	52																								52	
2	2015	MDA		52	-	52																								52	
2	2016	MDA		49	-	49																								49	
2	2017	MDA		35	-	35																								35	
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency																				Date: February 2016																					
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17										P-1 Line Item Number / Title: MD09 / AEGIS BMD										Item Number / Title [DODIC]: - / Aegis BMD SM-3 Block IB																					
Cost Elements (Units in Each)							Fiscal Year 2014												Fiscal Year 2015																						
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2013	BAL DUE AS OF 1 OCT	FY	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 A N C E										
SM-3 Block IA Procurement							Calendar Year 2014												Calendar Year 2015																						
1	2009	MDA	11	11	-																									-											
1	2010	MDA	24	24	-																									-											
1	2011	MDA	22	1	21		5	1	2	1	-	3	4	1	1	1	3													-											
1	2012	MDA	14	-	14		-	-	-	-	-	-	-	-	-	-	2	1	3	-	-	-	-	3	4	-	1										-				
SM-3 Block IB Procurement																																									
2	2012	MDA	14	-	14		-	-	1	3	2	3	1	2	2														-											-	
2	2013	MDA	33	-	33		-	-	-	-	-	-	-	-	2	1	-	1	-	6	3	1	-	3	2	4	-	-	-	-	-	-	-	-	-	1	9				
2	2014	MDA	52	-	52														A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52			
2	2015	MDA	52	-	52																									A -	-	-	-	-	-	-	-	-	-	52	
2	2016	MDA	49	-	49																																			49	
2	2017	MDA	35	-	35																																			35	
							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											

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency																				Date: February 2016																																																																	
Appropriation / Budget Activity / Budget Sub Activity:																				Item Number / Title [DODIC]:																																																																	
03000D / 01 / 17																				- / Aegis BMD SM-3 Block IB																																																																	
Cost Elements (Units in Each)																				Fiscal Year 2016																																																																	
<table border="1"> <thead> <tr> <th rowspan="2">O C R O #</th> <th rowspan="2">M F R</th> <th rowspan="2">FY</th> <th rowspan="2">SERVICE</th> <th rowspan="2">PROC QTY</th> <th rowspan="2">ACCEPT PRIOR TO 1 OCT 2015</th> <th rowspan="2">BAL DUE AS OF 1 OCT</th> <th colspan="12">Fiscal Year 2016</th> <th colspan="12">Fiscal Year 2017</th> </tr> <tr> <th>O C T</th> <th>N O V</th> <th>D E C</th> <th>J A N</th> <th>F E B</th> <th>M A R</th> <th>A P R</th> <th>M A Y</th> <th>J U N</th> <th>J U L</th> <th>A U G</th> <th>S E P</th> <th>O C T</th> <th>N O V</th> <th>D E C</th> <th>J A N</th> <th>F E B</th> <th>M A R</th> <th>A P R</th> <th>M A Y</th> <th>J U N</th> <th>J U L</th> <th>A U G</th> <th>S E P</th> </tr> </thead> </table>																			O C R O #											M F R	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	Fiscal Year 2016												Fiscal 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	Calendar Year 2016	
O C R O #	M F R	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	Fiscal Year 2016													Fiscal 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																																																							
SM-3 Block IA Procurement																																																																																					
1	2009	MDA	11	11	-																											-																																																					
1	2010	MDA	24	24	-																											-																																																					
1	2011	MDA	22	22	-																											-																																																					
1	2012	MDA	14	14	-																											-																																																					
SM-3 Block IB Procurement																																																																																					
2	2012	MDA	14	14	-																											-																																																					
2	2013	MDA	33	24	9	4	3	2																								-																																																					
2	2014	MDA	52	-	52	-	-	-	4	4	5	4	4	4	5	4	4	5	4	5	4	4	5	4	4	5	4	4	5	-																																																							
2	2015	MDA	52	-	52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	4	4	5	4	4	26																																																					
2	2016	MDA	49	-	49				A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49																																																					
2	2017	MDA	35	-	35																												35																																																				
																				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																																										

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency

Date: February 2016

Appropriation / Budget Activity / Budget Sub Activity:
0300D / 01 / 17

P-1 Line Item Number / Title:
MD09 / AEGIS BMD

Item Number / Title [DODIC]:
- / Aegis BMD SM-3 Block IB

Cost Elements (Units in Each)							Fiscal Year 2018												Fiscal Year 2019												Balance					
O C O #	M F R #	FY	Service	Proc Qty	Accept Prior to 1 Oct 2017	Bal Due as of 1 Oct	Calendar Year 2018												Calendar Year 2019												Balance					
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP						
SM-3 Block IA Procurement																																				
1	2009	MDA		11	11	-																								-						
1	2010	MDA		24	24	-	-																													
1	2011	MDA		22	22	-	-																													
1	2012	MDA		14	14	-	-																													
SM-3 Block IB Procurement																														-						
2	2012	MDA		14	14	-																								-						
2	2013	MDA		33	33	-	-																													
2	2014	MDA		52	52	-	-																													
2	2015	MDA		52	26	26	5	4	4	5	4	4																								-
2	2016	MDA		49	-	49	-	-	-	-	-	-	-																							
2	2017	MDA		35	-	35	-	-	-	-	-	-	35																							
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP						

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency																			Date: February 2016																				
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17										P-1 Line Item Number / Title: MD09 / AEGIS BMD										Item Number / Title [DODIC]: - / Aegis BMD SM-3 Block IB																			
Cost Elements (Units in Each)							Fiscal Year 2020												Fiscal Year 2021																				
O C R 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 R O #	M F R	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	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																																							
1	2009	MDA		11	11	-																									-								
1	2010	MDA		24	24	-	-																																
1	2011	MDA		22	22	-	-																																
1	2012	MDA		14	14	-	-																																
SM-3 Block IB Procurement																															-								
2	2012	MDA		14	14	-																									-								
2	2013	MDA		33	33	-	-																																
2	2014	MDA		52	52	-	-																																
2	2015	MDA		52	52	-	-																																
2	2016	MDA		49	49	-	-																																
2	2017	MDA		35	-	35	-																																
							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									

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency										Date: February 2016			
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17				P-1 Line Item Number / Title: MD09 / AEGIS BMD					Item Number / Title [DODIC]: - / Aegis BMD SM-3 Block IB				
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)								
		MSR For 2017	1-8-5 For 2017	MAX For 2017	Initial			Reorder					
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing 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	-	-	-	-	-	-	-	-	

"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-5, Cost Analysis: PB 2017 Missile Defense Agency												Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17				P-1 Line Item Number / Title: MD09 / AEGIS BMD								Item Number / Title [DODIC]: - / Aegis BMD Shipsets					
ID Code (A=Service Ready, B=Not Service Ready) : B												MDAP/MAIS Code:					
Resource Summary		Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total				
Procurement Quantity (Units in Each)		2	15	-	-	-	-	-	-	-	-	-	-	17			
Gross/Weapon System Cost (\$ in Millions)		22.500	37.114	-	-	-	-	-	-	-	-	-	-	59.614			
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-	-			
Net Procurement (P-1) (\$ in Millions)		22.500	37.114	-	-	-	-	-	-	-	-	-	-	59.614			
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-	-			
Total Obligation Authority (\$ in Millions)		22.500	37.114	-	-	-	-	-	-	-	-	-	-	59.614			
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																	
Initial Spares (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-	-			
Gross/Weapon System Unit Cost (\$ in Millions)		11.250	2.474	-	-	-	-	-	-	-	-	-	-	3.507			
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																	
Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO				
	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																	
Aegis BMD 3.6 to 4.x Hardware Procurements	-	-	-	18.955	1	18.955	-	-	-	-	-	-	-	-	-		
Aegis BMD 9.C1 (5.0CU) Hardware Procurements	-	-	-	4.721	1	4.721	-	-	-	-	-	-	-	-	-		
Aegis BMD 9.C1 (5.0CU) Installs	-	-	-	1.400	3	4.200	-	-	-	-	-	-	-	-	-		
Aegis BMD 9C.2 (5.x) Inline Procurements	-	-	-	4.502	1	4.502	-	-	-	-	-	-	-	-	-		
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	32.378	-	-	-	-	-	-	-	-	-		
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	32.378	-	-	-	-	-	-	-	-	-		
Software Cost																	
Recurring Cost																	
Aegis BMD 3.6.1 Software and Installs	11.250	2	22.500	-	-	-	-	-	-	-	-	-	-	-	-		
Aegis BMD 4.0 to 4.x Software Installs	-	-	-	0.526	9	4.736	-	-	-	-	-	-	-	-	-		
<i>Subtotal: Recurring Cost</i>	-	-	22.500	-	-	4.736	-	-	-	-	-	-	-	-	-		
<i>Subtotal: Software Cost</i>	-	-	22.500	-	-	4.736	-	-	-	-	-	-	-	-	-		
Gross/Weapon System Cost	11.250	2	22.500	2.474	15	37.114	-	-	-	-	-	-	-	-	-		

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Exhibit P-5, Cost Analysis: PB 2017 Missile Defense Agency														Date: February 2016												
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17							P-1 Line Item Number / Title: MD09 / AEGIS BMD							Item Number / Title [DODIC]: - / Aegis BMD Shipsets												
ID Code (A=Service Ready, B=Not Service Ready) : B															MDAP/MAIS Code:											
Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			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)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)					
Hardware Cost																										
Recurring Cost																										
Aegis BMD 3.6 to 4.x Hardware Procurements	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.955	1	18.955					
Aegis BMD 9.C1 (5.0CU) Hardware Procurements	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.721	1	4.721					
Aegis BMD 9.C1 (5.0CU) Installs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.400	3	4.200					
Aegis BMD 9C.2 (5.x) Inline Procurements	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.502	1	4.502					
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32.378			
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32.378			
Software Cost																										
Recurring Cost																										
Aegis BMD 3.6.1 Software and Installs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.250	2	22.500					
Aegis BMD 4.0 to 4.x Software Installs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.526	9	4.736					
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.236		
<i>Subtotal: Software Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.236		
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.507	17	59.614					
Remarks: FY 2016 Omnibus transferred all Aegis BMD Hardware and Software to Budget Project MD90.																										

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Exhibit P-5, Cost Analysis: PB 2017 Missile Defense Agency												Date: February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17				P-1 Line Item Number / Title: MD09 / AEGIS BMD								Item Number / Title [DODIC]: - / Aegis BMD SM-3 Block IIA					
ID Code (A=Service Ready, B=Not Service Ready) : B												MDAP/MAIS Code:					
Resource Summary		Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total				
Procurement Quantity (<i>Units in Each</i>)		-	-	-	-	-	-	7	18	23	23	-	-	71			
Gross/Weapon System Cost (\$ in Millions)		-	-	-	-	-	-	213.113	514.622	627.066	610.051	-	-	1,964.852			
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Net Procurement (P-1) (\$ in Millions)		-	-	-	-	-	-	213.113	514.622	627.066	610.051	-	-	1,964.852			
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total Obligation Authority (\$ in Millions)		-	-	-	-	-	-	213.113	514.622	627.066	610.051	-	-	1,964.852			
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																	
Initial Spares (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gross/Weapon System Unit Cost (\$ in Millions)		-	-	-	-	-	-	30.445	28.590	27.264	26.524	-	-	27.674			
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																	
Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 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)
Flyaway Cost																	
Recurring Cost																	
SM-3 Block IIA Procurement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Flyaway Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardware Cost																	
Recurring Cost																	
Canisters Procurement SM-3 Block IIA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support Cost																	
SM-3 Block IIA Diminishing Manufacturing Sources Mitigation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SM-3 Block IIA Production Engineering	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2017 Missile Defense Agency													Date: February 2016									
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17				P-1 Line Item Number / Title: MD09 / AEGIS BMD									Item Number / Title [DODIC]: - / Aegis BMD SM-3 Block IIA									
ID Code (A=Service Ready, B=Not Service Ready) : B													MDAP/MAIS Code:									
Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			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 IIA Procurement	27.665	7	193.652	26.066	18	469.187	24.539	23	564.387	23.770	23	546.712	-	-	-	24.985	71	1,773.938				
<i>Subtotal: Recurring Cost</i>	-	-	193.652	-	-	469.187	-	-	564.387	-	-	546.712	-	-	-	-	-	1,773.938				
<i>Subtotal: Flyaway Cost</i>	-	-	193.652	-	-	469.187	-	-	564.387	-	-	546.712	-	-	-	-	-	1,773.938				
Hardware Cost																						
Recurring Cost																						
Canisters Procurement SM-3 Block IIA	0.624	8	4.993	0.568	19	10.801	0.546	24	13.097	0.537	24	12.888	-	-	-	0.557	75	41.779				
<i>Subtotal: Recurring Cost</i>	-	-	4.993	-	-	10.801	-	-	13.097	-	-	12.888	-	-	-	-	-	41.779				
<i>Subtotal: Hardware Cost</i>	-	-	4.993	-	-	10.801	-	-	13.097	-	-	12.888	-	-	-	-	-	41.779				
Support Cost																						
SM-3 Block IIA Diminishing Manufacturing Sources Mitigation	1.081	1	1.081	2.572	1	2.572	3.748	1	3.748	3.823	1	3.823	-	-	-	2.806	4	11.224				
SM-3 Block IIA Production Engineering	13.387	1	13.387	32.062	1	32.062	45.834	1	45.834	46.628	1	46.628	-	-	-	34.478	4	137.911				
<i>Subtotal: Support Cost</i>	-	-	14.468	-	-	34.634	-	-	49.582	-	-	50.451	-	-	-	-	-	149.135				
Gross/Weapon System Cost	30.445	7	213.113	28.590	18	514.622	27.264	23	627.066	26.524	23	610.051	-	-	-	27.674	71	1,964.852				

Remarks:

No funding requested in FY 2017. Anticipate a 4Q FY 2017 Initial Production decision for 2018 missile procurement.

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Exhibit P-40, Budget Line Item Justification: PB 2017 Missile Defense Agency										Date: February 2016			
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: MD11 / BMDS AN/TPY-2 Radars			
ID Code (A=Service Ready, B=Not Service Ready): A										Program Elements for Code B Items: 0603881C, 0603884C			
Line Item MDAP/MAIS Code: 362		Item MDAP/MAIS Code(s): N/A											
Resource Summary		Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)		5	-	-	-	-	-	-	-	-	-	-	5
Gross/Weapon System Cost (\$ in Millions)		1,005.650	87.803	78.634	5.503	-	5.503	2.408	3.016	11.017	53.898	-	1,247.929
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		1,005.650	87.803	78.634	5.503	-	5.503	2.408	3.016	11.017	53.898	-	1,247.929
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)		1,005.650	87.803	78.634	5.503	-	5.503	2.408	3.016	11.017	53.898	-	1,247.929
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)													
Initial Spares (\$ in Millions)		10.901	-	-	-	-	-	-	-	-	-	-	10.901
Flyaway Unit Cost (\$ in Millions)		172.502	-	-	-	-	-	-	-	-	-	Continuing	Continuing
Gross/Weapon System Unit Cost (\$ in Millions)		201.130	-	-	-	-	-	-	-	-	-	-	249.586
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 acquired 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" 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 plus the Initial Spares amount includes the costs of all hardware. The FY 2015 funding included procurement of long lead Transmit/Receive Integrated Microwave Modules (TRIMMs) for the Float Antenna Equipment Unit (AEU). The FY 2015 funding also included three Electronic Equipment Unit (EEU) Modification Kits, three 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 funding includes one AEU transformer, one EEU Modification Kit and one Radar Field Upgrade (RAFU) Kit.													
The FY 2018 - FY 2021 funding includes procurement of three EEU Modification Kits, four AEU transformers, four PPUs and three RAFU Kits.													

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Exhibit P-40, Budget Line Item Justification: PB 2017 Missile Defense Agency								Date: February 2016	
Appropriation / Budget Activity / Budget Sub Activity:				P-1 Line Item Number / Title:					
0300D: Procurement, Defense-Wide / BA 01: Major Equipment / BSA 17: Major Equipment, Missile Defense Agency				MD11 / BMDS AN/TPY-2 Radars					
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): N/A					
Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	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)
P-5	BMDS AN/TPY-2 Radars	P-5a, P-21	A	5 / 1,005.650	- / 87.803	- / 78.634	- / 5.503	- / -	- / 5.503
P-40	Total Gross/Weapon System Cost			5 / 1,005.650	- / 87.803	- / 78.634	- / 5.503	- / -	- / 5.503
Exhibits Schedule				FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Exhibit Type	Title*	Subexhibits	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)
P-5	BMDS AN/TPY-2 Radars	P-5a, P-21	A	- / 2.408	- / 3.016	- / 11.017	- / 53.898	- / -	5 / 1,247.929
P-40	Total Gross/Weapon System Cost			- / 2.408	- / 3.016	- / 11.017	- / 53.898	- / -	5 / 1,247.929

*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 sum exactly due to rounding.

Justification:

FY 2015: Procured long lead Transmit/Receive Integrated Microwave Modules (TRIMMs) for the Float Antenna Equipment Unit (AEU). Also procured three Electronic Equipment Unit (EEU) Modification Kits, three 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 AEU structure, population of long lead TRIMMs and final delivery, one EEU Modification Kit and four AEU transformers.

FY 2017: Procure one AEU Transformer, one EEU Modification Kit and one Radar Field Upgrade (RAFU) Kit.

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Exhibit P-5, Cost Analysis: PB 2017 Missile Defense Agency											Date: February 2016							
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:							
Resource Summary		Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total					
Procurement Quantity (<i>Units in Each</i>)		5	-	-	-	-	-	-	-	-	-	-	-	-	5			
Gross/Weapon System Cost (\$ in Millions)		1,005.650	87.803	78.634	5.503	-	5.503	2.408	3.016	11.017	53.898	-	-	1,247.929				
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Net Procurement (P-1) (\$ in Millions)		1,005.650	87.803	78.634	5.503	-	5.503	2.408	3.016	11.017	53.898	-	-	1,247.929				
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Total Obligation Authority (\$ in Millions)		1,005.650	87.803	78.634	5.503	-	5.503	2.408	3.016	11.017	53.898	-	1,247.929					
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Gross/Weapon System Unit Cost (\$ in Millions)		201.130	-	-	-	-	-	-	-	-	-	-	-	-	249.586			
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 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) ^(†)	130.482	5	652.411	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Antenna Equipment Unit (AEU) Transformer ^(†)	-	-	-	1.775	3	5.326	0.685	4	2.740	0.919	1	0.919	-	-	-	0.919	1	0.919
Cooling Equipment Unit (CEU) ^(†)	6.996	5	34.982	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Critical Spares ^(†)	14.361	1	14.361	11.391	1	11.391	-	-	-	-	-	-	-	-	-	-	-	
Electronic Equipment Unit (EEU) ^(†)	20.914	5	104.572	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Electronic Equipment Unit (EEU) Modification Kit ^(†)	-	-	-	2.795	3	8.384	3.171	1	3.171	3.134	1	3.134	-	-	-	3.134	1	3.134
Float Antenna Equipment Unit (AEU) ^(†)	-	-	-	-	-	-	72.723	1	72.723	-	-	-	-	-	-	-	-	
Float Cooling Equipment Unit (CEU) ^(†)	12.929	2	25.857	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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Exhibit P-5, Cost Analysis: PB 2017 Missile Defense Agency													Date: February 2016													
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:													
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																										
Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 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) ^(†)	21.491	2	42.982	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
Forward-Based Mode Prime Power Units (PPU) ^(†)	10.985	4	43.940	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
Prime Power Unit (PPUs - 2 each radar system) ^(†)	14.109	5	70.545	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
Radar Factory Unit (RAFU) Kit ^(†)	-	-	-	-	-	-	-	-	-	1,450	1	1,450	-	-	-	1,450	1	1,450								
Transmit/Receive Integrated Microwave Module (TRIMMs) ^(†)	-	-	-	59.840	1	59.840	-	-	-	-	-	-	-	-	-	-	-	-								
<i>Subtotal: Recurring Cost</i>	-	-	989.650	-	-	84.941	-	-	78.634	-	-	5.503	-	-	-	-	-	5.503								
Non Recurring Cost																										
Contractor Certification ^(†)	-	-	-	2.862	1	2.862	-	-	-	-	-	-	-	-	-	-	-	-								
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	2.862	-	-	-	-	-	-	-	-	-	-	-	-								
<i>Subtotal: Hardware Cost</i>	-	-	989.650	-	-	87.803	-	-	78.634	-	-	5.503	-	-	-	-	-	5.503								
Support Cost																										
Program Support*	16.000	1	16.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
<i>Subtotal: Support Cost</i>	-	-	16.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
<i>Gross/Weapon System Cost</i>	201.130	5	1,005.650	-	-	87.803	-	-	78.634	-	-	5.503	-	-	-	-	-	5.503								
Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			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																										
Antenna Equipment Unit (AEU) ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	130.482	5	652.411								
Antenna Equipment Unit (AEU) Transformer ^(†)	0.947	1	0.947	-	-	-	0.991	2	1.982	0.914	1	0.914	-	-	-	1.069	12	12.828								

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Exhibit P-5, Cost Analysis: PB 2017 Missile Defense Agency														Date: February 2016											
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 2018			FY 2019			FY 2020			FY 2021			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)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)				
Cooling Equipment Unit (CEU) ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.996	5	34.982				
Critical Spares ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.876	2	25.752				
Electronic Equipment Unit (EEU) ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.914	5	104.572				
Electronic Equipment Unit (EEU) Modification Kit ^(†)	-	-	-	3.016	1	3.016	2.979	2	5.957	-	-	-	-	-	-	-	-	-	2.958	8	23.662				
Float Antenna Equipment Unit (AEU) ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72.723	1	72.723				
Float Cooling Equipment Unit (CEU) ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.929	2	25.857				
Float Electronic Equipment Unit (EEU) ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.491	2	42.982				
Forward-Based Mode Prime Power Units (PPU) ^(†)	-	-	-	-	-	-	-	-	-	13.246	4	52.984	-	-	-	-	-	-	12.116	8	96.924				
Prime Power Unit (PPUs - 2 each radar system) ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.109	5	70.545				
Radar Factory Unit (RAFU) Kit ^(†)	1.461	1	1.461	-	-	-	1.539	2	3.078	-	-	-	-	-	-	-	-	-	1.497	4	5.989				
Transmit/Receive Integrated Microwave Module (TRIMMs) ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59.840	1	59.840				
<i>Subtotal: Recurring Cost</i>	-	-	2.408	-	-	3.016	-	-	11.017	-	-	53.898	-	-	-	-	-	-	-	-	-	1,229.067			
Non Recurring Cost																									
Contractor Certification ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.862	1	2.862				
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.862	
<i>Subtotal: Hardware Cost</i>	-	-	2.408	-	-	3.016	-	-	11.017	-	-	53.898	-	-	-	-	-	-	-	-	-	-	-	-	1,231.929
Support Cost																									
Program Support*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.000	1	16.000				
<i>Subtotal: Support Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.000
Gross/Weapon System Cost	-	-	2.408	-	-	3.016	-	-	11.017	-	-	53.898	-	-	-	-	-	-	249.586	5	1,247.929				

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Exhibit P-5, Cost Analysis: PB 2017 Missile Defense Agency		Date: February 2016		
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:			
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).				
(†) indicates the presence of a P-5a				

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Exhibit P-5a, Procurement History and Planning: PB 2017 Missile Defense Agency								Date: February 2016				
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	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ M)	Specs Avail Now?	Date Revision Available	RFP Issue Date
Antenna Equipment Unit (AEU) ^(†)		2010	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Jun 2010	Dec 2012	1	144.290	Y		
Antenna Equipment Unit (AEU) ^(†)		2012	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2011	Jun 2014	2	144.090	Y		
Antenna Equipment Unit (AEU) - 1 ^(†)		2013	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2012	Jun 2015	1	126.400	Y		
Antenna Equipment Unit (AEU) - 2 ^(†)		2013	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2013	Jun 2016	1	126.400	Y		
Antenna Equipment Unit (AEU) Transformer ^(†)		2015	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2014	Sep 2015	3	1.775	Y		
Antenna Equipment Unit (AEU) Transformer ^(†)		2016	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2015	Sep 2016	4	0.685	Y		
Antenna Equipment Unit (AEU) Transformer ^(†)		2017	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2016	Sep 2017	1	0.919	Y		
Antenna Equipment Unit (AEU) Transformer ^(†)		2018	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2017	Sep 2018	1	0.947	Y		
Antenna Equipment Unit (AEU) Transformer ^(†)		2020	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2019	Sep 2020	2	0.991	Y		
Antenna Equipment Unit (AEU) Transformer ^(†)		2021	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2020	Sep 2021	1	0.914	Y		
Cooling Equipment Unit (CEU) ^(†)		2010	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Jun 2010	Dec 2012	1	7.800	Y		
Cooling Equipment Unit (CEU) ^(†)		2012	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2011	Jun 2014	2	7.668	Y		
Cooling Equipment Unit (CEU) - 1 ^(†)		2013	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2012	Jun 2015	1	6.802	Y		
Cooling Equipment Unit (CEU) - 2 ^(†)		2013	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2013	Jun 2016	1	6.802	Y		
Critical Spares ^(†)		2014	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	May 2014	May 2015	1	14.361	Y		
Critical Spares ^(†)		2015	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2014	Dec 2015	1	11.391	Y		
Electronic Equipment Unit (EEU) ^(†)		2010	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Jun 2010	Dec 2012	1	23.400	Y		
Electronic Equipment Unit (EEU) ^(†)		2012	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2011	Jun 2014	2	23.000	Y		
Electronic Equipment Unit (EEU) - 1 ^(†)		2013	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2012	Jun 2015	1	20.220	Y		
Electronic Equipment Unit (EEU) - 2 ^(†)		2013	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2013	Jun 2016	1	20.220	Y		

UNCLASSIFIED

Exhibit P-5a, Procurement History and Planning: PB 2017 Missile Defense Agency								Date: February 2016				
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	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ M)	Specs Avail Now?	Date Revision Available	RFP Issue Date
Electronic Equipment Unit (EEU) Modification Kit ^(†)		2015	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2014	Jun 2015	3	2.795	Y		
Electronic Equipment Unit (EEU) Modification Kit ^(†)		2016	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2015	Jun 2016	1	3.171	Y		
Electronic Equipment Unit (EEU) Modification Kit ^(†)		2017	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2016	Jun 2017	1	3.134	Y		
Electronic Equipment Unit (EEU) Modification Kit ^(†)		2019	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2018	Jun 2019	1	3.016	Y		
Electronic Equipment Unit (EEU) Modification Kit ^(†)		2020	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2019	Jun 2020	2	2.979	Y		
Float Antenna Equipment Unit (AEU) ^(†)		2016	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2015	Jun 2018	1	72.723	N		
Float Cooling Equipment Unit (CEU) ^(†)		2012	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2011	Jun 2014	1	7.140	Y		
Float Cooling Equipment Unit (CEU) ^(†)		2014	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Sep 2014	Dec 2015	1	18.721	Y		
Float Electronic Equipment Unit (EEU) ^(†)		2012	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2011	Jun 2014	1	20.260	Y		
Float Electronic Equipment Unit (EEU) ^(†)		2014	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Sep 2014	Sep 2016	1	22.718	Y		
Forward-Based Mode Prime Power Units (PPU) ^(†)		2013	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2012	Dec 2014	4	10.985	Y		
Forward-Based Mode Prime Power Units (PPU) ^(†)		2021	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2020	Dec 2022	4	13.246	Y		
Prime Power Unit (PPUs - 2 each radar system) ^(†)		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) ^(†)		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 ^(†)		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 ^(†)		2013	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2013	Jun 2016	1	13.895	Y		
Radar Factory Unit (RAFU) Kit ^(†)		2017	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2016	Jun 2017	1	1.450	Y		
Radar Factory Unit (RAFU) Kit ^(†)		2018	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2017	Jun 2018	1	1.461	Y		

UNCLASSIFIED

Exhibit P-5a, Procurement History and Planning: PB 2017 Missile Defense Agency								Date: February 2016				
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	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ M)	Specs Avail Now?	Date Revision Available	RFP Issue Date
Radar Factory Unit (RAFU) Kit ^(†)		2020	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2019	Jun 2020	2	1.539	Y		
Transmit/Receive Integrated Microwave Module (TRIMMs) ^(†)		2015	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2014	Jun 2016	1	59.840	Y		
Contractor Certification ^(†)		2015	Raytheon / Woburn, MA	SS / FFP	MDA, Huntsville, AL	Dec 2014	Dec 2015	1	2.862	Y		

(†) indicates the presence of a P-21

Remarks:

N/A

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency

Date: February 2016

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 2010												Fiscal Year 2011												B A L A N C E
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2009	BAL DUE AS OF 1 OCT	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		
Antenna Equipment Unit (AEU)																													1		
1	2010	MDA	1	-	1																									1	
1	2012	MDA	2	-	2																									2	
Antenna Equipment Unit (AEU) - 1																													1		
1	2013	MDA	1	-	1																									1	
Antenna Equipment Unit (AEU) - 2																													1		
Antenna Equipment Unit (AEU) Transformer																													3		
2	2015	MDA	3	-	3																									4	
2	2016	MDA	4	-	4																									1	
2	2017	MDA	1	-	1																									1	
2	2018	MDA	1	-	1																									1	
2	2020	MDA	2	-	2																									2	
2	2021	MDA	1	-	1																									1	
Cooling Equipment Unit (CEU)																													1		
3	2010	MDA	1	-	1																									2	
3	2012	MDA	2	-	2																									1	
Cooling Equipment Unit (CEU) - 1																													1		
3	2013	MDA	1	-	1																									1	
Cooling Equipment Unit (CEU) - 2																													1		
Critical Spares																													1		
4	2014	MDA	1	-	1																									1	
4	2015	MDA	1	-	1																									1	
Electronic Equipment Unit (EEU)																													1		
5	2010	MDA	1	-	1																									2	
5	2012	MDA	2	-	2																									1	
Electronic Equipment Unit (EEU) - 1																													1		
5	2013	MDA	1	-	1																									1	
Electronic Equipment Unit (EEU) - 2																													1		
Electronic Equipment Unit (EEU) Modification Kit																													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	

UNCLASSIFIED

Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency																				Date: February 2016																							
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 2010												Fiscal Year 2011											B A L A N C E													
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2009	BAL DUE AS OF 1 OCT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP														
6	2016	MDA	1	-	1																															1							
6	2017	MDA	1	-	1																															1							
6	2019	MDA	1	-	1																															1							
6	2020	MDA	2	-	2																															2							
Float Antenna Equipment Unit (AEU)																																											
7	2016	MDA	1	-	1																																	1					
Float Cooling Equipment Unit (CEU)																																											
8	2012	MDA	1	-	1																																	1					
8	2014	MDA	1	-	1																																	1					
Float Electronic Equipment Unit (EEU)																																											
9	2012	MDA	1	-	1																																	1					
9	2014	MDA	1	-	1																																	1					
Forward-Based Mode Prime Power Units (PPU)																																											
10	2013	MDA	4	-	4																																	4					
10	2021	MDA	4	-	4																																	4					
Prime Power Unit (PPUs - 2 each radar system)																																											1
11	2010	MDA	1	-	1																																		2				
11	2012	MDA	2	-	2																																		1				
Prime Power Unit (PPUs - 2 each radar system) - 1																																											1
11	2013	MDA	1	-	1																																		1				
Prime Power Unit (PPUs - 2 each radar system) - 2																																											1
Radar Factory Unit (RAFU) Kit																																											1
12	2017	MDA	1	-	1																																		1				
12	2018	MDA	1	-	1																																		1				
12	2020	MDA	2	-	2																																		2				
Transmit/Receive Integrated Microwave Module (TRIMMs)																																											1
13	2015	MDA	1	-	1																																		1				
Contractor Certification																																											1
						OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP														

UNCLASSIFIED

Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency

Date: February 2016

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 2012												Fiscal Year 2013												B A L A N C E
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2011	BAL DUE AS OF 1 OCT	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	OC T	
						NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
Antenna Equipment Unit (AEU)																															
1	2010	MDA	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1							-				
1	2012	MDA	2	-	2		A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2				
Antenna Equipment Unit (AEU) - 1																											1				
1	2013	MDA	1	-	1															A -	-	-	-	-	-	-	-	-			
Antenna Equipment Unit (AEU) - 2																											1				
Antenna Equipment Unit (AEU) Transformer																											3				
2	2015	MDA	3	-	3																							-			
2	2016	MDA	4	-	4																							4			
2	2017	MDA	1	-	1																							1			
2	2018	MDA	1	-	1																							1			
2	2020	MDA	2	-	2																							2			
2	2021	MDA	1	-	1																							1			
Cooling Equipment Unit (CEU)																											-				
3	2010	MDA	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1							-				
3	2012	MDA	2	-	2		A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2				
Cooling Equipment Unit (CEU) - 1																											1				
3	2013	MDA	1	-	1															A -	-	-	-	-	-	-	-	-			
Cooling Equipment Unit (CEU) - 2																											1				
Critical Spares																											1				
4	2014	MDA	1	-	1																							-			
4	2015	MDA	1	-	1																							-			
Electronic Equipment Unit (EEU)																											-				
5	2010	MDA	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1								-			
5	2012	MDA	2	-	2		A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2				
Electronic Equipment Unit (EEU) - 1																											1				
5	2013	MDA	1	-	1															A -	-	-	-	-	-	-	-	-			
Electronic Equipment Unit (EEU) - 2																											1				
Electronic Equipment Unit (EEU) Modification Kit																											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		

UNCLASSIFIED

Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency																				Date: February 2016																								
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 2012												Fiscal Year 2013											B A L A N C E														
O C O #	M F R	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2011	BAL DUE AS OF 1 OCT	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	2016	MDA		1	-	1																														1								
6	2017	MDA		1	-	1																															1							
6	2019	MDA		1	-	1																															1							
6	2020	MDA		2	-	2																															2							
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)																																									4			
10	2013	MDA		4	-	4																																	4					
10	2021	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					
Radar Factory Unit (RAFU) Kit																																												
12	2017	MDA		1	-	1																																		1				
12	2018	MDA		1	-	1																																		1				
12	2020	MDA		2	-	2																																		2				
Transmit/Receive Integrated Microwave Module (TRIMMs)																																												
13	2015	MDA		1	-	1																																		1				
Contractor Certification																																												
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										1			

UNCLASSIFIED

Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency																			Date: February 2016																															
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 2014												Fiscal Year 2015																															
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2013	BAL DUE AS OF 1 OCT	FY	Calendar Year 2014												Calendar Year 2015																															
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2013	BAL DUE AS OF 1 OCT	FY	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 A N C E																			
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		A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1															
Antenna Equipment Unit (AEU) Transformer																																																		
2	2015	MDA	3	-	3																																	1	2											
2	2016	MDA	4	-	4																																		4											
2	2017	MDA	1	-	1																																		1											
2	2018	MDA	1	-	1																																		1											
2	2020	MDA	2	-	2																																		2											
2	2021	MDA	1	-	1																																		1											
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																																		-											
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		A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1														
Electronic Equipment Unit (EEU) Modification Kit																																																		
6	2015	MDA	3	-	3																																				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 A N C E																				

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency																			Date: February 2016																																																																																																																																																																																													
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17																			Item Number / Title [DODIC]: - / BMDS AN/TPY-2 Radars																																																																																																																																																																																													
Cost Elements (Units in Each)																			Fiscal Year 2014																																																																																																																																																																																													
<table border="1"> <thead> <tr> <th rowspan="2">O C R #</th> <th rowspan="2">M F R #</th> <th rowspan="2">FY</th> <th rowspan="2">SERVICE</th> <th rowspan="2">PROC QTY</th> <th rowspan="2">ACCEPT PRIOR TO 1 OCT 2013</th> <th rowspan="2">BAL DUE AS OF 1 OCT</th> <th colspan="12">Calendar Year 2014</th> <th colspan="12">Calendar Year 2015</th> <th rowspan="2">B A L A N C E</th> </tr> <tr> <th>O C T</th> <th>N O V</th> <th>D E C</th> <th>J A N</th> <th>F E B</th> <th>M A R</th> <th>A P R</th> <th>M A Y</th> <th>J U N</th> <th>J U L</th> <th>A U G</th> <th>S E P</th> <th>O C T</th> <th>N O V</th> <th>D E C</th> <th>J A N</th> <th>F E B</th> <th>M A R</th> <th>A P R</th> <th>M A Y</th> <th>J U N</th> <th>J U L</th> <th>A U G</th> <th>S E P</th> </tr> </thead> <tbody> <tr> <td>6</td><td>2016</td><td>MDA</td><td></td><td>1</td><td>-</td><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>1</td></tr> <tr> <td>6</td><td>2017</td><td>MDA</td><td></td><td>1</td><td>-</td><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>1</td></tr> <tr> <td>6</td><td>2019</td><td>MDA</td><td></td><td>1</td><td>-</td><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>1</td></tr> <tr> <td>6</td><td>2020</td><td>MDA</td><td></td><td>2</td><td>-</td><td>2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>2</td></tr> </tbody> </table>																			O C R #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2013	BAL DUE AS OF 1 OCT	Calendar Year 2014												Calendar Year 2015												B A L A N C E	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	2016	MDA		1	-	1																								1	6	2017	MDA		1	-	1																								1	6	2019	MDA		1	-	1																								1	6	2020	MDA		2	-	2																								2	Fiscal Year 2015									
O C R #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2013	BAL DUE AS OF 1 OCT	Calendar Year 2014																			Calendar Year 2015												B A L A N C E																																																																																																																																																																										
							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	2016	MDA		1	-	1																								1																																																																																																																																																																																		
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Float Cooling Equipment Unit (CEU)																																																																																																																																																																																																																
8	2012	MDA		1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1										-																																																																																																																																																																																			
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9	2014	MDA		1	-	1													A -	-	-	-	-	-	-	-	-	-	1																																																																																																																																																																																			
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10	2013	MDA		4	-	4	-	-	-	-	-	-	-	-	-	-	-	-	3										1																																																																																																																																																																																			
10	2021	MDA		4	-	4																								4																																																																																																																																																																																		
Prime Power Unit (PPUs - 2 each radar system)																																																																																																																																																																																																																
11	2010	MDA		1	1	-																								-																																																																																																																																																																																		
11	2012	MDA		2	-	2	-	-	-	-	-	-	-	-	-	-	-	-	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	A -	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	1																																																																																																																																																																																				
Radar Factory Unit (RAFU) Kit																																																																																																																																																																																																																
12	2017	MDA		1	-	1																								1																																																																																																																																																																																		
12	2018	MDA		1	-	1																								1																																																																																																																																																																																		
12	2020	MDA		2	-	2																								2																																																																																																																																																																																		
Transmit/Receive Integrated Microwave Module (TRIMMs)																																																																																																																																																																																																																
13	2015	MDA		1	-	1													A -	-	-	-	-	-	-	-	-	-	1																																																																																																																																																																																			
Contractor Certification																																																																																																																																																																																																																
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																																																																																																																																																																																		

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency

Date: February 2016

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 2016												Fiscal Year 2017												B A L A N C E	
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	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	Calendar Year 2016	Calendar Year 2017		
						Calendar Year 2016	Calendar Year 2017																										
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	3	1	2	-	1	-	1																						-		
2	2016	MDA	4	-	4		A	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	1	-	1			-					
2	2017	MDA	1	-	1															A	-	-	-	-	-	-	-	-	-	1	-		
2	2018	MDA	1	-	1																										1		
2	2020	MDA	2	-	2																										2		
2	2021	MDA	1	-	1																										1		
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	3	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		

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0300D / 01 / 17							MD11 / BMDS AN/TPY-2 Radars												- / BMDS AN/TPY-2 Radars																
Cost Elements (Units in Each)							Fiscal Year 2016												Fiscal Year 2017																
O C O	M F R #	F Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	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 A N C E				
6	2016	MDA		1	-	1		A -	-	-	-	-	-	-	1																-				
6	2017	MDA		1	-	1																									-				
6	2019	MDA		1	-	1																								1					
6	2020	MDA		2	-	2																								2					
Float Antenna Equipment Unit (AEU)																																			
7	2016	MDA		1	-	1		A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1						
Float Cooling Equipment Unit (CEU)																														-					
8	2012	MDA		1	1	-																									-				
8	2014	MDA		1	-	1	-	-	-	1																				-					
Float Electronic Equipment Unit (EEU)																														-					
9	2012	MDA		1	1	-																									-				
9	2014	MDA		1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Forward-Based Mode Prime Power Units (PPU)																															1				
10	2013	MDA		4	3	1																										1			
10	2021	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	-	-	-	-	-	-	-	-	-	-	-	-	-	1										-					
Radar Factory Unit (RAFU) Kit																																-			
12	2017	MDA		1	-	1																										-			
12	2018	MDA		1	-	1																										1			
12	2020	MDA		2	-	2																										2			
Transmit/Receive Integrated Microwave Module (TRIMMs)																															-				
13	2015	MDA		1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1										-					
Contractor Certification																																-			
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	-

UNCLASSIFIED

Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency

Date: February 2016

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 2018												Fiscal Year 2019												B A L A N C E
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	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		
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	3	3	-																									-	
2	2016	MDA	4	4	-																									-	
2	2017	MDA	1	1	-																									-	
2	2018	MDA	1	-	1		A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1						-			
2	2020	MDA	2	-	2																									2	
2	2021	MDA	1	-	1																									1	
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																													-		
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																													-		
Electronic Equipment Unit (EEU) Modification Kit																													-		
							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	

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Cost Elements (Units in Each)						Fiscal Year 2018												Fiscal Year 2019																								
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	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 A N C E												
6	2016	MDA	1	1	-																																-					
6	2017	MDA	1	1	-																																-					
6	2019	MDA	1	-	1																																-					
6	2020	MDA	2	-	2																																2					
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	2021	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	-																																	-				
Radar Factory Unit (RAFU) Kit																																										
12	2017	MDA	1	1	-																																	-				
12	2018	MDA	1	-	1																																	-				
12	2020	MDA	2	-	2																																	2				
Transmit/Receive Integrated Microwave Module (TRIMMs)																																										
13	2015	MDA	1	1	-																																	-				
Contractor Certification																																										
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													

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Cost Elements (Units in Each)					Fiscal Year 2020															Fiscal Year 2021																	
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	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 A N C E							
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																																			-		
Antenna Equipment Unit (AEU) Transformer																																			-		
2	2015	MDA	3	3	-																															-	
2	2016	MDA	4	4	-																-																
2	2017	MDA	1	1	-																-																
2	2018	MDA	1	1	-																-																
2	2020	MDA	2	-	2	A -	-	-	-	-	-	-	-	-	-	2																-					
2	2021	MDA	1	-	1																															1	-
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																																			-		
4	2014	MDA	1	1	-																															-	
4	2015	MDA	1	1	-																-																
Critical Spares																																			-		
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																																			-		
Electronic Equipment Unit (EEU) Modification Kit																																			-		
6	2015	MDA	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 A N C E			

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency																			Date: February 2016															
Appropriation / Budget Activity / Budget Sub Activity:																			P-1 Line Item Number / Title:															
0300D / 01 / 17																			MD11 / BMDS AN/TPY-2 Radars															
Cost Elements (Units in Each)																			Fiscal Year 2020															
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Fiscal Year 2020																			Fiscal 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 A N C E				
6	2016	MDA	1	1	-																											-		
6	2017	MDA	1	1	-																										-			
6	2019	MDA	1	1	-																									-				
6	2020	MDA	2	-	2																									-				
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	2021	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	-																										-			
Radar Factory Unit (RAFU) Kit																																		
12	2017	MDA	1	1	-																										-			
12	2018	MDA	1	1	-																										-			
12	2020	MDA	2	-	2																										-			
Transmit/Receive Integrated Microwave Module (TRIMMs)																																		
13	2015	MDA	1	1	-																										-			
Contractor Certification																																		
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	

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency

Date: February 2016

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												B A L A N C E
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	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		
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	3	3	-																									-	
2	2016	MDA	4	4	-																									-	
2	2017	MDA	1	1	-																									-	
2	2018	MDA	1	1	-																									-	
2	2020	MDA	2	2	-																									-	
2	2021	MDA	1	1	-																									-	
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																													-		
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																													-		
Electronic Equipment Unit (EEU) Modification Kit																													-		
							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	

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency																			Date: February 2016																					
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17																			Item Number / Title [DODIC]: - / BMDS AN/TPY-2 Radars																					
Cost Elements (Units in Each)																			Fiscal Year 2022																					
O C R O #																			Calendar Year 2022																					
M F R #																			Fiscal Year 2023																					
ACCEPT PRIOR TO 1 OCT 2021																			Calendar Year 2023																					
BAL DUE AS OF 1 OCT																			B A L A N C E																					
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP																																								
6 2016 MDA 1 1 -																																								
6 2017 MDA 1 1 -																																								
6 2019 MDA 1 1 -																																								
6 2020 MDA 2 2 -																																								
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 2021 MDA 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																														-										
Radar Factory Unit (RAFU) Kit																														-										
12 2017 MDA 1 1 -																														-										
12 2018 MDA 1 1 -																														-										
12 2020 MDA 2 2 -																														-										
Transmit/Receive Integrated Microwave Module (TRIMMs)																														-										
13 2015 MDA 1 1 -																														-										
Contractor Certification																														-										
																				OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP																				

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency										Date: February 2016		
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				
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2017	1-8-5 For 2017	MAX For 2017	Initial			Reorder				
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing 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	24	26	-	-	-	-
11	Raytheon - Woburn, MA	1	1	4	4	2	30	32	-	-	-	-
12	Raytheon - Woburn, MA	1	2	4	2	3	6	9	2	3	6	9
13	Raytheon - Woburn, MA	1	1	4	4	2	18	20	4	2	18	20
14	Raytheon - Woburn, MA	1	1	1	3	2	12	14	3	2	12	14

"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 2017 Missile Defense Agency										Date: February 2016		
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: MD20 / Arrow Upper Tier							
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A							Other Related Program Elements: N/A		
Line Item MDAP/MAIS Code: 362		Item MDAP/MAIS Code(s): N/A										
Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	-	15.000	-	-	-	-	-	-	-	-	15.000
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	15.000	-	-	-	-	-	-	-	-	15.000
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	-	15.000	-	-	-	-	-	-	-	-	15.000
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Description: -Provides funding to the Government of Israel to procure Upper Tier Interceptor Long Lead Components. 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 2017 Missile Defense Agency							Date: February 2016		
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: MD20 / Arrow Upper Tier					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A					
Line Item MDAP/MAIS Code: 362		Item MDAP/MAIS Code(s): N/A							
Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	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)
P-5	Upper Tier Interceptor		A	- / -	- / -	- / 15.000	- / -	- / -	- / -
P-40	Total Gross/Weapon System Cost			- / -	- / -	- / 15.000	- / -	- / -	- / -
Exhibits Schedule				FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Exhibit Type	Title*	Subexhibits	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)
P-5	Upper Tier Interceptor		A	- / -	- / -	- / -	- / -	- / -	- / 15.000
P-40	Total Gross/Weapon System Cost			- / -	- / -	- / -	- / -	- / -	- / 15.000

*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 sum exactly due to rounding.

Justification:

N/A

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Exhibit P-5, Cost Analysis: PB 2017 Missile Defense Agency												Date: February 2016						
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17				P-1 Line Item Number / Title: MD20 / Arrow Upper Tier								Item Number / Title [DODIC]: - / Upper Tier Interceptor						
ID Code (A=Service Ready, B=Not Service Ready) : A												MDAP/MAIS Code:						
Resource Summary		Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total					
Procurement Quantity (<i>Units in Each</i>)		-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Gross/Weapon System Cost (\$ in Millions)		-	-	15.000	-	-	-	-	-	-	-	-	-	-	15.000			
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Net Procurement (P-1) (\$ in Millions)		-	-	15.000	-	-	-	-	-	-	-	-	-	-	15.000			
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Total Obligation Authority (\$ in Millions)		-	-	15.000	-	-	-	-	-	-	-	-	-	-	15.000			
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Gross/Weapon System Unit Cost (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost (\$ M)	Qty (<i>Each</i>)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (<i>Each</i>)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (<i>Each</i>)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (<i>Each</i>)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (<i>Each</i>)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (<i>Each</i>)	Total Cost (\$ M)
Hardware Cost																		
Non Recurring Cost																		
Upper Tier Interceptor	-	-	-	-	-	-	15.000	1	15.000	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	15.000	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	15.000	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	15.000	-	-	-	-	-	-	-	-	-
Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost (\$ M)	Qty (<i>Each</i>)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (<i>Each</i>)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (<i>Each</i>)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (<i>Each</i>)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (<i>Each</i>)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (<i>Each</i>)	Total Cost (\$ M)
Hardware Cost																		
Non Recurring Cost																		
Upper Tier Interceptor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.000	1	15.000	
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	-	-	-	-	15.000	-	-	-	-	-	-	-	-	15.000
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	15.000	-	-	-	-	-	-	-	-	15.000
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	15.000	-	-	-	-	-	-	-	-	15.000
Remarks:																		
N/A																		

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Exhibit P-5, Cost Analysis: PB 2017 Missile Defense Agency		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17	P-1 Line Item Number / Title: MD20 / Arrow Upper Tier	Item Number / Title [DODIC]: - / Upper Tier Interceptor
ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:	

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Exhibit P-40, Budget Line Item Justification: PB 2017 Missile Defense Agency										Date: February 2016					
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: MD34 / David's Sling										
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A					Other Related Program Elements: N/A							
Line Item MDAP/MAIS Code: 362		Item MDAP/MAIS Code(s): N/A													
Resource Summary		Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total		
Procurement Quantity (<i>Units in Each</i>)		-	-	-	-	-	-	-	-	-	-	-	-		
Gross/Weapon System Cost (\$ in Millions)		-	-	150.000	-	-	-	-	-	-	-	-	150.000		
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-		
Net Procurement (P-1) (\$ in Millions)		-	-	150.000	-	-	-	-	-	-	-	-	150.000		
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-		
Total Obligation Authority (\$ in Millions)		-	-	150.000	-	-	-	-	-	-	-	-	150.000		
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>															
Initial Spares (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-		
Flyaway Unit Cost (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-		
Gross/Weapon System Unit Cost (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-		
Description: -Provides funding to the Government of Israel to procure David's Sling Weapon System Components. 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 2017 Missile Defense Agency								Date: February 2016																																																																												
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: MD34 / David's Sling																																																																																
ID Code (A=Service Ready, B=Not Service Ready): A		Program Elements for Code B Items: N/A					Other Related Program Elements: N/A																																																																													
Line Item MDAP/MAIS Code: 362		Item MDAP/MAIS Code(s): N/A																																																																																		
<table border="1"> <thead> <tr> <th colspan="3">Exhibits Schedule</th> <th colspan="2">Prior Years</th> <th>FY 2015</th> <th>FY 2016</th> <th>FY 2017 Base</th> <th>FY 2017 OCO</th> <th>FY 2017 Total</th> </tr> <tr> <th>Exhibit Type</th> <th>Title*</th> <th>Subexhibits</th> <th>ID CD</th> <th>Quantity / Total Cost (Each) / (\$ M)</th> </tr> </thead> <tbody> <tr> <td>P-5</td> <td>David's Sling Weapon System Components</td> <td></td> <td>A</td> <td>- / -</td> <td>- / -</td> <td>- / 150.000</td> <td>- / -</td> <td>- / -</td> <td>- / -</td> </tr> <tr> <td>P-40</td> <td>Total Gross/Weapon System Cost</td> <td></td> <td></td> <td>- / -</td> <td>- / -</td> <td>- / 150.000</td> <td>- / -</td> <td>- / -</td> <td>- / -</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="3">Exhibits Schedule</th> <th>FY 2018</th> <th>FY 2019</th> <th>FY 2020</th> <th>FY 2021</th> <th>To Complete</th> <th>Total</th> </tr> <tr> <th>Exhibit Type</th> <th>Title*</th> <th>Subexhibits</th> <th>ID CD</th> <th>Quantity / Total Cost (Each) / (\$ M)</th> </tr> </thead> <tbody> <tr> <td>P-5</td> <td>David's Sling Weapon System Components</td> <td></td> <td>A</td> <td>- / -</td> <td>- / -</td> <td>- / -</td> <td>- / -</td> <td>- / 150.000</td> </tr> <tr> <td>P-40</td> <td>Total Gross/Weapon System Cost</td> <td></td> <td></td> <td>- / -</td> <td>- / -</td> <td>- / -</td> <td>- / -</td> <td>- / 150.000</td> </tr> </tbody> </table>									Exhibits Schedule			Prior Years		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	Exhibit Type	Title*	Subexhibits	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)	P-5	David's Sling Weapon System Components		A	- / -	- / -	- / 150.000	- / -	- / -	- / -	P-40	Total Gross/Weapon System Cost			- / -	- / -	- / 150.000	- / -	- / -	- / -	Exhibits Schedule			FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total	Exhibit Type	Title*	Subexhibits	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)	P-5	David's Sling Weapon System Components		A	- / -	- / -	- / -	- / -	- / 150.000	P-40	Total Gross/Weapon System Cost			- / -	- / -	- / -	- / -	- / 150.000
Exhibits Schedule			Prior Years		FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total																																																																											
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<p>*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.</p> <p>Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.</p>																																																																																				
Justification: N/A																																																																																				

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Exhibit P-5, Cost Analysis: PB 2017 Missile Defense Agency												Date: February 2016						
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17				P-1 Line Item Number / Title: MD34 / David's Sling								Item Number / Title [DODIC]: - / David's Sling Weapon System Components						
ID Code (A=Service Ready, B=Not Service Ready) : A												MDAP/MAIS Code:						
Resource Summary			Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total				
Procurement Quantity (<i>Units in Each</i>)			-	-	-	-	-	-	-	-	-	-	-	-	-			
Gross/Weapon System Cost (\$ in Millions)			-	-	150.000	-	-	-	-	-	-	-	-	-	150.000			
Less PY Advance Procurement (\$ in Millions)			-	-	-	-	-	-	-	-	-	-	-	-	-			
Net Procurement (P-1) (\$ in Millions)			-	-	150.000	-	-	-	-	-	-	-	-	-	150.000			
Plus CY Advance Procurement (\$ in Millions)			-	-	-	-	-	-	-	-	-	-	-	-	-			
Total Obligation Authority (\$ in Millions)			-	-	150.000	-	-	-	-	-	-	-	-	-	150.000			
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)			-	-	-	-	-	-	-	-	-	-	-	-	-			
Gross/Weapon System Unit Cost (\$ in Millions)			-	-	-	-	-	-	-	-	-	-	-	-	-			
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 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																		
Non Recurring Cost																		
David's Sling Weapon System Components			-	-	-	-	-	-	150.000	1	150.000	-	-	-	-	-	-	
Subtotal: Non Recurring Cost			-	-	-	-	-	-	-	-	150.000	-	-	-	-	-	-	
Subtotal: Hardware Cost			-	-	-	-	-	-	-	-	150.000	-	-	-	-	-	-	
Gross/Weapon System Cost			-	-	-	-	-	-	-	-	150.000	-	-	-	-	-	-	
Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			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																		
Non Recurring Cost																		
David's Sling Weapon System Components			-	-	-	-	-	-	-	-	-	-	-	-	-	150.000	1	150.000
Subtotal: Non Recurring Cost			-	-	-	-	-	-	-	-	150.000	-	-	-	-	-	-	150.000
Subtotal: Hardware Cost			-	-	-	-	-	-	-	-	150.000	-	-	-	-	-	-	150.000
Gross/Weapon System Cost			-	-	-	-	-	-	-	-	150.000	-	-	-	-	-	-	150.000

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Exhibit P-5, Cost Analysis: PB 2017 Missile Defense Agency		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17	P-1 Line Item Number / Title: MD34 / David's Sling	Item Number / Title [DODIC]: - / David's Sling Weapon System Components
ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:	
Remarks: N/A		

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Exhibit P-40, Budget Line Item Justification: PB 2017 Missile Defense Agency										Date: February 2016					
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: MD73 / Aegis Ashore Phase III										
ID Code (A=Service Ready, B=Not Service Ready): B			Program Elements for Code B Items: 0603892C, 0604880C, 0604881C					Other Related Program Elements: 0604880C							
Line Item MDAP/MAIS Code: 362		Item MDAP/MAIS Code(s): N/A													
Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total			
Procurement Quantity (<i>Units in Each</i>)	1	1	1	1	-	1	1	-	-	-	-	5			
Gross/Weapon System Cost (<i>\$ in Millions</i>)	131.400	205.601	30.587	57.493	-	57.493	69.880	-	-	-	-	494.961			
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-			
Net Procurement (P-1) (<i>\$ in Millions</i>)	131.400	205.601	30.587	57.493	-	57.493	69.880	-	-	-	-	494.961			
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-			
Total Obligation Authority (<i>\$ in Millions</i>)	131.400	205.601	30.587	57.493	-	57.493	69.880	-	-	-	-	494.961			
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>															
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-			
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-			
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	131.400	205.601	30.587	57.493	-	57.493	69.880	-	-	-	-	98.992			
Description:															
The increase in FY 2016 to FY 2017 accounts for installation of the Weapon system into the deckhouse. Shipment of the Aegis Weapon System to Poland as second destination transportation via the military transportation system has been moved to PE: 0604880C.															
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 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 to other regions as needed to provide persistent coverage for the Geographic Combatant Commanders.															

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Exhibit P-40, Budget Line Item Justification: PB 2017 Missile Defense Agency							Date: February 2016		
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: MD73 / Aegis Ashore Phase III					
ID Code (A=Service Ready, B=Not Service Ready): B				Program Elements for Code B Items: 0603892C, 0604880C, 0604881C					
Other Related Program Elements: 0604880C									
Line Item MDAP/MAIS Code: 362	Item MDAP/MAIS Code(s): N/A								
Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	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)
P-5	Aegis Ashore Poland, Equipment and Deckhouse		B	1 / 131.400	1 / 205.601	1 / 30.587	1 / 57.493	- / -	1 / 57.493
P-40	Total Gross/Weapon System Cost			1 / 131.400	1 / 205.601	1 / 30.587	1 / 57.493	- / -	1 / 57.493
Exhibits Schedule				FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Exhibit Type	Title*	Subexhibits	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)
P-5	Aegis Ashore Poland, Equipment and Deckhouse		B	1 / 69.880	- / -	- / -	- / -	- / -	5 / 494.961
P-40	Total Gross/Weapon System Cost			1 / 69.880	- / -	- / -	- / -	- / -	5 / 494.961

*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 sum exactly 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 RDT&E modifications as required to enhance co-existence with Broadband Wireless Access systems in the European theater. MDA will continue to use RDT&E (PE-0604880C) funds to modernize the R&D test center in Hawaii and develop and test Aegis Ashore capability improvements at the Aegis Ashore Missile Defense Test Complex AAMDTC in Hawaii for implementation at operational sites.

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

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

FY 2017 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-5, Cost Analysis: PB 2017 Missile Defense Agency												Date: February 2016						
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17				P-1 Line Item Number / Title: MD73 / Aegis Ashore Phase III								Item Number / Title [DODIC]: - / Aegis Ashore Poland, Equipment and Deckhouse						
ID Code (A=Service Ready, B=Not Service Ready) : B												MDAP/MAIS Code:						
Resource Summary			Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total				
Procurement Quantity (<i>Units in Each</i>)			1	1	1	1	-	1	1	-	-	-	-	-	5			
Gross/Weapon System Cost (\$ in Millions)			131.400	205.601	30.587	57.493	-	57.493	69.880	-	-	-	-	-	494.961			
Less PY Advance Procurement (\$ in Millions)			-	-	-	-	-	-	-	-	-	-	-	-	-			
Net Procurement (P-1) (\$ in Millions)			131.400	205.601	30.587	57.493	-	57.493	69.880	-	-	-	-	-	494.961			
Plus CY Advance Procurement (\$ in Millions)			-	-	-	-	-	-	-	-	-	-	-	-	-			
Total Obligation Authority (\$ in Millions)			131.400	205.601	30.587	57.493	-	57.493	69.880	-	-	-	-	-	494.961			
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)			-	-	-	-	-	-	-	-	-	-	-	-	-			
Gross/Weapon System Unit Cost (\$ in Millions)			131.400	205.601	30.587	57.493	-	57.493	69.880	-	-	-	-	-	98.992			
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 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	205.601	1	205.601	30.587	1	30.587	57.493	1	57.493	-	-	-	57.493	1	57.493
<i>Subtotal: Recurring Cost</i>	-	-	<i>131.400</i>	-	-	<i>205.601</i>	-	-	<i>30.587</i>	-	-	<i>57.493</i>	-	-	-	-	-	<i>57.493</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>131.400</i>	-	-	<i>205.601</i>	-	-	<i>30.587</i>	-	-	<i>57.493</i>	-	-	-	-	-	<i>57.493</i>
Gross/Weapon System Cost	131.400	1	131.400	205.601	1	205.601	30.587	1	30.587	57.493	1	57.493	-	-	-	57.493	1	57.493
Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			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	69.880	1	69.880	-	-	-	-	-	-	-	-	-	-	-	-	98.992	5	494.961
<i>Subtotal: Recurring Cost</i>	-	-	<i>69.880</i>	-	-	<i>-</i>	-	-	<i>-</i>	-	-	<i>-</i>	-	-	-	-	-	<i>494.961</i>
<i>Subtotal: Flyaway Cost</i>	-	-	<i>69.880</i>	-	-	<i>-</i>	-	-	<i>-</i>	-	-	<i>-</i>	-	-	-	-	-	<i>494.961</i>
Gross/Weapon System Cost	69.880	1	69.880	-	-	-	-	-	-	-	-	-	-	-	-	98.992	5	494.961

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Exhibit P-5, Cost Analysis: PB 2017 Missile Defense Agency		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17	P-1 Line Item Number / Title: MD73 / Aegis Ashore Phase III	Item Number / Title [DODIC]: - / Aegis Ashore Poland, Equipment and Deckhouse
ID Code (A=Service Ready, B=Not Service Ready) : B		MDAP/MAIS Code:
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 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 2017 Missile Defense Agency										Date: February 2016					
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: N/A						Other Related Program Elements: 0603913C						
Line Item MDAP/MAIS Code: 362		Item MDAP/MAIS Code(s): N/A													
Resource Summary		Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total		
Procurement Quantity (<i>Units in Each</i>)		3	1	1	1	-	1	-	-	-	-	-	6		
Gross/Weapon System Cost (<i>\$ in Millions</i>)		843.658	350.972	55.000	42.000	-	42.000	-	-	-	-	-	1,291.630		
Less PY Advance Procurement (<i>\$ in Millions</i>)		-	-	-	-	-	-	-	-	-	-	-	-		
Net Procurement (P-1) (<i>\$ in Millions</i>)		843.658	350.972	55.000	42.000	-	42.000	-	-	-	-	-	1,291.630		
Plus CY Advance Procurement (<i>\$ in Millions</i>)		-	-	-	-	-	-	-	-	-	-	-	-		
Total Obligation Authority (<i>\$ in Millions</i>)		843.658	350.972	55.000	42.000	-	42.000	-	-	-	-	-	1,291.630		
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>															
Initial Spares (<i>\$ in Millions</i>)		-	-	-	-	-	-	-	-	-	-	-	-		
Flyaway Unit Cost (<i>\$ in Millions</i>)		-	-	-	-	-	-	-	-	-	-	-	-		
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)		281.219	350.972	55.000	42.000	-	42.000	-	-	-	-	-	215.272		

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 2017 Missile Defense Agency							Date: February 2016		
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: N/A					
Line Item MDAP/MAIS Code: 362		Item MDAP/MAIS Code(s): N/A							
Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	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)
P-5	Iron Dome		A	3 / 843.658	1 / 350.972	1 / 55.000	1 / 42.000	- / -	1 / 42.000
P-40	Total Gross/Weapon System Cost			3 / 843.658	1 / 350.972	1 / 55.000	1 / 42.000	- / -	1 / 42.000
Exhibits Schedule				FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Exhibit Type	Title*	Subexhibits	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)
P-5	Iron Dome		A	- / -	- / -	- / -	- / -	- / -	6 / 1,291.630
P-40	Total Gross/Weapon System Cost			- / -	- / -	- / -	- / -	- / -	6 / 1,291.630

*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 sum exactly due to rounding.

Justification:

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.

FY 2017: Procurement of additional Iron Dome equipment.

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Exhibit P-5, Cost Analysis: PB 2017 Missile Defense Agency												Date: February 2016						
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17				P-1 Line Item Number / Title: MD83 / Iron Dome								Item Number / Title [DODIC]: - / Iron Dome						
ID Code (A=Service Ready, B=Not Service Ready) : A												MDAP/MAIS Code:						
Resource Summary		Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total					
Procurement Quantity (<i>Units in Each</i>)		3	1	1	1	-	1	-	-	-	-	-	-	6				
Gross/Weapon System Cost (\$ in Millions)		843.658	350.972	55.000	42.000	-	42.000	-	-	-	-	-	-	1,291.630				
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Net Procurement (P-1) (\$ in Millions)		843.658	350.972	55.000	42.000	-	42.000	-	-	-	-	-	-	1,291.630				
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Total Obligation Authority (\$ in Millions)		843.658	350.972	55.000	42.000	-	42.000	-	-	-	-	-	-	1,291.630				
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>																		
Initial Spares (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Gross/Weapon System Unit Cost (\$ in Millions)		281.219	350.972	55.000	42.000	-	42.000	-	-	-	-	-	-	215.272				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 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	281.219	3	843.658	350.972	1	350.972	55.000	1	55.000	42.000	1	42.000	-	-	-	42.000	1	42.000
<i>Subtotal: Recurring Cost</i>	-	-	843.658	-	-	350.972	-	-	55.000	-	-	42.000	-	-	-	-	-	42.000
<i>Subtotal: Hardware Cost</i>	-	-	843.658	-	-	350.972	-	-	55.000	-	-	42.000	-	-	-	-	-	42.000
Gross/Weapon System Cost	281.219	3	843.658	350.972	1	350.972	55.000	1	55.000	42.000	1	42.000	-	-	-	42.000	1	42.000
Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	215.272	6	1,291.630
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,291.630
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,291.630
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	215.272	6	1,291.630
Remarks: 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 2017 Missile Defense Agency										Date: February 2016			
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: MD90 / Aegis BMD Hardware and Software			
ID Code (A=Service Ready, B=Not Service Ready): A										Program Elements for Code B Items: N/A			
Line Item MDAP/MAIS Code: 362										Other Related Program Elements: N/A			
Resource Summary		Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)		-	-	26	6	-	6	17	11	14	9	-	83
Gross/Weapon System Cost (\$ in Millions)		-	-	145.300	50.098	-	50.098	139.502	93.184	122.025	85.987	-	636.096
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)		-	-	145.300	50.098	-	50.098	139.502	93.184	122.025	85.987	-	636.096
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)		-	-	145.300	50.098	-	50.098	139.502	93.184	122.025	85.987	-	636.096
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>													
Initial Spares (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Millions)		-	-	5.588	8.350	-	8.350	8.206	8.471	8.716	9.554	-	7.664
Description:													
Note: Beginning in FY 2016, the MD90 Aegis BMD Hardware and Software line item was created in accordance with the FY 2016 Omnibus; funds transferred from MD09 Aegis BMD.													
A shipset consists of the procurement of cabinets, cabling, equipment, and other material required for the installation of the ABMD baselines on a ship. Upgrading the 3.6 and 4.0 shipsets to 4.x adds capability and capacity in support of the European Phased Adaptive Approach (EPAA), Phase II requirements. Upgrading the 5.x shipsets adds capability and capacity in support of achieving the European Phased Adaptive Approach (EPAA), Phase III requirements.													

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Exhibit P-40, Budget Line Item Justification: PB 2017 Missile Defense Agency							Date: February 2016		
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: MD90 / Aegis BMD Hardware and Software					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A					
Line Item MDAP/MAIS Code: 362		Item MDAP/MAIS Code(s): N/A							
Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	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)
P-5	Aegis BMD Shipsets	P-5a, P-21	A	- / -	- / -	26 / 145.300	6 / 50.098	- / -	6 / 50.098
P-40	Total Gross/Weapon System Cost			- / -	- / -	26 / 145.300	6 / 50.098	- / -	6 / 50.098
Exhibits Schedule				FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Exhibit Type	Title*	Subexhibits	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)
P-5	Aegis BMD Shipsets	P-5a, P-21	A	17 / 139.502	11 / 93.184	14 / 122.025	9 / 85.987	- / -	83 / 636.096
P-40	Total Gross/Weapon System Cost			17 / 139.502	11 / 93.184	14 / 122.025	9 / 85.987	- / -	83 / 636.096

*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 sum exactly due to rounding.

Justification:

Justification of each end item reflected in P-5

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Exhibit P-5, Cost Analysis: PB 2017 Missile Defense Agency												Date: February 2016						
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17				P-1 Line Item Number / Title: MD90 / Aegis BMD Hardware and Software								Item Number / Title [DODIC]: - / Aegis BMD Shipsets						
ID Code (A=Service Ready, B=Not Service Ready) : A												MDAP/MAIS Code:						
Resource Summary		Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total					
Procurement Quantity (<i>Units in Each</i>)		-	-	26	6	-	6	17	11	14	9	-	-	83				
Gross/Weapon System Cost (\$ in Millions)		-	-	145.300	50.098	-	50.098	139.502	93.184	122.025	85.987	-	-	636.096				
Less PY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Net Procurement (P-1) (\$ in Millions)		-	-	145.300	50.098	-	50.098	139.502	93.184	122.025	85.987	-	-	636.096				
Plus CY Advance Procurement (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Total Obligation Authority (\$ in Millions)		-	-	145.300	50.098	-	50.098	139.502	93.184	122.025	85.987	-	-	636.096				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Gross/Weapon System Unit Cost (\$ in Millions)		-	-	5.588	8.350	-	8.350	8.206	8.471	8.716	9.554	-	-	7.664				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 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																		
Aegis BMD 3.6 to 4.x Hardware Procurements ^(†)	-	-	-	-	-	-	18.000	4	72.000	17.875	1	17.875	-	-	-	17.875	1	17.875
Aegis BMD 3.6 to 4.x Installs ^(†)	-	-	-	-	-	-	18.800	2	37.600	18.800	1	18.800	-	-	-	18.800	1	18.800
Aegis BMD 5.3.x/SPY Refurbishment Installs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aegis BMD 5.3.x/SPY Refurbishment Procurements	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aegis BMD 9.C1 (5.0 CU) Installs	-	-	-	-	-	-	1.400	1	1.400	-	-	-	-	-	-	-	-	-
Aegis BMD 9.C2 (5.x) BackFit Installs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aegis BMD 9.C.2 (5.x) BackFit Procurement ^(†)	-	-	-	-	-	-	2.009	11	22.097	2.800	2	5.600	-	-	-	2.800	2	5.600
Aegis BMD 9.C.2 (5.x) BackFit Procurement Modification	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aegis BMD 9.C.2 (5.x) Inline Installs ^(†)	-	-	-	-	-	-	-	-	-	-	3.310	1	3.310	-	-	3.310	1	3.310

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Exhibit P-5, Cost Analysis: PB 2017 Missile Defense Agency													Date: February 2016													
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17				P-1 Line Item Number / Title: MD90 / Aegis BMD Hardware and Software									Item Number / Title [DODIC]: - / Aegis BMD Shipsets													
ID Code (A=Service Ready, B=Not Service Ready) : A													MDAP/MAIS Code:													
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																										
Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 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 9C.2 (5.x) Inline Procurements ^(†)	-	-	-	-	-	-	4.502	2	9.003	4.513	1	4.513	-	-	-	4.513	1	4.513								
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	142.100	-	-	50.098	-	-	-	-	-	50.098								
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	142.100	-	-	50.098	-	-	-	-	-	50.098								
Software Cost																										
Recurring Cost																										
Aegis BMD 4.0 to 4.x Software Installs	-	-	-	-	-	-	0.533	6	3.200	-	-	-	-	-	-	-	-	-								
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	3.200	-	-	-	-	-	-	-	-	-								
<i>Subtotal: Software Cost</i>	-	-	-	-	-	-	-	-	3.200	-	-	-	-	-	-	-	-	-								
Gross/Weapon System Cost	-	-	-	-	-	-	5.588	26	145.300	8.350	6	50.098	-	-	-	8.350	6	50.098								
Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			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																										
Aegis BMD 3.6 to 4.x Hardware Procurements ^(†)	17.875	2	35.750	17.875	2	35.750	17.875	2	35.750	-	-	-	-	-	-	17.920	11	197.125								
Aegis BMD 3.6 to 4.x Installs ^(†)	18.761	4	75.042	18.729	2	37.458	18.575	1	18.575	18.774	2	37.547	-	-	-	18.752	12	225.022								
Aegis BMD 5.3.x/SPY Refurbishment Installs	-	-	-	-	-	-	-	-	5.225	1	5.225	-	-	-	5.225	1	5.225									
Aegis BMD 5.3.x/ SPY Refurbishment Procurements	-	-	-	-	-	-	44.646	1	44.646	22.059	1	22.059	-	-	-	33.353	2	66.705								
Aegis BMD 9.C1 (5.0 CU) Installs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.400	1	1.400								
Aegis BMD 9C.2 (5.x) BackFit Installs	2.553	6	15.315	2.400	4	9.600	2.258	4	9.030	-	-	-	-	-	-	2.425	14	33.945								
Aegis BMD 9C.2 (5.x) BackFit Procurement ^(†)	2.800	1	2.800	-	-	-	-	-	-	-	-	-	-	-	-	2.178	14	30.497								
Aegis BMD 9C.2 (5.x) BackFit Procurement Modification	0.285	1	0.285	-	-	-	0.285	2	0.570	-	-	-	-	-	-	0.285	3	0.855								

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Exhibit P-5, Cost Analysis: PB 2017 Missile Defense Agency														Date: February 2016						
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17							P-1 Line Item Number / Title: MD90 / Aegis BMD Hardware and Software							Item Number / Title [DODIC]: - / Aegis BMD Shipsets						
ID Code (A=Service Ready, B=Not Service Ready) : A														MDAP/MAIS Code:						
Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			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 9C.2 (5.x) Inline Installs ^(†)	1.512	1	1.512	1.512	1	1.512	1.512	2	3.024	1.512	2	3.024	-	-	-	1.769	7	12.382		
Aegis BMD 9C.2 (5.x) Inline Procurements ^(†)	4.399	2	8.798	4.432	2	8.864	5.215	2	10.430	6.044	3	18.132	-	-	-	4.978	12	59.740		
<i>Subtotal: Recurring Cost</i>	-	-	139.502	-	-	93.184	-	-	122.025	-	-	85.987	-	-	-	-	-	632.896		
<i>Subtotal: Hardware Cost</i>	-	-	139.502	-	-	93.184	-	-	122.025	-	-	85.987	-	-	-	-	-	632.896		
Software Cost																				
Recurring Cost																				
Aegis BMD 4.0 to 4.x Software Installs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.533	6	3.200	
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.200	
<i>Subtotal: Software Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.200	
Gross/Weapon System Cost	8.206	17	139.502	8.471	11	93.184	8.716	14	122.025	9.554	9	85.987	-	-	-	-	7.664	83	636.096	
Remarks:																				
Beginning in FY 2016, funds transferred from MD09 "Aegis BMD" to the newly created MD90 "Aegis BMD Hardware and Software" line item in accordance with the FY 2016 Omnibus.																				
BMD 3.6 to 4.x Hardware Procurements consist of material necessary to upgrade an existing BMD 3.6 shipset with advanced BMD 4.x capability (Aegis BMD 4.x weapon system, Vertical Launching System delta hardware, Communication hardware, and various installation material (steel, aluminum, piping, etc.)																				
Aegis BL 9.C2 Inline Procurements consist of BMD unique hardware to upgrade a non-BMD ship to full BMD 5.1																				
Aegis BL 9.C2 Backfit Procurements consist of an Aegis weapon system, command/control/communication and Vertical Launching System hardware necessary to upgrade a 9.C1 shipset to 9.C2																				
Aegis BL 9.C2 Backfit Procurement modification kits consist of hardware necessary to upgrade new construction DDGs 116, 117, and 118 to BMD 5.1 being that 116-118 have some BMD 5.1 compatible hardware installed in initial construction																				
Aegis BL 5.3.x/SPY Refurbishment Procurements and Installs include hardware and support necessary to procure and upgrade/refurbish SPY antennas on BMD 4.x configured FLT I/II DDGs																				
Shipset Procurements:																				
FY 2017:																				
Consists of 1 BMD 3.6 to 4.x Hardware Procurement																				
Consists of 1 Aegis BL 9C.2 (5.x) Inline Procurement																				
Consists of 2 Aegis BL 9C.2 (5.x) Backfit Procurements																				
FY 2018:																				
Consists of 2 BMD 3.6 to 4.x Hardware Procurements																				
Consists of 2 Aegis BL 9C.2 (5.x) Inline Procurements																				
Consists of 1 Aegis BL 9C.2 (5.x) Backfit Procurement																				
Consists of 1 Aegis BL 9C.2 (5.x) Backfit Procurement Modification																				
FY 2019:																				

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Exhibit P-5, Cost Analysis: PB 2017 Missile Defense Agency		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17	P-1 Line Item Number / Title: MD90 / Aegis BMD Hardware and Software	Item Number / Title [DODIC]: - / Aegis BMD Shipsets
ID Code (A=Service Ready, B=Not Service Ready) : A		MDAP/MAIS Code:
Consists of 2 BMD 3.6 to 4.x Hardware Procurements Consists of 2 Aegis BL 9C.2 (5.x) Inline Procurements		
FY 2020: Consists of 2 BMD 3.6 to 4.x Hardware Procurements Consists of 2 Aegis BL 9C.2 (5.x) Inline Procurements Consists of 2 Aegis BL 9C.2 (5.x) Backfit Procurement Modifications Consists of 1 Aegis BL 5.3.x/SPY Refurbishment Hardware Procurement (Shipset of AN/SPY SPY-1D Antennas (QTY 4) necessary to populate refurbishment rotatable pool)		
FY 2021: Consists of 3 Aegis BL 9C.2 (5.x) Inline Procurements Consists of 1 Aegis BMD 5.3.x/SPY Refurbishment Hardware Procurement		
Shipset Installs:		
FY 2017: Consists of 1 Aegis BMD 3.6 to 4.x Hardware Install Consists of 1 Aegis BL 9.C2 (5.x) Inline Install; Installation cost on DDG 80 in FY17 is higher than follow-on ships due to changes in the Modernization Configuration. In Nov 2015, IWS1 MPM approved a configuration change on DDG 80 from Aegis BL 9.C1 to Aegis BL 9.C2. DDG 80 shipset was procured in FY15 as a 9.C1 shipset. DDG 80 will require both the 9.C1 base kit and the 9.C2 backfit kit, which will be installed separately during the year of execution. All follow-on 9.C2 in-line ships will receive the full-up 9.C2 inline kit with only one installation cost.		
FY 2018: Consists of 4 Aegis BMD 3.6 to 4.x Hardware Installs Consists of 1 Aegis BL 9C.2 (5.x) Inline Install Consists of 6 Aegis BL 9C.2 (5.x) Backfit Installs		
FY 2019: Consists of 2 Aegis BMD 3.6 to 4.x Hardware Installs Consists of 1 Aegis BL 9C.2 (5.x) Inline Install Consists of 4 Aegis BL 9C.2 (5.x) Backfit Installs		
FY 2020: Consists of 1 Aegis BMD 3.6 to 4.x Hardware Install Consists of 2 Aegis BL 9C.2 (5.x) Inline Installs Consists of 4 Aegis BL 9C.2 (5.x) Backfit Installs		
FY 2021: Consists of 2 Aegis BMD 3.6 to 4.x Hardware Installs Consists of 2 Aegis BL 9C.2 (5.x) Inline Installs Consists of 1 Aegis BMD 5.3.x/SPY Refurbishment Install		
(†) indicates the presence of a P-5a		

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Exhibit P-5a, Procurement History and Planning: PB 2017 Missile Defense Agency								Date: February 2016				
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17			P-1 Line Item Number / Title: MD90 / Aegis BMD Hardware and Software					Item Number / Title [DODIC]: - / Aegis BMD Shipsets				
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ M)	Specs Avail Now?	Date Revision Available	RFP Issue Date
Aegis BMD 3.6 to 4.x Hardware Procurements		2017	Raytheon / Norfolk, VA	SS / FFP	Washington, D.C.	Feb 2017	Aug 2018	-	0.980	Y		Jul 2016
Aegis BMD 3.6 to 4.x Hardware Procurements ^(†)		2017	Lockheed Martin / Morristown, NJ	SS / FPIF	Washington, D.C.	Feb 2017	Aug 2018	1	12.100	Y		Jul 2016
Aegis BMD 3.6 to 4.x Installs		2017	Lockheed Martin / Morristown, NJ	SS / CPIF	Dahlgren, VA	Jan 2017	Jun 2018	1	9.100	Y		May 2016
Aegis BMD 9C.2 (5.x) BackFit Procurement ^(†)		2017	Lockheed Martin / Morristown, NJ	SS / FPIF	Washington, D.C.	Feb 2017	Aug 2018	2	2.800	Y		Jul 2016
Aegis BMD 9C.2 (5.x) Inline Installs ^(†)		2017	Lockheed Martin / Morristown, NJ	SS / FPIF	Washington, D.C.	Feb 2017	Aug 2018	1	3.310	Y		Jul 2016
Aegis BMD 9C.2 (5.x) Inline Procurements ^(†)		2017	Lockheed Martin / Morristown, NJ	SS / FPIF	Washington, D.C.	May 2017	Nov 2018	1	3.913	Y		Jul 2016
Aegis BMD 9C.2 (5.x) Inline Procurements		2017	Raytheon / Norfolk, VA	SS / FFP	Washington, D.C.	May 2017	Nov 2018	-	0.600	Y		Jul 2016

(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency																					Date: February 2016													
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17										P-1 Line Item Number / Title: MD90 / Aegis BMD Hardware and Software										Item Number / Title [DODIC]: - / Aegis BMD Shipsets														
Cost Elements (Units in Each)						Fiscal Year 2017												Fiscal Year 2018																
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	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 A N C E				
Aegis BMD 3.6 to 4.x Hardware Procurements						1	2017	MDA	1	-	1			A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Aegis BMD 9C.2 (5.x) BackFit Procurement						2	2017	MDA	2	-	2			A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	
Aegis BMD 9C.2 (5.x) Inline Installs						3	2017	MDA	1	-	1			A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	
Aegis BMD 9C.2 (5.x) Inline Procurements						4	2017	MDA	1	-	1			A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	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					

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency																					Date: February 2016										
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17										P-1 Line Item Number / Title: MD90 / Aegis BMD Hardware and Software										Item Number / Title [DODIC]: - / Aegis BMD Shipsets											
Cost Elements (Units in Each)							Fiscal Year 2019												Fiscal Year 2020												
O C R O #	M F R Y	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	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 A N C E	
Aegis BMD 3.6 to 4.x Hardware Procurements							1	2017	MDA	1	1	-																			-
Aegis BMD 9C.2 (5.x) BackFit Procurement							2	2017	MDA	2	2	-																			-
Aegis BMD 9C.2 (5.x) Inline Installs							3	2017	MDA	1	1	-																			-
Aegis BMD 9C.2 (5.x) Inline Procurements							4	2017	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	

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Exhibit P-21, Production Schedule: PB 2017 Missile Defense Agency										Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 0300D / 01 / 17			P-1 Line Item Number / Title: MD90 / Aegis BMD Hardware and Software							
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)					
		MSR For 2017	1-8-5 For 2017	MAX For 2017	Initial			Reorder		
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1
1	Lockheed Martin - Morristown, NJ	1	1	1	-	-	-	-	-	-
2	Lockheed Martin - Morristown, NJ	1	1	2	-	-	-	-	-	-
3	Lockheed Martin - Morristown, NJ	1	1	1	-	-	-	-	-	-
4	Lockheed Martin - Morristown, NJ	1	1	1	-	-	-	-	-	-

"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).