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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

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Department of Defense Education Activity.....	Volume 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) Quantity Cost	FY 2016 Base Enacted Quantity Cost	FY 2016 OCO Enacted Quantity Cost	FY 2016 Total Enacted Quantity Cost	S e c
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 Quantity	Cost	FY 2017 OCO Quantity	Cost	FY 2017 Total Quantity	Cost	S e c
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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Line Item Table of Contents (by Appropriation then Line Number)

Appropriation 0300D: Procurement, Defense-Wide

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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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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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<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</u>	<u>Price</u>	<u>Price</u>	<u>Program</u>	<u>FY 2016</u>	<u>Price</u>	<u>Price</u>	<u>Program</u>	<u>FY 2017</u>
	<u>Program</u>	<u>Growth</u>	<u>Growth</u>	<u>Growth</u>	<u>Program</u>	<u>Growth</u>	<u>Growth</u>	<u>Growth</u>	<u>Program</u>
		<u>Percent</u>				<u>Percent</u>			
<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
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MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

	FY 2015	Price		Price	Program	FY 2016	Price		Price	Program	FY 2017
	<u>Program</u>	<u>Growth</u>		<u>Growth</u>	<u>Growth</u>	<u>Program</u>	<u>Growth</u>		<u>Growth</u>	<u>Growth</u>	<u>Program</u>
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
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Fiscal Year (FY) 2017 President's Budget

	<u>FY 2015</u> <u>Program</u>	<u>Price</u> <u>Growth</u> <u>Percent</u>	<u>Price</u> <u>Growth</u>	<u>Program</u> <u>Growth</u>	<u>FY 2016</u> <u>Program</u>	<u>Price</u> <u>Growth</u> <u>Percent</u>	<u>Price</u> <u>Growth</u>	<u>Program</u> <u>Growth</u>	<u>FY 2017</u> <u>Program</u>	
<u>Travel</u>										
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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
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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-32A Exhibit, Appropriation Summary of Price/Program Growth
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MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

	FY 2015	Price	Price	Program	FY 2016	Price	Price	Program	FY 2017
	<u>Program</u>	<u>Growth</u>	<u>Growth</u>	<u>Growth</u>	<u>Program</u>	<u>Growth</u>	<u>Growth</u>	<u>Growth</u>	<u>Program</u>
		<u>Percent</u>				<u>Percent</u>			
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</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
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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
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	<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	Price	Program	FY 2016	Price	Program	FY 2017
	<u>Actual</u>	<u>Change</u>	<u>Change</u>	<u>Enacted</u>	<u>Change</u>	<u>Change</u>	<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
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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

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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),

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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

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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.

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III. Financial Summary (\$ in thousands)

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

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III. Financial Summary (\$ in thousands)

	Change <u>FY 2016/FY 2016</u>	Change <u>FY 2016/FY 2017</u>
B. <u>Reconciliation Summary</u>		
Baseline Funding	432,068	424,069
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	

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III. Financial Summary (\$ in thousands)

C. <u>Reconciliation of Increases and Decreases</u>	<u>Amount</u>	<u>Totals</u>
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)		

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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)		

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III. Financial Summary (\$ in thousands)

C. Reconciliation of Increases and Decreases
FY 2017 Budget Request

Amount

Totals
446,975

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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.

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

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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.

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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:

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

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:

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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.

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<u>V. Personnel Summary</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Change FY 2015/ FY 2016</u>	<u>Change FY 2016/ FY 2017</u>
<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.

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

		Change			Change		
<u>OP 32 Line</u>	<u>FY 2015</u>	<u>FY 2015/FY 2016</u>		<u>FY 2016</u>	<u>FY 2016/FY 2017</u>		<u>FY 2017</u>
	<u>Actual</u>	<u>Price</u>	<u>Program</u>	<u>Enacted</u>	<u>Price</u>	<u>Program</u>	<u>Estimate</u>
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

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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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CONTRACT SERVICES FUNDING
(\$ in Millions)

Line	By PB/OP-32 Inflation Category Code	FY 2015	FY 2016	FY 2016	FY 2017	FY 2017
		Base & OCO	Base	OCO	Base	OCO
		<u>Actual</u>	<u>Request</u>	<u>Request</u>	<u>Request</u>	<u>Request</u>
914	Purchased Communications (Non-Fund)	0	1	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	12	0
934	Engineering and Technical Services	0	2	0	2	0
	Total 25.1 - Advisory and Assistance Services	8	13	0	14	0
989	Other Contracts	45	16	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	19	0
	Total 25.3 - Other Goods and Services from Federal Sources	0	10	0	19	0
923	Facility Maintenance	19	11	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	282	0
930	Other Depot Maintenance (Non-Fund)	0	10	0	18	0
990	IT Contract Support Services	1	15	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

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Contractor Full-Time Equivalents

Line	By PB/OP-32 Inflation Category Code	FY 2015 Base & OCO <u>Actual</u>	FY 2016 Base <u>Request</u>	FY 2016 OCO <u>Request</u>	FY 2017 Base <u>Request</u>	FY 2017 OCO <u>Request</u>
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					
	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					
	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

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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,

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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 fiedled THAAD software.

DATE PREPARED: 6 January 2016

POC: Tracy Flores

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

<u>Appropriation/Fund</u>	<u>FY 2015 Actual</u>	<u>FY 2016 Enacted</u>	<u>FY 2017 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	7,680	11,070	11,941
II. Studies, Analysis & Evaluations			
FFRDC Work	0	0	0
Non-FFRDC Work	<u>0</u>	<u>21</u>	<u>3,685</u>
Subtotal	0	21	3,685
III. Engineering & Technical Services			
FFRDC Work	0	889	1,143
Non-FFRDC Work	<u>0</u>	<u>758</u>	<u>997</u>
Subtotal	0	1,647	2,140
TOTAL			
FFRDC Work	0	973	1,448
Non-FFRDC Work	7,680	11,765	16,318
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
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MISSILE DEFENSE AGENCY
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2017 President's Budget

		(Dollars in Thousands)		
Appropriation/Fund: RDT&E (0400)		FY 2015	FY 2016	FY 2017
1. Management & Professional Support Services				
FFRDC Work	932	7,288	7,288	7,206
Non-FFRDC Work	932	<u>220,175</u>	<u>220,174</u>	<u>217,676</u>
Sub-Total		227,463	227,462	224,882
2. Studies, Analysis & Evaluations				
FFRDC Work	933	3,392	3,393	3,348
Non-FFRDC Work	933	<u>6,421</u>	<u>6,421</u>	<u>6,436</u>
Sub-Total		9,813	9,814	9,784
3. Engineering & Technical Services				
FFRDC Work	934	131,666	131,535	115,877
Non-FFRDC Work	934	<u>151,108</u>	<u>142,938</u>	<u>151,862</u>
Sub-Total		282,774	274,473	267,739
TOTAL		520,050	511,749	502,405
FFRDC Work		142,347	142,215	126,431
Non-FFRDC Work		377,703	369,534	375,974

DATE PREPARED: 6 January 2016
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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				

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
POC: Tracy Flores
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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
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5b. DAU, DAWDF (Approp 0111)	0
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6. ALL OTHER	<u>0</u>
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6a. FMS CASE	0
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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
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	<u>0</u>
------------------	----------

4. INTRA SERVICE	<u>0</u>
------------------	----------

5. INTER SERVICE	<u>0</u>
5a. DSCA, FMS (Approp 8242)	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
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
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6. ALL OTHER	<u>0</u>
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6a. FMS CASE	0
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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	<u>0</u>	<u>0</u>
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	<u>0</u>	<u>0</u>		
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 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 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>						75,751
Mission Control Facility (141391)		m2 (SF)	5,574	(60,000)	10,646 (989)	(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)
<u>SUBTOTAL</u>						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)
<p>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.</p> <p>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.</p> <p>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.</p> <p>Temporary infrastructure will support site improvements and preparation for construction. Improvements include temporary roads, construction site fence, temporary power, mobilization and demobilization.</p> <p>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.</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

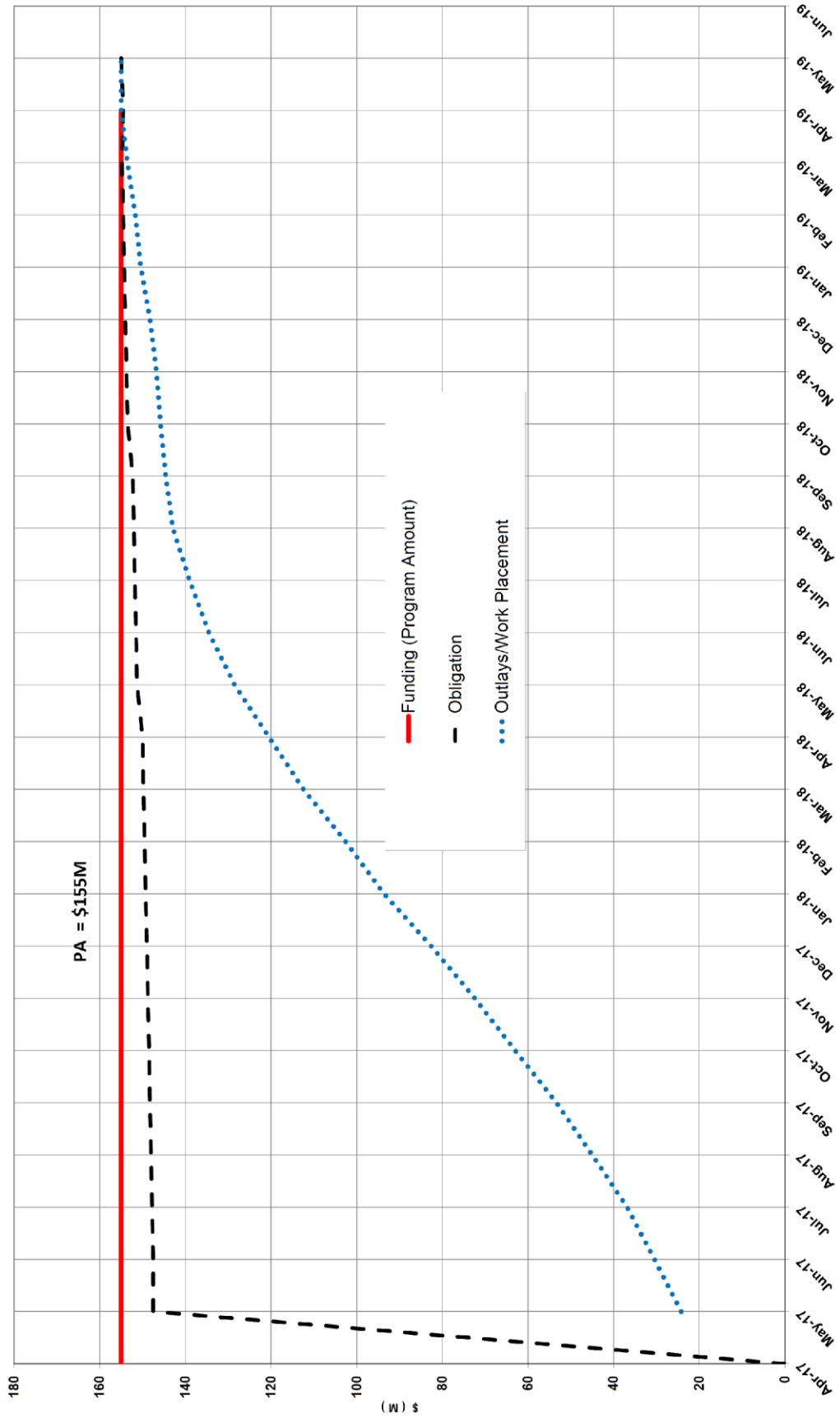
B. Equipment associated with this project which will be provided from other appropriations:

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
of Engineers®

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: <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">CATEGORY</th> <th style="text-align: left;">PROJECT TITLE</th> <th style="text-align: left;">SCOPE</th> <th style="text-align: left;">COST (\$000)</th> <th style="text-align: left;">DESIGN STATUS</th> </tr> <tr> <td style="text-align: left;">CODE</td> <td></td> <td></td> <td></td> <td style="text-align: left;">START COMPLETE</td> </tr> <tr> <td style="text-align: left;">89113</td> <td>Missile Defense Complex</td> <td>1,400 SF</td> <td>9,560</td> <td>Jul 15 Sep 16</td> </tr> <tr> <td></td> <td>Switchgear Facility</td> <td></td> <td></td> <td></td> </tr> </table>												CATEGORY	PROJECT TITLE	SCOPE	COST (\$000)	DESIGN STATUS	CODE				START COMPLETE	89113	Missile Defense Complex	1,400 SF	9,560	Jul 15 Sep 16		Switchgear Facility			
CATEGORY	PROJECT TITLE	SCOPE	COST (\$000)	DESIGN STATUS																											
CODE				START COMPLETE																											
89113	Missile Defense Complex	1,400 SF	9,560	Jul 15 Sep 16																											
	Switchgear Facility																														
9. FUTURE PROJECTS: <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">CATEGORY</th> <th style="text-align: left;">PROJECT TITLE</th> <th style="text-align: left;">SCOPE</th> <th style="text-align: left;">COST (\$000)</th> </tr> <tr> <td style="text-align: left;">CODE</td> <td></td> <td></td> <td></td> </tr> </table>												CATEGORY	PROJECT TITLE	SCOPE	COST (\$000)	CODE															
CATEGORY	PROJECT TITLE	SCOPE	COST (\$000)																												
CODE																															
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: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">A. Air Pollution:</td> <td>N/A</td> </tr> <tr> <td>B. Water pollution:</td> <td>N/A</td> </tr> <tr> <td>C. Occupational safety and health (OSH):</td> <td>N/A</td> </tr> </table>												A. Air Pollution:	N/A	B. Water pollution:	N/A	C. Occupational safety and health (OSH):	N/A														
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>						7,590
Switchgear Facility (89113)		m2 (SF)	130 (1,400)	31,831 (2,956)		(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>						959
Electrical		LS				(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)
<p>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).</p> <p>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.</p> <p>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.</p> <p>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.</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
<p> 11. REQUIRED: 1,400 SF ADEQUATE: NONE SUBSTANDARD: NONE </p> <p> <u>PROJECT:</u> Construct a shielded Switchgear Facility, associated electrical infrastructure upgrades, and supporting facilities. (Current Mission) </p> <p> <u>REQUIREMENT:</u> 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> <u>CURRENT SITUATION:</u> 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> <u>IMPACT IF NOT PROVIDED:</u> Planned enhancements for the shielded protection of the Ballistic Missile Defense System will not be available for our Nation's homeland defense. </p> <p> <u>ADDITIONAL INFORMATION:</u> 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: <table border="0"> <tr> <td>CATEGORY</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>CODE</td> <td>PROJECT TITLE</td> <td>SCOPE</td> <td></td> <td>COST (\$000)</td> <td></td> <td>DESIGN STATUS</td> <td></td> <td>START</td> <td>COMPLETE</td> <td></td> </tr> <tr> <td>37110</td> <td>Test Support Facility</td> <td>8,200 SF</td> <td></td> <td>11,670</td> <td></td> <td>Oct 15</td> <td></td> <td>Oct 16</td> <td></td> <td></td> </tr> </table>											CATEGORY											CODE	PROJECT TITLE	SCOPE		COST (\$000)		DESIGN STATUS		START	COMPLETE		37110	Test Support Facility	8,200 SF		11,670		Oct 15		Oct 16		
CATEGORY																																											
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9. FUTURE PROJECTS: <table border="0"> <tr> <td>CATEGORY</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>CODE</td> <td>PROJECT TITLE</td> <td>SCOPE</td> <td></td> <td>COST (\$000)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>											CATEGORY											CODE	PROJECT TITLE	SCOPE		COST (\$000)																	
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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	
PRIMARY FACILITIES						8,536	
Test Support Facility (37110)		m2 (SF)		762 (8,200)		11,205 (1,041) (8,536)	
SUPPORTING FACILITIES						1,929	
Site Electrical		LS				(863)	
Water, Sewer		LS				(388)	
Paving, Walks		LS				(233)	
Site Improvement/Demo		LS				(213)	
Information/Communications Systems		LS				(174)	
Antiterrorism/Force Protection		LS				(58)	
SUBTOTAL						10,465	
CONTINGENCY (5.00%)						523	
TOTAL CONTRACT COST						10,988	
SIOH (6.20%)						682	
TOTAL REQUEST						11,670	
TOTAL REQUEST ROUNDED						11,670	
INSTALLED EQUIPMENT-OTHER APPROP						(500)	
<p>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.</p> <p>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.</p>							
<p>11. REQUIRED: 8,200 SF ADEQUATE: NONE SUBSTANDARD: 7,100 SF</p> <p>PROJECT: Construct a new test support facility on Wake Island for Ballistic Missile Defense System test missions. (Current Mission)</p> <p>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</p>							

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><u>CURRENT SITUATION:</u> 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><u>IMPACT IF NOT PROVIDED:</u> 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><u>ADDITIONAL INFORMATION:</u> 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>																												
<p>12. SUPPLEMENTAL DATA:</p> <p style="margin-left: 20px;">A. Estimated Design Date</p> <div style="margin-left: 40px;"> <p>(1) Status:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">(a) Date Design Started</td> <td style="text-align: right;">Oct 2015</td> </tr> <tr> <td>(b) Percent Complete As Of Jan 2016</td> <td style="text-align: right;">5%</td> </tr> <tr> <td>(c) Date 35% Design Complete</td> <td style="text-align: right;">May 2016</td> </tr> <tr> <td>(d) Date Design Complete</td> <td style="text-align: right;">Oct 2016</td> </tr> <tr> <td>(e) Parametric Cost Estimating Used To Develop Cost</td> <td style="text-align: right;">No</td> </tr> <tr> <td>(f) Type of Design Contract</td> <td style="text-align: right;">Design-Bid-Build</td> </tr> </table> <p>(2) Basis:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">(a) Standard or Repetitive Design</td> <td style="text-align: right;">No</td> </tr> <tr> <td>(b) Where Design Was Most Recently Used</td> <td style="text-align: right;">N/A</td> </tr> </table> <p>(3) Total Cost (c) = (a) + (b) or (d) + (e) (\$000)</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">(a) Production of Plans and Specifications</td> <td style="text-align: right;">588</td> </tr> <tr> <td>(b) All Other Design Costs</td> <td style="text-align: right;">392</td> </tr> <tr> <td>(c) Total Design Costs</td> <td style="text-align: right;">980</td> </tr> <tr> <td>(d) Contract</td> <td style="text-align: right;">800</td> </tr> <tr> <td>(e) In-House</td> <td style="text-align: right;">180</td> </tr> </table> </div>			(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	(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
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(e) Parametric Cost Estimating Used To Develop Cost	No																											
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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	COST (\$000)
Unspecified Minor Construction				LS		2,414
SUBTOTAL						2,414
CONTINGENCY PERCENT (0.0%)						
TOTAL CONTRACT COST						2,414
SUPERVISION, INSPECTION & OVERHEAD (0.0%)						0
TOTAL REQUEST						2,414
TOTAL REQUEST (ROUNDED)						2,414
INSTALLED EQPT-OTHER APPROPRIATIONS						(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>REQUIREMENT: 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
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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
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ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: 0603884C, 0603881C	Other Related Program Elements: 0603884C, 0603881C
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Line Item MDAP/MAIS Code: 362	Item MDAP/MAIS Code(s): N/A
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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 (<i>\$ in Millions</i>)	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 (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	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 (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	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 (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Millions</i>)	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 (<i>\$ in Millions</i>)	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			Other Related Program Elements: 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 (<i>\$ in Millions</i>)		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 (<i>\$ in Millions</i>)		-	-	-	-	-	-	-	-	-	-	-	-					
Net Procurement (P-1) (<i>\$ in Millions</i>)		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 (<i>\$ in Millions</i>)		-	-	-	-	-	-	-	-	-	-	-	-					
Total Obligation Authority (<i>\$ in Millions</i>)		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 (<i>\$ in Millions</i>)		-	-	-	-	-	-	-	-	-	-	-	-					
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)		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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	2,276.118	-	-	397.458	-	-	343.400	-	-	282.353	-	-	-	-	-	282.353
Subtotal: Hardware Cost	-	-	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
Subtotal: Support Cost	-	-	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 ^(t)	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 ^(t)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.110	36	291.977
Support Equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.998	6	149.986
TFCC Tactical Station Group ^(t)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	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
<p>Remarks:</p> <p>"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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>(t) indicates the presence of a P-5a</p>																		

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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											B A L A N C E			
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 0	BAL DUE AS OF 1 OCT	Calendar Year 2011											Calendar Year 2012														
							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						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 2017										Fiscal Year 2018													B A L A N C E			
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 6	BAL D U E A S O F 1 O C T				Calendar Year 2017										Calendar Year 2018													
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P		
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	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	4	14	
Interceptor - Lot 8																																	
	7	2016	MDA	34	-	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34		
Interceptor - Lot 9																																	
	8	2017	MDA	24	-	24											A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	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			

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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													B A L A N C E			
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 8	BAL D U E A S O F 1 O C T				Calendar Year 2019												Calendar Year 2020													
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
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												-				
Interceptor - Lot 9																																			
	8	2017	MDA		24	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	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	

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 (<i>\$ in Millions</i>)	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 (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	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 (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	2,033.418	663.316	566.711	463.801	-	463.801	727.291	962.410	1,079.913	1,221.081	Continuing	Continuing
<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>)	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 (<i>\$ in Millions</i>)	11.822	9.900	11.566	13.251	-	13.251	15.811	18.871	18.619	16.281	Continuing	Continuing
<p>Description:</p> <p>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.</p> <p>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.</p> <p>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).</p> <p>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.</p> <p>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.</p> <p>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</p>												

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Exhibit P-40, Budget Line Item Justification: PB 2017 Missile Defense Agency	Date: February 2016
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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
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ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: 0604881C, 0603892C	Other Related Program Elements: 0603892C, 0604881C
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Line Item MDAP/MAIS Code: 362	Item MDAP/MAIS Code(s): N/A
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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 SM-3 Block IB	P-5a, P-21	B	170 / 2,010.918	52 / 626.202	49 / 566.711	35 / 463.801	- / -	35 / 463.801
P-5	Aegis BMD Shipsets		B	2 / 22.500	15 / 37.114	- / -	- / -	- / -	- / -
P-5	Aegis BMD SM-3 Block IIA		B	- / -	- / -	- / -	- / -	- / -	- / -
P-40	Total Gross/Weapon System Cost			172 / 2,033.418	67 / 663.316	49 / 566.711	35 / 463.801	- / -	35 / 463.801

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 SM-3 Block IB	P-5a, P-21	B	39 / 514.178	33 / 447.788	35 / 452.847	52 / 611.030	Continuing	Continuing
P-5	Aegis BMD Shipsets		B	- / -	- / -	- / -	- / -	- / -	17 / 59.614
P-5	Aegis BMD SM-3 Block IIA		B	7 / 213.113	18 / 514.622	23 / 627.066	23 / 610.051	- / -	71 / 1,964.852
P-40	Total Gross/Weapon System Cost			46 / 727.291	51 / 962.410	58 / 1,079.913	75 / 1,221.081	Continuing	Continuing

*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 <i>(\$ in Millions)</i>		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 <i>(\$ in Millions)</i>		-	-	-	-	-	-	-	-	-	-	-	-					
Net Procurement (P-1) <i>(\$ in Millions)</i>		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 <i>(\$ in Millions)</i>		-	-	-	-	-	-	-	-	-	-	-	-					
Total Obligation Authority <i>(\$ in Millions)</i>		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 <i>(\$ in Millions)</i>		-	-	-	-	-	-	-	-	-	-	-	-					
Gross/Weapon System Unit Cost <i>(\$ in Millions)</i>		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
Subtotal: Recurring Cost	-	-	1,886.925	-	-	593.383	-	-	511.493	-	-	381.370	-	-	-	-	-	381.370
Subtotal: Flyaway Cost	-	-	1,886.925	-	-	593.383	-	-	511.493	-	-	381.370	-	-	-	-	-	381.370
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
Subtotal: Recurring Cost	-	-	25.608	-	-	11.186	-	-	16.418	-	-	26.753	-	-	-	-	-	26.753
Subtotal: Hardware Cost	-	-	25.608	-	-	11.186	-	-	16.418	-	-	26.753	-	-	-	-	-	26.753
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
Subtotal: Support Cost	-	-	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		
Subtotal: Recurring Cost	-	-	429.134	-	-	368.986	-	-	386.383	-	-	538.727	Continuing			Continuing		
Subtotal: Flyaway Cost	-	-	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		
Subtotal: Recurring Cost	-	-	28.875	-	-	22.195	-	-	23.247	-	-	28.897	Continuing			Continuing		
Subtotal: Hardware Cost	-	-	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
Subtotal: Support Cost	-	-	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 <i>(Units in Each)</i>							Fiscal Year 2008												Fiscal Year 2009												BALANCE
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2007	BAL DUE AS OF 1 OCT	Calendar Year 2008												Calendar Year 2009												
							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					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																															
	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 <i>(Units in Each)</i>							Fiscal Year 2010												Fiscal Year 2011													BALANCE
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2009	BAL DUE AS OF 1 OCT	Calendar Year 2010												Calendar Year 2011													
							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	-	-	-	-	-	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			
							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 <i>(Units in Each)</i>							Fiscal Year 2012											Fiscal Year 2013													BALANCE					
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2011	BAL DUE AS OF 1 OCT	Calendar Year 2012											Calendar Year 2013																		
							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												A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	21		
	1	2012	MDA	14	-	14												A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	
SM-3 Block IB Procurement																																				
	2	2012	MDA	14	-	14												A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	
	2	2013	MDA	33	-	33																									A -	-	-	-	-	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						

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: MD09 / AEGIS BMD										Item Number / Title [DODIC]: - / Aegis BMD SM-3 Block IB																			
Cost Elements (Units in Each)							Fiscal Year 2014										Fiscal Year 2015														B A L A N C E								
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2013	BAL DUE AS OF 1 OCT	Calendar Year 2014										Calendar Year 2015																						
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P									
SM-3 Block IA Procurement																																							
	1	2009	MDA	11	11	-																										-							
	1	2010	MDA	24	24	-																										-							
	1	2011	MDA	22	1	21	5	1	2	1	-	3	4	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: 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 2016													Fiscal Year 2017													B A L A N C E				
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	Calendar Year 2016													Calendar Year 2017																	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							
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	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																		A	-	-	-	-	-	-	-	-	-	-	-	-	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													B A L A N C E			
O C 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													
							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	26	26	5	4	4	5	4	4																				-	
	2	2016	MDA	49	-	49	-	-	-	-	-	-	-	-	5	4	4	5	4	4	4	4	3	5	4	3				-			
	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 2020											Fiscal Year 2021													BALANCE			
OCO	MFR#	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020								Calendar Year 2021																			
							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	52	-																										-		
	2	2016	MDA	49	49	-																										-		
	2	2017	MDA	35	-	35	3	3	3	3	3	3	3	3	3	3	2	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				
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 <i>(Units in Each)</i>	2	15	-	-	-	-	-	-	-	-	-	17						
Gross/Weapon System Cost <i>(\$ in Millions)</i>	22.500	37.114	-	-	-	-	-	-	-	-	-	59.614						
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-						
Net Procurement (P-1) <i>(\$ in Millions)</i>	22.500	37.114	-	-	-	-	-	-	-	-	-	59.614						
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-						
Total Obligation Authority <i>(\$ in Millions)</i>	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 <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-						
Gross/Weapon System Unit Cost <i>(\$ in Millions)</i>	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			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	-	-	-	18.955	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	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	-	-	-	32.378	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Hardware Cost	-	-	-	-	-	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	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	22.500	-	-	4.736	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Software Cost	-	-	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)
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 <i>(\$ in Millions)</i>		-	-	-	-	-	-	213.113	514.622	627.066	610.051	-	1,964.852					
Less PY Advance Procurement <i>(\$ in Millions)</i>		-	-	-	-	-	-	-	-	-	-	-	-					
Net Procurement (P-1) <i>(\$ in Millions)</i>		-	-	-	-	-	-	213.113	514.622	627.066	610.051	-	1,964.852					
Plus CY Advance Procurement <i>(\$ in Millions)</i>		-	-	-	-	-	-	-	-	-	-	-	-					
Total Obligation Authority <i>(\$ in Millions)</i>		-	-	-	-	-	-	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 <i>(\$ in Millions)</i>		-	-	-	-	-	-	-	-	-	-	-	-					
Gross/Weapon System Unit Cost <i>(\$ in Millions)</i>		-	-	-	-	-	-	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)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
SM-3 Block IIA Procurement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Flyaway Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardware Cost																		
Recurring Cost																		
Canisters Procurement SM-3 Block IIA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Hardware Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support Cost																		
SM-3 Block IIA Diminishing Manufacturing Sources Mitigation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SM-3 Block IIA Production Engineering	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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
Subtotal: Recurring Cost	-	-	193.652	-	-	469.187	-	-	564.387	-	-	546.712	-	-	-	-	-	1,773.938
Subtotal: Flyaway Cost	-	-	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
Subtotal: Recurring Cost	-	-	4.993	-	-	10.801	-	-	13.097	-	-	12.888	-	-	-	-	-	41.779
Subtotal: Hardware Cost	-	-	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
Subtotal: Support Cost	-	-	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				Other Related Program Elements: 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 (<i>\$ in Millions</i>)	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 (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	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 (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	1,005.650	87.803	78.634	5.503	-	5.503	2.408	3.016	11.017	53.898	-	1,247.929
<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>)	10.901	-	-	-	-	-	-	-	-	-	-	10.901
Flyaway Unit Cost (<i>\$ in Millions</i>)	172.502	-	-	-	-	-	-	-	-	-	Continuing	Continuing
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	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: 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			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 (<i>\$ in Millions</i>)		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 (<i>\$ in Millions</i>)		-	-	-	-	-	-	-	-	-	-	-	-					
Net Procurement (P-1) (<i>\$ in Millions</i>)		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 (<i>\$ in Millions</i>)		-	-	-	-	-	-	-	-	-	-	-	-					
Total Obligation Authority (<i>\$ in Millions</i>)		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 (<i>\$ in Millions</i>)		-	-	-	-	-	-	-	-	-	-	-	-					
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)		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	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	989.650	-	-	84.941	-	-	78.634	-	-	5.503	-	-	-	-	-	5.503
Non Recurring Cost																		
Contractor Certification ^(†)	-	-	-	2.862	1	2.862	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost	-	-	-	-	-	2.862	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Hardware Cost	-	-	989.650	-	-	87.803	-	-	78.634	-	-	5.503	-	-	-	-	-	5.503
Support Cost																		
Program Support*	16.000	1	16.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support Cost	-	-	16.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	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)
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
Subtotal: Recurring Cost	-	-	2.408	-	-	3.016	-	-	11.017	-	-	53.898	-	-	-	-	-	1,229.067
Non Recurring Cost																		
Contractor Certification ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.862	1	2.862
Subtotal: Non Recurring Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.862
Subtotal: Hardware Cost	-	-	2.408	-	-	3.016	-	-	11.017	-	-	53.898	-	-	-	-	-	1,231.929
Support Cost																		
Program Support*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.000	1	16.000
Subtotal: Support Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	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). (t) 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		

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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
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		

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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
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:							P-1 Line Item Number / Title:											Item Number / Title [DODIC]:													
0300D / 01 / 17							MD11 / BMDS AN/TPY-2 Radars											- / BMDS AN/TPY-2 Radars													
Cost Elements (Units in Each)							Fiscal Year 2010											Fiscal Year 2011											B A L A N C E		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 0 9	BAL D U E A S O F 1 O C T	Calendar Year 2010											Calendar Year 2011													
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L		A U G	S E P
	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)																															
	11	2010	MDA	1	-	1									A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	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																									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																									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 2012										Fiscal Year 2013														B A L A N C E	
O C 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															
							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)																																
	10	2013	MDA	4	-	4															A -	-	-	-	-	-	-	-	-	-	-	4
	10	2021	MDA	4	-	4																										4
Prime Power Unit (PPUs - 2 each radar system)																																
	11	2010	MDA	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1											-
	11	2012	MDA	2	-	2				A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Prime Power Unit (PPUs - 2 each radar system) - 1																																
	11	2013	MDA	1	-	1															A -	-	-	-	-	-	-	-	-	-	-	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																										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:										P-1 Line Item Number / Title:										Item Number / Title [DODIC]:																
0300D / 01 / 17										MD11 / BMDS AN/TPY-2 Radars										- / BMDS AN/TPY-2 Radars																
Cost Elements (Units in Each)							Fiscal Year 2014										Fiscal Year 2015														BALANCE					
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2013	BAL DUE AS OF 1 OCT	Calendar Year 2014										Calendar Year 2015																			
							OCT	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	2012	MDA	2	-	2	-	-	-	-	-	-	-	-	-	2															-					
Antenna Equipment Unit (AEU) - 1																																				
	1	2013	MDA	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1			-					
Antenna Equipment Unit (AEU) - 2																																				
	1	2013	MDA	1	-	1			A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1					
Antenna Equipment Unit (AEU) Transformer																																				
	2	2015	MDA	3	-	3															A	-	-	-	-	-	-	-	-	-	-	-	-	-	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	-	-	-	-	-	-	-	-	-	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											A	-	-	-	-	-	-	-	-	-	-	-	1			-				
	4	2015	MDA	1	-	1															A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Electronic Equipment Unit (EEU)																																				
	5	2010	MDA	1	1	-																									-					
	5	2012	MDA	2	-	2	-	-	-	-	-	-	-	-	-	2															-					
Electronic Equipment Unit (EEU) - 1																																				
	5	2013	MDA	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1			-					
Electronic Equipment Unit (EEU) - 2																																				
	5	2013	MDA	1	-	1			A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1					
Electronic Equipment Unit (EEU) Modification Kit																																				
	6	2015	MDA	3	-	3															A	-	-	-	-	-	-	-	-	1	-	1	-	-	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						

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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							MD11 / BMDS AN/TPY-2 Radars											- / BMDS AN/TPY-2 Radars															
Cost Elements (Units in Each)							Fiscal Year 2014											Fiscal Year 2015											BALANCE				
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2013	BAL DUE AS OF 1 OCT	Calendar Year 2014											Calendar Year 2015															
							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															A -		-		-		-		-		-		1
Float Electronic Equipment Unit (EEU)																																	
	9	2012	MDA	1	-	1	-		-		-		-		-		-		1													-	
	9	2014	MDA	1	-	1															A -		-		-		-		-		-		1
Forward-Based Mode Prime Power Units (PPU)																																	
	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																	A -		-		-		-		-		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			

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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							MD11 / BMDS AN/TPY-2 Radars												- / 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 C #	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 5	BAL DUE AS OF 1 OCT	Calendar Year 2016												Calendar Year 2017														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			
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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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						MD11 / BMDS AN/TPY-2 Radars													- / BMDS AN/TPY-2 Radars														
Cost Elements (Units in Each)						Fiscal Year 2016													Fiscal Year 2017													BALANCE	
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	Calendar Year 2016													Calendar Year 2017													
							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			A -	-	-	-	-	-	1																-		
	6	2017	MDA	1	-	1													A -	-	-	-	-	-	-	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	-	-	-	-	-	-	-	-	-	-	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	-	-	-	-	-	-	-	-	1																-		
Radar Factory Unit (RAFU) Kit																																	
	12	2017	MDA	1	-	1													A -	-	-	-	-	-	-	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																						-		
							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 Defense Agency																			Date: February 2016													
Appropriation / Budget Activity / Budget Sub Activity:							P-1 Line Item Number / Title:													Item Number / Title [DODIC]:												
0300D / 01 / 17							MD11 / BMDS AN/TPY-2 Radars													- / BMDS AN/TPY-2 Radars												
Cost Elements (Units in Each)							Fiscal Year 2018										Fiscal Year 2019													B A L A N C E		
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018										Calendar Year 2019															
							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																																
	3	2013	MDA		1	1	-																				-					
Critical Spares																																
	4	2014	MDA		1	1	-																				-					
	4	2015	MDA		1	1	-																				-					
Electronic Equipment Unit (EEU)																																
	5	2010	MDA		1	1	-																				-					
	5	2012	MDA		2	2	-																				-					
Electronic Equipment Unit (EEU) - 1																																
	5	2013	MDA		1	1	-																				-					
Electronic Equipment Unit (EEU) - 2																																
	5	2013	MDA		1	1	-																				-					
Electronic Equipment Unit (EEU) Modification Kit																																
	6	2015	MDA		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	

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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 2018										Fiscal Year 2019														B A L A N C E
O C 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														
							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	-																									-
	6	2017	MDA	1	1	-																									-
	6	2019	MDA	1	-	1														A -	-	-	-	-	-	-	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	-																									-
	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					A -	-	-	-	-	-	-	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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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										MD11 / BMDS AN/TPY-2 Radars											- / BMDS AN/TPY-2 Radars																
Cost Elements (Units in Each)							Fiscal Year 2020											Fiscal Year 2021														B A L A N C E					
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT				Calendar Year 2020											Calendar Year 2021																
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P							
Antenna Equipment Unit (AEU)																																					
	1	2010	MDA		1	-																									-						
	1	2012	MDA		2	-																									-						
Antenna Equipment Unit (AEU) - 1																																					
	1	2013	MDA		1	-																									-						
Antenna Equipment Unit (AEU) - 2																																					
	1	2013	MDA		1	-																									-						
Antenna Equipment Unit (AEU) Transformer																																					
	2	2015	MDA		3	-																									-						
	2	2016	MDA		4	-																									-						
	2	2017	MDA		1	-																									-						
	2	2018	MDA		1	-																									-						
	2	2020	MDA		2	-	2			A -	-	-	-	-	-	-	-	-	2											-							
	2	2021	MDA		1	-	1																	A -	-	-	-	-	-	-	-	-	-	-	-	1	-
Cooling Equipment Unit (CEU)																																					
	3	2010	MDA		1	-																									-						
	3	2012	MDA		2	-																									-						
Cooling Equipment Unit (CEU) - 1																																					
	3	2013	MDA		1	-																									-						
Cooling Equipment Unit (CEU) - 2																																					
	3	2013	MDA		1	-																									-						
Critical Spares																																					
	4	2014	MDA		1	-																									-						
	4	2015	MDA		1	-																									-						
Electronic Equipment Unit (EEU)																																					
	5	2010	MDA		1	-																									-						
	5	2012	MDA		2	-																									-						
Electronic Equipment Unit (EEU) - 1																																					
	5	2013	MDA		1	-																									-						
Electronic Equipment Unit (EEU) - 2																																					
	5	2013	MDA		1	-																									-						
Electronic Equipment Unit (EEU) Modification Kit																																					
	6	2015	MDA		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							

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LI MD11 - BMDS AN/TPY-2 Radars
Missile Defense Agency

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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 C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 2 1	BAL DUE AS OF 1 OCT				Calendar Year 2022										Calendar Year 2023													
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P		
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																																	
	3	2013	MDA		1	1	-																										-
Critical Spares																																	
	4	2014	MDA		1	1	-																										-
	4	2015	MDA		1	1	-																										-
Electronic Equipment Unit (EEU)																																	
	5	2010	MDA		1	1	-																										-
	5	2012	MDA		2	2	-																										-
Electronic Equipment Unit (EEU) - 1																																	
	5	2013	MDA		1	1	-																										-
Electronic Equipment Unit (EEU) - 2																																	
	5	2013	MDA		1	1	-																										-
Electronic Equipment Unit (EEU) Modification Kit																																	
	6	2015	MDA		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	-	

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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							MD11 / BMDS AN/TPY-2 Radars												- / 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 C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 2 1	BAL D U E A S O F 1 O C T	Calendar Year 2022												Calendar Year 2023																
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
	6	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
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			

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 <i>(\$ in Millions)</i>	-	-	15.000	-	-	-	-	-	-	-	-	15.000
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	-	-	15.000	-	-	-	-	-	-	-	-	15.000
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority <i>(\$ in Millions)</i>	-	-	15.000	-	-	-	-	-	-	-	-	15.000
<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>	-	-	-	-	-	-	-	-	-	-	-	-
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			Other Related Program Elements: 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 <i>(\$ in Millions)</i>	-	-	15.000	-	-	-	-	-	-	-	-	15.000						
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-						
Net Procurement (P-1) <i>(\$ in Millions)</i>	-	-	15.000	-	-	-	-	-	-	-	-	15.000						
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-						
Total Obligation Authority <i>(\$ in Millions)</i>	-	-	15.000	-	-	-	-	-	-	-	-	15.000						
<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>	-	-	-	-	-	-	-	-	-	-	-	-						
Gross/Weapon System Unit Cost <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-						
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 <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>
Hardware Cost																		
Non Recurring Cost																		
Upper Tier Interceptor	-	-	-	-	-	-	15.000	1	15.000	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost	-	-	-	-	-	-	-	-	15.000	-	-	-	-	-	-	-	-	-
Subtotal: Hardware Cost	-	-	-	-	-	-	-	-	15.000	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	15.000	-	-	-	-	-	-	-	-	-
Cost Elements	FY 2018			FY 2019			FY 2020			FY 2021			To Complete			Total Cost		
	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>	Unit Cost <i>(\$ M)</i>	Qty <i>(Each)</i>	Total Cost <i>(\$ M)</i>
Hardware Cost																		
Non Recurring Cost																		
Upper Tier Interceptor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.000	1	15.000
Subtotal: Non Recurring Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.000
Subtotal: Hardware Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.000
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	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
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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
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: 362	Item MDAP/MAIS Code(s): N/A
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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 <i>(\$ in Millions)</i>	-	-	150.000	-	-	-	-	-	-	-	-	150.000
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	-	-	150.000	-	-	-	-	-	-	-	-	150.000
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority <i>(\$ in Millions)</i>	-	-	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 <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-

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
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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
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: 362	Item MDAP/MAIS Code(s): N/A
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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)	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

*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: 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:					
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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 (<i>\$ in Millions</i>)	-	-	150.000	-	-	-	-	-	-	-	-	150.000
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	-	150.000	-	-	-	-	-	-	-	-	150.000
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	-	150.000	-	-	-	-	-	-	-	-	150.000

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

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

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
Subtotal: Hardware Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	150.000
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	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
<p>Description:</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</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: 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 <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					
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>		-	-	-	-	-	-	-	-	-	-	-	-					
Gross/Weapon System Unit Cost <i>(\$ in Millions)</i>		131.400	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
Subtotal: Recurring Cost	-	-	131.400	-	-	205.601	-	-	30.587	-	-	57.493	-	-	-	-	-	57.493
Subtotal: Flyaway Cost	-	-	131.400	-	-	205.601	-	-	30.587	-	-	57.493	-	-	-	-	-	57.493
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
Subtotal: Recurring Cost	-	-	69.880	-	-	-	-	-	-	-	-	-	-	-	-	-	-	494.961
Subtotal: Flyaway Cost	-	-	69.880	-	-	-	-	-	-	-	-	-	-	-	-	-	-	494.961
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
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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
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0603913C
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Line Item MDAP/MAIS Code: 362	Item MDAP/MAIS Code(s): N/A
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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

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

Initial Spares <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Millions)</i>	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
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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
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0603913C
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Line Item MDAP/MAIS Code: 362	Item MDAP/MAIS Code(s): N/A
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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 <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

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

Initial Spares <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Millions)</i>	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
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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
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: 362	Item MDAP/MAIS Code(s): N/A
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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 (<i>\$ in Millions</i>)	-	-	145.300	50.098	-	50.098	139.502	93.184	122.025	85.987	-	636.096
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	-	-	145.300	50.098	-	50.098	139.502	93.184	122.025	85.987	-	636.096
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	-	-	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 (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Millions</i>)	-	-	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			Other Related Program Elements: 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 (Units in Each)		-	-	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 9C.2 (5.x) BackFit Installs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aegis BMD 9C.2 (5.x) BackFit Procurement ^(†)	-	-	-	-	-	-	2.009	11	22.097	2.800	2	5.600	-	-	-	2.800	2	5.600
Aegis BMD 9C.2 (5.x) BackFit Procurement Modification	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aegis BMD 9C.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
Subtotal: Recurring Cost	-	-	-	-	-	-	-	-	142.100	-	-	50.098	-	-	-	-	-	50.098
Subtotal: Hardware Cost	-	-	-	-	-	-	-	-	142.100	-	-	50.098	-	-	-	-	-	50.098
Software Cost																		
Recurring Cost																		
Aegis BMD 4.0 to 4.x Software Installs	-	-	-	-	-	-	0.533	6	3.200	-	-	-	-	-	-	-	-	-
Subtotal: Recurring Cost	-	-	-	-	-	-	-	-	3.200	-	-	-	-	-	-	-	-	-
Subtotal: Software Cost	-	-	-	-	-	-	-	-	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	
Subtotal: Recurring Cost	-	-	139.502	-	-	93.184	-	-	122.025	-	-	85.987	-	-	-	-	-	632.896	
Subtotal: Hardware Cost	-	-	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	
Subtotal: Recurring Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.200	
Subtotal: Software Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	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:
<p>Consists of 2 BMD 3.6 to 4.x Hardware Procurements Consists of 2 Aegis BL 9C.2 (5.x) Inline Procurements</p> <p>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)</p> <p>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</p> <p>Shipset Installs:</p> <p>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.</p> <p>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</p> <p>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</p> <p>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</p> <p>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</p> <p>(t) indicates the presence of a P-5a</p>		

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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										BALANCE					
OCCO	MFR#	FY	SERVICE	PROCQTY	ACCEPT PRIOR TO 1 OCT 2016	BAL DUE AS OF 1 OCT	Calendar Year 2017										Calendar Year 2018															
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY		JUN	JUL	AUG	SEP	
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
							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: MD90 / Aegis BMD Hardware and Software										Item Number / Title [DODIC]: - / Aegis BMD Shipsets														
Cost Elements (Units in Each)							Fiscal Year 2019										Fiscal Year 2020										BALANCE							
OCO	MFR#	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019										Calendar Year 2020																	
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY		JUN	JUL	AUG	SEP			
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																										-
							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: MD90 / Aegis BMD Hardware and Software				Item Number / Title [DODIC]: - / Aegis BMD Shipsets			

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 - 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).