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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Missile Defense Agency **Date:** February 2016

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0603884C / <i>Ballistic Missile Defense Sensors</i>
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COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	672.539	260.347	228.392	230.077	-	230.077	144.893	141.815	171.644	158.421	Continuing	Continuing
MD11: <i>BMDs Radars</i>	627.519	236.819	216.880	219.503	-	219.503	137.144	134.259	161.902	148.004	Continuing	Continuing
MC11: <i>Cyber Operations</i>	1.543	1.132	1.239	1.045	-	1.045	1.067	1.089	1.111	1.133	Continuing	Continuing
MD40: <i>Program-Wide Support</i>	43.477	22.396	10.273	9.529	-	9.529	6.682	6.467	8.631	9.284	Continuing	Continuing

Program MDAP/MAIS Code: 362

Note

Beginning in FY 2015, funding for the BMDs Radars Test (MT11) Budget Project was realigned to the Ballistic Missile Defense Sensor Test Program Element (0604879C).

Beginning in FY 2015, funding for the Long Range Discrimination Radar (MD96) Budget Project was realigned to the Long Range Discrimination Radar Program Element (0604873C).

A. Mission Description and Budget Item Justification

The Ballistic Missile Defense System (BMDS) network of layered Sensors provides essential situational awareness and fire control data for the command and control of BMDS weapon systems, such as Ground-based Midcourse Defense (GMD), Aegis Ballistic Missile Defense, and Terminal High Altitude Area Defense (THAAD). The suite of remote ground-based sensors provide early warning, midcourse and terminal ballistic missile defense threat data enabling layered detection and tracking of ballistic missile targets, providing fire-control quality position, velocity, and discrimination data through Ground-Based Midcourse Defense Fire Control (GFC), or Command and Control, Battle Management, Communications (C2BMC).

Overlapping coverage of geographically diverse sensors provides improved threat track data, reduces the impact of the loss of any one sensor, and reduces the potential impact of countermeasures. The extended coverage and accuracy provided by a network of layered sensors increases the defensive footprint and reduces the number of target engagements required, thereby conserving interceptor inventory and maintaining a high probability of successful engagement. Networked forward-based sensors enable C2BMC to pair the best sensor coverage with the best available weapon system to provide the most effective defense against ballistic missile threats.

This Program Element includes discrimination improvement efforts, to develop and field an integrated set of capabilities to improve BMDS effectiveness and resilience against the evolving threat. The end result will be a BMDS architecture more capable of discriminating and destroying a re-entry vehicle with a high degree of confidence, improving Warfighter shot doctrine and preserving inventory. This effort encompasses Near-term, Mid-term, and Far-term discrimination improvements capability fielding. The discrimination improvements require a coordinated effort between Systems Engineering (PE 0603890C), Ground-based Midcourse Defense (PE 0603882C), BMD Sensors, C2BMC (PE 0603896C), Aegis BMD (PE 0603892C) and Advanced C4ISR (PE 0603179C).

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The BMD Sensors Program contributes to regional missile defense through the following activities:

- Development, delivery and deployment/redeployment of remote, forward based Army Navy/Transportable Radar Surveillance and Control (AN/TPY-2) radars for operations or tests. Radars provide early warning, track, and discrimination data through all phases of ballistic missile flight. Through the BMDS C2BMC and coalition data links, the AN/TPY-2 provides fire control data to enable remote Standard Missile (SM)-3 engagements by Aegis BMD, to allow earlier engagement by the Arrow Weapon System, and to cue deployed THAAD and U.S. and partner PATRIOT batteries.
- Enhancements/development of AN/TPY-2 software across the fleet of radars. Lessons learned from each radar are addressed in new software builds that are developed, tested, and subsequently installed at each radar.

AN/TPY-2 radars can be configured to operate either as a THAAD Fire Unit Radar (terminal mode) or Forward-Based Radar. These radars are transportable, adding flexibility to respond to geographical changes in threats. The AN/TPY-2 used in a Forward-Based role detects and acquires ballistic missile threats and provides precision track and discrimination data during the boost and midcourse phases of flight. The BMDS C2BMC provides this track and discrimination data for cueing and engagements to GFC for GMD defense of the homeland and to C2BMC for Aegis BMD and other regional missile defense systems to support defense of U.S., deployed forces, friends, and allies. This track and discrimination data identifies the lethal object, significantly reduces the target uncertainty, and provides additional reaction time to increase the probability of successful BMDS engagements. 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 the fire control. The current and planned utilization of the AN/TPY-2 radars supports GMD, THAAD, and the Aegis Weapon System.

The BMDS sensor network also includes the COBRA DANE Radar at Eareckson Air Force Station, Alaska, and the Upgraded Early Warning Radars (UEWRs) at Beale Air Force Base, CA; Fylingdales Royal Air Force, United Kingdom, and Thule Air Force Base in Greenland.

The Ultra High Frequency Early Warning Radars (EWRs) have been upgraded to include missile defense functionality against long-range threats in addition to their existing Missile Warning and Space Surveillance missions.

The Clear EWR, located at Clear Air Force Station, AK, and the Cape Cod EWR, Located at Cape Cod Air Force Station, MA, are also being upgraded to include missile defense functionality. Upgrade activities began in CY 2012 and are expected to be completed in FY 2017. The addition of the Clear UEWR and Cape Cod UEWRs to the BMDS sensor architecture will improve BMDS sensor coverage and provide new engagement options against long-range missile threats.

The BMD Vision Study, conducted by MDA with USSTRATCOM, identified the need to enhance the discrimination capabilities of our sensors and weapon systems. There is an Enhanced Discrimination and sensors program that will improve discrimination capabilities of the AN/TPY-2, COBRA DANE, Sea Based X-Band, and the UEWR radars against the long range missile threat.

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The BMDS Sensors Program also contributes to the testing and proving of the U.S. missile defense systems through Modeling and simulation (M&S) efforts, including: enhanced sensor models, development of Radio Frequency scene generators, integration of digital simulations into the BMDS M&S architecture, and Verification, Validation, and Accreditation of radar models.

MDA is conducting studies to determine optimal radar site locations for defense of the U.S. from Intercontinental Ballistic Missiles (ICBMs). The locations would include a site for deployment of a long-range discrimination radar and a potential homeport for the Sea-Based X-Band Radar (SBX) on the East Coast of the United States. The initial analysis will determine the operational areas where sensors could be placed to meet the sensor needs of the BMD system. Once this analysis is complete MDA will begin development of site scoring criteria and, in the case of the SBX, assessments of transit time and time on station for candidate home port options. MDA will then develop initial screening criteria for operations and maintenance. This will be the basis for selection of at least three sites for more detailed examination, including environmental impact studies.

MD40 Program-Wide Support (PWS) consists of essential non-headquarters management efforts providing integrated and efficient support to MDA functions and activities across the entire BMDS.

B. Program Change Summary (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	270.901	233.588	228.437	-	228.437
Current President's Budget	260.347	228.392	230.077	-	230.077
Total Adjustments	-10.554	-5.196	1.640	-	1.640
• Congressional General Reductions	0.000	-0.196			
• Congressional Directed Reductions	0.000	-5.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-6.176	0.000			
• SBIR/STTR Transfer	-4.378	0.000			
• Other Adjustment	0.000	0.000	1.640	-	1.640

Change Summary Explanation

The FY 2017 increase reflects the realignment of funds from the Operations and Maintenance appropriation for concept development and analysis of new discrimination capabilities for a medium range BMD sensor to improve the defensive coverage of Hawaii.

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Missile Defense Agency										Date: February 2016		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603884C / <i>Ballistic Missile Defense Sensors</i>				Project (Number/Name) MD11 / <i>BMDS Radars</i>			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
MD11: <i>BMDS Radars</i>	627.519	236.819	216.880	219.503	-	219.503	137.144	134.259	161.902	148.004	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

N/A

A. Mission Description and Budget Item Justification

Activities in this project include:

- Development of future Army Navy/Transportable Radar Surveillance and Control (AN/TPY-2) and Upgraded Early Warning Radar (UEWR) capabilities
- Development of radar discrimination advanced algorithms for X-Band radars and selectable X-Band software for AN/TPY-2 radars to address evolving threats
- System engineering, software development, and testing support for X-Band, COBRA DANE, and UEWR sensors
- Modeling and Simulation (M&S) efforts to include: enhanced sensor models, development of Radio Frequency scene generators, integration of digital simulations into the Ballistic Missile Defense System (BMDS), M&S architecture, and Verification, Validation, and Accreditation of radar models
- Participation in Ballistic Missile Defense System (BMDS) element ground test campaigns

The discrimination improvement effort will develop and field integrated Element capabilities to improve BMD System ability to identify lethal and non-lethal objects. Sensors will continue development of discrimination improvement Mid-term design and test support for SBX and Far-term trade analysis and planning.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2015	FY 2016	FY 2017
Title: Basic Development Program	46.695	38.014	35.279
Articles:	-	-	-
Description: N/A			
FY 2015 Accomplishments:			
-Conducted ground test and flight test for Phase Adaptive Approach (PAA) Phase II and conducted Materiel Release Analysis for the hardware and software delivery			
-Completed closure of several conditions as part of the Materiel Release Closure Plan for Forward Based Mode (FBM) and Terminal Mode (TM) Army Navy/Transportable Radar Surveillance and Control (AN/TPY-2)			
-Obtained Conditional Materiel Release for the Common X-Band software and hardware configuration to support transition of FBM radars to Army for Soldier operation			
-Developed and deployed the Common X-Band software and hardware to address Reliability, Availability, and Maintainability conditions; to promote reliability growth; and to enhance acquisition and discrimination capability in the suite of AN/TPY-2 radars; deployed capability to CENTCOM and EUCOM FBM sites			

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2015	FY 2016	FY 2017
<ul style="list-style-type: none"> -Continued performing Upgrade Early Warning Radar (UEWR) development such as the reinforcement of the surveillance fence that results in the increased probability of acquisition -Continued to conduct Information Assurance (IA) certification and accreditation of all Sensors systems -Continued to support Bi-Annual IA testing for vulnerabilities and Third Party IA assessment of the systems <p>FY 2016 Plans:</p> <ul style="list-style-type: none"> -Complete ground test and flight test for Phased Adaptive Approach (PAA) Phase II and begin Materiel Release Analysis for software delivery -Complete closure of several conditions as part of the Materiel Release Closure Plan for Forward Based Mode (FBM) and Terminal Mode (TM) Army Navy/Transportable Radar Surveillance and Control (AN/TPY-2) -Continue software development of a new discrimination architecture that supports the addition of new algorithms that will support EPAA Phase III and THAAD Threat Development required to provide enhanced capability to the Warfighter in a tactical environment -Optimize software to take advantage of new increased processing capability -Continue performing Upgrade Early Warning Radar (UEWR) development such as improving the probability of threat acquisition -Continue to conduct Information Assurance (IA) certification and accreditation of all Sensors systems -Continue to support Bi-Annual IA testing for vulnerabilities and Third Party IA assessment of the systems <p>FY 2017 Plans:</p> <ul style="list-style-type: none"> -Decrease due to completion of UEWR development for the reinforcement of the surveillance fence resulting in increased probability of acquisition and the scheduled transition of the Ground Based Radar Prototype (GBR-P) -Continue analysis of software performance during flight and ground testing of Phased Adaptive Approach (PAA) Phase II and conduct Materiel Release Analysis for software delivery -Continue Materiel Release Closure Plan for Forward Based Mode (FBM) and Terminal Mode (TM) Army Navy/Transportable Radar Surveillance and Control (AN/TPY-2) radars. Materiel Release Closure Plan includes Reliability, Availability, and Maintainability Program to promote reliability growth in the suite of AN/TPY-2 radars via product improvements and Electronic Equipment Unit (EEU) depot upgrade for computer processing improvements -Continue software development of a new discrimination architecture that supports the addition of new algorithms required to provide enhanced capability to the Warfighter in a tactical environment for EPAA Phase III and THAAD Threat Development -Continue to optimize software to take advantage of new increased processing capability -Continue to conduct Information Assurance (IA) certification and accreditation of all Sensors systems -Continue to support Bi-Annual IA testing for vulnerabilities and Third Party IA assessment of the systems 				
Title: BMDS Radars Modeling & Simulation (M&S)		33.316	37.343	26.456
Articles:		-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2015	FY 2016
<p>Description: N/A</p> <p>FY 2015 Accomplishments:</p> <ul style="list-style-type: none"> -Continued to maintain digital and Hardware in the Loop (HWIL) representations of the tactical versions of Army Navy/ Transportable Radar Surveillance and Control (AN/TPY2)(CX1.2/2.0), Sea Based X-Band Radar (SBX) 2.3, Upgraded Early Warning Radar (UEWR) 11-1, and Cobra Dane Upgrade(CDU) 2.6.9 and Critical Engagement Conditions (CEC) and Empirical Measurement Events (EME) -Continued updates to the Objective Stimulation Framework (OSF)-E interfaces allowing for future events utilizing the OSF-E test architecture -Continued to support Warfighter games and exercises -Executed FY 2015 element-level ground test campaign to support anchoring M&S for various Critical Engagement Conditions (CEC) and Empirical Measurement Events (EME) -Supported technical assessments and performance assessments, using OSM and other models/tools, as appropriate -Continued full development of replacement RF scene generator for AN/TPY-2, Sea Based X-Band Radar (SBX), and Upgraded Early Warning Radars (UEWR) <p>FY 2016 Plans:</p> <ul style="list-style-type: none"> -Continue to maintain digital and Hardware in the Loop (HWIL) representations of the tactical versions of Army Navy/ Transportable Radar Surveillance and Control (AN/TPY2)(CX 2.x), Sea Based X-Band Radar (SBX) 3.x, Upgraded Early Warning Radar (UEWR) 11-1, and Cobra Dane Upgrade(CDU) 2.7.1 -Continue updates to the Objective Simulation Framework (OSF)-E interfaces allowing for future events utilizing the OSF-E test architecture -Continue to support Warfighter games and exercises -Execute FY 2016 element-level ground test campaign to support anchoring M&S for various Critical Engagement Conditions (CEC) and Empirical Measurement Events (EME) -Support technical assessments and performance assessments, using OSM and other models/tools, as appropriate -Continue full development of replacement RF scene generator for AN/TPY-2, Sea Based X-Band Radar (SBX), Upgraded Early Warning Radars (UEWR), and Cobra Dane <p>FY 2017 Plans:</p> <ul style="list-style-type: none"> -Decrease due to completion of updates to the (OSF)-E interface and completed development of replacement RF scene generator -Continue to maintain digital and Hardware in the Loop (HWIL) representations of the tactical versions of Army Navy/ Transportable Radar Surveillance and Control (AN/TPY-2)(CX 3.0.0), Sea Based X-Band Radar (SBX) 3.x/4.x, Upgraded Early Warning Radar (UEWR) 11-1, and COBRA DANE Upgrade(CDU) 2.7.2. 			

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2015	FY 2016	FY 2017
<ul style="list-style-type: none"> -Continue to support Warfighter games, exercises and training -Support technical assessments and performance assessments, using OSM and other models/tools, as appropriate -Maintain replacement RF scene generator for AN/TPY-2, Sea Based X-Band Radar (SBX), and Upgraded Early Warning Radars (UEWR) 				
<p>Title: Capability Development Program</p> <p>Description: N/A</p> <p>FY 2015 Accomplishments:</p> <ul style="list-style-type: none"> -Upgraded the entire AN/TPY-2 fleet (Forward-based and THAAD Modes) with a common secure hardware and software configuration -Continued providing engineering support to enable compliance with BMD System Specification Threat Capabilities -Initiated X86 Performance Optimization & Requirements to enhance and increase X86 processing speed -Tested and conducted Materiel Release Analysis on PAA Phase 2 Capability to address regional threats -Conducted software development to support THAAD Debris Mitigation Updates -Continued to perform object classification performance updates to Cobra Dane and UEWR radars -Continued development of new discrimination capabilities for X-Band Radar -Completed Near-term discrimination improvements capability development and Element level testing of sensor database improvements for the Sea Based X-Band Radar, AN/TPY-2 forward based radar, and Cobra Dane -Completed integration phase of Near-term discrimination improvements ground testing via GTI-06 -Conducted data collection and analysis for final assessment of discrimination technology candidates planned for Mid-term discrimination improvements <p>FY 2016 Plans:</p> <ul style="list-style-type: none"> -Upgrade the entire AN/TPY-2 fleet (Forward-based and THAAD Modes) with a common secure hardware and software configuration -Continue providing engineering support to enable compliance with BMD System Specification Threat Capabilities -Continue X86 Performance Optimization & Requirements to enhance and increase X86 processing speed -Continue PAA Phase III capability development to address the advanced threats prevalent in 2016 and beyond -Continue testing and Materiel Release Analysis on PAA Phase 2 Capability to address the advanced threats prevalent in 2016 and beyond -Continue software development to support THAAD Launch on Remote, Debris Mitigation Updates, and Threat Updates -Complete transition of Debris Mitigation to Objective Debris Mitigation Phase II -Complete capability fielding of Sea Based X-Band Radar and AN/TPY-2 Forward Based Near-term discrimination improvements 		<p>63.035</p> <p>Articles: -</p>	<p>53.090</p> <p>-</p>	<p>70.527</p> <p>-</p>

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2015	FY 2016	FY 2017
<ul style="list-style-type: none"> -Continue development of new Mid-Term discrimination improvements for X-Band radars -Continue to perform object classification performance updates to UEWR radars -Participate in Far-term discrimination improvement threat models specification -Develop model of Far-term technologies in support of the Far-term discrimination improvements program -Participate in planning and conduct technology trades and analysis to refine capabilities to mitigate the Far-term discrimination improvement threats <p>FY 2017 Plans:</p> <ul style="list-style-type: none"> -Increase due to Electronic Protection development efforts and concept develop and analysis for a a medium range BMD sensor to improve the defensive coverage of Hawaii -Continue development of new Mid-Term discrimination improvements for X-Band radars -Continue to perform object classification performance updates to UEWR radars -Continue development of sensor discrimination improvements: <ul style="list-style-type: none"> --Continue design, development and test planning of SBX threat discrimination improvements --Conduct Far-term discrimination and countermeasure mitigation capability development --Define decision logic improvement solutions which are sufficiently mature to initiate preliminary design --Complete definition of fire control/weapon handover improvements and initiate preliminary design --Execute system requirements review for radar electronic protection improvements -Continue X86 Performance Optimization & Requirements to enhance and increase X86 processing speed -Continue PAA Phase III capability development to address the advanced threats prevalent in 2017 and beyond -Continue upgrading the entire AN/TPY-2 fleet (Forward-based and THAAD Modes) with a common secure hardware and software configuration -Continue testing and Materiel Release Analysis on PAA Phase II Capability to address the advanced threats prevalent in 2017 and beyond -Continue software development to support THAAD Launch on Remote, Debris Mitigation Updates, and Threat Updates -Continue development efforts for Objective Debris Mitigation -Continue Electronic Protection development efforts to reduce or eliminate the effect of electronic attack on sensors -Initiate the concept development and analysis of new discrimination capabilities for a medium range BMD sensor to improve the defensive coverage of Hawaii 				
Title: Sensors Directorate Operations		65.043	66.883	71.983
		Articles:	-	-
Description: N/A				
FY 2015 Accomplishments:				

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2015	FY 2016	FY 2017
<p>-Continued to provide operations support</p> <p>FY 2016 Plans:</p> <p>-Continue to provide operations support</p> <p>FY 2017 Plans:</p> <p>-Increase due to the addition of the Long Range Discrimination Radar (LRDR) program office</p> <p>-Continue to provide operations support</p>				
<p>Title: Upgrade Clear Early Warning Radar</p> <p>Description: N/A</p> <p>FY 2015 Accomplishments:</p> <p>-Continued upgrade of Clear and Cape Cod Early Warning Radars to include but not limited to:</p> <p>-Purchased and manufactured Upgraded Early Warning Radar (UEWR) Receiver/Exciters</p> <p>-Purchased non-original manufacturer equipment</p> <p>-Continued adaptation of hardware and software to UEWR infrastructure</p> <p>-Continued to support Ballistic Missile Defense Systems communications and architecture work</p> <p>-Continued facility design and work</p> <p>-Continued upgrade of UEWR Huntsville System Test Lab with Clear and Cape Cod capability</p> <p>FY 2016 Plans:</p> <p>-Continue upgrade of Clear and Cape Cod Early Warning Radars to include but not limited to:</p> <p>-Continue manufacturing of Upgraded Early Warning Radar (UEWR) Receiver/Exciter</p> <p>-Continue purchase of non-original manufacturer equipment</p> <p>-Continue adaptation of hardware and software to UEWR infrastructure</p> <p>-Continue to support Ballistic Missile Defense Systems communications and architecture work</p> <p>-Continue facility design and work and installation/test at Cape Cod and Clear sites</p> <p>-Complete upgrade of UEWR Huntsville System Test Lab with Clear and Cape Cod capability</p> <p>-Prepare for removal of legacy equipment at Clear site</p> <p>FY 2017 Plans:</p> <p>-Decrease due to scaling back of deployment activities, removing of legacy equipment, and contractor performing interim logistics support of prime mission equipment in preparation for missile defense certification</p> <p>-Continue upgrade of Clear and Cape Cod Early Warning Radars to include but not limited to:</p>		28.730	21.550	15.258
		Articles:	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2015	FY 2016	FY 2017
-Continue adaptation of hardware and software to UEWR infrastructure -Continue to support BMDS communications and architecture work -Continue installation/test at Cape Cod site -Prepare for removal of legacy equipment at Cape Cod site			
Accomplishments/Planned Programs Subtotals	236.819	216.880	219.503

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• 0603179C: <i>Advanced C4ISR</i>	13.061	9.876	3.626	-	3.626	0.000	0.000	0.000	0.000	0	26.563
• 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management & Communication</i>	420.516	429.853	439.617	-	439.617	413.198	432.763	454.601	462.065	Continuing	Continuing
• 0603898C: <i>Ballistic Missile Defense Joint Warfighter Support</i>	44.220	47.898	47.776	-	47.776	49.621	50.564	53.151	54.042	Continuing	Continuing
• 0603904C: <i>Missile Defense Integration and Operations Center (MDIOC)</i>	53.972	47.939	54.750	-	54.750	53.894	55.524	58.100	59.029	Continuing	Continuing
• 0603907C: <i>Sea Based X-Band Radar (SBX)</i>	64.610	71.266	68.787	-	68.787	73.329	70.423	85.881	74.189	Continuing	Continuing
• 0603914C: <i>Ballistic Missile Defense Test</i>	354.414	281.740	293.441	-	293.441	337.537	322.334	346.134	351.933	Continuing	Continuing
• 0604873C: <i>Long Range Discrimination Radar (LRDR)</i>	49.606	137.564	162.012	-	162.012	310.347	76.843	98.874	102.320	Continuing	Continuing
• 0604879C: <i>Ballistic Missile Defense Sensor Test</i>	60.048	83.597	83.250	-	83.250	87.346	100.132	100.073	86.937	Continuing	Continuing
• 13999903: <i>Planning and Design, Defense Wide</i>	38.704	0.000	8.233	-	8.233	8.397	8.525	8.822	0.000	Continuing	Continuing

Remarks

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D. Acquisition Strategy

The Radar Sustainment Contract (RSC) was awarded in 2012 to sustain all the X-Band Radars including the Army Navy/Transportable Radar Surveillance (AN/TPY-2); the Sea Based X-Band (SBX) Radar; and the Ground Based Radar Prototype (GBR-P). The contract provides sustainment of previously developed X-Band radar products, such as: 1) Software -maintenance of existing software developed to support the X-Band Radars; 2) Models & Simulation; (a) development, maintenance, and verification of high fidelity models, (b) support for war games and exercises, (c) support for performance assessment events; 3) Engineering Services -engineering support for deployed radars to facilitate maintenance efforts which may include but are not limited to hardware obsolescence studies, hardware redesign, technology insertion, and refurbishment efforts; 4) BMDS Test Planning, Execution, and Analysis -planning, execution and analysis of BMDS test requirements for previously developed hardware and software in accordance with the MDA Integrated Master Test Plan (IMTP). The contract is an Indefinite Delivery/Indefinite Quantity (IDIQ) task order contract.

MDA conducted a full and open competition for the Clear Early Warning Radar (EWR) Upgrade. MDA issued a Request for Proposal (RFP) on this effort in 2nd quarter FY 2012 with award in 4th quarter FY 2012. The Cape Cod EWR upgrade option under this contract was awarded in 1st quarter FY 2013.

The BMDS Communications System Complex-Transportable (BCSC-T) Program Plan addresses the design, development, acquisition, testing, integration, activation, and fielding of the BCSC-T. The overall executing agent is the Program Manager - Communications and Transmission Systems (PMDCATS). Lockheed Martin Mission Systems (C2BMC prime contractor) via an Other Transaction Agreement provides on-site support.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Missile Defense Agency												Date: February 2016			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)					Project (Number/Name)						
0400 / 4				PE 0603884C / Ballistic Missile Defense Sensors					MD11 / BMDS Radars						
Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Basic Development Program - Ground Based Radar Prototype (GBR-P) Caretaker	MIPR	SMDC : AL	3.700	2.139		2.725	Nov 2015	0.000		-		0.000	0	8.564	0
Basic Development Program - Information Assurance AN/TPY-2	SS/CPFF	Raytheon : MA	5.499	5.050		5.332	Nov 2015	4.708	Nov 2016	-		4.708	Continuing	Continuing	Continuing
Basic Development Program - Information Assurance SBX	SS/CPFF	Raytheon : MA	0.219	0.222		0.215	Nov 2015	0.221	Nov 2016	-		0.221	Continuing	Continuing	Continuing
Basic Development Program - Material Release Get Well Plan	SS/CPFF	Raytheon : MA	1.015	8.060		1.892	Nov 2015	4.796	Nov 2016	-		4.796	Continuing	Continuing	Continuing
Basic Development Program - Sys Integration & Tech Assessments	SS/CPFF	Raytheon : MA/AL	5.758	6.555		5.163	Nov 2015	4.581	Nov 2016	-		4.581	Continuing	Continuing	Continuing
Basic Development Program - X-Band Software Enhancements/ Development	SS/CPFF	Raytheon : AL	29.100	24.669		22.687	Nov 2015	20.973	Nov 2016	-		20.973	Continuing	Continuing	Continuing
BMDS Radars Modeling & Simulation (M&S) - M&S Development	SS/CPFF	Raytheon, Northrup Grumman : MA, CO	67.974	25.974		25.780	Nov 2015	19.525	Nov 2016	-		19.525	Continuing	Continuing	Continuing
BMDS Radars Modeling & Simulation (M&S) - VV&A of Models	MIPR	AMRDEC : AL	29.359	5.627		9.640	Nov 2015	4.971	Nov 2016	-		4.971	Continuing	Continuing	Continuing
BMDS Radars Modeling & Simulation (M&S) - Warfighter Exercises	SS/CPFF	Raytheon : MA	4.494	1.715		1.923	Nov 2015	1.960	Nov 2016	-		1.960	Continuing	Continuing	Continuing
Capability Development Program - Advanced Technology Discrimination	SS/CPAF	Raytheon : MA	0.000	5.860		7.322	Nov 2015	16.475	Nov 2016	-		16.475	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Missile Defense Agency **Date:** February 2016

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884C / <i>Ballistic Missile Defense Sensors</i>	Project (Number/Name) MD11 / <i>BMDS Radars</i>
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Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Capability Development Program - Electronic Protection	SS/CPAF	Raytheon : MA	0.000	0.000		0.000		12.889	Nov 2016	-		12.889	Continuing	Continuing	Continuing
Capability Development Program - Enhanced Defense of Hawaii Radar (EDHR) Studies and Analysis	MIPR	TBD : TBD	0.000	0.000		0.000		3.000	Nov 2016	-		3.000	Continuing	Continuing	Continuing
Capability Development Program - Enhanced Discrimination	C/CPAF	USAF, Raytheon : Hanscom AFB MA	39.984	22.943		15.905	Nov 2015	6.203	Nov 2016	-		6.203	Continuing	Continuing	Continuing
Capability Development Program - Enhanced Discrimination Studies and Analysis Support	MIPR	SED/AMRDEC, MIT/LL/JHU/APL : AL/MA/VA	7.204	0.000		0.000		0.000		-		0.000	0	7.204	0
Capability Development Program - Program AN/TPY-2 Capability Development	SS/CPAF	Raytheon : MA	13.833	34.232		29.863	Nov 2015	31.960	Nov 2016	-		31.960	Continuing	Continuing	Continuing
Capability Development Program - UEWR Capability Development	TBD	USAF : Hanscom AFB MA	3.770	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Sensors Directorate Operations - Army Hybrid Program Office	MIPR	SMDC : AL	1.725	1.323		1.987	Nov 2015	1.741	Nov 2016	-		1.741	Continuing	Continuing	Continuing
Sensors Directorate Operations - Govt Salaries, Travel, Training (MDA Sensors)	MIPR	MDA : AL, VA, MA	88.725	21.996		22.203	Nov 2015	23.198	Nov 2016	-		23.198	Continuing	Continuing	Continuing
Sensors Directorate Operations - MiDAESS, FFRDC/UARC	SS/CPAF	CSS, APL, LL, OGA : AL/MA/VA/MD	176.788	37.234		34.522	Nov 2015	38.884	Nov 2016	-		38.884	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Missile Defense Agency												Date: February 2016			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)						Project (Number/Name)					
0400 / 4				PE 0603884C / Ballistic Missile Defense Sensors						MD11 / BMDS Radars					
Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Sensors Directorate Operations - Network and Infrastructure Services	SS/CPAF	Northrop Grumman : AL, AK, CA, CO, HI, NM, VA	23.705	1.663		5.595	Oct 2015	4.872	Nov 2016	-		4.872	Continuing	Continuing	Continuing
Sensors Directorate Operations - Other Govt Agencies	MIPR	SMDC/AL, Hanscom AFB : MA	24.898	2.827		2.576	Nov 2015	3.288	Nov 2016	-		3.288	Continuing	Continuing	Continuing
Upgrade Clear Early Warning Radar - BCN Upgrades	MIPR	MDA C2BMC / DISA : MA, AK	16.863	0.511		0.489	Nov 2015	0.330	Nov 2016	-		0.330	Continuing	Continuing	Continuing
Upgrade Clear Early Warning Radar - Facilities Site Activation/Admin Comms	MIPR	MDA C2BMC : MA, AK	3.448	0.499		1.775	Nov 2015	1.197	Nov 2016	-		1.197	Continuing	Continuing	Continuing
Upgrade Clear Early Warning Radar - GMD Fire Control Integration	SS/CPAF	Boeing/AK/AL, Raytheon : MA	5.139	0.215		0.588	Nov 2015	0.383	Nov 2016	-		0.383	Continuing	Continuing	Continuing
Upgrade Clear Early Warning Radar - Program Office - OGA	MIPR	USAF : Hanscom AFB, MA	1.755	0.000		0.000		0.000		-		0.000	0	1.755	0
Upgrade Clear Early Warning Radar - Radar Upgrade -- Prime Contractor	C/CPAF	Raytheon : MA	66.594	26.221		16.096	Nov 2015	13.348	Nov 2016	-		13.348	Continuing	Continuing	Continuing
Upgrade Clear Early Warning Radar - SPA Upgrade & Processor Rehost	MIPR	USAF : Hanscom AFB, MA	1.848	0.000		0.000		0.000		-		0.000	0	1.848	0
Upgrade Clear Early Warning Radar - UEWR System Test Lab Upgrades	SS/CPAF	Raytheon : MA/AL	4.122	1.284		2.602	Nov 2015	0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			627.519	236.819		216.880		219.503		-		219.503	-	-	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Missile Defense Agency **Date:** February 2016

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884C / <i>Ballistic Missile Defense Sensors</i>	Project (Number/Name) MD11 / <i>BMDS Radars</i>
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Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
Note: Clear Early Warning Upgrade Program includes upgrade of the Cape Cod EWR.

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

Remarks
Operations and sustainment of Upgraded Early Warning Radar (UEWR), COBRA DANE (CD), and Army Navy/Transportable Radar Surveillance and Control (AN/TPY-2) Radars Contract Logistics Support (CLS) are Operations and Maintenance (O&M) Defense-Wide appropriations and are described in the Missile Defense Agency (MDA) O- Documents.

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

Remarks
N/A

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

Remarks
N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Missile Defense Agency								Date: February 2016			
Appropriation/Budget Activity 0400 / 4				R-1 Program Element (Number/Name) PE 0603884C / <i>Ballistic Missile Defense Sensors</i>				Project (Number/Name) MD11 / <i>BMDS Radars</i>			
	Prior Years	FY 2015		FY 2016		FY 2017 Base	FY 2017 OCO	FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	627.519	236.819		216.880		219.503	-	219.503	-	-	-

Remarks

Funding in the All Prior Years column represents a summary of Prior Years Total Costs for active contracts, Military Interdepartmental Purchase Requests, and civilian salaries on the R-3.

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Missile Defense Agency **Date:** February 2016

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884C / <i>Ballistic Missile Defense Sensors</i>	Project (Number/Name) MD11 / <i>BMDS Radars</i>
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Significant Event Complete ▲ Milestone Decision Complete ★ Element Test Complete ◆ System Level Test Complete ● Complete Activity ✦
 Significant Event Planned △ Milestone Decision Planned ☆ Element Test Planned ◇ System Level Test Planned ○ Planned Activity ✧

	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
(EX) European Air & Missile Defense Exercise Alliance 15			▲																									
SNG-C-H-1			✦	✦	✦																							
(WG) Huntsville Wargames 15				▲																								
(EX) Vigilant Shield/Global Thunder 16				△																								
(EX) Host Nation 16					✦	✦																						
SNG-S-D1					✦	✦	✦																					
SNG-A-H-1					✦	✦	✦	✦																				
SNG-U-H-1					✦	✦	✦	✦																				
(EX) Fleet Synthetic Training-Joint 16					△																							
(EX) Key Resolve 16					△																							
(EX) Steadfast Alliance 16					✦	✦																						
SNG-S-H-1					✦	✦	✦	✦																				
(WG) Ronald Reagan Forum 16						△																						
(EX) European Air & Missile Defense Exercise Alliance 16						△																						
SNG-C-D-1						✦	✦																					
SNG-U-D-1						✦	✦	✦																				
(WG) Demonstration, Table-top Exercises & Experiments 16						✦	✦	✦																				
(WG) Huntsville Wargames 16							△																					
SNG C-H-2						✦	✦																					
(WG) BMDS Wargames 17						✦	✦	✦	✦																			
(EX) EPOCH PLANEX 18								△																				
(EX) Global Response Exercise (GREx) 16								△																				
(EX) Fleet Synthetic Training-Joint 17									△																			
(EX) Key Resolve 17									△																			
(EX) Austere Challenge 17									✦	✦	✦	✦	✦	✦														
(EX) Steadfast Alliance 17									✦	✦																		
(EX) European Air & Missile Defense Exercise Alliance 17										△																		

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Missile Defense Agency		Date: February 2016
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884C / <i>Ballistic Missile Defense Sensors</i>	Project (Number/Name) MD11 / <i>BMDS Radars</i>

Significant Event Complete ▲ Milestone Decision Complete ★ Element Test Complete ◆ System Level Test Complete ● Complete Activity +
 Significant Event Planned △ Milestone Decision Planned ☆ Element Test Planned ◇ System Level Test Planned ○ Planned Activity ☆

	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
(WG) Demonstration, Table-top Exercises & Experiments 17											◆	◆	◆															
SNG-A-D-1											◆	◆	◆															
(EX) KEEN Edge 18											◆	◆	◆	◆														
(WG) Huntsville Wargames 17											△																	
SNG-H-2											◆	◆																
SNG-C-H-3											◆	◆																
SND-A-H-2											◆	◆	◆															
(EX) Air and Missile Defense Exercise Series 18											△																	
(EX) EPOCH PLANEX 19											△																	
(EX) Vigilant Shield/Global Thunder 17											△																	
(EX) Global Lightning 18											◆	◆																
SNG-S-D-2											◆	◆																
SNG-U-D-2											◆	◆																
(EX) Key Resolve 18											△																	
(EX) Host Nation 18											◆	◆																
(EX) Global Response Exercise (GREx) 18											◆	◆																
(EX) Steadfast Alliance 18											◆	◆																
(EX) European Air & Missile Defense Exercise Alliance 18											△																	
SNG-D-3											◆	◆																
(WG) Demonstration, Table-top Exercises & Experiments 18											◆	◆	◆															
(WG) Huntsville Wargames 18											△																	
(WG) BMDS Wargames 19											◆	◆	◆	◆														
(WG) Nimble Titan Year 1 20											◆	◆	◆	◆														
(EX) Air and Missile Defense Exercise Series 19											△																	
(EX) EPOCH PLANEX 20											△																	
(EX) Vigilant Shield/Global Thunder 18											△																	
SNG-A-D-2											◆	◆																
(EX) Global Lightning 19											◆	◆																
SNG-A-H-3											◆	◆																
(EX) EPOCH PLANEX 21											◆	◆	◆	◆	◆													
(EX) Fleet Synthetic Training-Joint 18											△																	

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Missile Defense Agency **Date:** February 2016

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884C / <i>Ballistic Missile Defense Sensors</i>	Project (Number/Name) MD11 / <i>BMDS Radars</i>
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Significant Event Complete ▲ Milestone Decision Complete ★ Element Test Complete ◆ System Level Test Complete ● Complete Activity ✦
 Significant Event Planned △ Milestone Decision Planned ☆ Element Test Planned ◇ System Level Test Planned ○ Planned Activity ✧

	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
(EX) Fleet Synthetic Training-Joint 19																												
(EX) Key Resolve 19																												
(EX) Austere Challenge 19																												
(EX) Steadfast Alliance 19																												
(EX) European Air & Missile Defense Exercise Alliance 19																												
SNG-U-H-2																												
SNG-C-D-2																												
(WG) Demonstration, Table-top Exercises & Experiments 19																												
(EX) KEEN Edge 20																												
(WG) Huntsville Wargames 19																												
SNG-C-H-4																												
(EX) Air and Missile Defense Exercise Series 20																												
(EX) Vigilant Shield/Global Thunder 19																												
(EX) Global Lightning 20																												
SNG-U-D-3																												
SNG-S-H-4																												
(EX) Fleet Synthetic Training-Joint 20																												
(EX) Global Response Exercise (GREx) 20																												
(EX) Key Resolve 20																												
(EX) Steadfast Alliance 20																												
(EX) Host Nation 20																												
(EX) European Air & Missile Defense Exercise Alliance 20																												
SNG-S-D-4																												
(WG) Demonstration, Table-top Exercises & Experiments 20																												
(WG) Huntsville Wargames 20																												
(WG) BMDS Wargames 21																												
(EX) EPOCH PLANEX 22																												
(EX) Air and Missile Defense Exercise Series 21																												
(EX) Vigilant Shield/Global Thunder 20																												
(EX) Global Lightning 21																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Missile Defense Agency		Date: February 2016
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884C / <i>Ballistic Missile Defense Sensors</i>	Project (Number/Name) MD11 / <i>BMDS Radars</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
(EX) European Air & Missile Defense Exercise Alliance 15	3	2015	3	2015
SNG-C-H-1	3	2015	1	2016
(WG) Huntsville Wargames 15	4	2015	4	2015
(EX) Vigilant Shield/Global Thunder 16	1	2016	1	2016
(EX) Host Nation 16	1	2016	2	2016
SNG-S-D1	1	2016	3	2016
SNG-A-H-1	1	2016	4	2016
SNG-U-H-1	1	2016	4	2016
(EX) Fleet Synthetic Training-Joint 16	2	2016	2	2016
(EX) Key Resolve 16	2	2016	2	2016
(EX) Steadfast Alliance 16	2	2016	3	2016
SNG-S-H-1	2	2016	1	2017
(WG) Ronald Reagan Forum 16	3	2016	3	2016
(EX) European Air & Missile Defense Exercise Alliance 16	3	2016	3	2016
SNG-C-D-1	3	2016	4	2016
SNG-U-D-1	3	2016	1	2017
(WG) Demonstration, Table-top Exercises & Experiments 16	3	2016	1	2017
(WG) Huntsville Wargames 16	4	2016	4	2016
SNG C-H-2	4	2016	1	2017
(WG) BMDS Wargames 17	4	2016	3	2017
(EX) EPOCH PLANEX 18	1	2017	1	2017
(EX) Global Response Exercise (GREx) 16	1	2017	1	2017

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Missile Defense Agency **Date:** February 2016

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884C / <i>Ballistic Missile Defense Sensors</i>	Project (Number/Name) MD11 / <i>BMDS Radars</i>
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Events	Start		End	
	Quarter	Year	Quarter	Year
(EX) Fleet Synthetic Training-Joint 17	2	2017	2	2017
(EX) Key Resolve 17	2	2017	2	2017
(EX) Austere Challenge 17	2	2017	3	2018
(EX) Steadfast Alliance 17	2	2017	3	2017
(EX) European Air & Missile Defense Exercise Alliance 17	3	2017	3	2017
(WG) Demonstration, Table-top Exercises & Experiments 17	3	2017	1	2018
SNG-A-D-1	3	2017	1	2018
(EX) KEEN Edge 18	3	2017	2	2018
(WG) Huntsville Wargames 17	4	2017	4	2017
SNG-H-2	4	2017	1	2018
SNG-C-H-3	4	2017	1	2018
SND-A-H-2	4	2017	2	2018
(EX) Air and Missile Defense Exercise Series 18	1	2018	1	2018
(EX) EPOCH PLANEX 19	1	2018	1	2018
(EX) Vigilant Shield/Global Thunder 17	1	2018	1	2018
(EX) Global Lightning 18	1	2018	2	2018
SNG-S-D-2	1	2018	2	2018
SNG-U-D-2	1	2018	2	2018
(EX) Key Resolve 18	2	2018	2	2018
(EX) Host Nation 18	2	2018	3	2018
(EX) Global Response Exercise (GREx) 18	2	2018	3	2018
(EX) Steadfast Alliance 18	2	2018	3	2018
(EX) European Air & Missile Defense Exercise Alliance 18	3	2018	3	2018
SNG-D-3	3	2018	4	2018
(WG) Demonstration, Table-top Exercises & Experiments 18	3	2018	1	2019

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Missile Defense Agency **Date:** February 2016

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884C / <i>Ballistic Missile Defense Sensors</i>	Project (Number/Name) MD11 / <i>BMDS Radars</i>
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Events	Start		End	
	Quarter	Year	Quarter	Year
(WG) Huntsville Wargames 18	4	2018	4	2018
(WG) BMDS Wargames 19	4	2018	3	2019
(WG) Nimble Titan Year 1 20	4	2018	3	2019
(EX) Air and Missile Defense Exercise Series 19	1	2019	1	2019
(EX) EPOCH PLANEX 20	1	2019	1	2019
(EX) Vigilant Shield/Global Thunder 18	1	2019	1	2019
SNG-A-D-2	1	2019	2	2019
(EX) Global Lightning 19	1	2019	2	2019
SNG-A-H-3	1	2019	2	2019
(EX) EPOCH PLANEX 21	1	2019	1	2020
(EX) Fleet Synthetic Training-Joint 18	2	2019	2	2019
(EX) Fleet Synthetic Training-Joint 19	2	2019	2	2019
(EX) Key Resolve 19	2	2019	2	2019
(EX) Austere Challenge 19	2	2019	3	2020
(EX) Steadfast Alliance 19	2	2019	3	2019
(EX) European Air & Missile Defense Exercise Alliance 19	3	2019	3	2019
SNG-U-H-2	3	2019	4	2019
SNG-C-D-2	3	2019	4	2019
(WG) Demonstration, Table-top Exercises & Experiments 19	3	2019	1	2020
(EX) KEEN Edge 20	3	2019	2	2020
(WG) Huntsville Wargames 19	4	2019	4	2019
SNG-C-H-4	4	2019	1	2020
(EX) Air and Missile Defense Exercise Series 20	1	2020	1	2020
(EX) Vigilant Shield/Global Thunder 19	1	2020	1	2020
(EX) Global Lightning 20	1	2020	2	2020

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Missile Defense Agency **Date:** February 2016

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884C / <i>Ballistic Missile Defense Sensors</i>	Project (Number/Name) MD11 / <i>BMDS Radars</i>
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Events	Start		End	
	Quarter	Year	Quarter	Year
SNG-U-D-3	1	2020	2	2020
SNG-S-H-4	1	2020	2	2020
(EX) Fleet Synthetic Training-Joint 20	2	2020	2	2020
(EX) Global Response Exercise (GREx) 20	2	2020	2	2020
(EX) Key Resolve 20	2	2020	2	2020
(EX) Steadfast Alliance 20	2	2020	3	2020
(EX) Host Nation 20	3	2020	3	2020
(EX) European Air & Missile Defense Exercise Alliance 20	3	2020	3	2020
SNG-S-D-4	3	2020	4	2020
(WG) Demonstration, Table-top Exercises & Experiments 20	3	2020	1	2021
(WG) Huntsville Wargames 20	4	2020	4	2020
(WG) BMDS Wargames 21	4	2020	3	2021
(EX) EPOCH PLANEX 22	1	2021	1	2021
(EX) Air and Missile Defense Exercise Series 21	1	2021	1	2021
(EX) Vigilant Shield/GlobalThunder 20	1	2021	1	2021
(EX) Global Lightning 21	1	2021	2	2021
(EX) Fleet Synthetic Training-Joint 21	2	2021	2	2021
(EX) Key Resolve 21	2	2021	2	2021
(EX) Austere Challenge 21 (Continues into FY 2022)	2	2021	3	2022
(EX) Steadfast Alliance 21	2	2021	3	2021
(EX) European Air & Missile Defense Exercise Alliance 21	3	2021	3	2021
(WG) Demonstration, Table-top Exercises & Experiments 21	3	2021	1	2022
(EX) KEEN Edge 22	3	2021	2	2022
(WG) Huntsville Wargames 21	4	2021	4	2021

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Missile Defense Agency										Date: February 2016		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603884C / <i>Ballistic Missile Defense Sensors</i>				Project (Number/Name) MC11 / <i>Cyber Operations</i>			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
MC11: <i>Cyber Operations</i>	1.543	1.132	1.239	1.045	-	1.045	1.067	1.089	1.111	1.133	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

N/A

A. Mission Description and Budget Item Justification

The funds in this project will be utilized to complete transitioning to and the sustainment of the new DoDI 8510.01 Risk Management Framework (RMF) for DoD Information Technology (IT) requirement for the MDA Sensors Directorate and conduct Security Control Assessments (SCA) activities, analysis of validation results, risk assessments and reviews of proposed Program Manager/Information System Security Manager (PM/ISSM) Plans of Action and Milestones for MDA Sensors mission systems. It also includes support for external cybersecurity assessments and penetration testing of the Sensors mission systems, both in laboratory-based Enterprise Cyber Range Experiments and in ground test activities, in accordance with the Director, Operational Test and Evaluation (DOT&E) directive. It maintains the Certification and Accreditation (C&A) data repository, capturing the RMF documentation (artifacts, validation results, Cybersecurity Risk Assessment results, cybersecurity scorecard, and Authorizing Official (AO) authorization decisions) and POA&Ms for all MDA information systems.

This project supports the monitoring, prioritization, and tracking of Cybersecurity mitigations detailed in Information Technology security POA&Ms. Activities include preparation of C&A documentation and accreditation recommendations to the MDA Senior Information Assurance Officer (SIAO)/Security Control Assessor (SCA) and Authorizing Official (AO). Independent Verification and Validation (IV&V) team actions ensure the availability, integrity, authentication, confidentiality and non-repudiation of the MDA mission, test and administrative systems. Activities in the Project are necessary to comply with the Federal Information Security Management Act (FISMA).

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2015	FY 2016	FY 2017
Title: Network / System Certification and Accreditation (C&A)	1.132	1.239	1.045
Articles:	-	-	-
Description: N/A			
FY 2015 Accomplishments:			
- Continued to fund Sensors Directorate Information Assurance Manager (IAM) civilian salaries			
- Continued cyber security / information assurance engineering and architecture planning for Sensors information technology systems			
- Continued to plan and test the IA controls for Ballistic Missile Defense System (BMDS) Sensors systems			
- Continued to develop Sensors DIACAP certification and accreditation packages			
- Continued to conduct Controls Validation Testing (CVT) of Sensors mission systems and provide Plan of Action and Milestones to mitigate information assurance deficiencies			

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Missile Defense Agency		Date: February 2016		
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884C / <i>Ballistic Missile Defense Sensors</i>	Project (Number/Name) MC11 / <i>Cyber Operations</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2015	FY 2016	FY 2017
<p>- Continued to conduct annual information assurance reviews on the Sensors enclaves to assess compliance in implementing and maintaining IA controls</p> <p>FY 2016 Plans:</p> <ul style="list-style-type: none"> - Continue to fund Sensors Directorate Information System Security Manager (ISSM) civilian salaries - Continue cybersecurity / information assurance engineering and architecture planning for Sensors information technology systems - Continue to plan and test the cybersecurity / information assurance controls for Ballistic Missile Defense System (BMDS) Sensors systems - Continue to maintain Sensors DIACAP certification and accreditation packages and begin the transition to the new Risk Management Framework (RMF) accreditation paradigm for Sensors-managed information systems. - Continue to conduct Controls Validation Testing (CVT) / Security Controls Assessment (SCA) of Sensors mission and support systems and provide and maintain Plans of Action and Milestones to mitigate cybersecurity / information assurance deficiencies - Continue to conduct annual cybersecurity / information assurance reviews on the Sensors enclaves to assess compliance in implementing and maintaining IA controls <p>FY 2017 Plans:</p> <ul style="list-style-type: none"> -Continue to fund Sensors Directorate Information System Security Manager (ISSM) civilian salaries -Continue cybersecurity / information assurance engineering and architecture planning for Sensors information technology systems -Continue to plan and test the cybersecurity / information assurance controls for BMDS Sensors systems -Continue to maintain Sensors DIACAP certification and accreditation packages and continue transitioning to the new Risk Management Framework (RMF) accreditation paradigm for Sensors-managed information systems. -Continue to conduct Controls Validation Testing (CVT) / Security Controls Assessment (SCA) of Sensors mission and support systems and provide and maintain Plans of Action and Milestones to mitigate cybersecurity / information assurance deficiencies -Continue to support increasingly complex DOT&E-directed cybersecurity assessments in both ECRE and upcoming ground test events -Continue to conduct annual cybersecurity / information assurance program reviews on the Sensors enclaves to assess compliance in implementing and maintaining IA controls 				
Accomplishments/Planned Programs Subtotals		1.132	1.239	1.045

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Missile Defense Agency **Date:** February 2016

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884C / <i>Ballistic Missile Defense Sensors</i>	Project (Number/Name) MC11 / <i>Cyber Operations</i>
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C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• 0603179C: <i>Advanced C4ISR</i>	13.061	9.876	3.626	-	3.626	0.000	0.000	0.000	0.000	0	26.563
• 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management & Communication</i>	420.516	429.853	439.617	-	439.617	413.198	432.763	454.601	462.065	Continuing	Continuing
• 0603898C: <i>Ballistic Missile Defense Joint Warfighter Support</i>	44.220	47.898	47.776	-	47.776	49.621	50.564	53.151	54.042	Continuing	Continuing
• 0603904C: <i>Missile Defense Integration and Operations Center (MDIOC)</i>	53.972	47.939	54.750	-	54.750	53.894	55.524	58.100	59.029	Continuing	Continuing
• 0901598C: <i>Management HQ - MDA</i>	35.598	35.871	31.160	-	31.160	29.814	27.889	27.131	27.737	Continuing	Continuing
• 13999903: <i>Planning and Design, Defense Wide</i>	38.704	0.000	8.233	-	8.233	8.397	8.525	8.822	0.000	Continuing	Continuing
• D1300630: <i>Deveselu, Romania AA Missile Defense System Complex</i>	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0	0
• D1600640: <i>Poland, AA Missile Defense System</i>	0.000	170.597	0.000	-	0.000	0.000	0.000	0.000	0.000	0	170.597

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Missile Defense Agency **Date:** February 2016

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884C / <i>Ballistic Missile Defense Sensors</i>	Project (Number/Name) MC11 / <i>Cyber Operations</i>
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Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Network / System Certification and Accreditation (C&A) - CND/IA Advisory and Assistance Services (Booz Allen)	C/CPFF	Booz Allen Hamilton : AL, CO, VA	0.727	0.570		0.569	Jul 2016	0.492	Jul 2017	-		0.492	Continuing	Continuing	Continuing
Network / System Certification and Accreditation (C&A) - CND/IA Advisory and Assistance Services (Torch Technologies)	C/CPFF	Torch Technologies : AL, CO, VA	0.645	0.375		0.507	Jul 2016	0.388	Jul 2017	-		0.388	Continuing	Continuing	Continuing
Network / System Certification and Accreditation (C&A) - Civilian Salaries	Various	MDA : AL, CO, VA	0.171	0.187		0.163	Jul 2016	0.165	Jul 2017	-		0.165	Continuing	Continuing	Continuing
Subtotal			1.543	1.132		1.239		1.045		-		1.045	-	-	-

Remarks
N/A

	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1.543	1.132	1.239	1.045	-	1.045	-	-	-

Remarks
N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Missile Defense Agency **Date:** February 2016

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884C / <i>Ballistic Missile Defense Sensors</i>	Project (Number/Name) MC11 / <i>Cyber Operations</i>
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Significant Event Complete ▲ Milestone Decision Complete ★ Element Test Complete ◆ System Level Test Complete ● Complete Activity +
 Significant Event Planned △ Milestone Decision Planned ☆ Element Test Planned ◇ System Level Test Planned ○ Planned Activity ☆

	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
SN Transition to Cyber Security Risk Management Framework (CRMF)	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
SN Information Assurance Certification and Accreditation (C&A) Package Preparation / Submission	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
SN Cyber Security Program Policy / Risk Management	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
SN Cyber Security Mitigation Monitoring and Tracking	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
BMDs Cyber Security Policy Development	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Missile Defense Agency		Date: February 2016
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884C / <i>Ballistic Missile Defense Sensors</i>	Project (Number/Name) MC11 / <i>Cyber Operations</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
SN Transition to Cyber Security Risk Management Framework (CRMF)	1	2015	4	2021
SN Information Assurance Certification and Accreditation (C&A) Package Preparation / Submission	1	2015	4	2021
SN Cyber Security Program Policy / Risk Management	1	2015	4	2021
SN Cyber Security Mitigation Monitoring and Tracking	1	2015	4	2021
BMDS Cyber Security Policy Development	1	2015	4	2021

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Missile Defense Agency **Date:** February 2016

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884C / <i>Ballistic Missile Defense Sensors</i>	Project (Number/Name) MD40 / <i>Program-Wide Support</i>
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COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
MD40: <i>Program-Wide Support</i>	43.477	22.396	10.273	9.529	-	9.529	6.682	6.467	8.631	9.284	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In FY 2016 and FY 2017, Program Wide Support reflects proportional changes as a result of decreases to the Ballistic Missile Defense Sensors program element. Funding in the All Prior Years column represents a summary of Prior Years Total Costs for active contracts and Military Interdepartmental Purchase Requests on the R-3.

A. Mission Description and Budget Item Justification

PWS contains non-headquarters management costs in support of MDA functions and activities across the entire BMDS. It Includes Government Civilians, and Contract Support Services. This provides integrity and oversight of the BMDS as well as supports MDA in the development and evaluation of technologies that will respond to the changing threat. Additionally, PWS includes Global Deployment personnel and support performing deployment site preparation and activation and, provides facility capabilities for MDA Executing Agent locations. Other MDA wide costs includes: physical and technical security; civilian drug testing; audit readiness; the Science, Technology, Engineering, and Mathematics (STEM) program; legal services and settlements; travel and agency training; office, equipment, vehicle, and warehouse leases; utilities and base operations; data and unified communications support; supplies and maintenance; materiel and readiness and central property management of equipment; and similar operating expenses. PWS is allocated on a pro-rata basis and therefore, fluctuates by year based on the adjusted RDT&E profile (which excludes: 0305103C Cyber Security Initiative, 0603274C Special Programs, 0603913C Israeli Cooperative Program and 0901598C Management Headquarters).

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2015	FY 2016	FY 2017
Title: Program Wide Support	22.396	10.273	9.529
Articles:	-	-	-
Description: N/A			
FY 2015 Accomplishments: See paragraph A: Mission Description and Budget Item Justification			
FY 2016 Plans: See paragraph A: Mission Description and Budget Item Justification			
FY 2017 Plans: - See paragraph A: Mission Description and Budget Item Justification			
Accomplishments/Planned Programs Subtotals	22.396	10.273	9.529

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Missile Defense Agency		Date: February 2016
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884C / <i>Ballistic Missile Defense Sensors</i>	Project (Number/Name) MD40 / <i>Program-Wide Support</i>
C. Other Program Funding Summary (\$ in Millions) N/A		
Remarks		
D. Acquisition Strategy N/A		
E. Performance Metrics N/A		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Missile Defense Agency												Date: February 2016			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
0400 / 4				PE 0603884C / Ballistic Missile Defense Sensors				MD40 / Program-Wide Support							
Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Wide Support - Agency Operations Management	C/CPAF	Various : Multi: AL, CA, CO, VA	4.268	1.717		0.000		0.192	Jul 2017	-		0.192	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations User Services	MIPR	Various : Multi: AL, CO, NM, VA, VARIOUS	0.000	8.251		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support Other Agency Services (MIPRs)	MIPR	Various : Multi:AL,VA	5.099	5.978		0.550	Oct 2015	0.000		-		0.000	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support Other Agency Services (Reqn)	Reqn	Department of Labor : Washington, DC	0.000	0.063		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support Services	C/CPFF	Various : Multi: AL, CO, CA, VA	32.033	2.759		9.473	Jan 2016	9.086	Aug 2017	-		9.086	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support civilian Salaries, Travel, Training	Allot	MDA : Multi:AK, AL,CA, CO, VA	0.000	3.388		0.250	Nov 2015	0.251	Nov 2016	-		0.251	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support, International, and Materiel and Readiness	C/CPAF	JRDC : JRDC	0.347	0.240		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations, Sustainment and GPC	Allot	Various : Multi: AL, CO, CA, VA	1.730	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			43.477	22.396		10.273		9.529		-		9.529	-	-	-
Remarks															
N/A															

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Missile Defense Agency								Date: February 2016					
Appropriation/Budget Activity 0400 / 4				R-1 Program Element (Number/Name) PE 0603884C / <i>Ballistic Missile Defense Sensors</i>				Project (Number/Name) MD40 / <i>Program-Wide Support</i>					
	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	43.477	22.396		10.273		9.529		-		9.529	-	-	-

Remarks

N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Missile Defense Agency **Date:** February 2016

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884C / <i>Ballistic Missile Defense Sensors</i>	Project (Number/Name) MD40 / <i>Program-Wide Support</i>
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Significant Event Complete ▲ Milestone Decision Complete ★ Element Test Complete ◆ System Level Test Complete ● Complete Activity +
 Significant Event Planned △ Milestone Decision Planned ☆ Element Test Planned ◇ System Level Test Planned ○ Planned Activity +

	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MD40 Program-Wide Support					☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Missile Defense Agency		Date: February 2016
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603884C / <i>Ballistic Missile Defense Sensors</i>	Project (Number/Name) MD40 / <i>Program-Wide Support</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MD40 Program-Wide Support	1	2016	4	2020