Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Missile Defense Agency											Date: February 2016	
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 3: *Advanced Technology Development (ATD)*					R-1 Program Element (Number/Name) PE 0603177C / *Discrimination Sensor Technology*							
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	29.642	35.223	28.200	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
MD95: *Discrimination Sensor Technology*	29.523	33.258	23.304	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
MT95: *Discrimination Sensor Tech-Flight Test Execution*	-	0.000	3.749	0.000	-	0.000	0.000	0.000	0.000	0.000	0	3.749
MC95: *Cyber Operations*	0.119	0.132	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
MD40: *Program-Wide Support*	-	1.833	1.147	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Program MDAP/MAIS Code: 362												

Note

No FY 2017 funding is requested in this program element. The technology developed in the Discrimination Sensors Technology program element is technically mature enough to develop prototype systems. The follow on activity for the program element is captured in Technology Maturation Initiatives, program element 0604115C.

A. Mission Description and Budget Item Justification

Discrimination Sensor Technology develops solutions to improve identifying, acquiring, tracking and discriminating incoming Ballistic Missile threats, supporting the US Strategic Command's Prioritized Capabilities List. Areas of concentration include advanced detectors, infrared sensors, focal planes and algorithms for ground, sea, air and space systems. Sensor technology enhances the BMDS capability to develop precision tracks and to discriminate lethal objects among the incoming threat cluster.

The Discrimination Sensor Technology program funds the demonstration of Aegis Launch on Remote real time stereo tracking with Multi-Spectral Targeting System -Cs integrated into MQ-9 Reapers. Aegis Launch on Remote is the capability that allows Aegis BMD to launch an interceptor before its own radar acquires the threat, greatly expanding the space where the Aegis BMD can intercept the threat and significantly extending the defended area. In FY 2014, the MDA was successful in testing the Multi-Spectral Targeting System -B variant integrated onto the MQ-9 Reaper at the Pacific Missile Range Facility proving that the Aegis weapon system could launch a Standard Missile-3 against a ballistic missile target and achieve intercept using the tracking data from the airborne Multi-Spectral Targeting System sensors. In FY 2015, Discrimination Sensor Technology performed System Integration Laboratory and ground testing in preparation for flight testing the MQ-9 with a Multi-spectral Targeting System -C and flew the Reaper in missile defense configuration (Multi-spectral Targeting System -C mounted on a forward fuselage extension, a Ruggedized Airborne Processor and special software) for the first time. In FY 2016, the MDA will participate in Controlled Test Vehicle -02 (CTV-02) to test Multi-Spectral Targeting System equipped MQ-9 Reapers specifically modified to accomplish missile defense tracking missions.

The MD95, Discrimination Sensor Technology project, funds the prime contract integration and system test, checkout flights, and performance analysis. Discrimination Sensor Technology incrementally builds on the airborne Multi-Spectral Targeting System -B Launch on Remote demonstrations using airborne Multi-Spectral Targeting System -C sensors integrated into MQ-9 Reaper Unmanned Aerial Vehicles. The Discrimination Sensor Technology program will demonstrate the increased Electro Optical/Infrared capability of Multi-Spectral Targeting System -C airborne sensors for precision track Launch on Remote and discrimination over Multi-Spectral Targeting

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Missile Defense Agency	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 0603177C *I Discrimination Sensor Technology*

System -Bs as a precursor to advanced sensor equipped Multi-Spectral Targeting System -C prototype development and test under the Technology Maturation Initiatives program element.

The MT95, Discrimination Sensor Technology Flight Test Execution project, funds the costs associated with Multi-Spectral Targeting System -C/MQ-9 Reaper participation in BMDS testing including prime contract test execution, MQ-9 operations and maintenance, and Enterprise Sensors Laboratory and Space & Naval Warfare Systems Center interfaces.

MDA collaborates with the Office of the Assistant Secretary of Defense for Research and Engineering, the United States Navy and the United States Air Force in a systems engineering based strategy to research, develop, test and evaluate Discrimination Sensor Technology. The Discrimination Sensor Technology test program includes Air Force provided F-16 aircraft for use as surrogate targets and sharing of Multi-Spectral Targeting System -C test data between the MDA and the Air Force to augment sensor characterization activities.

This technology significantly enhances the following BMDS priorities:

- Precision track of multiple objects to enable missile defense components to engage-on-remote
- Discriminating lethal objects from countermeasures
- End-to-end correlation of sensor track and discrimination data

The Discrimination Sensor Technology program element development and test results directly feed sensor prototype demonstrations in the Technology Maturation Initiatives program element 0604115C.

MC98, Cyber Operations, sustains the MDA DoD Information Assurance Certification and Accreditation Program and Controls Validation Testing activities for Discrimination Sensor Technology.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Missile Defense Agency	Date: February 2016
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 0603177C *I Discrimination Sensor Technology*

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	36.610	28.200	0.000	-	0.000
Current President's Budget	35.223	28.200	0.000	-	0.000
Total Adjustments	-1.387	0.000	0.000	-	0.000
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-0.772	0.000			
• SBIR/STTR Transfer	-0.615	0.000			
• Other Adjustment	0.000	0.000	0.000	-	0.000

Change Summary Explanation

The $1.387M reduction in FY 2015 is due to a realignment of Department of Defense priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2017 Missile Defense Agency			Date: February 2016
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603177C / *Discrimination Sensor Technology*	Project (Number/Name) MD95 / *Discrimination Sensor Technology*	

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
MD95: *Discrimination Sensor Technology*	29.523	33.258	23.304	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Note

FY 2017 funding is requested in the Technology Maturation Initiatives Program Element, 0604115C, for follow on Multi-spectral Targeting System -C advanced sensor development and prototype development and test.

A. Mission Description and Budget Item Justification

The MD95, Discrimination Sensor Technology project develops next-generation sensors and detectors and integrates them into a Reaper MQ-9 Unmanned Aerial Vehicle to demonstrate improvements in discrimination for missile defense. This project evaluates and researches emerging technology that enables game changing discrimination improvements for incorporation into next generation interceptors and air or space systems. The Discrimination Sensor Technology project pursues a cost-effective incremental upgrade philosophy that demonstrates airborne precision tracking and improved track performance and discrimination of missile threats. These advanced sensors improve the probability of engagement success for stressing threats, expand the BMD battle space and increase the ability to negate larger raid sizes.

The MD95, Discrimination Sensor Technology project, funds the prime contract integration and system test, checkout flights, and performance analysis. In FY 2015, Discrimination Sensor Technology performed System Integration Laboratory and ground testing in preparation for flight testing the MQ-9 with a Multi-spectral Targeting System -C and flew the Reaper in missile defense configuration (Multi-spectral Targeting System -C mounted on a forward fuselage extension, a Ruggedized Airborne Processor and special software) for the first time.

The MDA's sensor technology construct incrementally buys down risk by testing an evolving sensor technology first on the ground then on unmanned aerial vehicles. Discrimination Sensor Technology also measures resident space objects and targets of opportunity to characterize performance before participating in BMDS tests. Discrimination Sensor Technology interfaces with the existing BMDS architecture to develop three-dimensional tracks of the ballistic missile, which are sent via Link-16 to Aegis ships for engagement.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Discrimination Sensor Technology	33.258	23.304	0.000
Description: N/A			
FY 2015 Accomplishments: - Flight tested 2 UAV-borne Multi-Spectral Targeting System (MTS)-B sensors -- Demonstrated real time airborne stereo tracking launch on remote capability using two MTS-Bs installed on two MQ-9s in conjunction with Flight Test Standard Missile (FTM)-25			

Exhibit R-2A, RDT&E Project Justification: PB 2017 Missile Defense Agency		Date: February 2016
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603177C / *Discrimination Sensor Technology*	**Project (Number/Name)** MD95 / *Discrimination Sensor Technology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
-- Demonstrated that Airborne Electro-Optical (EO)/Infrared (IR) precision tracking exceeds Aegis Launch-on/Engage-on Remote track requirements - Ground tested an advanced EO/IR sensor integrated into MTS-Cs against resident space objects and BMDS targets of opportunity -- Completed System Integration Laboratory testing in preparation for flight certification testing, resulting in a very successful and efficient flight test series - Modified the Reaper, processor and ground control station with a MTS-C and tracked 16 resident space objects during an initial demonstration flight - Integrated an Advanced Sensor into a MTS-C EO/IR turret and conducted ground testing at the Pacific Missile Range Facility during FTX-20, FTM-25, and at the contractor's test facility. These tests demonstrated the advanced sensor performance in a MTS-C and supports future advanced sensor development activities ***FY 2016 Plans:*** - Complete Multi-Spectral Targeting System - C (MTS-C) Sensor tests to demonstrate Aegis Launch-on-Remote quality of track performance: -- Conduct Continental United States (CONUS) checkout flights to collect data for Hardware-in-the-Loop simulations, sensor characterization and confirm system readiness in preparation for the 2Q FY 2016 Control Test Vehicle (CTV) - 02+ BMDS test -- Conduct MTS-C CTV-02+ pre and post-test performance analysis -- Analyze BMDS test data to verify demonstration of quality of service to meet Aegis Launch on Remote requirements -- Analyze airborne sensor BMDS test data to demonstrate MTS-C discrimination performance - Configure an Extended Range MQ-9 Reaper with an MTS-C and conduct CONUS flight certification tests and CONUS to Outside Continental United States (OCONUS) endurance tests to support future BMDS airborne sensor requirements - Partner with the Air Force to characterize MTS performance for Air Dominance ***FY 2017 Plans:*** FY 2017 funding is requested in the Technology Maturation Initiatives program element, 0604115C, for follow on Multi-spectral Targeting System -C advanced sensor development and prototype development and test			
Accomplishments/Planned Programs Subtotals	33.258	23.304	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2017 Missile Defense Agency		Date: February 2016
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603177C / *Discrimination Sensor Technology*	**Project (Number/Name)** MD95 / *Discrimination Sensor Technology*

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
• 0603176C: *Advanced Concepts and Performance Assessment*	9.999	12.139	17.880	-	17.880	12.599	12.897	13.004	13.221	Continuing	Continuing
• 0603178C: *Weapons Technology*	61.396	51.153	71.843	-	71.843	69.004	53.745	66.400	67.487	Continuing	Continuing
• 0603179C: *Advanced C4ISR*	13.061	9.876	3.626	-	3.626	0.000	0.000	0.000	0.000	0	26.563
• 0603180C: *Advanced Research*	18.476	17.364	23.433	-	23.433	19.870	20.529	21.131	21.494	Continuing	Continuing
• 0603294C: *Common Kill Vehicle Technology*	24.836	61.753	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• 0603884C: *Ballistic Missile Defense Sensors*	260.347	228.392	230.077	-	230.077	144.893	141.815	171.644	158.421	Continuing	Continuing
• 0603890C: *BMD Enabling Programs*	395.927	404.780	401.594	-	401.594	404.993	409.481	427.603	434.868	Continuing	Continuing
• 0603892C: *AEGIS BMD*	761.646	830.647	959.066	-	959.066	841.738	700.596	592.940	528.744	Continuing	Continuing
• 0603896C: *Ballistic Missile Defense Command and Control, Battle Management & Communication*	420.516	429.853	439.617	-	439.617	413.198	432.763	454.601	462.065	Continuing	Continuing
• 0603904C: *Missile Defense Integration and Operations Center (MDIOC)*	53.972	47.939	54.750	-	54.750	53.894	55.524	58.100	59.029	Continuing	Continuing
• 0604115C: *Technology Maturation Initiatives*	0.000	27.225	90.266	-	90.266	149.901	205.787	198.136	201.431	Continuing	Continuing

Remarks

D. Acquisition Strategy

The acquisition strategy for Discrimination Sensor Technology consisted of contracts to industry via the Advanced Technology Innovation Broad Agency Announcement and agreements with Federally Funded Research and Development Centers and University Affiliated Research Centers. The MDA leveraged Agency and partner subject matter experts and used government model based assessments to inform Better Buying Power philosophy acquisition decisions. The MDA awarded contracts to industry and universities via the Advanced Technology Innovation Broad Agency Announcement to develop and demonstrate promising components and integrated systems in realistic test environments. Discrimination Sensor Technology shaped future BMDS acquisition decisions by advancing and documenting the technology readiness levels of emerging and developing technology, while simultaneously assessing the performance and contributions of the technology to the BMDS architecture.

Exhibit R-2A, RDT&E Project Justification: PB 2017 Missile Defense Agency		Date: February 2016
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603177C / *Discrimination Sensor Technology*	**Project (Number/Name)** MD95 / *Discrimination Sensor Technology*

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2017 Missile Defense Agency			Date: February 2016
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603177C / *Discrimination Sensor Technology*	Project (Number/Name) MT95 / *Discrimination Sensor Tech-Flight Test Execution*	

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
MT95: *Discrimination Sensor Tech-Flight Test Execution*	-	0.000	3.749	0.000	-	0.000	0.000	0.000	0.000	0.000	0	3.749

Note

The MT95, Discrimination Sensor Technology Flight Test Execution project, will complete technology demonstration of real time stereo tracking with Multi-Spectral Targeting System -Cs. FY 2017 funding is requested in the Technology Maturation Initiatives Program Element, 0604115C, for follow on Multi-Spectral Targeting System -C advanced sensor prototype development and test.

A. Mission Description and Budget Item Justification

The MT95, Discrimination Sensor Technology Flight Test project funds the management and execution of Discrimination Sensor Technology testing through technology demonstration of Aegis Launch-on-Remote real time stereo tracking with Multi-Spectral Targeting System - Cs. Aegis Launch-on-Remote capability allows Aegis BMD to launch an interceptor before its own radar acquires the threat, thus expanding Aegis BMD's defended area. Aegis BMD Launch-on-Remote involves Command, Control, Battle Management, and Communications providing information about the paths (called tracks) of ballistic missile threats, to Aegis BMD from forward based radars. The MT95, Discrimination Sensor Technology flight test project leverages other BMDS tests as an associated operation to gather sensor data.

In FY 2015, MDA successfully tested two Multi-Spectral Targeting System -B sensors integrated into MQ-9 Reapers. The Discrimination Sensor Technology tests used the BMDS operational architecture, proving that the Aegis weapon system could launch a Standard Missile - 3 against a ballistic missile target and achieve intercept using the tracking data from the airborne Multi-Spectral Targeting System sensors.

In FY 2016, the Discrimination Sensor Technology Flight Test project tests two Multi-Spectral Targeting System -Cs integrated into MQ-9 Reapers to demonstrate increased track precision and discrimination capability for the BMDS. As a precursor to the BMDS testing, the MDA is partnering with the Air Force to characterize Multi-Spectral Targeting System performance and provide data for Air Force Air Dominance development planning.

The Discrimination Sensor Technology Flight Test project funds flight, operations and maintenance costs for Unmanned Aerial Vehicles, ground control stations and ground support equipment. It also funds shipping of the test assets to test ranges, labor, travel, range support and Command, Control, Battle Management and Communications test support specific to Discrimination Sensor Technology.

The results from this airborne Multi-Spectral Targeting System -C Launch-on-Remote test sequence mature the critical technologies necessary for prototype development under the Technology Maturation Initiatives program element 0604115C. Launch-on-Remote is the precursor to Engage-on-Remote, which significantly expands BMD reach and the defended area.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Discrimination Sensor Technology Flight Test Execution	0.000	3.749	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2017 Missile Defense Agency		Date: February 2016
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603177C / *Discrimination Sensor Technology*	**Project (Number/Name)** MT95 / *Discrimination Sensor Tech-Flight Test Execution*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Description: N/A ***FY 2015 Accomplishments:*** N/A ***FY 2016 Plans:*** - Conduct system level Hardware-in-the-Loop (HWIL) testing in conjunction with the Enterprise Sensor Laboratory (ESL) and the Experimental Laboratory (X-Lab) for the Pacific Dragon test - Ship two MQ-9 Reapers, Multi-Spectral Targeting System - Cs (MTS-Cs) and ground support equipment - Conduct Pacific Dragon checkout flights, dry-runs, and dress rehearsals and operate and maintain the Unmanned Aerial Vehicles (UAVs), test equipment, ground control stations and ground support equipment - Demonstrate real time stereo tracking Aegis launch-on-remote quality of track using MTS-Cs installed on two MQ-9 Reaper UAVs in conjunction with the Pacific Dragon test ***FY 2017 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	0.000	3.749	0.000

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
• 0603176C: *Advanced Concepts and Performance Assessment*	9.999	12.139	17.880	-	17.880	12.599	12.897	13.004	13.221	Continuing	Continuing
• 0603178C: *Weapons Technology*	61.396	51.153	71.843	-	71.843	69.004	53.745	66.400	67.487	Continuing	Continuing
• 0603179C: *Advanced C4ISR*	13.061	9.876	3.626	-	3.626	0.000	0.000	0.000	0.000	0	26.563
• 0603180C: *Advanced Research*	18.476	17.364	23.433	-	23.433	19.870	20.529	21.131	21.494	Continuing	Continuing
• 0603294C: *Common Kill Vehicle Technology*	24.836	61.753	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• 0603884C: *Ballistic Missile Defense Sensors*	260.347	228.392	230.077	-	230.077	144.893	141.815	171.644	158.421	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2017 Missile Defense Agency			Date: February 2016
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603177C / *Discrimination Sensor Technology*	**Project (Number/Name)** MT95 / *Discrimination Sensor Tech-Flight Test Execution*	

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
• 0603890C: *BMD Enabling Programs*	395.927	404.780	401.594	-	401.594	404.993	409.481	427.603	434.868	Continuing	Continuing
• 0603892C: *AEGIS BMD*	761.646	830.647	959.066	-	959.066	841.738	700.596	592.940	528.744	Continuing	Continuing
• 0603896C: *Ballistic Missile Defense Command and Control, Battle Management & Communication*	420.516	429.853	439.617	-	439.617	413.198	432.763	454.601	462.065	Continuing	Continuing
• 0603914C: *Ballistic Missile Defense Test*	354.414	281.740	293.441	-	293.441	337.537	322.334	346.134	351.933	Continuing	Continuing
• 0603915C: *Ballistic Missile Defense Targets*	447.424	527.563	563.576	-	563.576	471.059	431.349	454.830	462.429	Continuing	Continuing

Remarks

D. Acquisition Strategy

The MDA Integrated Master Test Plan establishes and documents the test requirements for the BMDS with the specific focus on collecting the data needed for the Verification, Validation, and Accreditation of the BMDS models & simulations. This paradigm uses critical factor analysis to drive test design, planning, and execution for accrediting models & simulations, which is used to validate and assess system performance. With this test approach, the MDA will establish confidence that the models & simulations used to evaluate the BMDS represent real world behavior, thereby enabling simulation-based performance assessment to verify system functionality.

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2017 Missile Defense Agency			Date: February 2016
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603177C / *Discrimination Sensor Technology*	Project (Number/Name) MC95 / *Cyber Operations*	

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
MC95: *Cyber Operations*	0.119	0.132	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Note

FY 2017 funding is requested in the Technology Maturation Initiatives Program Element, 0604115C, for follow on Cyber Operations activities.

A. Mission Description and Budget Item Justification

The funding in this project sustains the MDA DoD Information Assurance Certification and Accreditation Program and Controls Validation Testing activities, analysis of validation results, risk assessments and reviews of proposed Program Manager/Information Assurance Manager Plans of Action and Milestones for the MDA Discrimination Sensor Technology mission systems. It maintains the Certification and Accreditation data repository, capturing the DoD Information Assurance Certification and Accreditation Program documentation (artifacts, validation results, and Information Assurance Risk Assessment results, and Designated Approving Authority accreditation decisions) and Plans of Action and Milestones on all MDA information systems.

This project monitors and tracks cyber security mitigations detailed in Information Technology security Plans of Action and Milestones. Activities include preparation of Certification and Accreditation documentation and accreditation recommendations to the MDA Senior Information Assurance Officer/Certification Authority and Designated Approving Authority. Independent Verification and Validation 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.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Title: Network / System Certification and Accreditation (C&A)	0.132	0.000	0.000
Description: N/A			
FY 2015 Accomplishments: - Conducted cyber security / information assurance engineering and architecture planning for Discrimination Sensor Technology information technology systems - Planned and tested the information assurance controls for Ballistic Missile Defense System (BMDS) Discrimination Sensor Technology systems - Developed Discrimination Sensor Technology DoD Information Assurance Certification and Accreditation Program (DIACAP) certification and accreditation packages			

Exhibit R-2A, RDT&E Project Justification: PB 2017 Missile Defense Agency		Date: February 2016
Appropriation/Budget Activity 0400 / 3	**R-1 Program Element (Number/Name)** PE 0603177C / *Discrimination Sensor Technology*	**Project (Number/Name)** MC95 / *Cyber Operations*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
- Conducted Controls Validation Testing (CVT) for Discrimination Sensor Technology mission systems and provided Plan of Action and Milestones to mitigate information assurance deficiencies - Conducted annual information assurance reviews on the Discrimination Sensor Technology enclaves to assess compliance in implementing and maintaining IA controls ***FY 2016 Plans:*** - Beginning in FY 2016, transfers to the Technology Maturation Initiatives Program Element 0604115C. ***FY 2017 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	0.132	0.000	0.000

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
• 0603176C: *Advanced Concepts and Performance Assessment*	9.999	12.139	17.880	-	17.880	12.599	12.897	13.004	13.221	Continuing	Continuing
• 0603178C: *Weapons Technology*	61.396	51.153	71.843	-	71.843	69.004	53.745	66.400	67.487	Continuing	Continuing
• 0603179C: *Advanced C4ISR*	13.061	9.876	3.626	-	3.626	0.000	0.000	0.000	0.000	0	26.563
• 0603180C: *Advanced Research*	18.476	17.364	23.433	-	23.433	19.870	20.529	21.131	21.494	Continuing	Continuing
• 0603904C: *Missile Defense Integration and Operations Center (MDIOC)*	53.972	47.939	54.750	-	54.750	53.894	55.524	58.100	59.029	Continuing	Continuing
• 0604115C: *Technology Maturation Initiatives*	0.000	27.225	90.266	-	90.266	149.901	205.787	198.136	201.431	Continuing	Continuing

Remarks

D. Acquisition Strategy

The acquisition strategy for cyber operations consists of using the MDA civilian employees and the existing competitively awarded support contracts.

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2017 Missile Defense Agency			Date: February 2016
Appropriation/Budget Activity 0400 / 3	R-1 Program Element (Number/Name) PE 0603177C / *Discrimination Sensor Technology*	Project (Number/Name) MD40 / *Program-Wide Support*	

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: *Program-Wide Support*	-	1.833	1.147	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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).

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