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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Missile Defense Agency **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603895C: <i>BMD SYSTEM SPACE PROGRAM</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	11.913	10.942	7.951	-	7.951	6.781	6.465	6.496	6.915	Continuing	Continuing
WX33: <i>MD Space Exp Center (MDSEC)</i>	9.640	-	-	-	-	-	-	-	-	0.000	9.640
MD33: <i>MD Space Exp Center (MDSEC)</i>	-	10.535	7.951	-	7.951	6.781	6.465	6.496	6.915	Continuing	Continuing
ZX40: <i>Program-Wide Support</i>	2.273	-	-	-	-	-	-	-	-	0.000	2.273
MD40: <i>Program-Wide Support</i>	-	0.407	-	-	-	-	-	-	-	0.000	0.407

Note

In accordance with the Missile Defense Agency revised budget structure, funding for the Missile Defense Space Experimentation Center (MDSEC) in FY 2010 remains in Program Element (PE) 0603895C in Project WX33. Beginning FY 2011, funding for MDSEC is captured in Project MD33 in PE 0603895C.

A. Mission Description and Budget Item Justification

The Missile Defense Space Experimentation Center (MDSEC) provides MDA elements with a node for BMDS space sensor layer operations and integration to support the ballistic missile defense mission. The infrastructure provided supports the operation and control of MDA satellites such as the Space Tracking and Surveillance System (STSS) and the Near Field Infrared Experiment (NFIRE). MDSEC annual operating expenses provide security, configuration management, engineering, test, experiment, data, and logistics support for MDA users within the Missile Defense Space Experimentation Center (MDSEC). The MDA user community includes STSS; NFIRE; BMDS Overhead Persistent Infrared (OPIR) Architecture (BOA); Command and Control, Battle Management and Communications (C2BMC); Enhanced C2BMC (EC2BMC); MDA C2BMC X-Lab; MDA Enterprise Sensors Laboratory (ESL); and the Precision Tracking Space System (PTSS).

The MDSEC continues to develop and refine on-orbit operations for the Space Tracking and Surveillance System (STSS) Demonstration Satellites and the Near Field Infrared Experiment (NFIRE). In addition to the satellite operations, the MDSEC hosts a collaborative experimentation environment via the MDSEC Interchange System (MIS) and the MDSEC Test Integration Lab (TIL) for BMDS elements that rely on, experiment with, integrate with, or seek to improve the BMDS capability by utilizing space-based, systems-derived data. The MIS provides a common, secure data architecture for MDA, DoD and National Security Space sensor data and a satellite sensor tasking request tool interface with MDA users. The TIL provides a common location for MDA user collaboration with access to space sensor layer data via the MIS during tests and experiments. The MDSEC supports efforts to increase the effectiveness of the BMD System (including probability of engagement success, increase in defended area and raid size capacity, additional redundancy of architecture, unity of command) through the integration of MDA developed capabilities. The Missile Defense Space Experimentation Center (MDSEC) Sensor Registration Health & Status Monitoring (SRHSM) Experiment addresses efforts such as Sensor Registration (reporting of sensor errors/biases) and Correlation (ensuring the information from multiple sensors seeing a threat relates to the same object). Other Missile Defense Space Experimentation Center (MDSEC) experiments explore areas from, System Track (creating a single engageable track of a threat from multiple reports provided by different land, sea, and space based multiple sensors), Discrimination (identifying object details to determine the target from debris or decoys),

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APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	PE 0603895C: <i>BMD SYSTEM SPACE PROGRAM</i>

Battle Management (combining the best sensors and shooters to ensure the highest probability of a kill), Hit/Kill Assessment (determining if the target selected was destroyed after missile impact), to Communications (providing the worldwide connection of sensors and shooters to command authorities). These MDSEC experiments are implemented across the BMDS elements to create and utilize system level data and decisions that allow Combatant Commanders the ability to automatically and manually optimize sensor coverage and interceptor inventory to defend against ballistic threats.

Modeling and Simulation (M&S) activities at the MDSEC support all phases of STSS maturation, including: development and necessary revision of Mission Planning and Analysis Tools, Data Collection Events, System Functional and Performance Tests, flight test missions, ground tests, wargames, exercises, and performance assessments (PAs).

Goals for the Missile Defense Space Experimentation Center (MDSEC):

- Develop and refine ground operational concepts for MDA space systems, sensors, data, services, and networks
- Conduct satellite operations for MDA space sensor satellites (Space Tracking and Surveillance System (STSS), Near Field Infrared Experiment (NFIRE))
- Develop and install the Missile Defense Space Experimentation Center (MDSEC) Interchange System (MIS) to provide robust access to MDA space data and MDA user net-centric sensor tasking request interface
- Develop a security environment to support data integration, test, demonstrations, and experiments across multiple security levels
- Provide a Test Integration Lab (TIL) to support testing, demonstrations, experiments, integration and algorithm development
- Demonstrate connectivity and integration of space sensor layer data for the BMDS community and external users
- Conduct experiments to test algorithm validity for Missile Defense Space Systems
- Provide infrastructure to demonstrate integration of missile defense space capabilities with other defense and national security systems

B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	12.492	10.942	11.182	-	11.182
Current President's Budget	11.913	10.942	7.951	-	7.951
Total Adjustments	-0.579	-	-3.231	-	-3.231
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-0.348	-			
• SBIR/STTR Transfer	-0.212	-			
• Other Adjustment Detail	-0.019	-	-3.231	-	-3.231

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APPROPRIATION/BUDGET ACTIVITY
0400: *Research, Development, Test & Evaluation, Defense-Wide*
BA 4: *Advanced Component Development & Prototypes (ACD&P)*

R-1 ITEM NOMENCLATURE
PE 0603895C: *BMD SYSTEM SPACE PROGRAM*

Change Summary Explanation

FY12 decrease of \$3.231 million is the result of internal program adjustments and \$1.5M to operational efficiencies that will consolidate the workload of satellite operators and mission planners/trainers.

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APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603895C: <i>BMD SYSTEM SPACE PROGRAM</i>	PROJECT WX33: <i>MD Space Exp Center (MDSEC)</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
WX33: <i>MD Space Exp Center (MDSEC)</i>	9.640	-	-	-	-	-	-	-	-	0.000	9.640
Quantity of RDT&E Articles	0	0	0		0	0	0	0	0		

A. Mission Description and Budget Item Justification

Project WX33 has been transferred to Project MD33.

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

	FY 2010	FY 2011	FY 2012
Title: Missile Defense Space Experimentation Center (MDSEC)			
Articles:	9.640 0	-	-
Description: See Description Below			
FY 2010 Accomplishments: See Project MD33 for FY 2010 Accomplishments.			
Accomplishments/Planned Programs Subtotals	9.640	-	-

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

NA

E. Performance Metrics

NA

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603895C: <i>BMD SYSTEM SPACE PROGRAM</i>	PROJECT MD33: <i>MD Space Exp Center (MDSEC)</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
MD33: <i>MD Space Exp Center (MDSEC)</i>	-	10.535	7.951	-	7.951	6.781	6.465	6.496	6.915	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0		0	0	0	0	0		

Note

In accordance with the Missile Defense Agency revised budget structure, funding for Program Element 0603895C, Project MD33 was moved from Project WX33 in FY 2011.

A. Mission Description and Budget Item Justification

The Missile Defense Space Experimentation Center (MDSEC) allows MDA elements to conduct satellite on-orbit operations and to conduct flight test, demonstrations, experiments, data integration, algorithm development and test, and concept exploration. The annual operating expenses for the MDSEC provide overhead functions to include security, configuration management, engineering, test, demonstration, experiment, data analysis and integration, and logistics support for satellite operations and MDA users to include Space Tracking and Surveillance System (STSS); Near Field Infrared Experiment (NFIRE); BMDS Overhead Persistent Infrared (OPIR) Architecture (BOA); Command and Control, Battle Management and Communications (C2BMC); Enhanced C2BMC (EC2BMC); MDA C2BMC X-Lab; MDA Enterprise Sensors Laboratory (ESL); and the Precision Tracking Space System (PTSS). The MDSEC Space Layer activities include integration and experimentation across a broad range of BMDS activities to include target signatures, sensor registration, health and status, sensor performance, sensor and weapons netting (with C2BMC and C2BMC X-Lab), modeling and simulation, OPIR Data Fusion and advanced features, discrimination, typing, clutter mitigation, and target kill and impact point assessments.

The MDSEC provides infrastructure to support satellite operations for the Space Tracking and Surveillance System (STSS) and the Near Field Infrared Experiment (NFIRE) as the single location for MDA elements to conduct satellite on-orbit operations. The MDSEC also provides a multi-level security environment for sensor data management and integration across space and terrestrial sensor data activities. MDSEC experiments leverage DoD (Defense Support Program, Space Based Infrared System) and National Security Space capabilities. MDSEC activities support analysis, demonstration and integration of space sensor capabilities into developmental and operational MDA elements. MDSEC enables the development of advanced technology and algorithms including fusion of multiple sensor types (radar, overhead persistent infrared, electro-optical and other merging sensor technologies). MDSEC supports mission integration of space-based missile tracking (boost and midcourse phases), sensor and weapons cueing via C2BMC, features and discrimination, kill and impact point assessments into C2BMC, Aegis Launch on STSS, Aegis Engage on Space Tracking and Surveillance System (STSS), Terminal High Altitude Area Defense (THAAD), Ground-based Midcourse Defense (GMD), and other (non-MDA) mission areas to include space situational awareness, technical intelligence, and battle space characterization.

The Missile Defense Space Experimentation Center (MDSEC) facilitates the integration and demonstration of missile defense space capabilities with other defense and national security systems. The MDSEC infrastructure provides MDA users capabilities for supporting flight tests, conducting concept development, demonstrations, experiments, and developing and evaluating algorithms within a multi-security level environment.

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APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603895C: <i>BMD SYSTEM SPACE PROGRAM</i>	PROJECT MD33: <i>MD Space Exp Center (MDSEC)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
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Title: Missile Defense Space Experimentation Center (MDSEC)	-	10.535	7.951
Articles:	0	0	0
Description: See Description Below			
FY 2010 Accomplishments: Funding for FY 2010 accomplishments is reported in prior year budget project WX33 (\$9.640 million)			
<ul style="list-style-type: none"> -Provided infrastructure support for the Space Tracking and Surveillance System (STSS) and Near Field Infrared Experiment (NFIRE) satellite on-orbit operations -Continued maturation of STSS and NFIRE satellite on-orbit operations -Participated in cooperative tests with other BMDS elements to include planning, execution and analyses; performed data collection on other targets of opportunity -Used test data, modeling and simulation, and integrated BMDS ground tests to demonstrate space-based infrared sensor contributions to BMDS performance -Provided core infrastructure support and conducted joint experiments with the Enterprise Sensors Laboratory (ESL); Command and Control, Battle Management and Communications (C2BMC) X-Lab; and the BMDS Operational Overhead Persistent Infrared (OPIR) Architecture (BOA) -Set up and deployed the MDSEC Interchange System (MIS) to provide for the exchange of archived and real-time data and data products from BMDS programs within a net-centric environment -Provided reports and data to include: Space Tracking and Surveillance System (STSS) Sensor Performance Reports, Clutter Characterization for the Precision Tracking Space System (PTSS), Plume Phenomenology from the Near Field Infrared Experiment (NFIRE) and STSS for MDA users, and Space Situational Awareness with NFIRE for Air Force Space Command 			
FY 2011 Plans:			
<ul style="list-style-type: none"> -Continue to provide infrastructure support for Space Tracking and Surveillance System (STSS) and Near Field Infrared Experiment (NFIRE) satellite on-orbit operations -Continue maturation of the STSS and NFIRE satellite on-orbit operations -Participate in cooperative tests with other BMDS elements to include planning, execution and analyses; perform data collection on other targets of opportunity -Use test data, modeling and simulation, and integrated BMDS ground tests to demonstrate space-based infrared sensor contributions to BMDS performance -Provide core infrastructure support and conduct joint experiments with the Enterprise Sensors Laboratory (ESL); Command and Control, Battle Management and Communications (C2BMC) X-Lab; and the BMDS Operational Overhead Persistent Infrared (OPIR) Architecture (BOA) 			

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
<p>-Continue to support laser communications experiments to assess viability of the technology</p> <p>-Continue to support, as requested by Air Force Space Command and other agencies, Space Situational Awareness, Technical Intelligence, Battlespace Awareness, and Missile Warning</p> <p><i>FY 2012 Plans:</i></p> <p>-Implement measures to consolidate and increase efficiency in Space Tracking and Surveillance System (STSS) and Near Field Infrared Experiment (NFIRE) satellite on-orbit operations</p> <p>-Continue to provide infrastructure support for STSS and NFIRE satellite on-orbit operations</p> <p>-Continue maturation of the STSS and NFIRE satellite on-orbit operations</p> <p>-Participate in cooperative tests with other BMDS elements to include planning, execution and analyses; perform data collection on other targets of opportunity</p> <p>-Use test data, modeling and simulation, and integrated BMDS ground tests to demonstrate space-based infrared sensor contributions to BMDS performance</p> <p>-An example of this is the Space Tracking and Surveillance System (STSS) Object Sighting Messages fused in the Enterprise Sensors Laboratory to produce system tracks. System tracks are used to provide precision cues to BMDS radars and enables interceptor quality fire control.</p> <p>-Provide core infrastructure support and conduct joint experiments with the Enterprise Sensors Laboratory (ESL); Command and Control, Battle Management and Communications (C2BMC) X-Lab; and the BMDS Operational Overhead Persistent Infrared (OPIR) Architecture (BOA)</p> <p>-Continue to support laser communications experiments to assess viability of the technology</p> <p>-Continue to support, as requested by Air Force Space Command, Space Situational Awareness, Technical Intelligence, Battlespace Awareness, and Missile Warning</p>			
Accomplishments/Planned Programs Subtotals	-	10.535	7.951

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• 0603175C: <i>Ballistic Missile Defense Technology</i>	164.670	132.220	75.003		75.003	103.844	111.712	164.378	170.851	Continuing	Continuing
• 0603884C: <i>Ballistic Missile Defense Sensors</i>	544.352	454.859	222.374		222.374	357.271	336.514	318.321	348.944	Continuing	Continuing
	737.863	1,113.425	1,071.039		1,071.039	898.680	790.906	787.113	878.215	Continuing	Continuing

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C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
<i>• 0603888C: Ballistic Missile Defense Test and Targets</i>											
<i>• 0603892C: BMD AEGIS</i>	1,418.992	1,467.278	960.267		960.267	957.992	1,001.510	970.607	1,033.710	Continuing	Continuing
<i>• 0603893C: SPACE TRACKING & SURVEILLANCE SYSTEM</i>	148.506	112.678	96.353		96.353	53.577	47.592	32.289	34.308	Continuing	Continuing
<i>• 0603896C: BMD C2BMC</i>	327.074	342.625	364.103		364.103	330.337	353.081	338.835	304.217	Continuing	Continuing
<i>• 0603904C: MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	82.926	86.198	69.325		69.325	64.514	55.808	56.769	54.621	Continuing	Continuing
<i>• 0604883C: PRECISION TRACKING SPACE SYSTEM</i>	0.000	66.969	160.818		160.818	272.881	302.344	273.623	331.205	Continuing	Continuing

D. Acquisition Strategy

Functions and operations of the Missile Defense Space Experimentation Center (MDSEC) are currently financed through a 10-year MDSEC Joint National Integration Center (JNIC) Research and Development Contract (JRDC) Services Contract. Beginning FY 2005, the annual operating expenses have been consolidated into one centralized delivery order on the contract which includes core capabilities (labor and hardware) that are being performed in the Missile Defense Space Experimentation Center (MDSEC) and supporting MDSEC participants.

E. Performance Metrics

NA

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Missile Defense Agency **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603895C: <i>BMD SYSTEM SPACE PROGRAM</i>	PROJECT MD33: <i>MD Space Exp Center (MDSEC)</i>
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Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Missile Defense Space Experimentation Center (MDSEC) MDSEC Support (JRDC Services Contract) MD33	MIPR	MDIOC:CO	13.951	7.133	Dec 2010	4.344	Dec 2011	-		4.344	Continuing	Continuing	Continuing
Missile Defense Space Experimentation Center (MDSEC) MDSEC/Enterprise Sensors Laboratory (ESL) Experiments MD33	MIPR	Various:Various	4.187	1.000	Dec 2010	1.032	Dec 2011	-		1.032	Continuing	Continuing	Continuing
Subtotal			18.138	8.133		5.376		-		5.376			

Remarks

As on-orbit satellite operations for the Space Tracking and Surveillance System (STSS) and the Near Field Infrared Experiment (NFIRE) mature, the Missile Defense Space Experimentation Center (MDSEC) will consolidate to achieve operational efficiencies.

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Missile Defense Space Experimentation Center (MDSEC) Contract Support Services (CSS) MD33	C/BPA	MDIOC, MDA:CO/AL	1.276	0.646	Dec 2010	0.762	Dec 2011	-		0.762	Continuing	Continuing	Continuing
Missile Defense Space Experimentation Center (MDSEC) MDA Civilian MD33	Allot	MDA:AL	-	0.732	Oct 2010	0.714	Oct 2011	-		0.714	Continuing	Continuing	Continuing
Subtotal			1.276	1.378		1.476		-		1.476			

Remarks

Missile Defense Space Experimentation Center (MDSEC) Support Costs include the following

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Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
-Contract Support Services (CSS) Costs - funds Joint National Integration Center (JNIC) Technical Advisory and Assistance Services (JTAAS) and systems engineering support. BMD Systems Engineering provides System Description Documents and System Specifications to design, build, integrate, and test BMDs components. These products optimize performance at the system level and further ensure that the assessment of the designed BMD System is based on sufficient ground and flight testing. -MDA Civilian Salaries - funding in prior years for MDA civilian salaries was captured under Program Element 0603893C Space Surveillance System (STSS), Project WX12 (\$0.865 million).													

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Missile Defense Space Experimentation Center (MDSEC) Space Dynamics Laboratory (SDL) MD33	FFRDC	SDL:UT	1.244	1.024	Nov 2010	1.099	Nov 2011	-		1.099	Continuing	Continuing	Continuing
Subtotal			1.244	1.024		1.099		-		1.099			

Remarks
Space Dynamics Laboratory (SDL) is funded via University Affiliated Research Center (UARC) contract. SDL provides operations and engineering support for mission planning, tasking, and data collection activities at the Missile Defense Space Experimentation Center.

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		20.658	10.535		7.951		-	7.951			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Missile Defense Agency		DATE: February 2011
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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Missile Defense Agency		DATE: February 2011
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Space Tracking and Surveillance System (STSS) Demonstration Satellites Operations-1Q2010-4Q2010	1	2010	4	2010
STSS Demonstration Satellites Operations-1Q2011	1	2011	1	2011
STSS Demonstration Satellites Operations-2Q2011-4Q2011	2	2011	4	2011
STSS Demonstration Satellites Operations-1Q2012-4Q2012	1	2012	4	2012
STSS Demonstration Satellites Operations-1Q2013-4Q2013	1	2013	4	2013
STSS Demonstration Satellites Operations-1Q2014-4Q2014	1	2014	4	2014
STSS Demonstration Satellites Operations-1Q2015-4Q2015	1	2015	4	2015
STSS Demonstration Satellites Operations-1Q2016-4Q2016	1	2016	4	2016
Near Field Infrared Experiment (NFIRE) Satellite Operations-1Q2010-4Q2010	1	2010	4	2010
NFIRE Satellite Operations-1Q2011	1	2011	1	2011
NFIRE Satellite Operations-2Q2011-4Q2011	2	2011	4	2011
NFIRE Satellite Operations-1Q2012-4Q2012	1	2012	4	2012
Mission Planning, Tasking and Analysis-1Q2010-4Q2010	1	2010	4	2010
Mission Planning, Tasking and Analysis-1Q2011	1	2011	1	2011
Mission Planning, Tasking and Analysis-2Q2011-4Q2011	2	2011	4	2011
Mission Planning, Tasking and Analysis-1Q2012-4Q2012	1	2012	4	2012
Mission Planning, Tasking and Analysis-1Q2013-4Q2013	1	2013	4	2013
Mission Planning, Tasking and Analysis-1Q2014-4Q2014	1	2014	4	2014
Mission Planning, Tasking and Analysis-1Q2015-4Q2015	1	2015	4	2015
Mission Planning, Tasking and Analysis-1Q2016-4Q2016	1	2016	4	2016
Command and Control, Battle Management and Communications (C2BMC) Policy Project-1Q2010-2Q2010	1	2010	2	2010

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Missile Defense Agency **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603895C: <i>BMD SYSTEM SPACE PROGRAM</i>	PROJECT MD33: <i>MD Space Exp Center (MDSEC)</i>
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Events	Start		End	
	Quarter	Year	Quarter	Year
Modified Common Network Interface Processor (CNIP) Software	3	2010	3	2010
Modified Tactical Digital Information Link (TADIL) J 3.6 Message (with acceleration)	3	2010	3	2010
Sensor Netting Experiments (MDSEC)-3QFY2010	3	2010	3	2010
Sensor Netting Experiments (MDSEC)-4QFY2010	4	2010	4	2010
Sensor Tracking Experiments (MDSEC)	4	2010	4	2010
Target Signature Experiments-1QFY2010-3QFY2010	1	2010	3	2010
Target Signature Experiments-4QFY2010	4	2010	4	2010
Enterprise Sensors Lab Engineering Baseline Release (5.0/5.1)	2	2011	2	2011
Space Tracking and Surveillance System (STSS)/Enterprise Sensors Laboratory (ESL)-BMDs Operational Overhead Persistent Infrared (OPIR) Architecture (BOA) Midcourse Tracking Experiments-1Q2010-4Q2010	1	2010	4	2010
Enterprise Sensors Lab Engineering Baseline Release (6.1/6.2)	4	2011	4	2011
Space Tracking and Surveillance System (STSS)/Enterprise Sensors Laboratory (ESL)-BMDs Operational Overhead Persistent Infrared (OPIR) Architecture (BOA) Midcourse Tracking Experiments-1Q2011	1	2011	1	2011
Space Tracking and Surveillance System (STSS) Enterprise Sensors Laboratory (ESL)-BMDs Operational Overhead Persistent Infrared (OPIR) Architecture (BOA) Midcourse Tracking Experiments-2Q2011-4Q2011	2	2011	4	2011
Enterprise Sensors Lab Engineering Baseline Release (7.1/7.2)	4	2012	4	2012
Space Tracking and Surveillance System (STSS)/Enterprise Sensors Laboratory (ESL)-BMDs Operational Overhead Persistent Infrared (OPIR) Architecture (BOA) Midcourse Tracking Experiments-1Q2012-4Q2012	1	2012	4	2012
Space Tracking and Surveillance System (STSS)/Enterprise Sensors Laboratory (ESL)-BMDs Operational Overhead Persistent Infrared (OPIR) Architecture (BOA)/X-Lab System Track Experiments-1Q2010-4Q2010	1	2010	4	2010
STSS/ESL-BOA/X-Lab System Track Experiments-1Q2011	1	2011	1	2011

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Missile Defense Agency **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603895C: <i>BMD SYSTEM SPACE PROGRAM</i>	PROJECT MD33: <i>MD Space Exp Center (MDSEC)</i>
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Events	Start		End	
	Quarter	Year	Quarter	Year
Space Tracking and Surveillance System (STSS)/Enterprise Sensors Laboratory (ESL)-BMD Operational Overhead Persistent Infrared (OPIR) Architecture (BOA)/X-Lab System Track Experiments-2Q2011	2	2011	2	2011
Space Tracking and Surveillance System (STSS)/Enterprise Sensors Laboratory (ESL)-BMD Operational Overhead Persistent Infrared (OPIR) Architecture (BOA) OPIR Cueing Experiments-1Q2010-4Q2010	1	2010	4	2010
STSS/ESL-BOA OPIR Cueing Experiments-1Q2011	1	2011	1	2011
STSS/ESL-BOA OPIR Cueing Experiments-2Q2011-4Q2011	2	2011	4	2011
Space Tracking and Surveillance System (STSS)/Enterprise Sensors Laboratory (ESL)-BMD Operational Overhead Persistent Infrared (OPIR) Architecture (BOA) OPIR Cueing Experiments-1Q2012-4Q2012	1	2012	4	2012
STSS Sensor Registration Health & Status Experiments-1Q2010-4Q2010	1	2010	4	2010
STSS Sensor Registration Health & Status Experiments-1Q2011	1	2011	1	2011
STSS Sensor Registration Health & Status Experiments-2Q2011-4Q2011	2	2011	4	2011
Space Tracking and Surveillance System (STSS) Sensor Registration Health & Status Experiments-1Q2012-4Q2012	1	2012	4	2012
Missile Defense Space Experimentation Center (MDSEC) Interchange System (MIS) Operations-1Q2010-4Q2010	1	2010	4	2010
MIS Operations-1Q2011	1	2011	1	2011
Missile Defense Space Experimentation Center (MDSEC) Interchange System (MIS) Operations-2Q2011-4Q2011	2	2011	4	2011
MIS Operations-1Q2012-4Q2012	1	2012	4	2012
MIS Operations-1Q2013-4Q2013	1	2013	4	2013
MIS Operations-1Q2014-4Q2014	1	2014	4	2014
Missile Defense Space Experimentation Center (MDSEC) Interchange System (MIS) Operations-1Q2015-4Q2015	1	2015	4	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Missile Defense Agency		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603895C: <i>BMD SYSTEM SPACE PROGRAM</i>	PROJECT MD33: <i>MD Space Exp Center (MDSEC)</i>

Events	Start		End	
	Quarter	Year	Quarter	Year
MIS Operations-1Q2016-4Q2016	1	2016	4	2016
Missile Defense Space Experimentation Center (MDSEC) Test Integration Lab (TIL) Operations-1Q2010-4Q2010	1	2010	4	2010
Missile Defense Space Experimentation Center (MDSEC) Test Integration Lab (TIL) Operations-1Q2011	1	2011	1	2011
MDSEC TIL Operations-2Q2011-4Q2011	2	2011	4	2011
MDSEC TIL Operations-1Q2012-4Q2012	1	2012	4	2012
MDSEC TIL Operations-1Q2013-4Q2013	1	2013	4	2013
MDSEC TIL Operations-1Q2014-4Q2014	1	2014	4	2014
MDSEC TIL Operations-1Q2015-4Q2015	1	2015	4	2015
MDSEC TIL Operations-1Q2016-4Q2016	1	2016	4	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603895C: <i>BMD SYSTEM SPACE PROGRAM</i>	PROJECT ZX40: <i>Program-Wide Support</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
ZX40: <i>Program-Wide Support</i>	2.273	-	-	-	-	-	-	-	-	0.000	2.273
Quantity of RDT&E Articles	0	0	0		0	0	0	0	0		

A. Mission Description and Budget Item Justification

Project ZX40 has been transferred project MD40.

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

	FY 2010	FY 2011	FY 2012
Title: Civilian Salaries and Support	2.273	-	-
Articles:	0		
Description: See Description Below			
FY 2010 Accomplishments: NA			
Accomplishments/Planned Programs Subtotals	2.273	-	-

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

NA

E. Performance Metrics

NA

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603895C: <i>BMD SYSTEM SPACE PROGRAM</i>	PROJECT MD40: <i>Program-Wide Support</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
MD40: <i>Program-Wide Support</i>	-	0.407	-	-	-	-	-	-	-	0.000	0.407
Quantity of RDT&E Articles	0	0	0		0	0	0	0	0		

A. Mission Description and Budget Item Justification

Program-Wide Support (PWS) contains non-headquarters management costs in support of MDA functions and activities across the entire Ballistic Missile Defense System (BMDS). Includes Government Civilians, Advisory and Assistance Services, and Federally Funded Research and Development Contracts (FFRDC) providing integrity and oversight of the BMDS as well as supporting MDA in enabling the development and evaluation of technologies that will respond to the changing threat. Other costs included provide facility capabilities for MDA Executing Agent locations (with the exception of Federal Office Building 2 after FY 2011), such as physical and technical security, legal services, travel and agency training, office and equipment leases, rents and utilities, data and unified communications support, supplies and maintenance, and similar operating expenses. Also includes legal settlements, and foreign currency fluctuations on a limited number of foreign contracts. In keeping with congressional intent, PWS is allocated among the PEs on a pro-rata basis and therefore fluctuates by year based on the total MDA budget and the individual PE's budget amount.

Funding for the FY2010 accomplishments is reported in prior year budget project ZX40 (\$11,988).

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

	FY 2010	FY 2011	FY 2012
Title: Civilian Salaries and Support	-	0.407	-
Articles:	0	0	0
Description: See Description Below			
FY 2010 Accomplishments: Funding for the FY 2010 accomplishments is reported in prior year budge project ZX40 (\$11,988).			
FY 2011 Plans: See paragraph A, Mission Description and Budget Item Justification			
FY 2012 Plans: See paragraph A, Mission Description and Budget Item Justification			
Accomplishments/Planned Programs Subtotals	-	0.407	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Missile Defense Agency		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603895C: <i>BMD SYSTEM SPACE PROGRAM</i>	PROJECT MD40: <i>Program-Wide Support</i>

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

NA