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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Missile Defense Agency **DATE:** February 2010

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 0603894C: <i>MULTIPLE KILL VEHICLE</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	226.027	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	226.027
WX15: <i>Multiple Kill Vehicles (MKV) Capability Development</i>	220.247	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	220.247
ZX40: <i>Program-Wide Support</i>	5.780	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	5.780

Note

The content in FY08-15 project WX15 is a continuation of the efforts reported in FY07 in project 0515 and was explained in that project in PB09. The Department is canceling the Multiple Kill Vehicle program in FY10. The agency will conduct an orderly drawdown of the program using FY09 funds.

A. Mission Description and Budget Item Justification

The Ballistic Missile Defense System needs volume kill capability to respond to evolving enemy threats. During flight, the enemy can disguise their warhead or deploy decoys and other debris around their warhead. These disguises make it harder for our sensors to determine which object is the actual lethal warhead. Today, we would have to launch multiple interceptors, each with a single kill vehicle, to ensure we hit the lethal warhead. Our multiple kill vehicle payloads will allow a single interceptor to deliver several kill vehicles to attack a multitude of threat objects.

We were developing kill vehicles for ground-based midcourse interceptors, kinetic energy interceptors, and Aegis Standard Missile-3. These kill vehicles use information from the system to identify, seek out, and destroy lethal objects within a threat cluster. While in flight, the kill vehicles receive and transmit data from the ground to ensure they hit their designated targets. With the multiple kill vehicles, we can destroy all credible objects with one interceptor. This saves interceptor inventory and reduces infrastructure costs.

Our top payload maturity risks are in propulsion, engagement management, coordinated attack, and the seeker. Our top programmatic risks are in achieving commonality, reducing cost, and proving we are ready for testing, production, and fielding.

Our knowledge points demonstrate and validate confidence in the payloads`:

Major subsystems capabilities

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Engagement management performance
 Seeker algorithms
 Readiness in hardware-in-the-loop test facilities and flight testing
 Commonality among kill vehicles
 Production cost commitments, rates, and processes
 Procurement and fielding

B. Program Change Summary (\$ in Millions)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	283.481	0.000	0.000	0.000	0.000
Current President's Budget	226.027	0.000	0.000	0.000	0.000
Total Adjustments	-57.454	0.000	0.000	0.000	0.000
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-7.236	0.000			
• SBIR/STTR Transfer	-4.182	0.000			
• Other Adjustment Detail	-46.036	0.000	0.000	0.000	0.000

Change Summary Explanation

FY 2009 decrease of \$57,454 thousand for year of execution reprogrammings to support BMDS priorities \$4,182 thousand to support the SBIR/STTR Program and 46,036 thousand OUSD Mid Year Reduction.

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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
<i>WX15: Multiple Kill Vehicles (MKV) Capability Development</i>	220.247	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	220.247
Quantity of RDT&E Articles	2	0	0	0	0	0	0	0	0		

Note

NA

A. Mission Description and Budget Item Justification

We focused commonality standards, modular approaches, and proven technologies where sensible and beneficial to reduce risk for integrating kill vehicles across all interceptors. Our master test plans progress from digital simulation to ground test to system flight test in representative operational environments.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Payload Development-6 See Description Below <i>FY 2009 Accomplishments:</i> ELEMENT PAYLOAD DEVELOPMENT We focused our early pathfinder testing on the higher risk elements of our kill vehicle concepts (engagement management, sensors, and propulsion systems). ENGAGEMENT MANAGEMENT: Proving we can engage multiple targets is critical to our success and contributes to our knowledge points. Using digital simulations, we can test our ability to manage the engagement (non real time).	116.785	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Systems Engineering-2 See Description Below <i>FY 2009 Accomplishments:</i> Complete an orderly drawdown of the ;Multiple Kill Vehicle ;program using FY 2009 funds. Updated Adversary Data Package Updated scenario data Performed Future Epoch warfighter wargame Completed Payload Requirements Review documentation Delivered payload capability specification Delivered payload external Interface Requirement Specification. <i>FY 2010 Plans:</i> NA <i>FY 2011 Base Plans:</i> NA <i>FY 2011 OCO Plans:</i> NA		85.712	0.000	0.000	0.000	0.000
System Test and Evaluation-2 See Description Below <i>FY 2009 Accomplishments:</i> Complete an orderly drawdown of the ;Multiple Kill Vehicle ;program using FY 2009 funds.		10.949	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> NA					
Accomplishments/Planned Programs Subtotals	220.247	0.000	0.000	0.000	0.000

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 0603175C: <i>Ballistic Missile Defense Technology</i>	117.602	189.229	132.220	0.000	132.220	236.875	239.873	197.118	197.852	0	1,310.769
• 0603881C: <i>Ballistic Missile Defense Terminal Defense Segment</i>	951.414	715.732	436.482	0.000	436.482	250.275	336.711	500.983	521.717	0	3,713.314
• 0603882C: <i>Ballistic Missile Defense Mid-Course Segment</i>	1,472.683	1,027.371	1,346.181	0.000	1,346.181	1,112.655	1,291.790	1,099.029	1,033.213	0	8,382.922
• 0603883C: <i>Ballistic Missile Defense Boost Defense Segment</i>	384.365	182.317	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	566.682
• 0603884C: <i>Ballistic Missile Defense Sensors</i>	682.754	621.017	454.859	0.000	454.859	469.589	681.397	650.525	616.342	0	4,176.483
• 0603886C: <i>Ballistic Missile Defense System Interceptor</i>	308.869	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	308.869
• 0603888C: <i>Ballistic Missile Defense Test and Targets</i>	906.952	823.333	1,113.425	0.000	1,113.425	1,105.959	951.371	871.929	829.608	0	6,602.577
• 0603890C: <i>Ballistic Missile Defense Enabling Programs</i>	402.776	358.751	402.769	0.000	402.769	468.673	457.745	473.871	488.799	0	3,053.384
• 0603891C: <i>SPECIAL PROGRAMS - MDA</i>	182.998	250.185	270.189	0.000	270.189	269.040	450.645	517.486	601.315	0	2,541.858
• 0603892C: <i>BMD AEGIS</i>	1,054.323	1,435.717	1,467.278	0.000	1,467.278	1,021.878	1,112.668	1,076.739	923.316	0	8,091.919

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0603893C: <i>SPACE TRACKING & SURVEILLANCE SYSTEM</i>	209.831	161.609	112.678	0.000	112.678	98.500	56.424	52.928	34.661	0	726.631
• 0603895C: <i>BMD SYSTEM SPACE PROGRAM</i>	23.250	12.492	10.942	0.000	10.942	11.182	11.347	11.749	12.155	0	93.117
• 0603896C: <i>BMD C2BMC</i>	275.174	334.734	342.625	0.000	342.625	364.085	289.778	323.922	298.936	0	2,229.254
• 0603897C: <i>BMD HERCULES</i>	51.629	47.932	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	99.561
• 0603898C: <i>BMD JOINT WARFIGHTER SUPPORT</i>	66.283	61.098	68.726	0.000	68.726	62.239	63.451	65.158	67.231	0	454.186
• 0603901C: <i>DIRECTED ENERGY RESEARCH</i>	0.000	0.000	98.688	0.000	98.688	101.371	103.449	104.572	104.141	0	512.221
• 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	102.823	86.483	86.198	0.000	86.198	88.181	78.517	80.410	83.087	0	605.699
• 0603906C: <i>REGARDING TRENCH</i>	3.159	6.130	7.529	0.000	7.529	8.295	8.286	8.479	8.675	0	50.553
• 0603907C: <i>SEA BASED X-BAND RADAR (SBX)</i>	143.878	167.153	153.056	0.000	153.056	150.104	159.832	160.163	197.099	0	1,131.285
• 0603908C: <i>BMD EUROPEAN INTERCEPTOR SITE</i>	348.722	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	348.722
• 0603909C: <i>BMD EUROPEAN MIDCOURSE RADAR</i>	73.728	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	73.728
• 0603911C: <i>BMD EUROPEAN CAPABILITY</i>	0.000	50.226	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	50.226
• 0603912C: <i>BMD European Comm Support</i>	26.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	26.016
• 0603913C: <i>ISRAELI COOPERATIVE</i>	0.000	201.323	121.735	0.000	121.735	111.100	113.101	116.114	119.172	0	782.545
• 0604880C: <i>LAND-BASED SM-3</i>	0.000	0.000	281.378	0.000	281.378	345.937	187.062	93.456	139.595	0	1,047.428
	0.000	255.987	318.800	0.000	318.800	405.500	416.300	337.300	227.500	0	1,961.387

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 0604881C: <i>Aegis SM-3 BLOCK IIA CO-DEVELOPMENT</i>											
• 0604883C: <i>PRECISION TRACKING SPACE SYSTEM</i>	0.000	0.000	66.969	0.000	66.969	123.851	184.800	348.360	482.952	0	1,206.932
• 0604884C: <i>AIRBORNE INFRARED (ABIR)</i>	0.000	0.000	111.671	0.000	111.671	103.636	123.591	103.668	58.773	0	501.339
• 0605502C: <i>Small Business Innovative Research BMDO</i>	124.788	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	124.788
• 0901585C: <i>Pentagon Reservation</i>	20.146	19.709	20.482	0.000	20.482	0.000	0.000	0.000	0.000	0	60.337
• 0901598C: <i>Management Headquarters-MDA</i>	87.151	52.403	29.754	0.000	29.754	29.421	29.974	30.567	31.171	0	290.441

D. Acquisition Strategy

Because multiple kill is a new capability for the Ballistic Missile Defense System, we believe there is inherently some development risk. We identified a series of knowledge points to burn down this development risk. Our acquisition strategy used competitive prototyping via a parallel path strategy with two providers; Lockheed Martin and Raytheon Missile Systems. In this approach, we incrementally contracted and funded each contractor based on their progress in proving out their capability offerings.

MDA will transition from the existing legacy, project-oriented Systems Engineering and Technical Assistance (SETA) contractor construct to an enterprise-wide Advisory and Assistance Services (A&AS) approach to support the Ballistic Missile Defense System (BMDS) mission. The objectives are to implement national engineering and support services for the BMDS mission across the enterprise, enhance the sharing of ballistic missile defense expertise and knowledge across the agency, centralize the acquisition of support services manpower in a more efficient manner and reduce agency overhead costs enterprise-wide. A&AS support includes engineering and technical services; studies, analyses, and evaluation; and management and professional services.

E. Performance Metrics

NA

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Product Development (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Element Payload Development Payload Development-1 WX15	TBD/CPAF	Lockheed Martin Sunnyvale, CA	268.091	0.000		0.000		0.000		0.000	0	268.091	0
Element Payload Development Payload Development-2 WX15	TBD/CPAF	Raytheon Tucson, AZ	2.000	0.000		0.000		0.000		0.000	0	2.000	0
Element System Engineering System Engineering-1 WX15	TBD/CPAF	Lockheed Martin Sunnyvale, CA	101.802	0.000		0.000		0.000		0.000	0	101.802	0
Element System Engineering System Engineering-2 WX15	TBD/CPAF	Raytheon Tucson, AZ	46.800	0.000		0.000		0.000		0.000	0	46.800	0
Element Test and Evaluation System Test and Evaluation-1 WX15	TBD/CPAF	Lockheed Martin Sunnyvale, CA	0.000	0.000		0.000		0.000		0.000	0	0	0
Element Test and Evaluation System Test and Evaluation-2 WX15	TBD/CPAF	Raytheon Tucson, AZ	0.000	0.000		0.000		0.000		0.000	0	0	0
Subtotal			418.693	0.000		0.000		0.000		0.000	0.000	418.693	0.000

Remarks

NA

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Support (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Element Payload Development Payload Development Labs-1 WX15	TBD/TBD	DRS(NVL) Ft. Belvoir, VA	9.042	0.000		0.000		0.000		0.000	0	9.042	0
Element Payload Development Payload Development Labs-2 WX15	TBD/TBD	RVS(NVL) Ft. Belvoir, VA	10.385	0.000		0.000		0.000		0.000	0	10.385	0
Element Payload Development Payload Development FFRDC WX15	TBD/TBD	Space Dynamics Laboratory Logan, UT	5.045	0.000		0.000		0.000		0.000	0	5.045	0
Element Payload Development Payload Development-1 WX15	TBD/CPAF	Aerojet Sacramento, CA	20.350	0.000		0.000		0.000		0.000	0	20.350	0
Element Payload Development Payload Development-2 WX15	TBD/CPAF	ATK Elkton, MD	6.422	0.000		0.000		0.000		0.000	0	6.422	0
Element Payload Development Payload Development-3 WX15	TBD/CPAF	Pratt Whitney/ RocketDyne Canoga Park, CA	14.170	0.000		0.000		0.000		0.000	0	14.170	0
Element Payload Development Lithium Battery Development WX15	TBD/TBD	LithChem Folcroft, PA	2.480	0.000		0.000		0.000		0.000	0	2.480	0
	TBD/TBD	ITT Huntsville, AL	3.517	0.000		0.000		0.000		0.000	0	3.517	0

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Support (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Element Payload Development Payload Development-4 WX15													
Element Payload Development Payload Development-5 WX15	TBD/TBD	Sandia Albuquerque, NM	3.074	0.000		0.000		0.000		0.000	0	3.074	0
Element Payload Development Payload Development-6 WX15	Various/ Various	Various Various	10.653	0.000		0.000		0.000		0.000	0	10.653	0
Element System Engineering Systems Engineering SETA-1 WX15	TBD/CPFF	Sparta Arlington, VA	16.391	0.000		0.000		0.000		0.000	0	16.391	0
Element System Engineering Systems Engineering SETA-2 WX15	TBD/CPFF	Computer Sciences Corp Arlington, VA	11.973	0.000		0.000		0.000		0.000	0	11.973	0
Element System Engineering Systems Engineering FFRDC-1 WX15	TBD/TBD	MIT Lincoln Lab Lexington, MA	14.364	0.000		0.000		0.000		0.000	0	14.364	0
Element System Engineering Systems Engineering FFRDC-2 WX15	TBD/TBD	JHU Applied Physics Lab Laurel, MD	10.692	0.000		0.000		0.000		0.000	0	10.692	0
	TBD/CPAF	Boeing Huntsville, AL	10.411	0.000		0.000		0.000		0.000	0	10.411	0

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Support (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Element System Engineering Systems Engineering-1 WX15													
Element System Engineering Systems Engineering-2 WX15	Various/ Various	Various Various	3.691	0.000		0.000		0.000		0.000	0	3.691	0
Element System Engineering Common Threat WX15	Various/ Various	Various Various	2.722	0.000		0.000		0.000		0.000	0	2.722	0
Subtotal			155.382	0.000		0.000		0.000		0.000	0.000	155.382	0.000

Remarks

NA

Test and Evaluation (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Element Test and Evaluation System Test and Evaluation Facilities WX15	TBD/TBD	NHTF/WASP/ KHILS/AEDC 10V/7V Edwards AFB, CA/Arnold AFB, TN	12.664	0.000		0.000		0.000		0.000	0	12.664	0

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Missile Defense Agency										DATE: February 2010			
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 0603894C: <i>MULTIPLE KILL VEHICLE</i>				PROJECT WX15: <i>Multiple Kill Vehicles (MKV) Capability Development</i>					

Test and Evaluation (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Element Test and Evaluation System Test and Evaluation SETA WX15	TBD/CPFF	Sparta Arlington, VA	7.029	0.000		0.000		0.000		0.000	0	7.029	0
Element Test and Evaluation System Test and Evaluation-1 WX15	Various/ Various	Various Various	3.251	0.000		0.000		0.000		0.000	0	3.251	0
Element Test and Evaluation System Test and Evaluation-2 WX15	TBD/CPAF	Boeing Huntsville, AL	3.000	0.000		0.000		0.000		0.000	0	3.000	0
Subtotal			25.944	0.000		0.000		0.000		0.000	0.000	25.944	0.000

Remarks

NA

Management Services (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Element Program Operations Program Operations - Gov't Personnel and Travel WX15	TBD/TBD	MDA Arlington, VA/ Huntsville, AL	8.840	0.000		0.000		0.000		0.000	0	8.840	0

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Missile Defense Agency **DATE:** February 2010

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 0603894C: <i>MULTIPLE KILL VEHICLE</i>	PROJECT WX15: <i>Multiple Kill Vehicles (MKV) Capability Development</i>
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Management Services (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total		Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date			
Element Program Operations Program Operations SETA WX15	TBD/CPFF	Paradigm Technologies, Inc. Arlington, VA	4.469	0.000		0.000		0.000		0.000	0	4.469	0	
Element Program Operations Program Operations WX15	Various/Various	Various Arlington, VA/ Huntsville, AL	5.332	0.000		0.000		0.000		0.000	0	5.332	0	
Element Program Operations Infrastructure Support WX15	Various/Various	Various Colorado Springs, CO	2.919	0.000		0.000		0.000		0.000	0	2.919	0	
Subtotal			21.560	0.000		0.000		0.000		0.000	0.000	21.560	0.000	

Remarks

NA

	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
		Cost	Award Date	Cost	Award Date	Cost	Award Date				
Project Cost Totals	621.579	0.000		0.000		0.000		0.000	0.000	621.579	0.000

Remarks

NA

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Missile Defense Agency		DATE: February 2010
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 0603894C: <i>MULTIPLE KILL VEHICLE</i>	PROJECT WX15: <i>Multiple Kill Vehicles (MKV) Capability Development</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Engagement Management Simulation			■																									
Engineering Reviews			■																									
Hover Test	■																											
Algorithm Tests			■																									
Cost Analysis Requirements Descriptions	■																											
Airplane Captive Carry Seeker Testing				■																								
Define and Develop external Interfaces Requirement Specifications			■																									
Multiple Lots of Focal Plane Arrays-2Q FY 2009		■																										
Multiple Lots of Focal Plane Arrays-3Q FY 2009			■																									

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Missile Defense Agency		DATE: February 2010
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 0603894C: <i>MULTIPLE KILL VEHICLE</i>	PROJECT WX15: <i>Multiple Kill Vehicles (MKV) Capability Development</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Engagement Management Simulation	3	2009	3	2009
Engineering Reviews	3	2009	3	2009
Hover Test	1	2009	1	2009
Algorithm Tests	3	2009	3	2009
Cost Analysis Requirements Descriptions	1	2009	1	2009
Airplane Captive Carry Seeker Testing	4	2009	4	2009
Define and Develop external Interfaces Requirement Specifications	3	2009	3	2009
Multiple Lots of Focal Plane Arrays-2Q FY 2009	2	2009	2	2009
Multiple Lots of Focal Plane Arrays-3Q FY 2009	3	2009	3	2009

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency **DATE:** February 2010

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 0603894C: <i>MULTIPLE KILL VEHICLE</i>	PROJECT ZX40: <i>Program-Wide Support</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
ZX40: <i>Program-Wide Support</i>	5.780	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	5.780
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

A. Mission Description and Budget Item Justification

Program-Wide Support provides funding for common non-headquarters support functions across the entire program. Includes costs for both government civilians performing these functions, as well as outside services and support contractors that augment government staff in these areas. Other costs included provide facility capabilities for MDA Executing Agent locations (with the exception of Federal Office Building 2), such as physical and technical security, legal services, travel and training, office and equipment leases, utilities and communications, supplies and maintenance, and similar operating expenses. Also includes funding for charges on canceled appropriations in accordance with Public Law 101-510, legal settlements, and foreign currency fluctuations on a limited number of foreign contracts.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Civilian Salaries and Support See Description Below <i>FY 2009 Accomplishments:</i> See Section A: Mission Description and Budget Item Justification ; <i>FY 2010 Plans:</i> NA <i>FY 2011 Base Plans:</i> NA	5.780	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency **DATE:** February 2010

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 0603894C: <i>MULTIPLE KILL VEHICLE</i>	PROJECT ZX40: <i>Program-Wide Support</i>
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B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> NA					
Accomplishments/Planned Programs Subtotals	5.780	0.000	0.000	0.000	0.000

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• 0603175C: <i>Ballistic Missile Defense Technology</i>	117.602	189.229	132.220	0.000	132.220	236.875	239.873	197.118	197.852	0	1,310.769
• 0603881C: <i>Ballistic Missile Defense Terminal Defense Segment</i>	951.414	715.732	436.482	0.000	436.482	250.275	336.711	500.983	521.717	0	3,713.314
• 0603882C: <i>Ballistic Missile Defense Mid-Course Segment</i>	1,472.683	1,027.371	1,346.181	0.000	1,346.181	1,112.655	1,291.790	1,099.029	1,033.213	0	8,382.922
• 0603883C: <i>Ballistic Missile Defense Boost Defense Segment</i>	384.365	182.317	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	566.682
• 0603884C: <i>Ballistic Missile Defense Sensors</i>	682.754	621.017	454.859	0.000	454.859	469.589	681.397	650.525	616.342	0	4,176.483
• 0603886C: <i>Ballistic Missile Defense System Interceptor</i>	308.869	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	308.869
• 0603888C: <i>Ballistic Missile Defense Test and Targets</i>	906.952	823.333	1,113.425	0.000	1,113.425	1,105.959	951.371	871.929	829.608	0	6,602.577
• 0603890C: <i>Ballistic Missile Defense Enabling Programs</i>	402.776	358.751	402.769	0.000	402.769	468.673	457.745	473.871	488.799	0	3,053.384
• 0603891C: <i>SPECIAL PROGRAMS - MDA</i>	182.998	250.185	270.189	0.000	270.189	269.040	450.645	517.486	601.315	0	2,541.858
• 0603892C: <i>BMD AEGIS</i>	1,054.323	1,435.717	1,467.278	0.000	1,467.278	1,021.878	1,112.668	1,076.739	923.316	0	8,091.919

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency **DATE:** February 2010

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 0603894C: <i>MULTIPLE KILL VEHICLE</i>	PROJECT ZX40: <i>Program-Wide Support</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0603893C: <i>SPACE TRACKING & SURVEILLANCE SYSTEM</i>	209.831	161.609	112.678	0.000	112.678	98.500	56.424	52.928	34.661	0	726.631
• 0603895C: <i>BMD SYSTEM SPACE PROGRAM</i>	23.250	12.492	10.942	0.000	10.942	11.182	11.347	11.749	12.155	0	93.117
• 0603896C: <i>BMD C2BMC</i>	275.174	334.734	342.625	0.000	342.625	364.085	289.778	323.922	298.936	0	2,229.254
• 0603897C: <i>BMD HERCULES</i>	51.629	47.932	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	99.561
• 0603898C: <i>BMD JOINT WARFIGHTER SUPPORT</i>	66.283	61.098	68.726	0.000	68.726	62.239	63.451	65.158	67.231	0	454.186
• 0603901C: <i>DIRECTED ENERGY RESEARCH</i>	0.000	0.000	98.688	0.000	98.688	101.371	103.449	104.572	104.141	0	512.221
• 0603904C: <i>MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC)</i>	102.823	86.483	86.198	0.000	86.198	88.181	78.517	80.410	83.087	0	605.699
• 0603906C: <i>REGARDING TRENCH</i>	3.159	6.130	7.529	0.000	7.529	8.295	8.286	8.479	8.675	0	50.553
• 0603907C: <i>SEA BASED X-BAND RADAR (SBX)</i>	143.878	167.153	153.056	0.000	153.056	150.104	159.832	160.163	197.099	0	1,131.285
• 0603908C: <i>BMD EUROPEAN INTERCEPTOR SITE</i>	348.722	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	348.722
• 0603909C: <i>BMD EUROPEAN MIDCOURSE RADAR</i>	73.728	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	73.728
• 0603911C: <i>BMD EUROPEAN CAPABILITY</i>	0.000	50.226	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	50.226
• 0603912C: <i>BMD European Comm Support</i>	26.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	26.016
• 0603913C: <i>ISRAELI COOPERATIVE</i>	0.000	201.323	121.735	0.000	121.735	111.100	113.101	116.114	119.172	0	782.545
• 0604880C: <i>LAND-BASED SM-3</i>	0.000	0.000	281.378	0.000	281.378	345.937	187.062	93.456	139.595	0	1,047.428
	0.000	255.987	318.800	0.000	318.800	405.500	416.300	337.300	227.500	0	1,961.387

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Missile Defense Agency										DATE: February 2010	
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 0603894C: <i>MULTIPLE KILL VEHICLE</i>				PROJECT ZX40: <i>Program-Wide Support</i>				
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• 0604881C: <i>Aegis SM-3 BLOCK IIA CO-DEVELOPMENT</i>											
• 0604883C: <i>PRECISION TRACKING SPACE SYSTEM</i>	0.000	0.000	66.969	0.000	66.969	123.851	184.800	348.360	482.952	0	1,206.932
• 0604884C: <i>AIRBORNE INFRARED (ABIR)</i>	0.000	0.000	111.671	0.000	111.671	103.636	123.591	103.668	58.773	0	501.339
• 0605502C: <i>Small Business Innovative Research BMDO</i>	124.788	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	124.788
• 0901585C: <i>Pentagon Reservation</i>	20.146	19.709	20.482	0.000	20.482	0.000	0.000	0.000	0.000	0	60.337
• 0901598C: <i>Management Headquarters-MDA</i>	87.151	52.403	29.754	0.000	29.754	29.421	29.974	30.567	31.171	0	290.441
D. Acquisition Strategy											
NA											
E. Performance Metrics											
NA											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Missile Defense Agency **DATE:** February 2010

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 0603894C: <i>MULTIPLE KILL VEHICLE</i>	PROJECT ZX40: <i>Program-Wide Support</i>
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Product Development (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			0.000	0.000		0.000		0.000		0.000			

Remarks
NA

Support (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			0.000	0.000		0.000		0.000		0.000			

Remarks
NA

Test and Evaluation (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			0.000	0.000		0.000		0.000		0.000			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Missile Defense Agency **DATE:** February 2010

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 0603894C: <i>MULTIPLE KILL VEHICLE</i>	PROJECT ZX40: <i>Program-Wide Support</i>
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Test and Evaluation (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
NA

Management Services (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			0.000	0.000		0.000		0.000		0.000			

Remarks
NA

Project Cost Totals	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
		Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Project Cost Totals	0.000	0.000		0.000		0.000		0.000			

Remarks
NA

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