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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0603890C / <i>BMD Enabling Programs</i>
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	4,383.847	616.800	588.847	597.720	-	597.720	620.823	639.398	648.954	650.432	Continuing	Continuing
MD24: <i>System Engineering & Integration</i>	1,514.135	158.835	175.122	171.129	-	171.129	178.396	182.240	185.922	176.333	Continuing	Continuing
MD21: <i>Homeland Cruise Missile Defense Architecture</i>	3.050	13.263	10.852	0.783	-	0.783	0.000	0.000	0.000	0.000	Continuing	Continuing
MT23: <i>Enabling - Test</i>	219.609	41.520	44.245	44.248	-	44.248	48.151	48.040	48.972	49.952	Continuing	Continuing
MD28: <i>Intelligence & Security</i>	365.255	39.102	42.036	56.654	-	56.654	59.093	59.964	60.933	61.932	Continuing	Continuing
MD30: <i>BMD Information Management Systems</i>	735.046	88.568	87.822	91.609	-	91.609	92.439	96.898	95.602	97.511	Continuing	Continuing
MC30: <i>Cyber Operations</i>	336.532	100.256	80.519	89.111	-	89.111	91.655	95.931	97.852	99.809	Continuing	Continuing
MD31: <i>Modeling & Simulation</i>	532.457	78.389	71.045	65.702	-	65.702	67.222	67.717	69.247	70.614	Continuing	Continuing
MC31: <i>Engineering Cyber Operations</i>	88.396	40.913	24.978	25.854	-	25.854	29.379	30.010	30.663	31.319	Continuing	Continuing
MD32: <i>Quality, Safety, and Mission Assurance</i>	354.246	32.852	30.737	31.383	-	31.383	32.145	32.763	33.432	34.115	Continuing	Continuing
MD40: <i>Program-Wide Support</i>	235.121	23.102	21.491	21.247	-	21.247	22.343	25.835	26.331	28.847	Continuing	Continuing

Program MDAP/MAIS Code: 362

Note

Increase in funding from Fiscal Year (FY) 2023 to FY 2024 provides increased cyber contractor support for Missile Defense System Cyber Security Service Provider Tier II expansion, Development Security Operations (DEVSECOPS) software services, and new definitions, analytical tools and phenomenologies for complex and advanced threats.

A. Mission Description and Budget Item Justification

The Missile Defense System Enabling Programs provide critical products and processes needed to combine element missile defense capabilities into a single, integrated and layered System to counter existing threats and provide new defensive capabilities against emerging threats. Specifically, the Enabling Programs:

- Assess architecture alternatives and new technologies to address advanced threats, define Missile Defense System functional requirements, conduct Analyses of Alternatives for the Department of Defense, and provide engineering requirements, execution support, and pre- and post-mission analysis for System-level tests
- Provide validated models and simulations for System assessment
- Assess and document System performance (through data collection and analysis) and deliver capabilities to the Warfighter

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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0603890C / <i>BMD Enabling Programs</i>
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- Provide multi-disciplinary security and intelligence support for acquisition, development, test, and deployment of current and future Missile Defense System capabilities
- Identify potential threats and vulnerabilities to the Missile Defense Agency (MDA) and the Missile Defense System and develop and implement strategies to mitigate those risks
- Provide Information Management tools and products supporting the development of Missile Defense System capabilities while safeguarding networks and critical program information
- Provide MDA secure communication networks, IT systems, special purpose processing nodes, operations and monitoring centers, and disaster recovery and continuity of operations requirements
- Evaluate quality, technical safeguards, and mission assurance effectiveness
- Assess System ability to maintain integrity and superiority with advances in technology development

This Program Element also funds Missile Defense System threat discrimination capability development to enhance System effectiveness against the evolving adversary threat. The end result will be a Missile Defense System architecture more capable of identifying and destroying reentry vehicles with a higher degree of confidence, improving Warfighter shot doctrine, and using interceptor inventory more efficiently. Missile Defense System threat discrimination development is budgeted for in the Enabling (0603890C); Midcourse (0603882C); BMD Sensors (0603884C); BMD Command, Control, Battle Management and Communications (C2BMC) (0603896C); and Aegis BMD (0603892C) PEs.

B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	623.644	591.847	613.589	-	613.589
Current President's Budget	616.800	588.847	597.720	-	597.720
Total Adjustments	-6.844	-3.000	-15.869	-	-15.869
• Congressional General Reductions	0.000	-3.000			
• 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	0.000	0.000			
• SBIR/STTR Transfer	-10.187	0.000			
• Other Adjustment	3.343	0.000	-15.869	-	-15.869

Change Summary Explanation

The decrease in FY 2024 reflects alignment of resources to support higher Agency priorities.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency										Date: March 2023		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs				Project (Number/Name) MD24 / System Engineering & Integration			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MD24: System Engineering & Integration	1,514.135	158.835	175.122	171.129	-	171.129	178.396	182.240	185.922	176.333	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

N/A

A. Mission Description and Budget Item Justification

System Engineering & Integration (SE&I) defines, designs, tests and integrates the Missile Defense System, and provides analysis, decision support and planning activities for real-world operations to the National Command Authority, Joint Staff, Military Services, Combatant Commanders, Operational Test Agencies, Director of Operational Test and Evaluation, Allies, and others.

The SE&I Major Program Goals are:

- Plan, design, develop, integrate, and test a layered Missile Defense System that provides the required performance
- Provide system-level engineering support to Missile Defense System Elements, and lead collaborative cross-Element, cross-Component engineering
- Analyze architecture alternatives and new technologies, and develop requirements to respond to the proliferation of short, medium, and long range advanced missile threats
- Provide a more effective missile defense capability for U.S. deployed forces, allies, and partners, and enhance homeland defense
- Develop discrimination improvements for the Homeland and Regional Defense missions
- As technical authority for Integrated Air and Missile Defense (IAMD), provide a consistent, disciplined systems engineering process using a multi-Service team to integrate Joint IAMD systems
- Provide technical direction to Element and Component developers and provide System-level forums to track, assess, and improve hardware and software reliability
- Identify Missile Defense System capabilities and limitations
- Develop performance assessment requirements, verify Missile Defense System performance through testing, and conduct assessments to form the basis for capability deliveries in support of fielding decisions
- Identify critical conditions and data required to develop test campaigns to demonstrate Missile Defense System performance
- Define the test objectives necessary to anchor System-level models and simulations and enable independent verification and validation
- Identify System issues occurring in ground and flight tests and lead the effort to resolve them
- Ensure the Missile Defense System is complementary to and interoperable with North Atlantic Treaty Organization (NATO) and other theater systems
- Develop anti-tamper approaches to enable international fielding

The Missile Defense System threat discrimination improvements and countermeasures mitigation effort will develop and field integrated Element capabilities to improve the capability to identify lethal reentry vehicles and non-lethal threat objects. SE&I will conduct analysis and engineering to specify Missile Defense System functional, performance, and interface requirements for achieving the improved capabilities.

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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD24 / System Engineering & Integration

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
<p>Title: Requirements and Design</p> <p align="right">Articles:</p> <p>Description: The Requirements and Design effort develops Missile Defense System-level requirements and specifications and drives the integration of the System. Requirements and Design allocates System-level requirements to the Elements and adjudicates Element level specifications to provide required capabilities for the Warfighter.</p> <ul style="list-style-type: none"> - Define Missile Defense System technical content expectations and develop system requirements to address evolving threats - Develop and allocate functional performance, interface, and design suitability requirements to Programs, in collaboration with Missile Defense System element engineers - Maintain and update Phased Implementation Plan to document integrated requirements for improvements to, or augmentations of, current system capabilities - Deliver system technical baseline updates to document integrated system build content - Identify and resolve technical disconnects through the requirements trace process and element certifications; conduct engineering analyses and perform trade studies - Participate in Element Requirements Reviews to assess compliance with Missile Defense System design - Develop Specification Change Notices for future requirements changes, to include mitigation strategies to address discrepancy reports - Ensure accurate reporting of Element functionality and software / hardware integration in the Missile Defense System Accountability Report and Director's Program Reviews - Assess and add emerging threats to MDA's lethality prediction models - Incorporate updates to lethality assessments, collateral effects, and consequences of intercept into the Missile Defense System Lethality Program Plan <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans:</p> <ul style="list-style-type: none"> - Conduct Next Generation Interceptor lethality modeling and simulation to support performance assessment and test requirements development <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - Provide engineering support and analysis for Next Generation Interceptor development efforts leading from Preliminary Design Review to Critical Design Review - Continue Next Generation Interceptor lethality modeling and simulation <p>FY 2023 to FY 2024 Increase/Decrease Statement:</p>	39.956	37.295	43.842
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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD24 / System Engineering & Integration
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
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Increase from FY 2023 to FY 2024 provides lethality modeling and engineering analysis for Next Generation Interceptor development efforts.			
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Title: Integrated Air and Missile Defense (IAMD)	Articles:	16.926	21.576	21.250
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<p>Description: The IAMD effort provides a consistent, disciplined systems engineering process using a joint service system engineering team to develop the technical requirements and capabilities necessary to support integration of joint service IAMD systems, implementing capabilities required by the Geographic Combatant Commands and the Services. Provides modeling, simulation and analysis of cross-Service kill chains using high-fidelity software-in-the-loop program office system representations. Analyzes, assesses, and translates identified Engagement Coordination Initial Capability Document requirements into technical requirements for implementation within Services and Agency programs to improve Engagement Coordination and implement advanced fire control capabilities across the Joint Integrated Air and Missile Defense kill-chain. This effort includes systems engineering analysis, development of technical and interface control requirements and documents, definition of candidate Joint IAMD increments, development and demonstration of candidate Joint IAMD capabilities, IAMD Modeling and Simulation (M&S) model improvements, support for accurate representation of IAMD capabilities in Wargames and exercises, and support for configuration control across the joint systems. IAMD provides capabilities to improve performance such as an improved Joint air picture and advanced Joint Combat Identification to enable engagement coordination, decision making, increase battlespace, and improve track continuity. These improvements and capabilities will enable right sensor to right shooter functionality across the Joint Services. Additional efforts will address critical joint Command and Control and interoperability needs such as the Joint Tactical Integrated Fire Control (JTIFC) architecture (including its associated capabilities) and the development of a Joint Integrated Fire Control Network to enable the capability to provide fire control quality data, at the measurement level, from the right sensor to the right shooter to engage the right target. This includes ensuring that all activities are in alignment with the DoD Joint All Domain Command and Control (JADC2) efforts. Other efforts include the development of an IAMD Operational Architecture, development of Advanced Tracker Capabilities (Advanced Track Filters and Advanced Data Association algorithms) to defend against advanced threats, Automated Battle Management Aides (ABMAs) to support Engagement Coordination and Sensor/Weapon resource management.</p> <p>Recurring activities include:</p> <ul style="list-style-type: none"> - Continue integration of Navy Cooperative Engagement Capability (CEC) & Army Integrated Fire Control Network (IFCN) via Joint Track Management Capability (JTMC) Bridge, and demonstration in increasingly realistic environments and scenarios by leveraging live demonstrations and tracking events. - Continue to advance improvements in combat identification integration and interoperability among Joint Integrated Air and Missile Defense systems and to start the implementation of these advanced capabilities across the Army, Navy, Air Force and Marine Corps systems - Enhance M&S to support participation in annual Nimble Fire exercises - Continue engineering activities supporting critical Joint Command and Control and interoperability needs 	-	-	-
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
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<p>- Work within JADC2 Working Groups and Integrated Product Teams to ensure IAMD Technical Authority efforts are in alignment and compatible with the direction of the DoD and other Services with respect to JADC2 capabilities Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans:</p> <ul style="list-style-type: none"> - Integrate Multi-Source Correlator Tracker (MSCT) software with CEC/IFCN and Air Force and Marine Corps systems - integrate fire control networks with tactical level Command and Control nodes for battle management - Incorporate ballistic and hypersonic missile tracking into the JTMC Bridge for cross-Service integrated fire control - Incorporate / demonstrate contracting across the JTMC Bridge for integrated fire control sensor to weapon support across Services - Use Army IAMD Battle Command System (IBCS), Navy CEC, USAF F-15 and other programs of record (POR) integration efforts to evaluate optimal solutions for distributed Joint Multi-Platform Advanced Combat Identification (JMAC) Architecture - Demonstrate distributed JMAC capabilities in an integrated JTIFC scenario in Live, Virtual, Constructive (LVC) environment - Continue engineering investigations and evaluation of delivered multi-sensor Advanced Track Filters and Advanced Association Algorithms to improve overall Joint IAMD Tracking Capabilities against the advanced threat - Develop demonstrations and live tracking events to show performance in more realistic IAMD environments; start transition planning - With the National Security Innovation Network, develop approaches to improve the algorithm evaluation process through the use of Artificial Intelligence and Machine Learning techniques - Conduct analysis into existing and emerging IAMD capabilities to ensure they are appropriately represented during wargames/ exercises - Continue to expand use of representative wargames and exercises in order to further enhance the capabilities being developed - Support integration of IAMD Technical Authority efforts into JADC2, as well as end-to end-capability development - Provide impact assessments for the JADC2 Reference Architecture and subsequent architecture and capability development efforts - Enable Right Sensor, Right Shooter capability with current service systems which will provide the capability to perform engagements utilizing remote sensors (engage on remote capabilities) which otherwise would not be available. This will also enable JTIFC to pass fire control quality information across all of the joint service systems. - Operate, maintain, and update the JTIFC Node, which is they key software utilized to connect the Army and Navy's composite tracking networks which allow the two services to pass fire control quality data from all connected sensors - Mature Hypersonic Defense Command and Control software and support JTIFC LVC/Flag Exercises. The LVC environment and exercises provide low cost opportunities with live systems/equipment and joint assets to continue to mature the JTIFC capabilities, which would otherwise be unaffordable for the IAMD Technical Authority (TA) efforts 			
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2022	FY 2023	FY 2024
<p>- Enable maturation and fielding of ABMAs for participation with the JTIFC architecture. This is a new effort which will enable the use of automated battle management aides to support the operators with cross service engagements.</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - Continue MSCT software and integration with CEC/IFCN and Air Force and Marine Corps systems - integrate fire control networks with tactical level Command and Control nodes for battle management - Mature and incorporate hypersonic missile tracking into the JTMC Bridge for cross-Service integrated fire control - Implementation of contracting across the JTMC Bridge for integrated fire control sensor to weapon support across Services - Fully integrate JMAC into Army IBCS, Navy CEC, LTAMDS, G/ATOR, CAC2S, E-2D, USAF F-15/16 and other POR integration efforts and optimize solutions for distributed JMAC Architecture - Refine and optimize the distributed JMAC capabilities in an integrated JTIFC scenario for demonstration in LVC environment - Find opportunities for collaboration and demonstration of delivered multi-sensor Advanced Track Filters and Advanced Association Algorithms to improve overall Joint IAMD Tracking Capabilities - Leverage FY23 demonstrations and live tracking events to show performance in more realistic IAMD environments; start transition planning into requisite Programs of Record (PoR) - Evolve and update IAMD Lab for Joint Analysis Team (JAT) to analyze existing and emerging IAMD capabilities to ensure they are appropriately represented during wargames/exercises - Step up collaboration and integration of IAMD Technical Authority efforts into JADC2 and end-to end-capability development, including working more closely with all of the JADC2 OPTs/IPTs as well as Project Convergence, Project Overmatch and ABMS. - Provide impact assessments for the JADC2 Reference Architecture and subsequent architecture and capability development efforts - Enable Right Sensor, Right Shooter capability with current service systems which will provide the capability to perform engagements utilizing remote sensors (engage on remote capabilities) which otherwise would not be available. This will also enable JTIFC to pass fire control quality information across all of the joint service systems. - Operate, maintain and update JTIFC Node, which is the key software utilized to connect the Army and Navy's composite tracking networks which allow the two services to pass fire control quality data from all connected sensors - Mature Hypersonic Defense Command and Control software and support JTIFC LVC/Flag Exercises. The LVC environment and exercises provide low cost opportunities with live systems/equipment and joint assets to continue to mature the JTIFC capabilities, which would otherwise be unaffordable for the IAMD TA efforts - Narrow down ABMA options and start the maturation, demonstration and fielding of ABMAs for participation with JTIFC. <p>FY 2023 to FY 2024 Increase/Decrease Statement: N/A</p>				
Title: System-Level Verification and Assessment		21.646	26.591	26.049
Articles:		-	-	-

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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD24 / System Engineering & Integration		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2022	FY 2023	FY 2024
<p>Description: This activity funds Missile Defense System Assessment and Verification, Validation, and Accreditation (VV&A) activities to support Operational Capability Baseline delivery decisions, and anchor System modeling and simulation.</p> <ul style="list-style-type: none"> - Develop and manage assessment plans and requirements for Missile Defense System capability increments: <ul style="list-style-type: none"> -- Map assessment requirements to data collection venues (i.e., ground tests, flight tests, and exercises) -- Evaluate current Modeling & Simulation (M&S) capability to address assessment requirements, and provide recommendations for new or improved M&S - Maintain assessment documentation per the R-4 summary - Conduct extensive analysis of data collected in Missile Defense System ground and flight test events to characterize System interoperability and performance, and anchor models and simulations - Identify mitigation approaches for system performance issues uncovered during the course of analysis and assessment - Monitor development and recommend improvements to the simulation enterprise based on an evaluation of the validity of Component, Element and System-level models (and frameworks) and participation in assessment activities and M&S events - Continue VV&A activities to meet and maintain Hardware-in-the-Loop (HWIL) model accreditation in accordance with the HWIL Accreditation plan - Conduct assessments of Missile Defense Systems capabilities and limitations prior to capability delivery decisions - Produce independent assessments of each incremental Missile Defense System Capability Delivery to support fielding readiness determinations - Verify Missile Defense System performance against specified requirements, and produce System verification reports - Maintain M&S VV&A database and toolkit - Maintain verification data for System Specification Change Notices - Recommend solutions to improve assessment confidence, including M&S and testing issue resolutions <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans: - SEE ABOVE.</p> <p>FY 2024 Plans: - SEE ABOVE.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: N/A.</p>				
Title: Knowledge Centers		11.860	12.055	9.148
Articles:		-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
<p>Description: Knowledge Centers serve as independent technical advisors to MDA program offices in the Command, Control, Battle Management and Communications, Interceptor, Space, and Sensor areas to support development of technical approaches and improve reliability.</p> <ul style="list-style-type: none"> - Provide Federally Funded Research and Development Centers (FFRDC) and University Affiliated Research Centers (UARC) subject matter expertise, to include reach-back capability as needed, for Element program managers: -- Provide Subject Matter Expertise and analytical support for Independent Review Teams, mission assurance assessments, Failure Review Boards and Failure Investigation Teams -- Identify and provide recommendations to mitigate technical risks, including innovative and unconventional approaches -- Promote knowledge sharing between external technical sources and the Missile Defense Agency (MDA) - Perform independent technical assessments of critical System and Element program issues: -- Define element knowledge points, establish closure criteria, and provide closure recommendations -- Continue to provide System and Element performance assessments - Conduct assessments of emerging technologies as required <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans: - SEE ABOVE.</p> <p>FY 2024 Plans: - SEE ABOVE.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Decrease from FY 2023 to FY 2024 reflects a reduction in Knowledge Center support.</p>			
<p>Title: Future Concepts and Planning</p> <p align="right">Articles:</p> <p>Description: This activity funds Missile Defense System architecture and future concept development, and efforts and studies to address the emergent threat, including DoD Analyses of Alternatives if directed.</p> <ul style="list-style-type: none"> - Participate in designated Office of the Secretary of Defense activities or analyses, as directed by Congress - Perform Missile Defense System capability gap analysis, and analyze and document architecture alternatives and/or new technologies to address gaps - Develop architecture overviews, capability evolution plans, integrated system schedules, and top-level requirements - Develop Architecture Requirements Packages to establish functional, performance and integration planning requirements for next generation weapons and sensors to counter future threats 	15.829 -	13.853 -	21.033 -

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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD24 / System Engineering & Integration
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023		FY 2024
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<ul style="list-style-type: none"> - Identify architecture alternatives that improve Missile Defense System performance and are complementary to and interoperable with NATO systems and theaters around the world - Conduct technology development reviews for future/follow-on Missile Defense System Element development efforts - Update concept capability documentation based on architectural options, trade studies, and technology development experiments - Maintain a dialog with the Warfighter community for all Missile Defense System engineering and technical issues: <ul style="list-style-type: none"> -- Inform Warfighter development of the Joint IMAND Portfolio Priority List (JIPPL) by providing relevant System data -- Develop updates to the digital version of the Achievable Capabilities List as required -- Support MDA Wargame planning, execution, and analysis - Develop updates to the digital version of the Future Architecture Roadmap as required - Provide prioritized strategic architecture thrusts to inform Agency Science and Technology (S&T) investments - Maintain the MDA Director's Strategic Planning War-Room and the Strategic Vision for the Agency - Lead collaborative effort to improve foreign partners' understanding of existing system capabilities, architectural performance and operational concepts of the Missile Defense System <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans:</p> <ul style="list-style-type: none"> - SEE ABOVE. <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - SEE ABOVE. <p>FY 2023 to FY 2024 Increase/Decrease Statement:</p> <p>Increase from FY 2023 to FY 2024 provides additional architecture assessment to include future threat analysis, address capability gaps, mitigation assessment, architecture analysis tool development/execution, and future architect roadmap updates.</p>				
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Title: System Engineering, Engineering Analysis and Quick Response Team	10.535	10.712		11.588
Articles:	-	-		-

<p>Description: This task provides rapid response, high quality systems engineering analysis products and supporting technical data to address external and internal Agency inquiries and decisions:</p> <ul style="list-style-type: none"> - Conduct system level analyses to support ongoing Missile Defense System Architecture and Systems Engineering efforts - Analyze expected performance of Missile Defense System Architecture options: <ul style="list-style-type: none"> -- Analyze and predict the performance of future Missile Defense System capabilities -- Provide technical assessments, and collaborate with Missile Defense System Elements to define and track technical performance measures - Respond to Warfighter, Combatant Command and congressional requests for information and analysis 				
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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD24 / System Engineering & Integration		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2022	FY 2023	FY 2024
<ul style="list-style-type: none"> - Provide analytical support for real-world events - Maintain analysis parameters database and standards per the R4 summary to ensure consistency - Develop analytical data to respond to information requests from MDA and Department of Defense leadership <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans: SEE ABOVE.</p> <p>FY 2024 Plans: SEE ABOVE.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: N/A.</p>				
<p>Title: Discrimination</p> <p>Description: MDA designs, develops, tests, and delivers Missile Defense System discrimination improvements and countermeasures mitigation capabilities to address emerging adversary countermeasures. MDA is focused on providing the Warfighter with capability improvements to identify Reentry Vehicles within a threat missile complex in the presence of decoys and with advanced capabilities to address other countermeasures. SE&I will lead and integrate the Threat Discrimination program across the entire Missile Defense System, establish performance goals for the product development phase, and develop functional, performance, and interface requirements to address the threat. SE&I will establish threat discrimination and countermeasures mitigation ground and flight test requirements and develop updated high fidelity threat models to support analysis and testing activities. Other activities include:</p> <ul style="list-style-type: none"> - Perform systems engineering support for threat discrimination and counter-countermeasures analysis and assessments - Conduct Threat Discrimination Program integration across the entire Missile Defense System - Perform threat discrimination systems engineering support for counter-countermeasures analysis and assessments - Conduct analysis on predicted performance of advanced capability development for definition of initial requirements for the Missile Defense System - Develop Electronic Attack and Electronic Protection models to support Missile Defense System requirements definition for Electronic Protection techniques - Define operational concepts for improved counter-countermeasure techniques and technologies - Support Ground/Flight test data collection planning efforts - Develop models and simulations for Electronic Attack, Electronic Protection, Objective Debris Mitigation, electro-optical/infrared improvements, advanced/dynamic threat, and high-fidelity scene generation to support test planning and execution 		<p>Articles:</p> <p>26.807</p> <p>-</p>	<p>16.658</p> <p>-</p>	<p>18.950</p> <p>-</p>

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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD24 / System Engineering & Integration		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2022	FY 2023	FY 2024
<ul style="list-style-type: none"> - Develop updated high fidelity threat models - Provide technical support for fielding improved threat discrimination capabilities <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans:</p> <ul style="list-style-type: none"> - Develop Enhanced Electronic Protection Techniques - Produce Specification Change Notice, Trace Activities for flowdown to Element Specifications, and Document Change Notice <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - Develop techniques for Electronic Protection and Objective Debris Mitigation capabilities - Investigate high fidelity scene generation and electronic attack models and simulations for Systems Engineering analysis and concept development - Develop various threat-based models representing anticipated advisory countermeasures capabilities for use in engineering trade studies and analysis <p>FY 2023 to FY 2024 Increase/Decrease Statement: Increase from FY 2023 to FY 2024 provides further development of Electronic Protection techniques for various radar systems and the associated M&S to support both development and testing activities.</p>				
Title: Risk Management		6.550	7.755	8.331
		Articles:	-	-
<p>Description: The Risk Management task identifies Missile Defense System element and component technical risks, and tracks status and risk mitigation progress.</p> <ul style="list-style-type: none"> - Convene and chair Risk Management Working Group - Execute the risk management and mission readiness working group process - Maintain a risk database using the Failure Reporting and Corrective Action System - Review and approve program element risks, on quarterly basis <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans:</p> <ul style="list-style-type: none"> - SEE ABOVE. <p>FY 2024 Plans:</p>				

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency		Date: March 2023		
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD24 / System Engineering & Integration		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2022	FY 2023	FY 2024
- SEE ABOVE.				
FY 2023 to FY 2024 Increase/Decrease Statement: N/A.				
Title: Anti-Tamper & Engineering Manufacturing Readiness Level Development		5.429	5.282	5.446
Articles:		-	-	-
Description: This task develops anti-tamper approaches to inhibit reverse engineering of critical technologies and oversees the use of Engineering and Manufacturing Readiness Levels (EMRLs) to assess Element, Component, or System maturity. - Develop anti-tamper approaches to enable international fielding, support coalition warfare, and extend the effective operational life of the System - Engage and support the Services in understanding and transitioning Missile Defense System Element Anti-Tamper activities - Participate in Element reviews to assess proposed Anti-Tamper solutions and assist programs in developing and implementing Anti-Tamper detection and response technologies to mitigate risk - Monitor application of EMRLs to evaluate engineering and manufacturing maturity of Missile Defense System elements, systems, and components - Assess and report readiness of MDA development efforts for transition to production Specific and/or unique accomplishments to each FY are as follows: FY 2023 Plans: - SEE ABOVE. FY 2024 Plans: - SEE ABOVE. FY 2023 to FY 2024 Increase/Decrease Statement: N/A.				
Title: Manufacturing and Producibility		3.297	5.345	5.492
Articles:		-	-	-
Description: This activity supports a system-level manufacturing and producibility team to address materials, key component, and subsystem design and development to reduce cycle time, part count, and risk. This activity also supports a system-level reliability team to reduce risk of test failures and performance shortcomings and drive reliability into system and component designs. - Assess Missile Defense industrial base and determine critical manufacturing technologies: -- Conduct assessments of critical component supply base and update critical technologies database -- Collaborate with national security space components on investment strategies for critical technologies				

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency	Date: March 2023
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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD24 / System Engineering & Integration
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
<ul style="list-style-type: none"> -- Develop engineering management tool to characterize industrial base risks - Utilize supply chain risk identification and mitigation tracking system to mitigate manufacturing supply issues for critical components - Assess the effectiveness of reliability programs for each MDA Product (Radar, Launcher, Missile/Interceptor, etc.) to achieve/sustain required reliability - Perform reliability, composite risk, and probability of mission success assessments for flight tests - Identify failure trends/modes and evaluate impact on the Probability of Mission Success; evaluate potential corrective actions - Provide element/program scorecard data to support reliability evaluations/assessments - With Logistics Support, develop MDA Reliability and Logistic Policies/Plans to promote integrated sustainability efforts - Ensure that Missile Defense products have achieved the required maturity in Reliability, Availability, and Maintainability (RAM) to support the transition from MDA to the appropriate service organization; provide RAM expertise as needed to Element Program Offices - Provide updates to MDA RAM policy and guidance <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans: - SEE ABOVE.</p> <p>FY 2024 Plans: - SEE ABOVE.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: N/A.</p>			
<p>Title: Guam Defense Integrated Air and Missile Defense (IAMD)</p> <p align="right">Articles:</p> <p>Description: The Guam Defense IAMD provides the integration of the JTMC Bridge to establish an independent integrated fire control architecture in support of the Defense of Guam. This activity pulls from ongoing IAMD TA efforts that developed a bridge capability demonstration. This requirement would allow composite tracking networks to operate as a single joint composite tracking network in support of Guam Defense.</p> <p>FY 2023 Plans:</p> <ul style="list-style-type: none"> - Mature the JTMC Bridge with respect to Defense of Guam requirements - Initiate accreditation of JTMC Bridge to connect to tactical CEC networks for Live testing - Provide cyber security and accreditation packages 	0.000 -	18.000 -	0.000 -

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD24 / System Engineering & Integration
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
- Mature the JTMC Bridge for Ballistic and Hypersonic Missile tracking and Combat Identification - Provide integration activities for existing JTMC Bridge into Integrated Air Defense System (IADS) architecture - Conduct integration of sensors and weapons into IBCS and interface of IBCS to Battle Control System - Fixed / command and control (BCS-F/C2) Pathfinder FY 2024 Plans: N/A FY 2023 to FY 2024 Increase/Decrease Statement: Decrease from FY 2023 to FY 2024 reflects transfer of integration activities to the Command, Control, Battle Management, and Communications PE (0603896C).			
Accomplishments/Planned Programs Subtotals	158.835	175.122	171.129

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u> <u>Base</u>	<u>FY 2024</u> <u>OCO</u>	<u>FY 2024</u> <u>Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0603881C: Ballistic Missile	209.004	195.216	220.311	-	220.311	239.705	334.977	384.992	292.629	Continuing	Continuing
<i>Defense Terminal Defense Segment</i>											
• 0603882C: Ballistic Missile Defense Midcourse Defense Segment	707.632	689.018	903.633	-	903.633	852.567	906.634	930.538	875.198	Continuing	Continuing
• 0603884C: Ballistic Missile Defense Sensors	250.123	230.502	239.159	-	239.159	212.191	233.877	242.623	251.226	Continuing	Continuing
• 0603892C: AEGIS BMD	628.014	595.572	693.727	-	693.727	639.678	706.974	699.611	733.909	Continuing	Continuing
• 0603896C: Ballistic Missile Defense Command and Control, Battle Management & Communication	556.914	589.374	554.201	-	554.201	574.275	585.966	598.896	582.156	Continuing	Continuing
• 0603914C: Ballistic Missile Defense Test	388.956	366.824	360.455	-	360.455	430.281	436.921	465.074	375.256	Continuing	Continuing
• 0604102C: Guam Defense Development	110.611	393.201	397.578	-	397.578	291.301	272.227	238.348	232.115	Continuing	Continuing
• 0604181C: Hypersonic Defense	281.886	517.977	208.997	-	208.997	218.939	294.326	366.951	644.996	Continuing	Continuing

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / <i>BMD Enabling Programs</i>	Project (Number/Name) MD24 / <i>System Engineering & Integration</i>

D. Acquisition Strategy

In order to optimize the performance of the Missile Defense System, MDA leverages the nation's engineering Centers of Excellence at government agencies and Military Services, FFRDCs, UARCs, and industry. The executing agents utilize various contracting strategies in a flexible manner to maximize their contribution. Products and Services will be acquired by competitive means to the extent that is possible and practical.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD24 / System Engineering & Integration
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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	N/A

Remarks
N/A

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Requirements and Design - Reqts & Design - Lethality Spt - FFRDC/UARC	FFRDC	Various : CA	5.391	0.631	Nov 2021	0.785	Nov 2022	1.526	Nov 2023	-		1.526	Continuing	Continuing	Continuing
Requirements and Design - Reqts & Design - Lethality Spt - CSS	C/CPFF	TEAMS : NC	4.023	1.499	Nov 2021	0.694	Nov 2022	0.713	Nov 2023	-		0.713	Continuing	Continuing	Continuing
Requirements and Design - Reqts & Design - Next Generation Interceptor Lethality Analysis	Various	TBD : TBD	0.000	0.000		5.697	Dec 2022	8.582	Dec 2023	-		8.582	Continuing	Continuing	Continuing
Requirements and Design - Previous Year Reqts & Design Content No Longer in FYDP	Various	Various : Various	47.805	0.000		0.000		0.000		-		0.000	0.000	47.805	0.000
Requirements and Design - Reqts & Design	C/CPFF	TEAMS : AL, VA	58.994	5.654	Nov 2021	6.949	Nov 2022	6.368	Nov 2023	-		6.368	Continuing	Continuing	Continuing
Requirements and Design - Reqts & Design - FFRDC/UARC	FFRDC	Various : Various	14.856	1.768	Nov 2021	1.382	Nov 2022	1.419	Nov 2023	-		1.419	Continuing	Continuing	Continuing
Requirements and Design - Reqts & Design - Industry	C/CPFF	Boeing : AL	137.073	5.162	Nov 2021	10.394	Nov 2022	9.473	Nov 2023	-		9.473	Continuing	Continuing	Continuing
Requirements and Design - Reqts & Design - MDA	Allot	MDA : AL, VA	78.762	11.082	Oct 2021	8.935	Oct 2022	11.016	Oct 2023	-		11.016	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD24 / System Engineering & Integration
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Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Requirements and Design - Reqts & Design - Next Generation Interceptor CSS support	Various	Various : AL	0.000	3.315	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Requirements and Design - Reqts & Design - Next Generation Interceptor Lab support	Various	Various : NM, CA, TX	0.000	3.929	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Requirements and Design - Reqts & Design - Next Generation Interceptor OGA support	MIPR	Various : AL, TN	0.000	2.292	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Requirements and Design - Reqts & Design - OGA	MIPR	CCDC : AL	15.585	0.000		0.000		0.000		-		0.000	0.000	15.585	0.000
Requirements and Design - Reqts & Design - Post Intercept Assessment	Various	Various : Various	25.514	1.687	Nov 2021	2.459	Nov 2022	4.745	Nov 2023	-		4.745	Continuing	Continuing	Continuing
Requirements and Design - Reqts & Design - S&T	Various	Various : Various	0.000	2.937	Sep 2022	0.000		0.000		-		0.000	0.000	2.937	0.000
Integrated Air and Missile Defense (IAMD) - IAMD - CCDC	MIPR	DOD - USA - COMBAT CAPABILITIES DEVELOPMENT COMMAND (CCDC) : AL	24.390	9.233	Dec 2021	10.129	Nov 2022	10.598	Dec 2023	-		10.598	Continuing	Continuing	Continuing
Integrated Air and Missile Defense (IAMD) - IAMD - CS Support	C/CPFF	YORKTOWN SYSTEMS GROUP, INC. : AL	0.000	0.000		0.000		1.940	Nov 2023	-		1.940	Continuing	Continuing	Continuing
Integrated Air and Missile Defense (IAMD) - IAMD - JADC2 Integration	MIPR	DOD - USA - COMBAT CAPABILITIES DEVELOPMENT COMMAND (CCDC) : AL	0.000	0.000		1.210	Dec 2022	0.000		-		0.000	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD24 / System Engineering & Integration
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Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Air and Missile Defense (IAMD) - IAMD - JHU/APL	C/CPFF	JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY LLC, THE : MD	0.000	1.484	Nov 2021	2.445	Nov 2022	1.986	Nov 2023	-		1.986	Continuing	Continuing	Continuing
Integrated Air and Missile Defense (IAMD) - IAMD - MDA	Allot	MDA : AL, VA, CO	0.739	0.523	Oct 2021	0.805	Oct 2022	0.832	Oct 2023	-		0.832	Continuing	Continuing	Continuing
Integrated Air and Missile Defense (IAMD) - IAMD - NSMA	MIPR	DOD - USN - NAVY SYSTEMS MANAGEMENT ACTIVITY (NSMA) : VARIOUS	0.000	0.000		0.000		1.083	Dec 2023	-		1.083	Continuing	Continuing	Continuing
Integrated Air and Missile Defense (IAMD) - IAMD - Northrop Grumman	C/CPFF	NORTHROP GRUMMAN : VARIOUS	0.000	1.536	Jan 2022	2.100	Nov 2022	1.721	Nov 2023	-		1.721	Continuing	Continuing	Continuing
Integrated Air and Missile Defense (IAMD) - IAMD - Support	C/CPFF	TEAMS : AL, VA, CO	7.901	1.327	Nov 2021	1.439	Nov 2022	0.000		-		0.000	0.000	10.667	0.000
Integrated Air and Missile Defense (IAMD) - IAMD - Various	Various	Various : VARIOUS	71.168	2.823	Nov 2021	3.448	Nov 2022	3.090	Nov 2023	-		3.090	Continuing	Continuing	Continuing
Integrated Air and Missile Defense (IAMD) - Previous Year IAMD Content No Longer in FYDP	Various	Various : AL, VA, MD	6.520	0.000		0.000		0.000		-		0.000	0.000	6.520	0.000
System-Level Verification and Assessment - Previous Year Sys V&A content no longer in the FYDP	Various	Various : Various	12.236	0.000		0.000		0.000		-		0.000	0.000	12.236	0.000
System-Level Verification and Assessment - Sys V&A - CSS	C/CPFF	PARSONS GOVERNMENT SERVICES INC. : AL	18.465	2.930	Nov 2021	2.604	Nov 2022	2.737	Nov 2023	-		2.737	Continuing	Continuing	Continuing
System-Level Verification and Assessment - Sys	FFRDC	Aerospace : CA	24.953	1.879	Nov 2021	1.825	Nov 2022	1.231	Nov 2023	-		1.231	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD24 / System Engineering & Integration
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Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
V&A - FFRDC/UARC - Aerospace															
System-Level Verification and Assessment - Sys V&A - FFRDC/UARC - JHU/APL	FFRDC	JHU/APL : MD, VA	12.888	1.687	Nov 2021	1.282	Nov 2022	1.321	Nov 2023	-		1.321	Continuing	Continuing	Continuing
System-Level Verification and Assessment - Sys V&A - FFRDC/UARC - Mitre	FFRDC	MITRE : VA	24.711	1.960	Nov 2021	1.645	Nov 2022	1.110	Nov 2023	-		1.110	Continuing	Continuing	Continuing
System-Level Verification and Assessment - Sys V&A - FFRDC/UARC - Various	FFRDC	Various : Various	27.526	0.896	Nov 2021	2.047	Nov 2022	1.386	Nov 2023	-		1.386	Continuing	Continuing	Continuing
System-Level Verification and Assessment - Sys V&A - M&S Accreditation	Various	CCDC : AL	23.482	6.705	Nov 2021	6.901	Nov 2022	7.081	Nov 2023	-		7.081	Continuing	Continuing	Continuing
System-Level Verification and Assessment - Sys V&A - MDA	Allot	MDA : VA, AL	23.410	2.684	Oct 2021	6.652	Oct 2022	7.381	Oct 2023	-		7.381	Continuing	Continuing	Continuing
System-Level Verification and Assessment - Sys V&A - OGA	MIPR	CCDC : AL	19.109	2.455	Nov 2021	3.134	Nov 2022	3.291	Nov 2023	-		3.291	Continuing	Continuing	Continuing
System-Level Verification and Assessment - V&A Industry Support	C/CPFF	Boeing : AL	23.059	0.450	Nov 2021	0.501	Nov 2022	0.511	Nov 2023	-		0.511	Continuing	Continuing	Continuing
Knowledge Centers - KC - FFRDC/UARC - Aerospace	FFRDC	Aerospace : CA	17.668	0.000		0.000		0.000		-		0.000	0.000	17.668	0.000
Knowledge Centers - KC - FFRDC/UARC - Mitre	FFRDC	MITRE : VA	13.124	1.977	Nov 2021	0.864	Nov 2022	0.876	Nov 2023	-		0.876	Continuing	Continuing	Continuing
Knowledge Centers - KC - Industry	C/CPFF	BOEING : AL	0.974	0.000		0.000		0.000		-		0.000	0.000	0.974	0.974
Knowledge Centers - KC - MDA	Allot	MDA : AL, VA	45.431	3.401	Oct 2021	2.828	Oct 2022	2.921	Oct 2023	-		2.921	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD24 / System Engineering & Integration
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Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Knowledge Centers - KC - TEAMS	C/CPFF	TEAMS : AL	10.767	0.766	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Knowledge Centers - KC - Various	Various	Various : Various	14.136	5.716	Nov 2021	8.363	Nov 2022	5.351	Nov 2023	-		5.351	Continuing	Continuing	Continuing
Knowledge Centers - Previous Year KC Content No Longer In FYDP	Various	Various : AL, AK, CA, CO, HI, NM, VA	3.032	0.000		0.000		0.000		-		0.000	0.000	3.032	0.000
Future Concepts and Planning - Architecture target simulation development	MIPR	USA CCDC AVIATION AND MISSILE CENTE : AL	10.000	0.000		0.000		0.000		-		0.000	0.000	10.000	0.000
Future Concepts and Planning - Future Concepts - Architecture CS Support	Various	TBD : TBD	0.000	0.000		0.000		6.483	Nov 2023	-		6.483	0.000	6.483	0.000
Future Concepts and Planning - Future Concepts - Architecture CSS	C/CPFF	TEAMS : AL, VA	29.112	1.205	Apr 2022	0.000		0.000		-		0.000	0.000	30.317	0.000
Future Concepts and Planning - Future Concepts - Architecture Support	Various	Various : VARIOUS	16.604	1.647	Oct 2021	3.238	Nov 2022	0.422	Nov 2023	-		0.422	0.000	21.911	0.000
Future Concepts and Planning - Future Concepts - FFRDC / UARC 1	FFRDC	SNL : CA	4.097	0.000		0.000		0.000		-		0.000	0.000	4.097	0.000
Future Concepts and Planning - Future Concepts - FFRDC / UARC 2	C/CPFF	GTRI (Georgia Tech Research Institute) : GA	0.000	1.856	Mar 2022	2.804	Dec 2022	4.366	Dec 2023	-		4.366	Continuing	Continuing	Continuing
Future Concepts and Planning - Future Concepts - FFRDC / UARC 3	FFRDC	MIT/LL : MA	5.130	0.000		0.000		0.000		-		0.000	0.000	5.130	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD24 / System Engineering & Integration
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Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Future Concepts and Planning - Future Concepts - FFRDC / UARC 4	MIPR	DOE - DEPARTMENT OF ENERGY (DOE) : CA	0.000	0.180	Jun 2022	0.000		0.370	Dec 2023	-		0.370	Continuing	Continuing	Continuing
Future Concepts and Planning - Future Concepts - FFRDC / UARC 5	FFRDC	DOD - USA - COMMUNICATIONS ELECTRONICS COMMAND (CECOM) : MD	5.430	2.379	Dec 2021	1.487	Nov 2022	2.285	Nov 2023	-		2.285	Continuing	Continuing	Continuing
Future Concepts and Planning - Future Concepts - FFRDC / UARC 6	MIPR	DOD - USAF - AIR FORCE LIFE CYCLE MANAGEMENT CENTER (AFLCMC) : MA	5.996	0.487	Jan 2022	0.000		0.572	Nov 2023	-		0.572	Continuing	Continuing	Continuing
Future Concepts and Planning - Future Concepts - Support	Allot	MDA : VA / AL	32.116	8.006	Oct 2021	6.324	Oct 2022	6.535	Oct 2023	-		6.535	Continuing	Continuing	Continuing
Future Concepts and Planning - Future Concepts - WHS	MIPR	RAND CORPORATION : Various	0.000	0.069	Mar 2022	0.000		0.000		-		0.000	0.000	0.069	0.000
Future Concepts and Planning - Previous Year Future Concepts - No Longer in FYDP	Various	Various : Various	82.988	0.000		0.000		0.000		-		0.000	0.000	82.988	0.000
System Engineering, Engineering Analysis and Quick Response Team - Previous Year Sys Engrg, QRT - No Longer In FYDP	Various	Various : Various	6.253	0.000		0.000		0.000		-		0.000	0.000	6.253	0.000
System Engineering, Engineering Analysis and Quick Response Team - Sys Engrg, QRT - CSS	C/CPFF	PARSONS GOVERNMENT SERVICES INC. : AL	44.915	2.988	Nov 2021	2.652	Nov 2022	3.329	Nov 2023	-		3.329	Continuing	Continuing	Continuing
System Engineering, Engineering Analysis and	C/CPFF	SAIC : VA, AL	45.320	7.109	Nov 2021	7.577	Nov 2022	7.766	Nov 2023	-		7.766	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency												Date: March 2023			
Appropriation/Budget Activity						R-1 Program Element (Number/Name)				Project (Number/Name)					
0400 / 4						PE 0603890C / BMD Enabling Programs				MD24 / System Engineering & Integration					
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Quick Response Team - Sys Engrg, QRT - CSS 2															
System Engineering, Engineering Analysis and Quick Response Team - Sys Engrg, QRT - Industry Spt	C/CPFF	Boeing : VA, AL	1.715	0.438	Nov 2021	0.483	Nov 2022	0.493	Nov 2023	-		0.493	Continuing	Continuing	Continuing
Discrimination - Discrimination - CSS	C/CPFF	TEAMS : AL	38.137	3.074	Nov 2021	5.498	Nov 2022	5.635	Nov 2023	-		5.635	Continuing	Continuing	Continuing
Discrimination - Discrimination - Industry	C/CPAF	Boeing : AL, VA	64.856	5.537	Nov 2021	8.729	Nov 2022	10.813	Nov 2023	-		10.813	Continuing	Continuing	Continuing
Discrimination - Discrimination - Industry 2	C/CPAF	NORTHROP GRUMMAN : AL	0.000	1.928	May 2022	0.000		0.000		-		0.000	0.000	1.928	0.000
Discrimination - Discrimination - Sensors	C/CPFF	IERUS TECHNOLOGIES, LLC : AL	0.000	1.368	Dec 2021	0.000		0.000		-		0.000	0.000	1.368	0.000
Discrimination - Discrimination - Support	Allot	MDA : AL, VA	40.360	2.837	Oct 2021	1.930	Oct 2022	1.992	Oct 2023	-		1.992	Continuing	Continuing	Continuing
Discrimination - Discrimination - Various	Various	Various : Various	5.628	5.463	Nov 2021	0.501	Nov 2022	0.510	Nov 2023	-		0.510	Continuing	Continuing	Continuing
Discrimination - Discrimination - Advanced Technology	IA	DOE - DEPARTMENT OF ENERGY (DOE) : Various	0.000	6.600	Sep 2022	0.000		0.000		-		0.000	0.000	6.600	0.000
Discrimination - Prior Year Discrimination Improvements no longer funded in FYDP	Various	Various : Various	61.423	0.000		0.000		0.000		-		0.000	0.000	61.423	0.000
Risk Management - Risk Mgt - Analysis	Allot	MDA : VA, AL	45.872	5.733	Oct 2021	5.975	Oct 2022	6.525	Oct 2023	-		6.525	Continuing	Continuing	Continuing
Risk Management - Risk Mgt - ICT	C/CPAF	Northrop Grumman : AL, AK, CA, CO, HI, NM, VA	2.125	0.000		0.000		0.000		-		0.000	0.000	2.125	0.000
Risk Management - Risk Mgt - Various	Various	Various : Various	12.040	0.817	Nov 2021	1.780	Nov 2022	1.806	Nov 2023	-		1.806	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD24 / System Engineering & Integration
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Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Anti-Tamper & Engineering Manufacturing Readiness Level Development - AT & EMRL - Anti-Tamper	Various	Various : AL, VA, CO	10.373	0.693	Nov 2021	0.831	Nov 2022	0.848	Nov 2023	-		0.848	Continuing	Continuing	Continuing
Anti-Tamper & Engineering Manufacturing Readiness Level Development - AT & EMRL - MDA	Allot	MDA : AL, VA	38.375	4.736	Oct 2021	4.451	Oct 2022	4.598	Oct 2023	-		4.598	Continuing	Continuing	Continuing
Anti-Tamper & Engineering Manufacturing Readiness Level Development - Prior Year AT & EMRL no longer funded in FYDP	Various	Various : Various	2.983	0.000		0.000		0.000		-		0.000	0.000	2.983	0.000
Manufacturing and Producibility - Core Standards	C/CPFF	Boeing : AL	7.677	0.000		0.000		0.000		-		0.000	0.000	7.677	0.000
Manufacturing and Producibility - Manufacturing and Producibility - Advanced Technology	Various	Various : Various	0.000	1.226	May 2022	0.000		0.000		-		0.000	0.000	1.226	0.000
Manufacturing and Producibility - Mfg and Producibility	Allot	MDA : AL	9.674	1.945	Oct 2021	3.002	Oct 2022	3.103	Oct 2023	-		3.103	Continuing	Continuing	Continuing
Manufacturing and Producibility - Mfg and Producibility - CSS	C/CPFF	TEAMS : AL, VA	3.212	0.126	Nov 2021	2.343	Nov 2022	2.389	Nov 2023	-		2.389	Continuing	Continuing	Continuing
Manufacturing and Producibility - Mfg and Producibility - OGA Support	MIPR	CCDC : AL	13.463	0.000		0.000		0.000		-		0.000	0.000	13.463	0.000
Manufacturing and Producibility - Mfg and Producibility - Various	Various	Various : AL	2.000	0.000		0.000		0.000		-		0.000	0.000	2.000	0.000
Manufacturing and Producibility - Previous	Various	Various : Various	1.450	0.000		0.000		0.000		-		0.000	0.000	1.450	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD24 / System Engineering & Integration
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Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Year Mfg and Producibility - No Longer In FYDP															
JEON Capability - CSS	C/CPFF	TEAMS : VA, AL	5.996	0.000		0.000		0.000		-		0.000	0.000	5.996	0.000
JEON Capability - FFRDC/UARC	MIPR	MITRE : VA	1.341	0.000		0.000		0.000		-		0.000	0.000	1.341	0.000
JEON Capability - Framework, Truth Models	Various	Various : CO, AL	4.043	0.000		0.000		0.000		-		0.000	0.000	4.043	0.000
Guam Defense Integrated Air and Missile Defense (IAMD) - Guam Defense IAMD - AvMC	MIPR	DOD - USA - COMBAT CAPABILITIES DEVELOPMENT COMMAND (CCDC) AVIATION AND MISSILE CENTER (AVMC) : AL	0.000	0.000		0.996	Dec 2022	0.000		-		0.000	0.000	0.996	0.000
Guam Defense Integrated Air and Missile Defense (IAMD) - Guam Defense IAMD - JHU/APL	FFRDC	JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY LLC, THE : MD	0.000	0.000		2.675	Dec 2022	0.000		-		0.000	0.000	2.675	0.000
Guam Defense Integrated Air and Missile Defense (IAMD) - Guam Defense IAMD - Lockheed Martin	C/CPFF	LOCKHEED MARTIN CORPORATION : Various	0.000	0.000		0.835	Dec 2022	0.000		-		0.000	0.000	0.835	0.000
Guam Defense Integrated Air and Missile Defense (IAMD) - Guam Defense IAMD - MDA	Allot	DOD - MISSILE DEFENSE AGENCY (MDA) : Various	0.000	0.000		0.817	Oct 2022	0.000		-		0.000	0.000	0.817	0.000
Guam Defense Integrated Air and Missile Defense (IAMD) - Guam Defense IAMD - NSWC Corona	MIPR	DOD - USN - NAVAL SURFACE WARFARE CENTER (NSWC) CORONA DIVISION : CA	0.000	0.000		0.484	Dec 2022	0.000		-		0.000	0.000	0.484	0.000
Guam Defense Integrated Air and Missile Defense	MIPR	DOD - USN - NAVAL SURFACE WARFARE	0.000	0.000		0.392	Dec 2022	0.000		-		0.000	0.000	0.392	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD24 / System Engineering & Integration
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Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
(IAMD) - Guam Defense IAMD - NSWC Dahlgren		CENTER (NSWC) DAHLGREN DIVISION (NSWCDD) : VA													
Guam Defense Integrated Air and Missile Defense (IAMD) - Guam Defense IAMD - Northrop Grumman	C/CPFF	NORTHROP GRUMMAN : Various	0.000	0.000		6.727	Dec 2022	0.000			-	0.000	0.000	6.727	0.000
Guam Defense Integrated Air and Missile Defense (IAMD) - Guam Defense IAMD - Numerica	C/CPFF	NUMERICA CORPORATION : CO	0.000	0.000		0.974	Dec 2022	0.000			-	0.000	0.000	0.974	0.000
Guam Defense Integrated Air and Missile Defense (IAMD) - Guam Defense IAMD 0 Raytheon	C/CPFF	RAYTHEON : Various	0.000	0.000		4.100	Dec 2022	0.000			-	0.000	0.000	4.100	0.000
JEON Capability - Industry Support	C/CPFF	Boeing : AL, VA	2.106	0.000		0.000		0.000			-	0.000	0.000	2.106	0.000
JEON Capability - Industry Support - IRES	C/CPAF	Northrop Grumman : AL, VA	9.133	0.000		0.000		0.000			-	0.000	0.000	9.133	0.000
JEON Capability - OGA	MIPR	CCDC : AL	6.044	0.000		0.000		0.000			-	0.000	0.000	6.044	0.000
JEON Capability - Systems Engineering	Various	MDA Various : VA, AL, CO	6.539	0.000		0.000		0.000			-	0.000	0.000	6.539	0.000
JEON Capability - Test & Performance Analysis	Various	Various : VA, AL	11.268	0.000		0.000		0.000			-	0.000	0.000	11.268	0.000
JEON Capability - UARC	MIPR	JHU / APL : MD, VA	4.649	0.000		0.000		0.000			-	0.000	0.000	4.649	0.000
Subtotal			1,514.135	158.835		175.122		171.129			-	171.129	Continuing	Continuing	N/A

Remarks
N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD24 / System Engineering & Integration
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Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	N/A

Remarks
N/A

Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	N/A

Remarks
N/A

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,514.135	158.835	175.122	171.129	-	171.129	Continuing	Continuing	N/A

Remarks
Funding in the All Prior Years column represents a summary of Prior Years Total Costs for active contracts, Military Interdepartmental Purchase Requests, and civilian salaries on the R-3.
Award Dates reflect date of first obligation. Additional obligations may incrementally occur throughout the year.

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD24 / System Engineering & Integration
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	Significant Event Complete ▲				Milestone Decision Complete ★				Element Test Complete ◆				System Level Test Complete ●				Complete Activity ◆					
	Significant Event Planned △				Milestone Decision Planned ☆				Element Test Planned ◇				System Level Test Planned ○				Planned Activity ◇					
	FY 2022			FY 2023			FY 2024			FY 2025			FY 2026			FY 2027			FY 2028			
Design and deliver integrated Missile Defense System technical baseline	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
Conduct Missile Defense System assessments and System-level Verification, Validation, and Accreditation (VV&A) to support operational capability delivery	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
Update digital Achievable Capabilities List	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Missile Defense Agency		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD24 / System Engineering & Integration

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Design and deliver integrated Missile Defense System technical baseline	1	2022	4	2028
Conduct Missile Defense System assessments and System-level Verification, Validation, and Accreditation (VV&A) to support operational capability delivery	1	2022	4	2028
Update digital Achievable Capabilities List	1	2022	4	2028

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency										Date: March 2023		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs				Project (Number/Name) MD21 / Homeland Cruise Missile Defense Architecture			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MD21: <i>Homeland Cruise Missile Defense Architecture</i>	3.050	13.263	10.852	0.783	-	0.783	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Decrease from Fiscal Year (FY) 2023 to FY 2024 reflects the execution of the Joint Tactical Integrated Fire Control (JTIFC) demonstration in 4Q FY 2023.

A. Mission Description and Budget Item Justification

In response to United States Northern Command's requirements for Cruise Missile Defense of the Homeland (CMD-H), the Missile Defense Agency (MDA) will develop systems architecture and conduct a JTIFC demonstration. The effort includes developing systems engineering requirements, software modifications, models and simulations, and integration of joint sensors and shooters into a fire control network for the demonstration of the Joint Tactical Integrated Fire Control (JTIFC) demonstration in 4Q FY 2023, completion of related demo analysis in FY 2024 and support Department CMD-H systems engineering as required in FY 2024 and outyears.

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

	FY 2022	FY 2023	FY 2024
Title: Homeland Cruise Missile Defense Architecture	13.263	10.852	0.783
Articles:	-	-	-
Description: Develop and demonstrate a Joint Tactical Integrated Fire Control (JTIFC) capability in 4Q FY 2023 and complete demo analysis in FY 2024. Support Department CMD-H systems engineering as required in FY 2024 and outyears.			
Specific and/or unique accomplishments to each FY are as follows:			
FY 2023 Plans:			
- Complete engineering and design of a JTIFC demonstration to integrate Joint sensors and weapons into an integrated fire control network.			
- Continue to build software adaptive layers for sensors and weapons to integrate into composite tracking / integrated fire control networks.			
- Integrate software adaptive layers into Integrated Air and Missile Defense (IAMD) Battle Command System (IBCS) dismounted Engagement Operations Center (EOC).			
- Perform integration testing on the IBCS EOC and adaptive layers with the sensors and weapons with the integrated fire control network			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD21 / Homeland Cruise Missile Defense Architecture

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
- Conduct the JTIFC demonstration.			
<i>FY 2024 Plans:</i> - Conduct a review and analysis of JTIFC demonstration results and write final report to integrate Joint sensors and weapons into an integrated fire control network. - Support Department CMD-H systems engineering as required.			
<i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> Decrease from FY 2023 to FY 2024 reflects the execution of the JTIFC demonstration in 4Q FY 2023 along with an accompanying reduction of CMD efforts as MDA moves from a primary to a support role.			
Accomplishments/Planned Programs Subtotals	13.263	10.852	0.783

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

N/A

Remarks

D. Acquisition Strategy

MDA leverages the nation's engineering Centers of Excellence at government agencies and Military Services, Federally Funded Research and Development Centers, University Affiliated Research Centers, and industry. The executing agents utilize various contracting strategies in a flexible manner to maximize their contribution. Products and Services will be acquired by competitive means to the extent that is possible and practical.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency											Date: March 2023				
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs					Project (Number/Name) MD21 / Homeland Cruise Missile Defense Architecture				

Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Homeland Cruise Missile Defense Architecture - CMD-H Architecture Design	Various	Various : VA, MD, MA, CO	3.050	6.443	Dec 2021	2.983	Nov 2022	0.000		-		0.000	0.000	12.476	0.000
Homeland Cruise Missile Defense Architecture - CMD-H Architecture Engineering	C/CPFF	JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY LLC, THE : Various	0.000	0.957	Dec 2021	0.000		0.000		-		0.000	0.000	0.957	0.000
Homeland Cruise Missile Defense Architecture - CMD-H Demonstration (CCDC)	MIPR	DOD - USA - COMBAT CAPABILITIES DEVELOPMENT COMMAND (CCDC) : AL	0.000	0.000		2.010	Oct 2022	0.000		-		0.000	0.000	2.010	0.000
Homeland Cruise Missile Defense Architecture - CMD-H Demonstration (Northrop Grumman)	C/CPFF	Northrop Grumman : AL	0.000	1.402	Nov 2021	2.369	Apr 2023	0.000		-		0.000	0.000	3.771	0.000
Homeland Cruise Missile Defense Architecture - CMD-H Demonstration (Raytheon)	C/CPFF	Raytheon : MD, FL, CA, MA	0.000	2.400	May 2022	0.000		0.000		-		0.000	0.000	2.400	0.000
Subtotal			3.050	11.202		7.362		0.000		-		0.000	0.000	21.614	N/A

Remarks

Award Dates reflect date of first obligation. Additional obligations may incrementally occur throughout the year.

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Homeland Cruise Missile Defense Architecture -	C/CPFF	PARSONS GOVERNMENT	0.000	2.061	Nov 2021	3.490	Nov 2022	0.783	Nov 2023	-		0.783	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency												Date: March 2023			
Appropriation/Budget Activity 0400 / 4				R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs				Project (Number/Name) MD21 / Homeland Cruise Missile Defense Architecture							
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Homeland Cruise Missile Defense Architecture - CMD-H Architecture Design - CS Support		SERVICES INC. : VARIOUS													
Subtotal			0.000	2.061		3.490		0.783		-		0.783	Continuing	Continuing	N/A
Remarks N/A															
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-	-	-	-	-	-	-	-	-	-	-	N/A
Remarks N/A															
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-	-	-	-	-	-	-	-	-	-	-	N/A
Remarks N/A															
Project Cost Totals			3.050	13.263		10.852		0.783		-		0.783	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency							Date: March 2023			
Appropriation/Budget Activity 0400 / 4			R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs			Project (Number/Name) MD21 / Homeland Cruise Missile Defense Architecture				

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
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Remarks N/A									
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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Missile Defense Agency							Date: March 2023											
Appropriation/Budget Activity 0400 / 4				R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs				Project (Number/Name) MD21 / Homeland Cruise Missile Defense Architecture										
Significant Event Complete ▲	Milestone Decision Complete ★	Element Test Complete ◆	System Level Test Complete ●	Complete Activity ◆														
Significant Event Planned △	Milestone Decision Planned ☆	Element Test Planned ◇	System Level Test Planned ○	Planned Activity ◇														
				FY 2022		FY 2023		FY 2024		FY 2025		FY 2026		FY 2027		FY 2028		
IFC CMD-H Demonstration				◇	◇	◇	◇	◇										

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Missile Defense Agency		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD21 / Homeland Cruise Missile Defense Architecture

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
IFC CMD-H Demonstration	1	2022	1	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency										Date: March 2023		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs				Project (Number/Name) MT23 / Enabling - Test			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MT23: <i>Enabling - Test</i>	219.609	41.520	44.245	44.248	-	44.248	48.151	48.040	48.972	49.952	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

N/A

A. Mission Description and Budget Item Justification

The Enabling Test project includes the System Engineering & Integration (SE&I) that drives Missile Defense System test planning, execution, and post-test analysis and assessment, and the Modeling & Simulation (M&S) tools and framework required to prepare for and execute ground and flight tests.

Enabling-Test allocates test requirements to individual test events, designs test architectures, defines target requirements, and generates test scenarios to collect data essential for model validation and system verification. SE&I works with the Service Operational Test Agencies (OTA) to incorporate operational test requirements into Missile Defense System events to ensure the incremental capability being transferred to the Warfighter will be operationally effective, suitable, and survivable. The resulting data ensures Missile Defense System requirements are being met by the system under test and confirms proper System operation. It also helps to anchor system and element M&S for use in simulations to characterize System performance across the battle space, including areas where no live-fire-testing is performed.

Ground test (GT) responsibilities include System performance sensitivity analysis; analysis to mitigate test data collection risks; test architecture certification analysis; and test result analysis. Flight test (FT) responsibilities include pre-mission scenario analysis to identify and mitigate test execution risk in advance; range safety analysis; mission analysis during test execution; extensive post-mission analysis; and event analysis reporting products. These efforts inform senior leaders' decisions on Missile Defense System development and evolution and underpin the capability declarations that deliver new capabilities to the Warfighter.

Pre-mission predictions use the test framework and Hardware in the Loop and digital models of the test configuration to exercise system interfaces, calculate expected System performance, and gauge readiness for test execution. Post-mission, the Missile Defense Agency (MDA) uses test results to anchor System and element M&S and provide confidence in their ability to correctly predict System behavior and performance.

Reliability, Availability and Maintainability data collected through Missile Defense System test events increases confidence in System performance over the entire lifecycle. SE&I documents any abnormal System behavior observed during tests and alerts MDA to issues with test article reliability. SE&I leads test failure review boards, identifies data collection shortfalls, and reallocates objectives to future test events as needed until all required model validation data is collected. The Failure Reporting, Analysis, and Corrective Action System provides a framework to investigate test failures and anomalies and identify solutions that will ultimately improve System performance and reliability.

MDA's M&S systems and products provide the Agency, the Warfighter, and the OTA with the capability to evaluate individual System components and the overall system-of-systems. MDA validates and accredits System-level models and simulations to support accurate and comprehensive assessments. M&S System and

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency	Date: March 2023
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product testing follows the test program outlined in MDA's Integrated Master Test Plan (IMTP) and serves as a necessary precursor to conducting System-level testing. Resources for the planning, design, execution and management of this testing are provided in accordance with the most current version of the IMTP.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023		FY 2024
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Title: Engineering and Analysis	27.516	26.978		44.248
Articles:	-	-		-
<p>Description: The Engineering and Analysis effort provides essential System ground and flight test event planning, execution, and analysis activities for each test event:</p> <ul style="list-style-type: none"> - Design test architecture, define test objectives and evaluation criteria, define target requirements, and generate test scenarios appropriate to the data collection requirements to assess System performance and anchor M&S - Coordinate with Missile Defense System Operational Test Agency (OTA) to address test issues, disposition them, coordinate them, and recommend action plans to achieve closure - Deliver M&S integration test cases - Conduct M&S Integration Benchmarking and integrate the Missile Defense System M&S framework with MDA and non-MDA Elements into the event architectures that support assessment activities - Integrate, test, and deliver end-to-end System-level simulations supporting ground test missions - Deploy and maintain M&S Simulation Interface Units (SIUs) for testing, including cybersecurity compliance, configuration management authority, and sustainment of the SIU fleet - Analyze System-level interoperability - Conduct modeling and technical analysis for Combatant Command Wargames and Exercises - Utilize M&S for pre-test assessment, post-test review, and M&S updates - Provide test configuration management; risk assessments; and anomaly/deficiency review, assessment and closure - Analyze test results to identify verification and validation data collection shortfalls and reassign objectives to future test events as required - Perform event architecture certification - Provide Federation reporting for Verification, Validation, and Accreditation of M&S architectures - - Plan, conduct, and report system-level pre-mission predictive analysis for IMTP FTs that provides risk reduction and likelihood of mission success - Conduct test data reduction and processing of test event data; archive analysis products for reference by assessment community, warfighters, the Government Accountability Office, and Congressional staffers - Perform quick-look and detailed post-test analysis and reporting for IMTP flight tests that shows if test objectives were achieved and reveals potential issues that can only be discovered in live flight tests - Plan, conduct, and report system level performance analysis for IMTP ground tests that provides assessment of system performance in simple and worst-case real-world scenarios, identifies limitations and issues that need to be corrected prior to fielding 				

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MT23 / Enabling - Test

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
<p>- Document test observations for System-level test anomalies and coordinate the resulting Discrepancy Reports within the Failure Reporting, Analysis, and Corrective Action System</p> <p>- Design, develop, deploy, maintain, test, accredit, and modernize test analysis tools (e.g., Modular Analysis and Reporting Suite) to enhance analysis capability and efficiency.</p> <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans:</p> <p>- SEE ABOVE.</p> <p>FY 2024 Plans:</p> <p>- Provide test planning, analysis, M&S integration, M&S execution, threat development, and post-event analysis for integrated ground testing, M&S Continuous Developmental Integration (CDI), and M&S engineering activities</p> <p>- Support execution of agency ground test plan in accordance with approved IMTP and maintain integration across concurrent ground test and flight test activities</p> <p>- Provide M&S technical expertise and risk reduction process for Missile Defense System Element integration activities and event planning within a CDI environment, to include support to IMTP testing and M&S engineering activities; a venue for integrating new Elements, interfaces, connectivity and functionality to support Missile Defense System capability increment upgrades; and cybersecurity monitoring and automation to the CDI environment</p> <p>- Conduct early integration activities such as scenario refinement and early checkout of Element software for GT sprints</p> <p>- Conduct continuous test requirements management for the IMTP at the test campaign and test event levels</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement:</p> <p>Increase from Fiscal Year (FY) 2023 to FY 2024 provides for the consolidation of efforts previously budgeted for in the Continuous Integration / Agile Test and CDI Environment accomplishments (Budget Project MT23) into the Engineering and Analysis accomplishment, in accordance with current ground testing Concept of Operations. Also includes consolidation of Engineering & Analysis efforts from the Aegis-Test PE (0604878C).</p>			
<p>Title: Continuous Integration and Agile Test (CI/CAT)</p> <p align="right">Articles:</p> <p>Description: Provide test planning, analysis, M&S integration, M&S execution, and post-event analysis for integrated ground testing, M&S Continuous Developmental Integration, and M&S engineering activities. Execute agency ground test plan in accordance with approved IMTP and maintain integration across concurrent ground test and flight test activities</p> <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans:</p>	11.323 -	11.499 -	0.000 -

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency		Date: March 2023
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
- SEE ABOVE.			
FY 2024 Plans: N/A			
FY 2023 to FY 2024 Increase/Decrease Statement: Decrease from FY 2023 to FY 2024 reflects consolidation of Continuous Integration / Agile Test activities under the Engineering and Analysis Accomplishment, in accordance with current ground testing Concept of Operations.			
Title: Continuous Development & Integration (CDI) Environment	2.681	5.768	0.000
Articles:	-	-	-
Description: Provide technical expertise and risk reduction process for Missile Defense System Element integration activities and event planning within a CDI environment, to include support to IMTP testing and M&S engineering activities; and a venue for integrating new Elements, interfaces, connectivity and functionality to support Missile Defense System capability increment upgrades. Specific and/or unique accomplishments to each FY are as follows:			
FY 2023 Plans: - SEE ABOVE.			
FY 2024 Plans: - N/A			
FY 2023 to FY 2024 Increase/Decrease Statement: Decrease from FY 2023 to FY 2024 reflects consolidation of CDI activities under the Engineering and Analysis Accomplishment, in accordance with current ground testing Concept of Operations.			
Accomplishments/Planned Programs Subtotals	41.520	44.245	44.248

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

Line Item	FY 2022	FY 2023	FY 2024	FY 2024	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	Cost To	Total Cost
			Base	OCO	Total					Complete	
• 0603914C: <i>Ballistic Missile Defense Test</i>	388.956	366.824	360.455	-	360.455	430.281	436.921	465.074	375.256	Continuing	Continuing
Remarks											

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / <i>BMD Enabling Programs</i>	Project (Number/Name) MT23 / <i>Enabling - Test</i>
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D. Acquisition Strategy

In order to optimize System performance, MDA leverages the nation's engineering Centers of Excellence at government agencies and Military Services, Federally Funded Research Development Centers, University Affiliated Research Centers, and industry. The executing agents utilize various contracting strategies in a flexible manner to maximize their contribution. MDA will acquire products and services by competitive means to the extent practical.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MT23 / Enabling - Test
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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-	-	-	-	-	-	-	-	-	-	-	N/A

Remarks
N/A

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-	-	-	-	-	-	-	-	-	-	-	N/A

Remarks
To comply with the Financial Management Regulation, updated the R-3 cost categories and moved product support efforts into the correct Test and Evaluation cost category.

Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Engineering and Analysis - Engineering & Analysis - CSS Support	C/CPFF	PARSONS GOVERNMENT SERVICES INC. : AL	16.124	3.662	Nov 2021	5.132	Nov 2022	8.977	Nov 2023	-		8.977	Continuing	Continuing	Continuing
Engineering and Analysis - Engineering & Analysis - FEM-02 Support	C/CPFF	TBD : AL	0.000	0.000		0.000		0.441	Nov 2023	-		0.441	Continuing	Continuing	Continuing
Engineering and Analysis - Engineering & Analysis - FFRDC	MIPR	GEORGIA TECH RESEARCH CORPORATION : AL	2.227	1.252	May 2022	0.000		1.631	Nov 2023	-		1.631	Continuing	Continuing	Continuing
Engineering and Analysis - Engineering & Analysis - Industry	C/CPAF	BOEING : Various	32.157	3.170	Jan 2022	2.978	Nov 2022	6.415	Nov 2023	-		6.415	Continuing	Continuing	Continuing
Engineering and Analysis - Engineering & Analysis - Integration Support CSS	C/CPAF	COLSA CORPORATION : AL	21.744	0.000		0.000		0.000		-		0.000	0.000	21.744	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MT23 / Enabling - Test
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Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Engineering and Analysis - Engineering & Analysis - Non-MDA Element Support for IMTP Events	Various	Various : Various	11.231	0.000		0.000		0.000		-		0.000	0.000	11.231	0.000
Engineering and Analysis - Engineering & Analysis - OGA Support	MIPR	DOD - USA - COMBAT CAPABILITIES DEVELOPMENT COMMAND (CCDC) : AL	77.750	8.275	Nov 2021	17.532	Nov 2022	16.747	Nov 2023	-		16.747	Continuing	Continuing	Continuing
Engineering and Analysis - Engineering & Analysis - OGA Support - NME & RASP	MIPR	DOD - USA - COMBAT CAPABILITIES DEVELOPMENT COMMAND (CCDC) : AL	4.287	11.075	Nov 2021	0.000		0.000		-		0.000	0.000	15.362	0.000
Engineering and Analysis - Engineering & Analysis - Technical Support	C/CPAF	NORTHROP GRUMMAN : Various	5.554	0.000		0.000		0.000		-		0.000	0.000	5.554	0.000
Engineering and Analysis - Engineering & Analysis - Test Engineering Support	Various	Various : Various	4.675	0.082	Nov 2021	1.336	Nov 2022	0.500	Nov 2023	-		0.500	Continuing	Continuing	Continuing
Engineering and Analysis - Engineering and Test Analysis - OGA Support	MIPR	DOD - USA - COMBAT CAPABILITIES DEVELOPMENT COMMAND (CCDC) AVIATION AND MISSILE CENTER (AVMC) : Various	0.000	0.000		0.000		9.537	Nov 2023	-		9.537	Continuing	Continuing	Continuing
Continuous Integration and Agile Test (CI/CAT) - CI/ CAT Analysis (OGA)	MIPR	DOD - USA - COMBAT CAPABILITIES DEVELOPMENT COMMAND (CCDC) : AL	0.000	6.877	Dec 2021	6.463	Dec 2022	0.000		-		0.000	0.000	13.340	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MT23 / Enabling - Test
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Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Continuous Integration and Agile Test (CI/CAT) - CI/ CAT M&S Integration	Various	Various : Various	15.485	2.105	Jan 2022	3.141	Dec 2022	0.000		-		0.000	0.000	20.731	0.000
Continuous Integration and Agile Test (CI/CAT) - CI/ CAT Test & Performance Analysis	Various	Various : Various	6.931	0.000		0.778	Dec 2022	0.000		-		0.000	0.000	7.709	0.000
Continuous Integration and Agile Test (CI/CAT) - CI/ CAT Test Requirements Engineering - TEAMS CSS	C/CPFF	PARSONS GOVERNMENT SERVICES INC. : AL	4.372	2.341	Nov 2021	1.117	Nov 2022	0.000		-		0.000	0.000	7.830	0.000
Continuous Integration and Agile Test (CI/CAT) - Hardware	C/CPFF	TELEDYNE BROWN ENGINEERING, INC. : AL	1.689	0.000		0.000		0.000		-		0.000	0.000	1.689	0.000
Continuous Development & Integration (CDI) Environment - Continuous Development & Integration (CDI) Environment - CSS	Various	Various : Various	1.284	1.747	Nov 2021	0.000		0.000		-		0.000	0.000	3.031	0.000
Continuous Development & Integration (CDI) Environment - Test Case Development & Continuous Development and Integration Environment	MIPR	DOD - USA - COMBAT CAPABILITIES DEVELOPMENT COMMAND (CCDC) : Various	14.099	0.934	Dec 2021	5.768	Dec 2022	0.000		-		0.000	0.000	20.801	0.000
Subtotal			219.609	41.520		44.245		44.248		-		44.248	Continuing	Continuing	N/A

Remarks
N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MT23 / Enabling - Test
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Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	N/A

Remarks
N/A

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	219.609	41.520	44.245	44.248	-	44.248	Continuing	Continuing	N/A

Remarks
Award Dates reflect date of first obligation. Additional obligations may incrementally occur throughout the year. Beginning in FY 2024, CDI and CI/CAT Accomplishment activities are realigned to the Engineering and Analysis Accomplishment, in accordance with current ground testing Concept of Operations.

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MT23 / Enabling - Test
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Significant Event Complete ▲	Milestone Decision Complete ★	Element Test Complete ◆	System Level Test Complete ●	Complete Activity ◆
Significant Event Planned △	Milestone Decision Planned ☆	Element Test Planned ◇	System Level Test Planned ○	Planned Activity ◇

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
IMTP Engineering Inputs	◇	◇	◇	◇	◇	◇	◇

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MT23 / Enabling - Test
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
IMTP Engineering Inputs	1	2022	4	2028

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency										Date: March 2023		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs				Project (Number/Name) MD28 / Intelligence & Security			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MD28: <i>Intelligence & Security</i>	365.255	39.102	42.036	56.654	-	56.654	59.093	59.964	60.933	61.932	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Increase from Fiscal Year (FY) 2023 to FY 2024 provides new threat definitions, analytical tools and threat phenomenologies for complex and advanced threats.

A. Mission Description and Budget Item Justification

The Intelligence and Security program provides multi-disciplinary intelligence and security for the Missile Defense System acquisition, development, test and deployment. The Intelligence and Security Major Program Goals are:

- Ensure the Intelligence Community (IC) understands and fulfills the Missile Defense Agency's (MDA's) current and future prioritized intelligence requirements; advocate Missile Defense test intelligence requirements; and work closely with the IC.
- Leverage available National and Department of Defense (DoD) Counterintelligence resources. Ensure counterintelligence products and services are fully integrated into all Research, Development, Test, and Evaluation programs and activities to protect classified information and critical technologies and to protect MDA and Missile Defense System personnel, facilities, information and activities.
- Define cybersecurity systems engineering requirements for Missile Defense System assets. Identify cybersecurity systems engineering and infrastructure intelligence requirements to focus IC collection, analysis and production to target MDA/Missile Defense System cyber vulnerabilities. Incorporate cybersecurity engineering requirements into the Missile Defense System systems engineering process.
- Provide cross-Agency acquisition security oversight and support for the identification and protection of Critical Program Information. Provide physical security for Missile Defense System weapons/sensor system deployments, including Foreign Military Sales (FMS). Implement MDA's information security and declassification programs. Strengthen Test and Operations Security (OPSEC) across the Agency.

The Security and Intelligence Project captures five specific areas: 1) Intelligence 2) Counterintelligence 3) Cybersecurity Engineering 4) Program Protection, and 5) Threat Systems Engineering. Collectively, these efforts provide critical information regarding threat ballistic missile system capabilities; protection of personnel, activities, and technology from espionage and terrorism; and identification and mitigation of Missile Defense System vulnerabilities.

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

	FY 2022	FY 2023	FY 2024
Title: Intelligence	9.354	8.030	8.477
Articles:	-	-	-
Description: The Intelligence program provides expertise to develop intelligence products on threat system capabilities, and leverages unique intelligence-community developed, owned, and operated capabilities for the benefit and advocacy of the missile defense community. Program goals include:			
- Serve as designated intelligence liaison between MDA and the Intelligence Community:			
-- Maintain and communicate prioritized, specific Missile Defense intelligence requirements to the IC			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD28 / Intelligence & Security
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
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<p>-- Maintain a focused dialogue with members of the Intelligence Community to ensure understanding, urgency and context of MDA intelligence requirements</p> <ul style="list-style-type: none"> - Provide Current, Technical, Acquisition, Collection and Cyber intelligence to the Missile Defense System throughout the acquisition life cycle - Maintain and update MDA's knowledge base of foreign ballistic missile threats, including development, enhancement, and population of the Missile Threat Portals with Intelligence Community produced documents at the appropriate security classification levels - Characterize all missile threat systems from adversaries for use by the MDA Systems Engineer, Program Managers, and Director for Test to perform modeling, simulation, and testing of the Missile Defense System - Maintain Missile Intelligence Secure Link classified portal (full operational capability) <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans: - SEE ABOVE.</p> <p>FY 2024 Plans: - SEE ABOVE.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: N/A.</p>			
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<p>Title: Counterintelligence</p> <p>Articles:</p> <p>Description: The Counterintelligence Program detects, mitigates or neutralizes espionage, foreign intelligence collection activities and terrorist activities conducted for or on behalf of foreign powers, organizations, persons, or their agents directed against U.S. national security interests, or DoD/MDA and its personnel, information, material, facilities, and activities. Program goals include:</p> <ul style="list-style-type: none"> - Serve as MDA Liaison with Federal, State and Local Law Enforcement and Counterintelligence (CI) Organizations to report and resolve incidents involving MDA personnel, information and technologies -- Engage National, Combatant Command and DoD CI resources to share and obtain threat information impacting MDA personnel, facilities, information, technologies, programs and activities, worldwide -- Provide CI, technical and cyber threat support to MDA flight tests, conferences, and deployment activities worldwide, including FMS Programs, to detect, deter, or neutralize criminal, terrorist and foreign intelligence collection threats targeting MDA and Missile Defense technologies, personnel, facilities and activities 	8.150 -	7.216 -	7.248 -
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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency	Date: March 2023
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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD28 / Intelligence & Security
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
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<ul style="list-style-type: none"> - Execute life cycle replacement of outdated technical surveillance countermeasures and equipment to employ the latest technologies during conferences, flight tests and other classified activities to detect, deter and prevent the loss or compromise of classified or sensitive information to foreign adversary collection activities - Conduct CI activities to detect malicious and insider threat activities targeting MDA administrative and fire control networks - Provide required CI Awareness and Reporting training to MDA workforce - Provide CI research and assistance to identify insider and foreign entity cyber threats to MDA computer networks and Missile Defense fire control systems - Conduct CI research and analysis to produce CI threat products that address foreign intelligence, cyber and international terrorist threats to MDA personnel, facilities, information, systems and activities worldwide - Maintain technical surveillance countermeasures and gear to detect, identify and neutralize adversary collection platforms and capabilities used to gain unauthorized access to MDA classified and controlled unclassified information <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans: - SEE ABOVE.</p> <p>FY 2024 Plans: - SEE ABOVE.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: N/A.</p>			
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Title: Cybersecurity Engineering Program	3.655	4.541	4.909
Articles:	-	-	-

<p>Description: Cybersecurity Engineering is focused on developing designs and solutions to protect the Missile Defense Agency from existing and emerging cyber threats through coherent cybersecurity systems engineering. Program goals include:</p> <ul style="list-style-type: none"> - Ensure Cybersecurity is integrated into the Acquisition Process - Assess the Cybersecurity Architecture to address gaps/disconnects, enhance interoperability, and realize efficiencies across all mission systems; define the "As Built" and "To Be" Cybersecurity Systems Engineering concepts to strengthen technical assessments and cybersecurity design solutions and implementation recommendations impacted by the change in requirements: <ul style="list-style-type: none"> -- Develop and coordinate near-term and long-term engineering changes to the Missile Defense System -- Develop requirements for building cybersecurity into incremental Missile Defense System hardware and software builds -- Monitor allocation of these requirements to the Elements -- Recommend updates to MDA's Technical Core Standards, including Cyber-related requirements specified by the Agency, the Combatant Commanders, the DoD, and the Federal Government 			
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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency	Date: March 2023
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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD28 / Intelligence & Security
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
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<p>-- Perform cybersecurity systems engineering assessments for proposed System Specification and interface changes and additions</p> <ul style="list-style-type: none"> - Provide and recommend updates to cybersecurity systems engineering policy and guidance for Missile Defense System design and acquisition to enhance resiliency against cyber threats - Implement cybersecurity engineering resiliency techniques - Provide objectives and requirements for Cybersecurity testing - Provide independent cybersecurity reviews at critical engineering milestones - Provide information system security engineering by assessing cybersecurity requirements, design, and implementations and provide recommendations to address architecture gaps or shortfalls - Implement cyber threat mitigation strategies within Missile Defense System architecture, design, system requirements, and specifications documentation to ensure traceability to necessary components and interfaces that make up the Missile Defense System - Coordinate evaluation of cybersecurity capability during System tests - Develop verification and assessment strategies for System cybersecurity requirements <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans: - SEE ABOVE.</p> <p>FY 2024 Plans: - SEE ABOVE.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: N/A.</p>			
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<p>Title: Program Protection</p> <p align="right">Articles:</p> <p>Description: Protects Missile Defense information, Critical Program Information, technologies, and deploying systems; develops and coordinates Security Classification Guides; and performs declassification reviews to identify equities that warrant continued protection in order to preserve the technological advantage of the Missile Defense System. Program Protection also coordinates MDA intelligence, counterintelligence and security for Missile Defense System test activities. Program goals include:</p> <ul style="list-style-type: none"> - Perform reviews required for all Agency public release, security classification, and Freedom of Information Act and Mandatory Declassification Reviews to ensure sensitive Missile Defense information is not inadvertently released into the public domain - Perform Information Security program management and oversee implementation by MDA programs: 	9.902 -	11.766 -	12.076 -
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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD28 / Intelligence & Security

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
<ul style="list-style-type: none"> -- Perform internal program reviews, policy oversight and implementation, and training to identify and fix deficiencies and protect critical information -- Collect information required for annual reports and communicate security posture to leadership - Provide security oversight for the Agency's classified contracts by drafting and coordinating DD254 "Contract Security Classification Specification" documents - Provide dedicated on-site security and protection of Missile Defense resources and personnel at operational sites in Alaska, California and Colorado to ensure security protection coverage of Missile Defense System mission operations and test assets based in those regions - Perform systematic Declassification reviews on historical Agency information to prevent unauthorized disclosures due to automatic declassification requirements - Identify and integrate Security requirements for overseas sites with existing or planned missile defense weapons or sensor systems to ensure protection of deployed sites - Provide effective physical protection to low density/high demand emerging Warfighter capability - Expand security activities - Continue continuous monitoring to determine security clearance eligibility - Conduct program protection planning for the continuing assessment of candidate critical program information for Advanced Technology programs and reassessment of other MDA programs affected by technical baseline changes; ensure critical technologies embedded in missile defense systems are not vulnerable to compromise - Keep pace with mission growth in program protection, system security engineering, and acquisition security <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans:</p> <ul style="list-style-type: none"> - Implement and conduct continuous monitoring to determine continued security clearance eligibility <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - SEE ABOVE. <p>FY 2023 to FY 2024 Increase/Decrease Statement:</p> <p>N/A.</p>			
<p>Title: Threat Systems Engineering</p> <p align="right">Articles:</p> <p>Description: Threat Engineering provides representations of adversary missile capabilities based on available intelligence information, and develops, coordinates, and baselines Missile Defense System-level targets and countermeasures requirements to define target capabilities required to meet System flight test objectives. Program goals include:</p>	8.041 -	10.483 -	23.944 -

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD28 / Intelligence & Security

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
<ul style="list-style-type: none"> - Develop threat definitions for system specifications -- Produce threat / scenario data for Missile Defense System development events -- Perform Threat Verification and Validation analysis to verify missile models meet specifications and are consistent with intelligence assessments - Produce Adversary Data Package (ADP) updates - Develop target requirements to ensure flight test targets meet operationally realistic conditions - Produce Target Assessment and Certification Reports - Assess threat representation of flight test targets - Develop target system specifications and guide targets requirements development, planning, and certification for Missile Defense System flight tests - Analyze flight test target performance relative to threat intelligence assessments to support target system verification and certification - Provide Technical Data for major reviews (System Requirements Reviews, Critical Design Reviews, etc.) - Complete Target Specification builds - Update MDA Instruction 5000.06, Target Class Capabilities and Requirements documents, as necessary <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans:</p> <ul style="list-style-type: none"> - SEE ABOVE. <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - Provide threat space and definitions for 2030 and beyond - Develop new representations for complex threat characteristics (e.g. wake models, ablation models, dynamic threat models) - Provide threat models and scenario data to support Warfighter Requests for Analysis and Analysis of Alternatives - Respond to quick reaction tasks and provide traceability of models in coordination with the IC - Innovate threat prediction tools and processes to increase threat production throughput - Increase threat data production supporting program and element design, development and verification activities - Increase production rate of target requirements and certification reports for FY 2024 <p>FY 2023 to FY 2024 Increase/Decrease Statement:</p> <p>Increase from FY 2023 to FY 2024 provides new threat definitions, analytical tools and threat phenomenologies for complex advanced and emerging threats.</p>			
Accomplishments/Planned Programs Subtotals	39.102	42.036	56.654

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency	Date: March 2023
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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD28 / Intelligence & Security
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u> <u>Base</u>	<u>FY 2024</u> <u>OCO</u>	<u>FY 2024</u> <u>Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0305103C: <i>Cyber Security Initiative</i>	1.118	1.165	2.760	-	2.760	2.826	2.893	2.963	3.025	Continuing	Continuing

Remarks

D. Acquisition Strategy

This project leverages expertise in the intelligence community, counterintelligence community, and information assurance community, including the Military Services, Federally Funded Research and Development Centers (FFRDCs), University Affiliated Research Centers (UARCs), and industry. The executing agents utilize various contracting strategies in a flexible manner to maximize their contribution. Products and Services will be acquired by competitive means to the extent that is beneficial and practical.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD28 / Intelligence & Security
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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-	-	-	-	-	-	-	-	-	-	-	N/A

Remarks
N/A

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Intelligence - Intelligence Analysis & Support	Allot	MDA : VA, AL, CO	38.815	5.360	Oct 2021	3.697	Oct 2022	3.822	Oct 2023	-		3.822	Continuing	Continuing	Continuing
Intelligence - Intelligence Analysis & Support - Special Prog	Various	Various : Various	1.948	0.000		0.000		0.000		-		0.000	0.000	1.948	0.000
Intelligence - Intelligence Support	C/CPFF	TEAMS : AL, VA, CO	40.693	3.469	Nov 2021	4.333	Nov 2022	4.655	Nov 2023	-		4.655	Continuing	Continuing	Continuing
Intelligence - Intelligence Support (OGA)	MIPR	Various : Various	0.000	0.525	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Intelligence - Intelligence Support - IT Maintenance	C/CPFF	Northrop Grumman : AL, CO	3.282	0.000		0.000		0.000		-		0.000	0.000	3.282	0.000
Intelligence - Prior year Intelligence Support no longer funded in FYDP	Various	Various : Various	7.770	0.000		0.000		0.000		-		0.000	0.000	7.770	0.000
Counterintelligence - CI Analysis & Support	Allot	MDA : AL, CO, VA	21.574	4.072	Oct 2021	2.702	Oct 2022	2.793	Oct 2023	-		2.793	Continuing	Continuing	Continuing
Counterintelligence - CI Analysis and Support	C/CPFF	TEAMS : AL, CO, VA	32.127	3.974	Nov 2021	4.064	Nov 2022	3.996	Nov 2023	-		3.996	Continuing	Continuing	Continuing
Counterintelligence - CI Surveillance Gear	Various	Various : Various	1.833	0.104	Jun 2022	0.450	Nov 2022	0.459	Nov 2023	-		0.459	Continuing	Continuing	Continuing
Counterintelligence - Prior Year Counterintelligence Support no longer funded in FYDP	C/CPFF	MIDAESS : VA	1.069	0.000		0.000		0.000		-		0.000	0.000	1.069	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD28 / Intelligence & Security
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Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Cybersecurity Engineering Program - Cybersecurity Engineering - Hardware (OGA)	MIPR	DOD - USA - PROGRAM EXECUTIVE OFFICE ENTERPRISE INFORMATION SYSTEMS (PEO EIS) : AL	0.000	0.624	Mar 2022	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Cybersecurity Engineering Program - Cybersecurity - FFRDC	FFRDC	Aerospace : CA, VA	3.663	0.000		0.000		0.000		-		0.000	0.000	3.663	0.000
Cybersecurity Engineering Program - Cybersecurity - FFRDC (2)	FFRDC	MITRE : VA, AL	3.858	0.000		0.000		0.000		-		0.000	0.000	3.858	0.000
Cybersecurity Engineering Program - Cybersecurity Engineering	Allot	MDA : VA, AL	19.144	1.332	Oct 2021	1.555	Oct 2022	1.876	Oct 2023	-		1.876	Continuing	Continuing	Continuing
Cybersecurity Engineering Program - Cybersecurity Engineering - Hardware	C/CPFF	JACOBS TECHNOLOGY INC. : AL, CO, VA	1.605	0.000		1.649	Nov 2022	1.963	Nov 2023	-		1.963	Continuing	Continuing	Continuing
Cybersecurity Engineering Program - Cybersecurity Engineering CSS	C/CPFF	TEAMS : VA, AL	6.958	1.699	Nov 2021	1.337	Nov 2022	1.070	Nov 2023	-		1.070	Continuing	Continuing	Continuing
Program Protection - Prior Year Program Protection Support no longer funded in FYDP	Various	Various : Various	18.452	0.000		0.000		0.000		-		0.000	0.000	18.452	0.000
Program Protection - Program Protection Analysis	Allot	MDA : VA, AL	37.851	4.557	Oct 2021	4.694	Oct 2022	4.851	Oct 2023	-		4.851	Continuing	Continuing	Continuing
Program Protection - Program Protection Analysis & Support	C/CPFF	TEAMS : AL, AK, CA, CO, VA	35.887	4.470	Nov 2021	5.930	Nov 2022	6.455	Nov 2023	-		6.455	Continuing	Continuing	Continuing
Program Protection - Program Protection Support	MIPR	DOD - DEFENSE INTELLIGENCE	0.000	0.000		0.000		0.459	Nov 2023	-		0.459	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD28 / Intelligence & Security
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Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
		AGENCY (DIA) : VARIOUS													
Program Protection - Program Protection Support - FFRDC	Various	Various : AL, VA, CO	0.000	0.875	Nov 2021	1.142	Nov 2022	0.311	Nov 2023	-		0.311	Continuing	Continuing	Continuing
Threat Systems Engineering - Prior Year Threat Systems Engineering Support no longer funded in FYDP	Various	Various : AL, MD, VA	19.225	0.000		0.000		0.000		-		0.000	0.000	19.225	0.000
Threat Systems Engineering - Threat Systems Engineering	Allot	MDA : VA, AL, CO	27.825	1.389	Oct 2021	3.415	Oct 2022	3.526	Oct 2023	-		3.526	Continuing	Continuing	Continuing
Threat Systems Engineering - Threat Systems Engineering - CSS	C/CPFF	TEAMS, Various : VA, AL	15.291	1.265	Nov 2021	4.155	Nov 2022	4.022	Nov 2023	-		4.022	Continuing	Continuing	Continuing
Threat Systems Engineering - Threat Systems Engineering - CSS 2	C/CPFF	SEG (Systems Engineering Group, Inc.) : VA, AL	0.000	0.505	Nov 2021	2.271	Nov 2022	3.520	Nov 2023	-		3.520	Continuing	Continuing	Continuing
Threat Systems Engineering - Threat Systems Engineering - CSS 3	C/CPFF	TBD : TBD	0.000	0.000		0.642	Jan 2023	6.500	Nov 2023	-		6.500	Continuing	Continuing	Continuing
Threat Systems Engineering - Threat Systems Engineering - FFRDC	FFRDC	MIT/LL : MA	5.931	0.000		0.000		2.125	Nov 2023	-		2.125	Continuing	Continuing	Continuing
Threat Systems Engineering - Threat Systems Engineering - FFRDC 2	FFRDC	SNL (Sandia National Laboratory) : MA	0.000	0.519	Dec 2021	0.000		0.638	Nov 2023	-		0.638	Continuing	Continuing	Continuing
Threat Systems Engineering - Threat	FFRDC	LLNL (Lawrence Livermore National Laboratory) : MA	0.000	1.275	Nov 2021	0.000		0.850	Nov 2023	-		0.850	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD28 / Intelligence & Security
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Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering - FFRDC 3															
Threat Systems Engineering - Threat Systems Engineering - OGA	MIPR	Various : CA, VA, AL	12.030	3.088	Nov 2021	0.000		0.000		-		0.000	0.000	15.118	0.000
Threat Systems Engineering - Threat Systems Engineering - UARC	FFRDC	JHU/APL : MD	8.424	0.000		0.000		2.763	Nov 2023	-		2.763	Continuing	Continuing	Continuing
Subtotal			365.255	39.102		42.036		56.654		-		56.654	Continuing	Continuing	N/A

Remarks
N/A

Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	N/A

Remarks
N/A

Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	N/A

Remarks
N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD28 / Intelligence & Security
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	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	365.255	39.102	42.036	56.654	-	56.654	Continuing	Continuing	N/A

Remarks
 Funding in the All Prior Years column represents a summary of Prior Years Total Costs for active contracts, Military Interdepartmental Purchase Requests, and civilian salaries on the R-3.
 Award Dates reflect date of first obligation. Additional obligations may incrementally occur throughout the year.

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD28 / Intelligence & Security
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Significant Event Complete ▲	Milestone Decision Complete ★	Element Test Complete ◆	System Level Test Complete ●	Complete Activity ◆
Significant Event Planned △	Milestone Decision Planned ☆	Element Test Planned ◇	System Level Test Planned ○	Planned Activity ◇

	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028							
MD28 Intelligence & Security	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
Declassification Reviews	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
Development and delivery of Adversary Data Package (ADP)	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
MDA OPSEC Reporting to USD(I)	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD28 / Intelligence & Security
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MD28 Intelligence & Security	1	2022	4	2028
Declassification Reviews	1	2022	4	2028
Development and delivery of Adversary Data Package (ADP)	1	2022	4	2028
MDA OPSEC Reporting to USD(I)	1	2022	4	2028

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency										Date: March 2023		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs				Project (Number/Name) MD30 / BMD Information Management Systems			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MD30: BMD Information Management Systems	735.046	88.568	87.822	91.609	-	91.609	92.439	96.898	95.602	97.511	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Increase from Fiscal Year (FY) 2023 to FY 2024 provides for the addition of Development Security Operations (DEVSECOPS) software services to improve efficiencies and reduce redundancies.

A. Mission Description and Budget Item Justification

The Missile Defense System Information Management Systems budget project funds information technology mission critical functions necessary for the efficient operations and safeguarding of Missile Defense System information in compliance with Department of Defense (DoD) policies and in keeping with the President's declaration on 29 May 2009, "cyber threat is one of the most serious economic and national security challenges we face as a nation". Information Technology (IT) is critical to the day-to-day functions of MDA personnel to communicate (classified and unclassified) with each other, Congress, senior DoD and other U.S. Government agency personnel, Combatant Commander's, North Atlantic Treaty Organization partners, and other industry partners. Communication among these organizations facilitates the MDA mission of developing and fielding an integrated Missile Defense System to defend the United States, our deployed forces, allies, and friends against all ranges of enemy ballistic missiles in all phases of flight.

MDA information management systems capabilities support rigorous missile defense Research, Development, Test and Engineering (RDT&E) and facilitate the development of technologies to guard against evolving missile threat. Communications are vital for missile defense to continue a viable homeland defense against rogue threats and to provide the integration required to defend deployed forces, allies, and friends against theater threats. Missile Defense System information management consists of MDA Special Purpose Processing Nodes (SPPNs), IT systems, data centers, operations and monitoring centers which are vital to support the strategic mission of the Agency and necessary to meet disaster recovery and continuity of operations requirements. This infrastructure is required to sustain access to the Secret Internet Protocol Router Network, Non-secure Internet Protocol Router Network, MDA classified and unclassified networks, classified and unclassified video teleconferencing services, test and business knowledge data centers, and the Defense Research Engineering Network (DREN). These mission critical functions provide for the efficient operation and safeguarding of all agency information in locations supporting MDA around the world.

Project MD30 is aligned into the following inter-agency mission critical IT services and the associated plans in accordance with the Federal Information Technology Shared Services Strategy.

1. End User Support
2. SPPNs
3. IT Planning and Solutions
4. Unified Communications

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD30 / BMD Information Management Systems

- 5. Portal and Data Services
- 6. Business Automation Services

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

	FY 2022	FY 2023	FY 2024
<p>Title: End User Support</p> <p align="right">Articles:</p> <p>Description: Provides IT operations, support and maintenance (24 hours a day, 7 days a week, 365 days a year) to over 10,500 MDA worldwide users (classified and unclassified) executing the Missile Defense System RDT&E mission. Services include Integrated Service Desk support (Help Desk and Client Support Services); management of hardware and software maintenance and licensing; and monitoring network activity to ensure users comply with DoD policies for the proper use of information systems. Services also include printing and copying; email and file; directory and authentication services. Includes investments in equipment at end-of-life to comply with Federal and DoD mandated cybersecurity policies. Plans, engineers and implements sustainment projects for common-use IT services and business systems consistent with the IT architecture road map. Provides life-cycle management of over 190,000 IT assets including IT procurement, receiving, shipping/transportation, warehousing, transfers and disposal using the Defense Property Accountability System. Increase Joint Worldwide Intelligence Communications System capability to provide connectivity and interoperability with intelligence community via Common Operating Environment. Provides Workplace Next standard IT setup and collaborative software and tools to MDA users transitioned to full time telework. Provides hotel-style cubicles with standard IT setup, which can be reserved by teleworkers via an automated scheduling tool. Deliver Development Security Operations (DEVSECOPS) software services for continuous improvement and development to the Agency in an Agile methodology to improve efficiencies and reduce redundancies.</p> <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans: - SEE ABOVE.</p> <p>FY 2024 Plans: - SEE ABOVE.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Increase from FY 2023 to FY 2024 provides for the addition of DEVSECOPS for software services and Enterprise Licensing upgrade for improved Zero Trust capabilities.</p>	23.657	12.605	16.349
	-	-	-
<p>Title: Special Purpose Processing Nodes (SPPN)</p> <p align="right">Articles:</p> <p>Description: Provides for the developmental/specialty engineering and operational strategies and concepts; and planning, design, implementation and maintenance for MDA RDT&E SPPNs in Huntsville, AL and Colorado Springs, CO. The SPPN</p>	4.097	6.779	5.210
	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency		Date: March 2023		
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD30 / BMD Information Management Systems		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2022	FY 2023	FY 2024
<p>infrastructure consists of routers, switches, firewalls, compute, storage and intrusion detection systems that provide IT support to over 10,500 MDA classified/unclassified users worldwide, including Defense Industrial Base, Federally Funded Research Development Center/University Affiliated Research Center, and Other Government Agency partners in missile defense. The SPPNs support dynamic and rapid modifications and reconfigurations of network infrastructure in support of RDT&E mission and event unique configurations. Funds provide for network operations and performance monitoring; development of detailed solutions, designs, and plans; Disaster Recovery and Continuity of Operations rehearsals; Internet access management; and web filtering. Sustains core communications distribution services across the MDA Enterprise. Includes investments in equipment at end-of-life to comply with Federal and DoD mandated cybersecurity policies.</p> <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans: - SEE ABOVE.</p> <p>FY 2024 Plans: - SEE ABOVE.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Decrease from FY2023 to FY2024 reflects decrease in investments in equipment at end-of-life.</p>				
<p>Title: Information Technology (IT) Planning and Solutions</p> <p align="right">Articles:</p> <p>Description: Provides IT engineering support for new requirements analysis, design, planning and implementation of IT solutions for real-world issues. Addresses the increasing demand for more complex IT products and highly specialized IT services. Manages the prioritization and integration of investments in the MDA IT Portfolio to ensure compliance with Federal and DoD polices. Supports the MDA Chief Information Officer (CIO) Enterprise Architecture Board, Project Steering Committee and the Change Control Board. Ensures compliance with Federal Laws, DoD policies, directives and regulations including: Clinger-Cohen Act, the Federal Information Security Management Act, and the Office of Management and Budget IT budget reporting policies. Integrate CIO staff in strategic planning and complete 4th Estate IT Reform, agile capability delivery governance, capability and architecture modeling. Integrate monitoring and performance tools into a single pane of glass having drill down capabilities to device meta data and applications improving operations, incident resolution, test event configurations, and reducing schedules for capability enhancements to the Warfighter.</p> <p>Specific and/or unique accomplishments to each FY are as follows:</p>		15.553	16.444	16.903
		-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency		Date: March 2023		
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD30 / BMD Information Management Systems		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2022	FY 2023	FY 2024
<p>FY 2023 Plans: - SEE ABOVE.</p> <p>FY 2024 Plans: - SEE ABOVE.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: N/A</p>				
<p>Title: Unified Communications</p> <p align="right">Articles:</p> <p>Description: Provides for the management, operations and sustainment of classified and unclassified globally deployed video teleconferencing capabilities and equipment. Also includes unclassified desktop instant messaging, wireless services, and collaboration capabilities. Provides and implements engineering solutions for all unified communications services. Supports MDA global RDT&E mission for classified and unclassified voice services and interfaces with the Defense Information System Network Video Services Global, the DREN, and commercial vendors. Includes maintenance agreements and licenses for MDA Enterprise telecommunications equipment classified and unclassified mobile and desktop telephony devices. Integrate CISCO Jabber into the MDA Workplace Next operational environment to support the seamless integration of voice, video and data and enhance the workforce ability to communicate and function without limitations. Support the growing demand for remote (telework) access and collaborations services with the deployment of Jabber allowing for the reduction of communication hardware, systems services (i.e. physical phones, video teleconferences (VTCs), etc.).</p> <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans: - SEE ABOVE.</p> <p>FY 2024 Plans: - SEE ABOVE.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: N/A</p>		20.139	23.333	24.015
		-	-	-
<p>Title: Portal and Data Services</p> <p align="right">Articles:</p>		12.759	12.763	13.035
		-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD30 / BMD Information Management Systems

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
<p>Description: Provides for the management, operation and maintenance support for the classified and unclassified MDA Portal application and the IT portal infrastructure. The support includes web-based developmental engineering and operations, planning, design, application implementation, content management and training. Also provides MDA Privacy Office and Civil Liberties compliance and reporting, and provides data management services to accommodate MDA users.</p> <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans: - SEE ABOVE.</p> <p>FY 2024 Plans: - SEE ABOVE.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: N/A</p>			
<p>Title: Business Automation Services</p> <p align="right">Articles:</p> <p>Description: Provides for the management, operation and maintenance of enterprise business applications for the MDA community to access and share various sources of available data, information and knowledge and enable improved organization, retrieval, manipulation, and storage. Develop and implement an unclassified and classified QLIK Sense business intelligence capability. Operate and maintain seven Defense Business Systems that meet the reporting requirements of Title 10 United States Code section 2222; these include Electronic Learning Management System (Cloud LMS), Program Resource Internet Database Environment (PRIDE), Information Management Program Activity control Tool (IMPACT), Standard Procurement System (SPS), Human Resource Tracking System/Personnel Tracking System (HRTS/PTS), TEAMMATE, TASK MANAGEMENT TOOL (TMT), Electronic Content and Records Tool (Cloud ECART), and MDA's enterprise data visualization tool (QLIK Sense) for business intelligence and data integration. Integrate Business intelligence and Data Management to streamline and formalize the activities associated with data storage, access, and handling. Provide comprehensive data governance, data cataloging and analytics to blend processes and technologies to significantly improve data quality, data security, and data accessibility. Improved data management leads to Machine Learning and Artificial Intelligence. Provide an opportunity for additional efficiencies and automation to support Missile Defense System processes, products, and decision forums with Artificial Intelligence capabilities.</p> <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans:</p>	12.363 -	15.898 -	16.097 -

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD30 / BMD Information Management Systems

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
- SEE ABOVE.			
FY 2024 Plans: - SEE ABOVE.			
FY 2023 to FY 2024 Increase/Decrease Statement: N/A			
Accomplishments/Planned Programs Subtotals	88.568	87.822	91.609

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u> <u>Base</u>	<u>FY 2024</u> <u>OCO</u>	<u>FY 2024</u> <u>Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0603176C: <i>Advanced Concepts and Performance Assessment</i>	39.678	39.737	17.825	-	17.825	18.301	18.752	19.134	19.596	Continuing	Continuing
• 0603180C: <i>Advanced Research</i>	51.270	85.323	21.461	-	21.461	22.024	22.571	23.031	23.591	Continuing	Continuing
• 0603881C: <i>Ballistic Missile</i>	209.004	195.216	220.311	-	220.311	239.705	334.977	384.992	292.629	Continuing	Continuing
<i>Defense Terminal Defense Segment</i>											
• 0603882C: <i>Ballistic Missile Defense Midcourse Defense Segment</i>	707.632	689.018	903.633	-	903.633	852.567	906.634	930.538	875.198	Continuing	Continuing
• 0603884C: <i>Ballistic Missile Defense Sensors</i>	250.123	230.502	239.159	-	239.159	212.191	233.877	242.623	251.226	Continuing	Continuing
• 0603892C: <i>AEGIS BMD</i>	628.014	595.572	693.727	-	693.727	639.678	706.974	699.611	733.909	Continuing	Continuing
• 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management & Communication</i>	556.914	589.374	554.201	-	554.201	574.275	585.966	598.896	582.156	Continuing	Continuing
• 0603898C: <i>Ballistic Missile Defense Joint Warfighter Support</i>	50.261	50.269	48.248	-	48.248	49.164	50.445	51.542	52.859	Continuing	Continuing
• 0603904C: <i>Missile Defense Integration and Operations Center (MDIOC)</i>	44.188	49.367	50.549	-	50.549	56.624	58.020	59.193	60.615	Continuing	Continuing
• 0603907C: <i>Sea Based X-Band Radar (SBX)</i>	147.241	164.668	177.868	-	177.868	196.952	176.633	162.632	162.578	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency									Date: March 2023		
Appropriation/Budget Activity 0400 / 4				R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs				Project (Number/Name) MD30 / BMD Information Management Systems			

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

Line Item	FY 2022	FY 2023	FY 2024	FY 2024	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	Cost To	
			Base	OCO	Total					Complete	Total Cost
• 0603913C: <i>Israeli Cooperative Programs</i>	300.000	300.000	300.000	-	300.000	300.000	300.000	300.000	300.000	Continuing	Continuing
• 0603914C: <i>Ballistic Missile Defense Test</i>	388.956	366.824	360.455	-	360.455	430.281	436.921	465.074	375.256	Continuing	Continuing
• 0603915C: <i>Ballistic Missile Defense Targets</i>	560.445	579.075	570.258	-	570.258	583.747	642.329	664.683	510.063	Continuing	Continuing
• 0604880C: <i>Land Based SM-3 (LBSM3)</i>	42.156	27.678	22.163	-	22.163	20.479	21.193	21.620	21.736	Continuing	Continuing
• 0901598C: <i>Management HQ - MDA</i>	24.102	25.259	28.363	-	28.363	29.039	29.601	30.174	30.760	Continuing	Continuing

Remarks

D. Acquisition Strategy

This acquisition strategy to provide IT services for MDA consists of three MDA issued contracts. The Integrated Research and Development for Enterprise Solutions provides IT design, engineering, implementation and sustainment services. The Research and Development Enterprise Collaboration Services provides VTC, Portal, Data and Business Automation Services.

MDA issues multiple Military Interdepartmental Purchase Requests (MIPRs) for leased communications including the Defense Information Systems Agency (DISA), DREN and the US Army.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD30 / BMD Information Management Systems
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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	N/A

Remarks
N/A

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
End User Support - End User Civilian Pay	Allot	MDA : Various	26.201	3.789	Oct 2021	2.324	Oct 2022	2.578	Oct 2023	-		2.578	Continuing	Continuing	Continuing
End User Support - End User Consolidated Support Logistics/Asset Mgmt	C/CPFF	VENTURI, INC. : VARIOUS	1.354	0.525	Nov 2021	0.310	Nov 2022	0.372	Nov 2023	-		0.372	Continuing	Continuing	Continuing
End User Support - End User DoD365 Migration	MIPR	DOD - DEFENSE INFORMATION SYSTEMS AGENCY (DISA) : VARIOUS	0.000	0.000		0.000		1.387	Sep 2024	-		1.387	Continuing	Continuing	Continuing
End User Support - End User JWICS	MIPR	DOD - DEFENSE INTELLIGENCE AGENCY (DIA) : Various	0.000	0.000		0.659	Nov 2022	0.643	Nov 2023	-		0.643	Continuing	Continuing	Continuing
End User Support - End User Operational Support	C/CPAF	JACOBS TECHNOLOGY INC. : VARIOUS	144.104	19.343	Nov 2021	9.312	Nov 2022	11.369	Nov 2023	-		11.369	Continuing	Continuing	Continuing
Special Purpose Processing Nodes (SPPN) - SPPN Civilian Pay	Allot	MDA : Various	10.128	1.443	Oct 2021	3.501	Oct 2022	3.618	Oct 2023	-		3.618	Continuing	Continuing	Continuing
Special Purpose Processing Nodes (SPPN) - SPPN Operational Support	C/CPAF	JACOBS TECHNOLOGY INC. : VARIOUS	195.827	1.636	Nov 2021	2.035	Nov 2022	1.092	Nov 2023	-		1.092	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency												Date: March 2023			
Appropriation/Budget Activity					R-1 Program Element (Number/Name)					Project (Number/Name)					
0400 / 4					PE 0603890C / BMD Enabling Programs					MD30 / BMD Information Management Systems					
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Special Purpose Processing Nodes (SPPN) - SPPN SWDC PNT	C/CPFF	NORTHROP GRUMMAN : VARIOUS	6.896	0.738	Nov 2021	0.753	Nov 2022	0.000		-		0.000	0.000	8.387	0.000
Special Purpose Processing Nodes (SPPN) - SPPN Specialty Engineering	C/CPFF	MODERN TECHNOLOGY SOLUTIONS, INC. : VA	0.000	0.280	Mar 2022	0.490	Nov 2022	0.500	Nov 2023	-		0.500	Continuing	Continuing	Continuing
Information Technology (IT) Planning and Solutions - IT Planning and Solutions Civilian Pay/Travel/PCS	Allot	DOD - MISSILE DEFENSE AGENCY (MDA) : Various	11.590	2.675	Oct 2021	3.806	Oct 2022	4.059	Oct 2023	-		4.059	Continuing	Continuing	Continuing
Information Technology (IT) Planning and Solutions - IT Planning and Solutions Consolidated Support	C/Various	Various : Various	0.000	0.277	Nov 2021	0.577	Nov 2022	0.473	Nov 2023	-		0.473	Continuing	Continuing	Continuing
Information Technology (IT) Planning and Solutions - IT Planning and Solutions Consolidated Support - 5SRC	C/CPAF	FIVE STONES RESEARCH CORPORATION : Various	37.861	6.440	Aug 2022	5.748	Aug 2023	5.862	Aug 2024	-		5.862	Continuing	Continuing	Continuing
Information Technology (IT) Planning and Solutions - IT Planning and Solutions Operational Support	C/CPAF	JACOBS TECHNOLOGY INC. : VARIOUS	44.004	3.988	Mar 2022	4.510	Mar 2023	3.098	Mar 2024	-		3.098	Continuing	Continuing	Continuing
Information Technology (IT) Planning and Solutions - IT Planning and Solutions SWDC PNT	C/CPFF	NORTHROP GRUMMAN : Various	0.000	2.173	Nov 2021	1.803	Nov 2022	3.411	Nov 2023	-		3.411	Continuing	Continuing	Continuing
Unified Communications - Unified Communications Civilian Pay	Allot	MDA : Various	10.434	1.407	Oct 2021	1.076	Oct 2022	1.202	Oct 2023	-		1.202	Continuing	Continuing	Continuing
Unified Communications - Unified Communications Leased Communication DREN	MIPR	DOD - USA - ENGINEER RESEARCH AND DEVELOPMENT	0.000	1.534	Jan 2022	1.582	Jan 2023	1.598	Jan 2024	-		1.598	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency												Date: March 2023			
Appropriation/Budget Activity					R-1 Program Element (Number/Name)					Project (Number/Name)					
0400 / 4					PE 0603890C / BMD Enabling Programs					MD30 / BMD Information Management Systems					
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
		CENTER (ERDC) : VARIOUS													
Unified Communications - Unified Communications Leased Communications/ Licenses	MIPR	Various : Various	38.856	0.854	Oct 2021	1.688	Oct 2022	0.518	Nov 2023	-		0.518	Continuing	Continuing	Continuing
Unified Communications - Unified Communications Leased Communications/ Licenses - DISA	MIPR	DOD - DEFENSE INFORMATION SYSTEMS AGENCY (DISA) : VARIOUS	0.000	5.981	Oct 2021	6.764	Oct 2022	7.088	Oct 2023	-		7.088	Continuing	Continuing	Continuing
Unified Communications - Unified Communications Operational Support	C/CPAF	JACOBS TECHNOLOGY INC. : VARIOUS	20.468	2.855	Nov 2021	3.247	Nov 2022	3.224	Nov 2023	-		3.224	Continuing	Continuing	Continuing
Unified Communications - Unified Communications VTC Operations Support	C/CPIF	NETWORK MANAGEMENT RESOURCES, INC. : VARIOUS	52.260	5.909	Apr 2022	7.567	Apr 2023	8.962	Apr 2024	-		8.962	Continuing	Continuing	Continuing
Unified Communications - Unified Communications Wireless Services	C/FFP	AT&T MOBILITY LLC : VARIOUS	10.913	1.599	Oct 2021	1.409	Oct 2022	1.423	Oct 2023	-		1.423	Continuing	Continuing	Continuing
Portal and Data Services - Portal and Data Services Civilian Pay	Allot	MDA : Various	8.574	1.160	Oct 2021	0.497	Oct 2022	0.514	Oct 2023	-		0.514	Continuing	Continuing	Continuing
Portal and Data Services - Portal and Data Services Operational Support- IRES	C/CPAF	JACOBS TECHNOLOGY INC. : VARIOUS	18.224	5.787	Jan 2022	5.718	Jan 2023	6.862	Jan 2024	-		6.862	Continuing	Continuing	Continuing
Portal and Data Services - Portal and Data Services Operational Support- RECS	C/FFP	NETWORK MANAGEMENT RESOURCES, INC. : VARIOUS	36.786	5.471	Apr 2022	6.191	Apr 2023	5.352	Apr 2024	-		5.352	Continuing	Continuing	Continuing
Portal and Data Services - Portal and Data Services Operational Support- Various	Various	Various : VARIOUS	3.668	0.341	Oct 2021	0.357	Oct 2022	0.307	Oct 2023	-		0.307	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency											Date: March 2023				
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs					Project (Number/Name) MD30 / BMD Information Management Systems				

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Business Automation Services - Business Automation Civilian Pay	Allot	MDA : Various	4.681	0.253	Oct 2021	0.665	Oct 2022	0.687	Oct 2023	-		0.687	Continuing	Continuing	Continuing
Business Automation Services - Business Automation DoD365 Migration	MIPR	DOD - DEFENSE INFORMATION SYSTEMS AGENCY (DISA) : Various	0.000	0.000		1.855	Nov 2022	0.000		-		0.000	0.000	1.855	0.000
Business Automation Services - Business Automation Operational Support- IRES	C/CPAF	JACOBS TECHNOLOGY INC. : VARIOUS	47.418	11.579	Nov 2021	8.502	Nov 2022	11.267	Nov 2023	-		11.267	Continuing	Continuing	Continuing
Business Automation Services - Business Automation Operational Support- RECS	C/CPAF	NETWORK MANAGEMENT RESOURCES, INC. : VARIOUS	0.000	0.531	Nov 2021	4.383	Nov 2022	3.634	Nov 2023	-		3.634	Continuing	Continuing	Continuing
Business Automation Services - Business Automation Tools and Support	MIPR	Various : Various	0.124	0.000		0.493	Oct 2022	0.509	Oct 2023	-		0.509	Continuing	Continuing	Continuing
CARES Act Funding (COVID 19) - CARES IT Hardware Support	C/CPAF	Jacobs Engineering : AL, AK, CA, CO, HI, NM, VA	4.675	0.000		0.000		0.000		-		0.000	0.000	4.675	0.000
Subtotal			735.046	88.568		87.822		91.609		-		91.609	Continuing	Continuing	N/A

Remarks
N/A

Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD30 / BMD Information Management Systems
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Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
N/A

Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	N/A

Remarks
N/A

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	735.046	88.568	87.822	91.609	-	91.609	Continuing	Continuing	N/A

Remarks
Award Date reflects date of first obligation. Additional obligations may incrementally occur throughout the year.

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Missile Defense Agency						Date: March 2023									
Appropriation/Budget Activity 0400 / 4				R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs				Project (Number/Name) MD30 / BMD Information Management Systems							
Significant Event Complete ▲	Milestone Decision Complete ★	Element Test Complete ◆	System Level Test Complete ●	Complete Activity ◆	Significant Event Planned △	Milestone Decision Planned ☆	Element Test Planned ◇	System Level Test Planned ○	Planned Activity ◇						
Operate, monitor and sustain Information Technology Infrastructure across the MDA Enterprise				FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028					
				◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Missile Defense Agency		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD30 / BMD Information Management Systems

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Operate, monitor and sustain Information Technology Infrastructure across the MDA Enterprise	1	2022	4	2028

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency										Date: March 2023		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs				Project (Number/Name) MC30 / Cyber Operations			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MC30: <i>Cyber Operations</i>	336.532	100.256	80.519	89.111	-	89.111	91.655	95.931	97.852	99.809	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Accomplishments map to the Office of Management and Budget (OMB) and Office of the Secretary of Defense approved Cybersecurity Taxonomy including 1) Preventing Malicious Activity, 2) Detect, Analyze and Mitigate Intrusions, 3) Planning, Policy Development and Workforce Management, 4) Continuous Monitoring and 5) Outside Federal Outreach, Defense Industrial Base.

Increase from Fiscal Year (FY) 2023 to FY 2024 provides cyber contractor support funding to reach full capacity of Missile Defense System Cyber Security Service Provider (CSSP) Tier II.

A. Mission Description and Budget Item Justification

A number of key Information Technology (IT) strategies were identified in the Department of Defense (DoD) IT Enterprise Strategy and Roadmap issued by the Deputy Secretary of Defense in 2011. The IT Roadmap specifically addresses the need to improve Cybersecurity. It states that DoD networks are under constant attack from cybersecurity threats launched from various sources. The Missile Defense Agency (MDA) must meet the National Command Authority Directives for rapid deployment of the Missile Defense System while complying with the key principles of Cybersecurity standards to ensure MDA remains a secure member of the DoD Information Network.

DoD Instruction 8500.01 Cybersecurity issued in March 2014, requires continuous monitoring, data analysis, reporting and incident mitigation of DoD classified and unclassified, mission, test and administrative networks. To comply with the Instruction, MDA must implement a multi-tiered cybersecurity risk management capability to protect critical Missile Defense System data and systems from rapidly evolving internal and external threats.

This project provides funds to sustain the Risk Management Framework (RMF) and Controls Validation Testing (CVT) activities, analysis of validation results, risk assessments and reviews of proposed Program Manager/Information Systems Security Manager (PM/ISSM) Plan of Action and Milestones (POA&M) for the MDA mission, test and common-use IT systems. Maintains the Authorization and Assessment (A&A) data repository, capturing the RMF documentation (artifacts, validation results, and Cybersecurity Risk Assessment results, and Authorizing Official (AO) decisions) and POA&M on all MDA information systems. Supports the monitoring and tracking of Cybersecurity mitigations detailed in IT cybersecurity POA&Ms. Activities include preparation of A&A documentation and authorization recommendations to the MDA PM/ISSM and AO. Independent Verification and Validation team actions ensure the availability, integrity, confidentiality and non-repudiation of the MDA mission, test and common-use IT systems. Activities in the Project are necessary to comply with Federal Information Security Management Act (FISMA).

This project funds the MDA Global Network Operations and Security Center (GNOSC) responsible for monitoring, managing, patching, and maintaining MDA network and core IT services; issuing and tracking Technical Compliance Orders; and coordinating overarching Enterprise NetOps. The GNOSC provides the network security operations centers and supporting processes to protect and defend the MDA Enterprise information and information systems.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency	Date: March 2023
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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MC30 / Cyber Operations
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The MDA's Tier II Cybersecurity Service Provider- Computer Emergency Response Team (CSSP-CERT), monitors the MDA classified and unclassified information technology research, development, test and evaluation (RDT&E) and common-use IT networks and reports vulnerabilities. The MDA CSSP coordinates with U.S. Cyber Command to identify and implement network vulnerability updates and patches to comply with U.S. Cyber Command vulnerabilities identified for DoD networks. In FY 2020, the MDA CSSP began taking over CSSP responsibilities from United States Strategic Command in accordance with CJCSI 6510.01F, DoD O-8530.1 and the DoD Cybersecurity Discipline Implementation Plan.

The project funds Cybersecurity governance management and administrative management support, annual Agency-wide computer-based Cybersecurity training and metrics reporting, implementation of Public Key Infrastructure and Enabling Communication Security (COMSEC) related activities.

Facility-related control systems (FRCS) include building management systems, electronic security systems, industrial control systems, and supervisory control and data acquisition systems in support of facility operations.

This project provides for the management of MDA's FRCS cybersecurity program, cybersecurity engineering for FRCS incorporated in MDA facility plans for construction and upgrades, as well as the implementation of RMF and Computer Network Defense (CND) on FRCS in MDA facilities.

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

	FY 2022	FY 2023	FY 2024
<p>Title: Preventing Malicious Cybersecurity Activity</p> <p align="right">Articles:</p> <p>Description: Provide: FISMA-related activities; Intrusion Prevention Systems; Trusted Internet Connections; Identity Management and Authentication; Supply Chain Management; Network & Data Protection and Insider Threat Mitigation Activities. This effort includes integration and test capabilities for element interface verification and provide operations and sustainment of the deployed Position, Navigation, and Timing (PNT) Last Mile integration capabilities at Missile Defense System locations.</p> <p>Recurring Activities for Preventing Malicious Cyber Attacks:</p> <ul style="list-style-type: none"> - Maintain a current Cybersecurity risk and residual risk assessment of the Missile Defense System. - Coordinate Cybersecurity compliance for all IT projects and remote sites. - Implement measures to prevent unauthorized access to MDA Information Systems based on analysis of threat vectors. - Evaluate known threats against vulnerabilities to determine mitigation strategies. - Expand User Activity Monitoring and implement technology protection to improve cybersecurity, insider threat, and software assurance posture of the Missile Defense System; and provide increased ability to detect insider threats. - Recapitalization of Data Center/IT, addition of server/storage capability to support Top Secret level processing. - Implement Mission and RDT&E Software Assurance and Development Security and Operations (DEVSECOPS) tools and processes. - Conduct Cyber Threat Hunting for classified Defense Industry Base (DIB) and Missile Defense System environments. - Optimization of MDA Integration and Operations Center Infrastructure Special Use Space - Coordinate with private partnerships to ensure the DIB protects MDA data. 	29.142	17.646	17.818
	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency		Date: March 2023		
Appropriation/Budget Activity 0400 / 4		R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs		Project (Number/Name) MC30 / Cyber Operations
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2022	FY 2023	FY 2024
Specific and/or unique accomplishments to each FY are as follows:				
FY 2023 Plans: - SEE ABOVE.				
FY 2024 Plans: - SEE ABOVE.				
FY 2023 to FY 2024 Increase/Decrease Statement: N/A				
Title: Planning, Policy Development, Workforce Training & Force Management		7.872	4.873	5.090
		Articles: -	-	-
Description: Provide National Initiative for Cybersecurity Education; Workforce Development; Security Training for Employees with Significant Security Responsibilities; and Cybersecurity Strategic Planning, Policy, Oversight and Management.				
Recurring Activities for the Planning, Policy Development, Workforce Training and Force Management Accomplishment: -Document and maintain Standard Operating Instructions/Procedures for consistent interface with the MDA Missile Defense System Network Operations Support Center and the Missile Defense System elements. -Publish MDA policies to incorporate new requirements stated in DoDI 8510.01 RMF to comply with 237 new controls and 817 control enhancements into controls validation testing of Missile Defense System elements and networks. -Manage the Cyberspace Workforce Management Program to certify Cybersecurity professionals and report compliance in accordance with FISMA and DoD Directive 8140.01 (Cyberspace Workforce Management), achieving the DoD certification goal; reports Cybersecurity Risk Assessments, Primary RMF artifacts. -Interface with other combatant commands to provide Missile Defense System Mission RMF package. -Conduct an annual Cybersecurity review of the Missile Defense System in accordance with DoDI 8510.01 and provide an analysis of changes in Cybersecurity posture. -Collect, analyze, and report vulnerability and cyber warfare attack metrics to the MDA Chief Information Officer, MDA leadership, and U.S. Cyber Command. -Provide Cybersecurity engineering and planning guidance and vulnerability assessment for all MDA Information Technology acquisition programs.				
Specific and/or unique accomplishments to each FY are as follows:				
FY 2023 Plans:				

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency		Date: March 2023		
Appropriation/Budget Activity 0400 / 4		R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs		Project (Number/Name) MC30 / Cyber Operations
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2022	FY 2023	FY 2024
- SEE ABOVE. FY 2024 Plans: - SEE ABOVE. FY 2023 to FY 2024 Increase/Decrease Statement: N/A				
Title: Continuous Monitoring Description: Provide IT Security Tools and Other Continuous Monitoring. Recurring Activities for the Continuous Monitoring Accomplishment: -Manage data-at-rest encryption to ensure compliance with DoD mandated policies. -Procure/renew cybersecurity software licensing agreements for IT Security Tools. -Procure/renew cybersecurity hardware maintenance for hardware. Specific and/or unique accomplishments to each FY are as follows: FY 2023 Plans: - SEE ABOVE. FY 2024 Plans: - SEE ABOVE. FY 2023 to FY 2024 Increase/Decrease Statement: N/A		9.664 <i>Articles:</i> -	8.282 -	8.385 -
Title: Detect, Analyze and Mitigate Intrusions Description: Provide cybersecurity activities including: Federal Incident Response Centers; National Institute of Standards for Technology (NIST) SP 800.53 Rev 5 Implementation; Cyber Threat Analysis; Cyber Continuity of Operations; Incident Response and Remediation; Forensics and Damage Assessment; and Computer Emergency Response Teams. Recurring Activities for the Detect, Analyze and Mitigate Intrusions Accomplishment: - Test RMF controls on all IT supporting research, development, test and evaluation and DoD-controlled IT operated by a contractor or other entity on behalf of DoD and reported.		52.560 <i>Articles:</i> -	47.921 -	55.967 -

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MC30 / Cyber Operations
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023		FY 2024
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<ul style="list-style-type: none"> - Conduct RMF analysis and reporting for the Missile Defense System such as evaluation of residual risk by incorporating current and proposed Missile Defense System monitoring and mitigations. - Maintain MDA and Missile Defense System Cybersecurity Service Provider - Computer Emergency Response Team (CSSP-CERT) as a fully accredited Tier II CSSP in accordance with CJCSI 6510.01F and DoD O-8530.1, and the DoD Cybersecurity Discipline Implementation Plan. - Perform CSSP services (protect, detect, respond and sustain) for all MDA Common-use IT Services, MDA Mission and test networks and enclaves 24 hours a day, 7 days a week, 365 days a year. - Conduct application testing that looks for vulnerabilities and issues using a number of tactics, technical and procedures. - Conduct monthly cybersecurity vulnerability audits. - Issue and track implementation of Information Assurance Vulnerability Alerts, Bulletins and Technical Advisories. - Perform network security monitoring of all MDA subscriber networks and enclaves. - Conduct system forensic analysis, review content of compromised system, document files and data, and identify tactics, techniques and procedures used by an attacker to gain access. - Compile and validate Missile Defense System Mission Element-level authorization and assessment documents to include Missile Defense System Element-level System Security Plans, Security Controls Traceability Matrix, POA&M artifacts and support conduct of CVT. Execute controls validation integration testing as part of developmental testing efforts for the Missile Defense System. - Ensure MDA mission, test, and common-use IT systems are operated securely in accordance with DoD RMF policies. - Prepare and maintain current RMF documentation for MDA networks and systems reported to DoD and OMB. <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans: - SEE ABOVE.</p> <p>FY 2024 Plans: - SEE ABOVE.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Increase from FY 2023 to FY 2024 provides additional cyber contractors for Missile Defense System CSSP Tier II expansion.</p>				
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Title: Outside Federal Outreach - Defense Industrial Base	0.140	0.832		0.853
Articles:	-	-		-
Description: Review current Cybersecurity Policies and coordinate with MDA Missile Defense System Programs to ensure all applicable Cybersecurity clauses are included into MDA contracts with MDA Industry partners in the DIB to ensure protection of				

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency		Date: March 2023		
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MC30 / Cyber Operations		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2022	FY 2023	FY 2024
<p>Missile Defense System Controlled Unclassified Information. Resource Government Cybersecurity Maturity Model Certification (CMMC) Assessment Teams to conduct CMMC Level 3 assessments on identified MDA Tier 1 contracts.</p> <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans: - SEE ABOVE.</p> <p>FY 2024 Plans: - SEE ABOVE.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: N/A</p>				
<p>Title: Facility Related Control Systems (FRCS)</p> <p>Description: Provide FRCS program oversight to include policies, procedures, plans, reports and budgets to support agency FRCS.</p> <ul style="list-style-type: none"> - Systems development, inventory, assessment, mitigation and sustainment IAW DoDI 8500.01 Cybersecurity and DoDI 8510.01 RMF throughout the life cycle of each FRCS. - Manage the cybersecurity activities to protect the FRCS, including vulnerability assessment and management, malware protection, information system continuous monitoring, cyber incident handling, and auditing to detect, deter, and mitigate insider threats, IAW DoDI 8530.01 Cybersecurity Activities Support to DoD Information Network Operations. - Oversee the development of FRCS in facilities to ensure cybersecurity is designed and built into the system in accordance with Unified Facilities Criteria 4-010-06 Cybersecurity Of Facility-Related Control Systems to reduce cybersecurity risk and ensure compliance with applicable NIST Special Publication (SP) 800-53 Rev. 5 security controls. - Manage the training and development of the FRCS cybersecurity workforce to ensure all personnel are qualified to perform assigned cybersecurity duties IAW DoDD 8140.01 Cyberspace Workforce Management. <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans: - SEE ABOVE.</p> <p>FY 2024 Plans:</p>		<p>Articles:</p> <p>0.878</p> <p>-</p>	<p>0.965</p> <p>-</p>	<p>0.998</p> <p>-</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency	Date: March 2023
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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MC30 / Cyber Operations
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
- SEE ABOVE.			
FY 2023 to FY 2024 Increase/Decrease Statement: N/A			
Accomplishments/Planned Programs Subtotals	100.256	80.519	89.111

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

N/A

Remarks

D. Acquisition Strategy

The Integrated Research and Development for Enterprise Solutions provides IT design, engineering, implementation and sustainment services.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MC30 / Cyber Operations
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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-	-	-	-	-	-	-	-	-	-	-	N/A

Remarks
N/A

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Preventing Malicious Cybersecurity Activity - Civilian Pay	Allot	MDA : Various	6.249	2.400	Oct 2021	1.502	Oct 2022	1.550	Oct 2023	-		1.550	Continuing	Continuing	Continuing
Preventing Malicious Cybersecurity Activity - Cyber CSS	C/CPAF	JACOBS TECHNOLOGY INC. : VARIOUS	63.360	26.097	Nov 2021	15.442	Nov 2022	15.389	Nov 2023	-		15.389	Continuing	Continuing	Continuing
Preventing Malicious Cybersecurity Activity - Cyber MDS CSM/CND and COMSEC	C/Various	Various : VARIOUS	2.175	0.645	Mar 2022	0.702	Nov 2022	0.879	Nov 2023	-		0.879	Continuing	Continuing	Continuing
Planning, Policy Development, Workforce Training & Force Management - A&AS Cyber MDS CSM/CND	C/CPFF	SYSTEM HIGH CORPORATION : VARIOUS	7.878	5.754	Nov 2021	2.842	Nov 2022	1.887	Nov 2023	-		1.887	Continuing	Continuing	Continuing
Planning, Policy Development, Workforce Training & Force Management - Civilian Pay	Allot	MDA : Various	4.584	1.627	Oct 2021	1.573	Oct 2022	1.716	Oct 2023	-		1.716	Continuing	Continuing	Continuing
Planning, Policy Development, Workforce Training & Force Management - Cyber CSS	C/CPAF	JACOBS TECHNOLOGY INC. : VARIOUS	0.000	0.000		0.000		1.020	Nov 2023	-		1.020	0.000	1.020	0.000
Planning, Policy Development, Workforce	MIPR	DOD - USA - COMMUNICATIONS ELECTRONICS	0.000	0.491	Nov 2021	0.458	Nov 2022	0.467	Nov 2023	-		0.467	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MC30 / Cyber Operations
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Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Training & Force Management - FFRDC		COMMAND (CECOM) : VARIOUS													
Continuous Monitoring - Continuous Monitoring - IT Security Tools	C/CPAF	JACOBS TECHNOLOGY INC. : VARIOUS	37.261	9.664	Jan 2022	8.282	Jan 2023	8.385	Jan 2024	-		8.385	Continuing	Continuing	Continuing
Detect, Analyze and Mitigate Intrusions - A&AS Cyber MDS CSM/CND	C/CPFF	SYSTEM HIGH CORPORATION : VARIOUS	6.471	0.000		2.107	Aug 2023	2.553	Aug 2024	-		2.553	0.000	11.131	0.000
Detect, Analyze and Mitigate Intrusions - A&AS Cyber Risk Mgmt	C/CPFF	DECISIVE ANALYTICS CORPORATION : VARIOUS	14.661	2.854	Mar 2022	4.146	Mar 2023	4.229	Mar 2024	-		4.229	Continuing	Continuing	Continuing
Detect, Analyze and Mitigate Intrusions - Civilian Pay/Travel/PCS	Allot	DOD - MISSILE DEFENSE AGENCY (MDA) : Various	10.800	3.053	Oct 2021	4.640	Oct 2022	5.301	Oct 2023	-		5.301	Continuing	Continuing	Continuing
Detect, Analyze and Mitigate Intrusions - Cyber CSS	C/CPAF	JACOBS TECHNOLOGY INC. : VARIOUS	169.364	37.095	Jan 2022	26.492	Jan 2023	36.944	Jan 2024	-		36.944	0.000	269.895	0.000
Detect, Analyze and Mitigate Intrusions - Cyber Customer Support	C/CPAF	NETWORK MANAGEMENT RESOURCES, INC. : Various	8.775	0.000		0.000		0.000		-		0.000	0.000	8.775	8.775
Detect, Analyze and Mitigate Intrusions - Cyber Threat Hunting	C/CPAF	TBD : Various	0.000	0.200	Aug 2022	0.000		0.600	Aug 2024	-		0.600	Continuing	Continuing	Continuing
Detect, Analyze and Mitigate Intrusions - Network/System Assessment and Authorization Contract Support services	C/FFP	BOOZ ALLEN HAMILTON INC. : VA	4.450	0.000		0.000		0.000		-		0.000	0.000	4.450	4.450
Detect, Analyze and Mitigate Intrusions - Tier II CSSP	C/FFP	FOUR POINTS TECHNOLOGY, L.L.C. : CO	0.000	9.358	Apr 2022	10.536	Apr 2023	6.340	Apr 2024	-		6.340	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MC30 / Cyber Operations
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Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Outside Federal Outreach - Defense Industrial Base - Civilian Pay	Allot	MDA : Various	0.504	0.140	Oct 2021	0.832	Oct 2022	0.853	Oct 2023	-		0.853	Continuing	Continuing	Continuing
Facility Related Control Systems (FRCS) - Cyber Security and Cyber Resiliency	MIPR	BOOZ ALLEN HAMILTON INC. : Various	0.000	0.878	Nov 2021	0.965	Nov 2022	0.998	Nov 2023	-		0.998	Continuing	Continuing	Continuing
Subtotal			336.532	100.256		80.519		89.111		-		89.111	Continuing	Continuing	N/A

Remarks
N/A

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	336.532	100.256	80.519	89.111	-	89.111	Continuing	Continuing	N/A

Remarks
Award Date reflects date of first obligation. Additional obligations may incrementally occur throughout the year.

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / <i>BMD Enabling Programs</i>	Project (Number/Name) MC30 / <i>Cyber Operations</i>
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Significant Event Complete ▲	Milestone Decision Complete ★	Element Test Complete ◆	System Level Test Complete ●	Complete Activity ◆			
Significant Event Planned △	Milestone Decision Planned ☆	Element Test Planned ◇	System Level Test Planned ○	Planned Activity ◇			
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Operate, monitor, and sustain Cyberspace Activities Infrastructure across the MDA Enterprise.	◇	◇	◇	◇	◇	◇	◇

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / <i>BMD Enabling Programs</i>	Project (Number/Name) MC30 / <i>Cyber Operations</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Operate, monitor, and sustain Cyberspace Activities Infrastructure across the MDA Enterprise.	1	2022	4	2028

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency										Date: March 2023		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs				Project (Number/Name) MD31 / Modeling & Simulation			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MD31: <i>Modeling & Simulation</i>	532.457	78.389	71.045	65.702	-	65.702	67.222	67.717	69.247	70.614	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Decrease from Fiscal Year (FY) 2023 to FY 2024 reflects completed delivery of initial versions of GTISS and EDISS, alignment to the Missile Defense System ground test schedule, and realignment of funding to higher Agency priorities.

A. Mission Description and Budget Item Justification

The Missile Defense Agency's (MDA's) Modeling and Simulation (M&S) program develops system-level models, frameworks, truth, simulations, and operational representations as missile defense technologies continually advance and the threat changes, and evaluates performance of the Elements, Components, and overall Missile Defense System for verification, validation and accreditation purposes. MDA's M&S program provides a cost-effective means to assess and examine Missile Defense performance space beyond what can be physically tested under current test range conditions and within the Agency's fiscal constraints. M&S future concept simulation activities provide the capability to design and develop technologies to hedge against future missile threats. MDA's M&S systems and products provide analysis, decision-making, and planning capabilities for Real-World Operations to inform the National Command Authority, Joint Staff, Military Services, North Atlantic Treaty Organization, Combatant Commanders (CCMDs), Operational Test Authority (OTAs), Director of Operational Test & Evaluation (DOT&E), and Allies.

The strategy of MDA's M&S Program is 1) to execute a single, integrated, and synchronized program to manage M&S development and sustainment, 2) to improve System Flight and Ground Test execution and provide digital assessment venue, 3) to leverage MDA test activities to collect data to anchor M&S, and 4) to perform Warfighter training and tactics validation. The strategy also incorporates key elements to address DOT&E assessments; Ensure that future M&S architectures are composable and flexible, and simplify the integration process to conserve resources and improve capabilities; Ensure that future M&S architectures incorporate and require the use of consistent truth representations (phenomenology, lethality, environmental factors, threat simulations, etc.); Improve cross-organizational system engineering processes to optimize requirements generation and ensure the inclusion of all stakeholders; Develop refined M&S accreditation criteria between MDA and the OTA; Enable top-down systems engineering and management of agency-wide M&S federations.

MDA's M&S Program consists of system and product planning, development, integration, and operation; threat model development, verification, and analysis; and integration and deployment of MDA's distributed real-time Hardware-in-the-Loop (HWIL) and digital M&S simulation capabilities. Models and simulations are tailored to the specific needs of the Agency's test events and to match Missile Defense System components in their various stages of development, ranging from low-to-medium fidelity analyses supporting concept definitions studies, to high-fidelity models used to support engineering level activities. MDA validates and accredits System-level models and simulations by anchoring them to ground and flight test events, per the Integrated Master Test Plan (IMTP), to enable accurate and comprehensive assessments.

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

	FY 2022	FY 2023	FY 2024
Title: M&S Requirements, Design Support, Scenario Optimization	9.332	8.865	10.958
Articles:	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD31 / Modeling & Simulation
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023		FY 2024
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Description: This activity provides the integrated program life cycle planning and requirements definition of all Missile Defense System M&S models and capabilities to enable assessment of capability deliveries. M&S capability development executes an integrated, synchronized program to manage M&S development in support of Missile Defense System development, testing, and assessment. The following actions are required on a continuing basis to accomplish the M&S life cycle planning and requirements definition mission:

- Maintain traceability between the M&S Systems Requirements Documents and M&S product development
- Support Missile Defense System-level and element-level engineering, including M&S planning, assessment, and requirements definition, and performing developmental integration activities
- Conduct integration, testing and system-level verification per the digital System Requirements Document and the Digital Concept of Operations
- Produce capability documents and specifications for M&S product development to enable all Digital assessment, System flight and HWIL tests, training events, exercises, wargames, concept evaluation and development engineering
- Support MDA response to export requests for M&S software and technical data to nations or international organizations
- Participate in Technical Interchange Meetings and provide support for bilateral agreements with allies and partners
- Support system engineering capability trades for all Missile Defense System capability deliveries
- Provide integrated program life cycle planning and scheduling of all System-level M&S models and capabilities to enable assessment of capability deliveries for Homeland and Regional Defense
- Execute M&S planning, development, framework and test integration; core truth model development; threat model development, verification, and analysis; and integration and deployment of MDA's distributed real-time HWIL and digital M&S simulation capabilities
- Develop/sustain models and simulations tailored to the specific needs of the Agency's test events; match Missile Defense System components in their various stages of development or sustainment as required for the test venue

Specific and/or unique accomplishments to each FY are as follows:

FY 2023 Plans:

- SEE ABOVE.

FY 2024 Plans:

- SEE ABOVE.

FY 2023 to FY 2024 Increase/Decrease Statement:

Increase from FY 2023 to FY 2024 provides for consolidation of M&S planning and requirements definition.

Title: BMDS Simulations & Tools	10.584	11.381		10.650
Articles:	-	-		-

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD31 / Modeling & Simulation

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
<p>Description: This activity funds the development and sustainment of digital products and the architecture framework, and delivery/maintenance of infrastructure for Missile Defense performance assessments, Warfighter events, engineering studies/analyses, and International Simulation events. The following actions are required on a continuing basis:</p> <p>Event Integration/Support Operations:</p> <ul style="list-style-type: none"> - Deliver integrated architecture instantiations of the Missile Defense System to support Performance Assessments and integration of new capabilities into the Operational Capability Baseline - Integrate, test, and verify the M&S enterprise supporting System-level testing, assessment, exercises, and wargaming, including testing infrastructure - Integrate, test, functionally qualify, and deliver M&S tools and complex test architectures to provide system test capabilities to support MDA IMTP based test events, wargames, and exercises - Provide simulation capability for System and Element M&S development laboratories - Provide Event Integration Support for non-MDA Missile Defense component and weapon system models for M&S, threat, and Element developmental integration activities - Provide HWIL/M&S benchmarking/integration, documentation and coordination; sustain, integrate and execute ground tests, and Exercises/Wargames - Provide communications emulation (Multicast Tactical Digital Information Link (TADIL-J), Satellite TADIL-J, and Link-16) and network analysis support via the Tactical Communications Environment Segment for M&S, threat, and Element developmental integration activities - Perform operational planning for planned Missile Defense System assessment events - Conduct M&S system integration and verification and conduct developmental integration testing <p>M&S Operations:</p> <ul style="list-style-type: none"> - Provide digital representations of Missile Defense System elements/components using MDA's International Simulation (I-SIM) in support of CCMD and International Wargames, conceptual planning, visualizations, training/orientation, M&S demonstrations, and the Warfighter's Modification & Fielding Requirements List for exercises and training - Implement I-SIM architecture requirements and emerging capability requirements to adapt to growing distributed event requirements - Sustain the Missile Defense Space Warning Tool (MDST) and related tools to pace fielded Overhead Persistent Infrared (OPIR) Architectures in support of Warfighter training and exercise events, and Element development engineering - Provide software operations/maintenance support to the Extended Air Defense Simulation code base for use in Warfighter exercises, training venues, and Combatant Command planning tools - Provide, maintain, and operate a secure M&S execution infrastructure for digital system simulations - Upgrade models and develop new designs or software as required to support System simulations 			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency	Date: March 2023
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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD31 / Modeling & Simulation
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023		FY 2024
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<ul style="list-style-type: none"> - Provide threat representations (trajectories, radar cross sections, and signatures data) for use in real-world events, simulations, exercises, wargames, and test and evaluation activities across the Department of Defense - Develop products that meet digital and HWIL requirements and allow M&S participation across multiple intended uses - Update and provide new M&S capabilities to support development of: <ul style="list-style-type: none"> -- Develop signature, environment, and lethality models to include debris environment -- Adapt M&S framework and interfaces to accommodate new Missile Defense System assets -- Develop threat representations and provide threat data for Missile Defense System test, analysis, and assessment <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans: - SEE ABOVE.</p> <p>FY 2024 Plans: - SEE ABOVE.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: N/A</p>				
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<p>Title: M&S Objective Simulation Framework (OSF)</p> <p>Description: The following actions are required on a continuing basis to accomplish the OSF mission:</p> <ul style="list-style-type: none"> - Develop and implement OSF upgrades to incorporate advanced tracking, discrimination, engagement and associated upper tier debris mitigation capabilities, as well as other requirements and capabilities to meet MDA's evolving M&S Enterprise needs - Perform testing and integration of Core Truth Model capabilities into the OSF framework - Develop, sustain and enhance framework, other M&S tools, and products to maintain capabilities to support stakeholders and to keep pace with evolving requirements to support Ground Test, Flight Test and Digital venues or any specified IMTP event. - Develop plans, procedures and documentation for scheduled events including Wargames and Combatant Command Exercises and the Distributed, Focused and Integrated HWIL Events as presented in the IMTP; provide event architecture integration and checkout of Wargames for these same IMTP scheduled events - Provide the integration expertise to meet the assessment requirements (includes the IMTP); support delivery of integrated architectures across all venues using the System test framework to integrate architectures - Develop, maintain, test, and field model representations for use in IMTP events and other MDA M&S stakeholder application areas; deploy hardware and software updates to distributed sites; perform regular maintenance and critical repairs of hardware and software 	Articles:	12.273		12.510		12.261
	-	-		-		-

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency		Date: March 2023		
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD31 / Modeling & Simulation		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2022	FY 2023	FY 2024
<ul style="list-style-type: none"> - Maintain the M&S Integration and Development Laboratories for Element M&S; maintain venue for stakeholders to conduct early M&S integration efforts and identification of issues prior to event architecture integration to support system development - Continue maintenance of SSF in the required venues until the transition to OSF in the venues completes - Prototype, develop and deliver new OSF capabilities to support agency efforts in the Concept Evaluation and Developmental Engineering Intended Uses <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans: - SEE ABOVE.</p> <p>FY 2024 Plans: - SEE ABOVE.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: N/A</p>				
Title: M&S Core Truth Modeling		11.475	12.182	12.461
		Articles: -	-	-
<p>Description: The Core Truth Model (CTM) program provides consistent and common Phenomenology, Lethality, Environment, Communications, and Threat models for M&S venues utilized in all digital and Ground Test events and wargaming exercises. The CTM efforts are critical in the assessment of all Missile Defense capability deliveries. The following actions are required on a continuing basis to accomplish the CTM mission:</p> <ul style="list-style-type: none"> - Implement next generation truth representations for signatures and lethality to address advanced Missile Defense System capability needs for tracking, discrimination and engagement - Maintain legacy truth representations (e.g., Parametric Endoatmospheric-Exoatmospheric Lethality Simulation, Kinetic Intercept Debris Distribution and Optical Signatures Code/Optical Signature Inline Generator) until fully transitioned - Support integration of all applicable CTM functions into the OSF framework - Provide support for scheduled events including training, exercises, Wargames, and the Distributed, Focused and Integrated HWIL Events as presented in the IMTP - Deliver CTM Toolkit for integrated truth representations across the M&S enterprise - Produce and deliver high quality, credible, and cost-effective Threat Data Products (Integrated Threat Packages) - Deliver updated vehicle characteristics during flight utilizing mature production processes - Deliver infrared (IR) Hardbody and Ballistic Missile Defense System OPIR Architecture data production essential to future Missile Defense System testing - Provide validation and verification evidence for radio frequency (RF) and IR Signatures to support accreditation decisions 				

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency		Date: March 2023			
Appropriation/Budget Activity 0400 / 4		R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD31 / Modeling & Simulation		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2022	FY 2023	FY 2024	
<ul style="list-style-type: none"> - Maintain an Environments Program that will provide consistent environment models for system and element level simulations - Continue development of Truth Interaction which includes IR and RF propagation; this will provide consistent models and truth to system and element level simulations - Generate CTM Sensitivity analysis to identify the sensitivity within system simulation of Core Truth Models and boundary - Develop and maintain CTM design to support system and element level simulations across the entire M&S portfolio <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans: - SEE ABOVE.</p> <p>FY 2024 Plans: - SEE ABOVE.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: N/A</p>					
<p>Title: M&S Improvements</p> <p>Description: This effort funds Missile Defense System Enterprise-wide M&S improvements that will enhance flight, ground, and digital test capabilities. This effort designs and develops simulation capabilities that provide assessment data (supplemental to Ground- and Flight tests) in areas that those venues cannot address. The effort includes two components: End-to-end Digital Integrated System-level Simulation (EDISS) and Ground Test Integrated System-level Simulation (GTISS). The EDISS supports digital predictive pre-mission analysis. MDA is also implementing Ground Test Re-architecture to address accreditation and assessment limitations, increased HWIL complexity and reduced available integration times. The GTISS effort will make truth data consistent, implement standard framework interfaces, and provide common data formats to correct ground test simulation inadequacies in threat uncertainty as well as debris modeling. Accomplishing these improvements includes the following:</p> <ul style="list-style-type: none"> - Execute agile software development of incremental versions for continuous deliveries of enhanced EDISS/GTISS capabilities - Conduct Model Based Systems Engineering for requirements analysis, functional analysis, design and implementation - Conduct continuous integration, test and verification of incremental software versions - Conduct continuous developmental checkout of incremental software builds - Conduct in-progress reviews to assess addition of new capability and provision of project status - Perform M&S data production to support Missile Defense System Increment builds - Conduct integrated end-to-end analysis of software capabilities - Assess and implement courses of action for advanced and emerging capabilities as appropriate <p>Specific and/or unique accomplishments to each FY are as follows:</p>		Articles:	34.725	26.107	19.372
		-	-	-	

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD31 / Modeling & Simulation

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
<p><i>FY 2023 Plans:</i></p> <ul style="list-style-type: none"> - Complete development and delivery of EDISS initial version, including engineering, integration, and testing - Continue software development of EDISS next instantiation: <ul style="list-style-type: none"> -- Continue systems engineering -- Conduct integration and testing -- Perform M&S data production to support Missile Defense System Increment builds - Complete initial GTISS improvements to the MDA Ground Test Architecture: <ul style="list-style-type: none"> -- Complete software development -- Provide Threat Data Production improvements -- Complete M&S integration, test and verification, and checkout -- Deliver improvements to the MDA Ground Test architecture - Continue engineering and development of GTISS next instantiation: <ul style="list-style-type: none"> -- Continue software development, including in-progress technical reviews -- Conduct, integrate, test and verify, and checkout <p><i>FY 2024 Plans:</i></p> <ul style="list-style-type: none"> - SEE ABOVE. <p><i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> Decrease from FY 2023 to FY 2024 reflects completed delivery of initial versions of GTISS and EDISS, alignment to the Missile Defense System ground test schedule, and realignment of funding to higher Agency priorities.</p>			
Accomplishments/Planned Programs Subtotals	78.389	71.045	65.702

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u> <u>Base</u>	<u>FY 2024</u> <u>OCO</u>	<u>FY 2024</u> <u>Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0603881C: <i>Ballistic Missile</i>	209.004	195.216	220.311	-	220.311	239.705	334.977	384.992	292.629	Continuing	Continuing
<i>Defense Terminal Defense Segment</i>											
• 0603882C: <i>Ballistic</i>	707.632	689.018	903.633	-	903.633	852.567	906.634	930.538	875.198	Continuing	Continuing
<i>Missile Defense Midcourse</i>											
<i>Defense Segment</i>											
• 0603892C: <i>AEGIS BMD</i>	628.014	595.572	693.727	-	693.727	639.678	706.974	699.611	733.909	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency	Date: March 2023
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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD31 / Modeling & Simulation
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u> <u>Base</u>	<u>FY 2024</u> <u>OCO</u>	<u>FY 2024</u> <u>Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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Remarks

D. Acquisition Strategy

The M&S acquisition strategy utilizes full and open competition to develop, acquire and deliver the integrated architectures/frameworks while the Elements, using the same open competition methods, develop and deliver models of their systems. The Digital and HWIL product centers integrate the suite of M&S into a composite simulation capability, all based on an open architecture. M&S achieves this end-state via close collaboration between its integrating contractor teams (Digital and HWIL) and those of the Element prime contractors, with additional technical standards and engineering oversight provided by Federally Funded Research Development Centers (FFRDCs) and University Affiliated Research Centers (UARCs).

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD31 / Modeling & Simulation
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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
M&S Requirements, Design Support, Scenario Optimization - FFRDC & UARC	MIPR	Various : CO, AL	10.701	0.518	Nov 2021	0.632	Nov 2022	0.603	Nov 2023	-		0.603	Continuing	Continuing	Continuing
M&S Requirements, Design Support, Scenario Optimization - Prior Yr Requirements & Scenario Design no longer funded in FYDP	Various	Various : AL	13.032	0.000		0.000		0.000		-		0.000	0.000	13.032	0.000
M&S Requirements, Design Support, Scenario Optimization - Requirements & Design - CSS	C/CPFF	PARSONS GOVERNMENT SERVICES INC. : CO, AL	43.365	5.581	Nov 2021	8.233	Nov 2022	10.355	Nov 2023	-		10.355	Continuing	Continuing	Continuing
M&S Requirements, Design Support, Scenario Optimization - Requirements & Design - Industry	Various	Various : Various	1.134	3.233	Dec 2021	0.000		0.000		-		0.000	0.000	4.367	0.000
M&S Requirements, Design Support, Scenario Optimization - Science and Technology Council	Various	Various : VA, AL	0.500	0.000		0.000		0.000		-		0.000	0.000	0.500	0.000
M&S Requirements, Design Support, Scenario Optimization - Threat Modeling	Various	Various : CO, AL	3.544	0.000		0.000		0.000		-		0.000	0.000	3.544	0.000
BMD Simulations & Tools - Digital Framework Development	C/CPAF	Northrop Grumman : CO	34.671	0.000		0.000		0.000		-		0.000	0.000	34.671	0.000
BMD Simulations & Tools - Digital Simulation Development / Support	MIPR	SMDC : AL	7.569	1.750	Nov 2021	1.568	Nov 2022	1.598	Nov 2023	-		1.598	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD31 / Modeling & Simulation
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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
BMDS Simulations & Tools - M&S / Digital Framework Development	C/CPAF	SWDC : CO	16.803	8.461	Nov 2021	8.463	Nov 2022	8.926	Nov 2023	-		8.926	Continuing	Continuing	Continuing
BMDS Simulations & Tools - M&S / Digital Framework Support	Various	MDA : CO, AL	3.559	0.087	Feb 2022	0.000		0.000		-		0.000	0.000	3.646	0.000
BMDS Simulations & Tools - M&S / Digital Framework Support - CSS	C/CPFF	PARSONS GOVERNMENT SERVICES INC. : CO	6.494	0.286	Nov 2021	1.350	Nov 2022	0.126	Nov 2023	-		0.126	Continuing	Continuing	Continuing
BMDS Simulations & Tools - M&S / Digital Framework Support - Industry	C/CPFF	TBE : AL	1.850	0.000		0.000		0.000		-		0.000	0.000	1.850	0.000
BMDS Simulations & Tools - M&S / Digital Framework Support - OGA	MIPR	CCDC : AL	16.459	0.000		0.000		0.000		-		0.000	0.000	16.459	0.000
BMDS Simulations & Tools - Science & Technology Council	Various	Various : VA, AL	3.402	0.000		0.000		0.000		-		0.000	0.000	3.402	0.000
M&S Objective Simulation Framework (OSF) - Continuous Integration Requirements Development	Various	Various : CO, AL	3.778	0.000		0.000		0.000		-		0.000	0.000	3.778	0.000
M&S Objective Simulation Framework (OSF) - M&S HWIL - CSS	C/CPFF	JACOBS TECHNOLOGY INC. : CO, AL	8.751	1.769	Nov 2021	6.656	Nov 2022	4.060	Nov 2023	-		4.060	Continuing	Continuing	Continuing
M&S Objective Simulation Framework (OSF) - M&S HWIL - Industry	C/CPAF	Northrop Grumman : CO	6.540	0.000		0.000		0.000		-		0.000	0.000	6.540	0.000
M&S Objective Simulation Framework (OSF) - M&S HWIL Framework Development and Support	C/CPAF	LOCKHEED MARTIN CORPORATION : AL, CO	46.150	8.582	Nov 2021	0.000		2.525	Nov 2023	-		2.525	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD31 / Modeling & Simulation
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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
M&S Objective Simulation Framework (OSF) - M&S HWIL Simulations / Models - Various	Various	Various : CO, AL	5.957	1.539	Dec 2021	1.721	Dec 2022	0.936	Dec 2023	-		0.936	Continuing	Continuing	Continuing
M&S Objective Simulation Framework (OSF) - M&S HWIL Simulations / Models Development	MIPR	CCDC : AL	28.911	0.383	Nov 2021	4.133	Nov 2022	4.740	Nov 2023	-		4.740	Continuing	Continuing	Continuing
M&S Objective Simulation Framework (OSF) - M&S HWIL Support / GT re-architecture	Various	MDA : AL, CO	8.855	0.000		0.000		0.000		-		0.000	0.000	8.855	0.000
M&S Objective Simulation Framework (OSF) - Science & Technology Council	Various	Various : VA, AL	1.000	0.000		0.000		0.000		-		0.000	0.000	1.000	0.000
M&S Core Truth Modeling - M&S Core Truth Modeling - OGA	MIPR	Various : Various	4.100	0.540	Nov 2021	0.700	Nov 2022	0.700	Nov 2023	-		0.700	Continuing	Continuing	Continuing
M&S Core Truth Modeling - Core Truth Modeling - Engineering	C/CPAF	PEOPLETEC, INC. : AL	4.282	0.000		0.000		0.000		-		0.000	0.000	4.282	0.000
M&S Core Truth Modeling - Core Truth Models Validation	Various	MDA : CO, AL	10.665	0.000		0.000		0.000		-		0.000	0.000	10.665	0.000
M&S Core Truth Modeling - M&S Core Truth Modeling	C/CPAF	DECIBEL RESEARCH, INC : AL	4.479	5.740	Nov 2021	5.844	Nov 2022	6.525	Nov 2023	-		6.525	Continuing	Continuing	Continuing
M&S Core Truth Modeling - M&S Core Truth Modeling - CSS	C/CPFF	Peopletec : AL, CO	4.497	0.000		0.000		0.000		-		0.000	0.000	4.497	0.000
M&S Core Truth Modeling - M&S Core Truth Modeling - CSS 2	C/CPFF	TEAMS : AL, CO	1.683	0.000		0.000		0.000		-		0.000	0.000	1.683	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD31 / Modeling & Simulation
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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
M&S Core Truth Modeling - M&S Core Truth Modeling - Lethality/ Phenomenology Modeling	MIPR	CCDC : AL	34.822	0.000		0.000		0.000		-		0.000	0.000	34.822	0.000
M&S Core Truth Modeling - M&S Core Truth Modeling Simulation System	C/CPAF	Northrop Grumman : CO	50.706	0.000		0.000		0.000		-		0.000	0.000	50.706	0.000
M&S Core Truth Modeling - M&S Core Truth Modeling Simulation System 2	C/CPAF	SWDC : CO	11.402	5.195	Nov 2021	5.638	Nov 2022	5.236	Nov 2023	-		5.236	Continuing	Continuing	Continuing
M&S Improvements - Enterprise-wide ground test re-architecture improvements	Various	Various : CO, AL	40.864	12.963	Dec 2021	11.284	Dec 2022	0.647	Dec 2023	-		0.647	Continuing	Continuing	Continuing
M&S Improvements - M&S Improvement - Enterprise-wide digital capability development	Various	Various : CO, AL	91.932	21.762	Nov 2021	14.823	Nov 2022	18.725	Nov 2023	-		18.725	Continuing	Continuing	Continuing
Subtotal			532.457	78.389		71.045		65.702		-		65.702	Continuing	Continuing	N/A

Remarks
N/A

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	N/A

Remarks
N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD31 / Modeling & Simulation
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Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	N/A

Remarks
N/A

Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	N/A

Remarks
N/A

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	532.457	78.389	71.045	65.702	-	65.702	Continuing	Continuing	N/A

Remarks
Funding in the All Prior Years column represents a summary of Prior Years Total Costs for active contracts, Military Interdepartmental Purchase Requests, and civilian salaries on the R-3.
Award Dates reflect date of first obligation. Additional obligations may incrementally occur throughout the year.

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Missile Defense Agency **Date:** March 2023

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Activity	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
Deliver Initial EDISS					▲																							
EDISS Updates / New Capability Development for MDS Increments						◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
Deliver Initial GTISS						△																						
GTISS Updates / New Capability Development for MDS Increments							◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
M&S Framework Updates / New Capability Development for MDS Increments	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
Threat Model Updates / New Capability Development	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
Missile Defense Advanced Simulation Updates / New Capability Development	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
MDST Updates / New Capability Development	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / <i>BMD Enabling Programs</i>	Project (Number/Name) MD31 / <i>Modeling & Simulation</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Deliver Initial EDISS	1	2023	1	2023
EDISS Updates / New Capability Development for MDS Increments	2	2023	4	2028
Deliver Initial GTISS	2	2023	2	2023
GTISS Updates / New Capability Development for MDS Increments	3	2023	4	2028
M&S Framework Updates / New Capability Development for MDS Increments	1	2022	4	2028
Threat Model Updates / New Capability Development	1	2022	4	2028
Missile Defense Advanced Simulation Updates / New Capability Development	1	2022	4	2028
MDST Updates / New Capability Development	1	2022	4	2028

Note

International Simulation (I-Sim) renamed Missile Defense Advanced Simulation (MDASim) beginning in FY 2023.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MC31 / Engineering Cyber Operations
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MC31: <i>Engineering Cyber Operations</i>	88.396	40.913	24.978	25.854	-	25.854	29.379	30.010	30.663	31.319	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

N/A

A. Mission Description and Budget Item Justification

Engineering and Cyber Operations provides monitoring and tracking of Cybersecurity mitigations detailed in Information Technology security Plans of Activity and Milestones (POAMs). Activities include preparation of certification and accreditation documentation and accreditation recommendations to the Missile Defense Agency (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 are necessary to comply with the Federal Information Security Management Act.

Engineering and Cyber Operations implements Risk Management Framework (RMF) system engineering principles as specified within the Department of Defense (DoD) Instruction DoD 8510.01 to acquire, design, test, implement and field technical solutions throughout the systems architecture to ensure sufficient protections exist from a threat and risk-based approach. MDA's goal is to ensure Cybersecurity engineering principles flow into system requirements and design specifications early to provide the most cost benefit and ensure security controls are aligned with the National Institute of Standards and Technology 800-53a security controls as applicable to systems categorized as National Security Systems.

Engineering and Cyber Operations includes resources to conduct an MDA Insider Threat program to identify, deter, and mitigate potential insider threats. This activity is Presidentially and DoD-mandated.

Engineering and Cyber Operations also includes MDA Cyber Assistance Teams to assess the security of MDA information on Defense Industrial Base networks.

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

	FY 2022	FY 2023	FY 2024
Title: Information Assurance / Cyber Network Defense	40.913	24.978	25.854
Articles:	-	-	-
Description: This activity includes network defense and Information System Security Manager activities for MDA Engineering. Specific tasks include:			
- Conduct Cybersecurity/information assurance engineering and architecture planning for Engineering information technology systems			
- Plan and test the information assurance controls for Engineering systems			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MC31 / Engineering Cyber Operations
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
<ul style="list-style-type: none"> - Implement RMF system engineering principles to ensure sufficient protections exist from a threat and risk based approach - Conduct Controls Validation Testing of systems and provide Plan of Action and Milestones to mitigate information assurance deficiencies - Conduct annual information assurance reviews to assess compliance in implementing and maintaining information assurance controls - Perform cybersecurity upgrades as needed to MDA Engineering systems to be in compliance with DoD mandates - Execute System-level Supply Chain and Cyber Risk Management (SC2RM) program - Continue MDA Insider Threat Mitigation Team efforts - Perform engagements with MDA Defense Industrial Base partners to detect and increase understanding of cyber threats <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans:</p> <ul style="list-style-type: none"> - Execute an effective SC2RM program to prevent unmitigated risks from degrading the performance of components and systems across the supply chain. <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - SEE ABOVE. <p>FY 2023 to FY 2024 Increase/Decrease Statement:</p> <p>N/A.</p>			
Accomplishments/Planned Programs Subtotals	40.913	24.978	25.854

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u> <u>Base</u>	<u>FY 2024</u> <u>OCO</u>	<u>FY 2024</u> <u>Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0305103C: <i>Cyber Security Initiative</i>	1.118	1.165	2.760	-	2.760	2.826	2.893	2.963	3.025	Continuing	Continuing

Remarks

D. Acquisition Strategy

This program leverages expertise in the Engineering, intelligence/counterintelligence, and information assurance communities, including the Military Services, Federally Funded Research and Development Centers (FFRDCs), University Affiliated Research Centers (UARCs), and industry. The executing agents utilize various contracting strategies in a flexible manner to maximize their contribution. Products and Services will be acquired by competitive means to the extent that is beneficial and practical.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MC31 / Engineering Cyber Operations
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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	N/A

Remarks
N/A

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Information Assurance / Cyber Network Defense - Cyber Assistance Team Leads	MIPR	MITRE : VA, AL	6.225	2.057	Nov 2021	2.000	Nov 2022	1.653	Nov 2023	-		1.653	Continuing	Continuing	Continuing
Information Assurance / Cyber Network Defense - Cyber Assistance Teams - CSS & H/W	Various	Various : VA, AL	20.138	10.541	Nov 2021	6.866	Nov 2022	6.899	Nov 2023	-		6.899	Continuing	Continuing	Continuing
Information Assurance / Cyber Network Defense - Cyber Assistance Teams - Hardware	MIPR	Program Executive Office (PEO) Enterprise Information Systems (EIS) : VA, AL	4.199	0.000		0.000		0.000		-		0.000	0.000	4.199	0.000
Information Assurance / Cyber Network Defense - Cyber Assistance Teams - Intelligence Reporting	C/CPAF	DELOITTE CONSULTING LLP : AL, VA	4.961	0.000		0.000		0.000		-		0.000	0.000	4.961	0.000
Information Assurance / Cyber Network Defense - Cyber Assistance Teams - Software/Licenses	MIPR	Program Executive Office (PEO) Enterprise Information Systems (EIS) : AL, VA	5.220	2.600	Jan 2022	2.700	Nov 2022	2.741	Nov 2023	-		2.741	Continuing	Continuing	Continuing
Information Assurance / Cyber Network Defense - Cyber Engineering	Various	Various : AL, VA	6.792	1.378	Dec 2021	0.275	Dec 2022	0.981	Dec 2023	-		0.981	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MC31 / Engineering Cyber Operations
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Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Information Assurance / Cyber Network Defense - Cyber Engineering - CSS	C/CPFF	PARSONS GOVERNMENT SERVICES INC. : VA, AL	4.602	1.593	Dec 2021	0.000		0.000		-		0.000	0.000	6.195	0.000
Information Assurance / Cyber Network Defense - Cyber Engineering - FFRDC/UARC	MIPR	Various : Various	2.303	2.102	Apr 2022	0.000		0.000		-		0.000	0.000	4.405	0.000
Information Assurance / Cyber Network Defense - Cyber Engineering - VISUM	MIPR	THE MITRE CORPORATION : AL	5.291	0.000		1.080	Dec 2022	0.923	Dec 2023	-		0.923	Continuing	Continuing	Continuing
Information Assurance / Cyber Network Defense - Cyber Program Protection	C/CPFF	TEAMS : CO, AL, VA	0.000	0.560	Nov 2021	0.725	Nov 2022	1.230	Nov 2023	-		1.230	Continuing	Continuing	Continuing
Information Assurance / Cyber Network Defense - Cyber SW Engineering & Assessment	MIPR	USA CCDC AVIATION AND MISSILE CENTE : AL	5.210	1.520	Apr 2022	0.000		0.000		-		0.000	0.000	6.730	0.000
Information Assurance / Cyber Network Defense - Cybersecurity - Systems Engineering - OGA	MIPR	DOD - USA - COMBAT CAPABILITIES DEVELOPMENT COMMAND (CCDC) AVIATION AND MISSILE CENTER (AVMC) : AL	0.000	2.552	Apr 2022	0.000		0.000		-		0.000	0.000	2.552	0.000
Information Assurance / Cyber Network Defense - Cybersecurity - Systems Engineering & Anti-tamper	Various	Various : Various	0.000	4.219	May 2022	0.000		0.000		-		0.000	0.000	4.219	0.000
Information Assurance / Cyber Network Defense - Cybersecurity - User Activity Monitoring	C/CPAF	JACOBS TECHNOLOGY INC. : Various	0.000	2.814	Jun 2022	0.000		0.000		-		0.000	0.000	2.814	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency												Date: March 2023			
Appropriation/Budget Activity						R-1 Program Element (Number/Name)				Project (Number/Name)					
0400 / 4						PE 0603890C / BMD Enabling Programs				MC31 / Engineering Cyber Operations					
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Information Assurance / Cyber Network Defense - Cybersecurity Resiliency Strategy Implementation	Various	Various : Various	0.000	2.334	Jun 2022	0.000		0.000		-		0.000	0.000	2.334	0.000
Information Assurance / Cyber Network Defense - IT / CND Support	C/CPFF	TEAMS : CO, AL, VA	7.733	1.858	Nov 2021	2.790	Nov 2022	2.846	Nov 2023	-		2.846	Continuing	Continuing	Continuing
Information Assurance / Cyber Network Defense - Insider Threat - SSO / Mitigation Cell	C/CPFF	TEAMS : CO, AL, VA	5.021	1.175	Dec 2021	1.050	Dec 2022	1.958	Dec 2023	-		1.958	Continuing	Continuing	Continuing
Information Assurance / Cyber Network Defense - Insider Threat Mitigation Cell - IT	C/CPAF	Northrop Grumman : CO	4.042	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Information Assurance / Cyber Network Defense - Software Assurance	C/CPFF	TEAMS : CO, AL	6.659	1.049	Dec 2021	1.726	Dec 2022	1.780	Dec 2023	-		1.780	Continuing	Continuing	Continuing
Information Assurance / Cyber Network Defense - Supply Chain and Cyber Risk Management (SC2RM)	MIPR	Various : Various	0.000	0.921	Nov 2021	0.950	Nov 2022	1.011	Nov 2023	-		1.011	Continuing	Continuing	Continuing
Information Assurance / Cyber Network Defense - Supply Chain and Cyber Risk Management (SC2RM) - TEAMS Analysis	C/CPFF	Various : AL	0.000	1.640	Jun 2022	2.250	Dec 2022	0.000		-		0.000	Continuing	Continuing	Continuing
Information Assurance / Cyber Network Defense - Supply Chain and Cyber Risk Management (SC2RM) - Data Analytics / Mission Assurance	C/CPFF	TBD : AL	0.000	0.000		2.566	Dec 2022	3.832	Dec 2023	-		3.832	Continuing	Continuing	Continuing
Subtotal			88.396	40.913		24.978		25.854		-		25.854	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MC31 / Engineering Cyber Operations
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Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
N/A

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	88.396	40.913	24.978	25.854	-	25.854	Continuing	Continuing	N/A

Remarks
Award Dates reflect date of first obligation. Additional obligations may incrementally occur throughout the year.

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Missile Defense Agency		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / <i>BMD Enabling Programs</i>	Project (Number/Name) MC31 / <i>Engineering Cyber Operations</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Engineering Cyber Operations	1	2022	4	2028

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency										Date: March 2023		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs				Project (Number/Name) MD32 / Quality, Safety, and Mission Assurance			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MD32: <i>Quality, Safety, and Mission Assurance</i>	354.246	32.852	30.737	31.383	-	31.383	32.145	32.763	33.432	34.115	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

N/A

A. Mission Description and Budget Item Justification

Quality, Safety, and Mission Assurance ensures that the Missile Defense System and all of its elements are designed, tested and operated in a reliable, safe, and effective manner.

Quality and Mission Assurance: Responsible for ensuring the reliable and effective design, test and operation of the Missile Defense System and all of its elements. Develops and ensures implementation of quality and mission assurance requirements. Mitigates quality and mission assurance risks to the lowest practical level. Provides in-plant Missile Defense Agency (MDA) Assurance Representatives at MDA government and contractor facilities to provide quality and mission assurance oversight of contractor manufacturing and integration. Performs Quality and Mission Assurance Assessments to ensure contractual requirements, internal requirements, and industry best practices are implemented at prime contractor and lower tier suppliers. Reviews and approves all new and modified parts, materials and critical processes for Missile Defense System elements.

Safety: Responsible for ensuring the safe design, test and operation of the Missile Defense System and all of its elements. Develops and ensures implementation of safety requirements. Mitigates safety risks to the lowest practical level. Ensures a safe workplace for all MDA employees and contractors by implementing a Safety program. Missile Defense System Safety Officers provide on-site support at the Missile Defense Integration and Operations Center 24 hours a day, 7 days a week, and 365 days a year to ensure operational safety of the Missile Defense System.

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

	FY 2022	FY 2023	FY 2024
Title: Quality, Safety & Mission Assurance	32.852	30.737	31.383
Articles:	-	-	-
Description: Quality, Safety, and Mission Assurance ensures that the Missile Defense System and all of its elements are designed, tested and operated in a reliable, safe, and effective manner. Specific and/or unique accomplishments to each FY are as follows:			
FY 2023 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD32 / Quality, Safety, and Mission Assurance

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
-SEE ABOVE.			
FY 2024 Plans: -SEE ABOVE.			
FY 2023 to FY 2024 Increase/Decrease Statement: N/A			
Accomplishments/Planned Programs Subtotals	32.852	30.737	31.383

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

N/A

Remarks

D. Acquisition Strategy

The Quality, Safety and Mission Assurance program is a collaboration between subject matter expertise in the Government, Federally Funded Research and Development Centers (FFRDC), University Affiliated Research Centers, Contract Support Services, and Industry.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency												Date: March 2023			
Appropriation/Budget Activity					R-1 Program Element (Number/Name)					Project (Number/Name)					
0400 / 4					PE 0603890C / BMD Enabling Programs					MD32 / Quality, Safety, and Mission Assurance					
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-	-	-	-	-	-	-	-	-	-	-	N/A
Remarks															
N/A															
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Quality, Safety & Mission Assurance - Audits & Quality On-site Support	MIPR	DOD - USN - NAVAL SURFACE WARFARE CENTER (NSWC) CORONA DIVISION : CA	32.878	2.823	Nov 2021	3.024	Nov 2022	3.209	Nov 2023	-		3.209	Continuing	Continuing	Continuing
Quality, Safety & Mission Assurance - In-Plant Quality Support (MARS)	C/CPFF	Various Multi : AL, AK, AZ, CA, CO, FL, HI, NJ, MA, MO, MD, UT	18.138	0.000		0.000		0.000		-		0.000	0.000	18.138	0.000
Quality, Safety & Mission Assurance - Independent Readiness Review Team	C/CPFF	AI Solutions : AL	5.994	0.000		0.000		0.000		-		0.000	0.000	5.994	0.000
Quality, Safety & Mission Assurance - MDS Quality Support	C/CPFF	AI Solutions : AL	12.137	0.000		0.000		0.000		-		0.000	0.000	12.137	0.000
Quality, Safety & Mission Assurance - MDS Safety	C/CPFF	APT, INC : AL	13.116	0.000		0.000		0.000		-		0.000	0.000	13.116	0.000
Quality, Safety & Mission Assurance - MDS Safety Officers	MIPR	CCDC : AL	4.706	0.000		0.000		0.000		-		0.000	0.000	4.706	0.000
Quality, Safety & Mission Assurance - Management and Operations Support	MIPR	DOD - USA - COMBAT CAPABILITIES DEVELOPMENT COMMAND (CCDC)	4.037	0.471	Nov 2021	0.504	Nov 2022	0.523	Nov 2023	-		0.523	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency												Date: March 2023			
Appropriation/Budget Activity					R-1 Program Element (Number/Name)					Project (Number/Name)					
0400 / 4					PE 0603890C / BMD Enabling Programs					MD32 / Quality, Safety, and Mission Assurance					
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
		AVIATION AND MISSILE CENTER (AVMC) : AL													
Quality, Safety & Mission Assurance - Mission Assurance Subject Matter Experts	C/CPFF	APT, INC. : AL	9.083	0.000		0.000		0.000		-		0.000	0.000	9.083	0.000
Quality, Safety & Mission Assurance - Operations Support	MIPR	Various Multi : AL, CA	5.859	0.000		0.000		0.000		-		0.000	0.000	5.859	0.000
Quality, Safety & Mission Assurance - Parts, Materials and Processes (PMP) Program	MIPR	Various Multi : AL, CA, DC, IN	20.969	3.199	Nov 2021	0.992	Nov 2022	0.619	Nov 2023	-		0.619	Continuing	Continuing	Continuing
Quality, Safety & Mission Assurance - Parts, Materials and Processes - PMP - Program	C/CPFF	AI Solutions : AL	10.083	0.000		0.000		0.000		-		0.000	0.000	10.083	0.000
Quality, Safety & Mission Assurance - Parts, Materials, and Processes (PMP) Engineering	MIPR	DOD - USN - NAVAL SURFACE WARFARE CENTER (NSWC) CRANE DIVISION : IN	0.000	1.312	Nov 2021	1.443	Nov 2022	1.483	Nov 2023	-		1.483	Continuing	Continuing	Continuing
Quality, Safety & Mission Assurance - Pedigree & Design Certification - FFRDC	MIPR	DOD - USSF - SPACE AND MISSILE SYSTEMS CENTER (SMC) : CA	33.825	2.859	Nov 2021	2.930	Nov 2022	3.039	Nov 2023	-		3.039	Continuing	Continuing	Continuing
Quality, Safety & Mission Assurance - Quality and Mission Assurance Support	C/CPFF	AI SOLUTIONS, INC. : AL	19.111	6.906	Nov 2021	6.999	Nov 2022	7.347	Nov 2023	-		7.347	Continuing	Continuing	Continuing
Quality, Safety & Mission Assurance - Safety Support	C/CPFF	ARES CORPORATION : AL	4.549	0.392	Jan 2022	0.679	Jan 2023	0.781	Jan 2024	-		0.781	Continuing	Continuing	Continuing
Subtotal			194.485	17.962		16.571		17.001		-		17.001	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD32 / Quality, Safety, and Mission Assurance
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Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
N/A

Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	N/A

Remarks
N/A

Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Quality, Safety & Mission Assurance - Quality, Safety & Mission Assurance HQ & Core Management (MDA CIV)	Allot	MDA QS : AL, VA, MD, CA, AZ, HI, AK, MA, NJ, FL, AR, UT	125.762	14.395	Oct 2021	13.607	Oct 2022	13.583	Oct 2023	-		13.583	Continuing	Continuing	Continuing
Quality, Safety & Mission Assurance - Quality, Safety & Mission Assurance Operations Support (NMR/Jacobs/Yorktown/Travel/PCS)	Various	Various : Various	33.999	0.495	Oct 2021	0.559	Oct 2022	0.799	Oct 2023	-		0.799	Continuing	Continuing	Continuing
Subtotal			159.761	14.890		14.166		14.382		-		14.382	Continuing	Continuing	N/A

Remarks
N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency								Date: March 2023			
Appropriation/Budget Activity 0400 / 4				R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs				Project (Number/Name) MD32 / Quality, Safety, and Mission Assurance			
	Prior Years	FY 2022		FY 2023		FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	354.246	32.852		30.737		31.383	-	31.383	Continuing	Continuing	N/A

Remarks
 Funding in the All Prior Years column represents a summary of Prior Years Total Costs for active contracts, Military Interdepartmental Purchase Requests, and civilian salaries on the R-3.
 Award Date reflects date of first obligation. Additional obligations may incrementally occur throughout the year.

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Missile Defense Agency						Date: March 2023													
Appropriation/Budget Activity 0400 / 4						R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs						Project (Number/Name) MD32 / Quality, Safety, and Mission Assurance							
Significant Event Complete ▲		Milestone Decision Complete ★		Element Test Complete ◆		System Level Test Complete ●		Complete Activity ◆		Significant Event Planned △		Milestone Decision Planned ☆		Element Test Planned ◇		System Level Test Planned ○		Planned Activity ◇	
						FY 2022		FY 2023		FY 2024		FY 2025		FY 2026		FY 2027		FY 2028	
MD32 Quality, Safety, and Mission Assurance						◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Missile Defense Agency		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD32 / Quality, Safety, and Mission Assurance

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MD32 Quality, Safety, and Mission Assurance	1	2022	4	2028

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency										Date: March 2023		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs				Project (Number/Name) MD40 / Program-Wide Support			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
MD40: <i>Program-Wide Support</i>	235.121	23.102	21.491	21.247	-	21.247	22.343	25.835	26.331	28.847	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Program Wide Support (PWS) is allocated on a pro-rata basis across multiple Agency PEs each fiscal year based on the total Agency budget, and therefore fluctuates per PE by fiscal year.

A. Mission Description and Budget Item Justification

PWS contains non-headquarters management costs in support of MDA functions and activities across the entire Missile Defense System. These functions include Government Civilians and Contract Support Services. This effort provides integrity and oversight of the Missile Defense System as well as supports MDA in the development and evaluation of technologies that will respond to the changing threat. Additionally, PWS includes personnel to support global deployments performing deployment site preparation and activation, and provides facility capabilities for MDA Executing Agent locations worldwide. Other MDA wide costs include: 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 across multiple geographic locations; commercial and ancillary facility services; management of all facility aspects regardless of lifecycle stage; supplies and maintenance; compliance with statutory environmental requirements; data and unified communications support; materiel and readiness and central property management of equipment; Facilities Sustainment, Restoration and Modernization (FSRM) program (formerly Real Property Maintenance) to keep the Department's inventory of facilities in good working order; and similar operating expenses. PWS is allocated on a pro-rata basis across most Agency PEs and therefore fluctuates per PE by fiscal year based on the total Agency budget in that fiscal year.

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

	FY 2022	FY 2023	FY 2024
Title: Program Wide Support	23.102	21.491	21.247
Articles:	-	-	-
Description: PWS contains non-headquarters management costs in support of MDA functions and activities across the entire Missile Defense System. These functions include Government Civilians and Contract Support Services. This effort provides integrity and oversight of the Missile Defense System as well as supports MDA in the development and evaluation of technologies that will respond to the changing threat. Additionally, PWS includes personnel to support global deployments performing deployment site preparation and activation, and provides facility capabilities for MDA Executing Agent locations worldwide. Other MDA wide costs include: 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 across multiple geographic locations; commercial and ancillary facility services; management of all facility aspects regardless of lifecycle stage; supplies and maintenance; compliance with statutory environmental requirements; data and unified communications support; materiel and readiness and central property management of equipment; Facilities Sustainment, Restoration and Modernization (FSRM) program (formerly Real Property			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Missile Defense Agency	Date: March 2023
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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD40 / Program-Wide Support
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
Maintenance) to keep the Department's inventory of facilities in good working order; and similar operating expenses. PWS is allocated on a pro-rata basis across most Agency PEs and therefore fluctuates per PE by fiscal year based on the total Agency budget in that fiscal year.			
<i>FY 2023 Plans:</i> - SEE ABOVE.			
<i>FY 2024 Plans:</i> - SEE ABOVE.			
<i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> Decrease from FY 2023 to FY 2024 provides the PWS allocation on a pro-rata basis across multiple Agency PEs each fiscal year based on the total Agency budget, and therefore fluctuates per PE by fiscal year.			
Accomplishments/Planned Programs Subtotals	23.102	21.491	21.247

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

N/A

Remarks

D. Acquisition Strategy

The acquisition strategy for MDA Consolidated Support consists of contract actions to industry for: a) Engineering and technical support; b) studies, analyses, and evaluations; and c) management and professional services to MDA functional organizations and program offices. With a focus to achieve Small Business goals, MDA is leveraging existing contracts and will competitively award new contracts to meet MDA's Fiscal Years 2020-2030 Advisory and Assistance Services support.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD40 / Program-Wide Support
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Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Wide Support - Agency Facilities and Maintenance	MIPR	Various Multi : AL, CO, CA, VA	32.854	0.000		0.063	Nov 2022	0.000		-		0.000	0.000	32.917	0.000
Program Wide Support - Agency Facilities and Maintenance SRM	MIPR	Army Corps of Engineers : Multi: AL, CA, AL, AK	1.752	0.033	May 2022	0.000		0.000		-		0.000	0.000	1.785	0.000
Program Wide Support - Agency Operations Management	Various	Various : Multi: AL, CA, CO, VA	6.512	0.000		0.000		0.000		-		0.000	0.000	6.512	0.000
Program Wide Support - Agency Operations and Support Civilian Salaries, Travel, Training	Allot	MDA : AK, AL, CA, CO, VA	64.743	17.624	Oct 2021	17.849	Oct 2022	21.247	Oct 2023	-		21.247	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support Other Agency Services	MIPR	Various : Multi: AK, AL, CO, CA, HI, MD, VA, NJ, NY, OCONUS	8.519	0.000		0.000		0.000		-		0.000	0.000	8.519	0.000
Program Wide Support - Agency Operations and Support Services	C/Various	STRATEGIC ALLIANCE BUSINESS GROUP LLC : Multi: AK, AL, CO, CA, HI, MD, VA	115.139	5.427	Dec 2021	3.579	Nov 2022	0.000		-		0.000	0.000	124.145	0.000
Program Wide Support - Agency Operations, Sustainment and GPC	C/CPFF	Various Multi : AK, AL, CA, HI, NY, VA	0.000	0.018	Nov 2021	0.000		0.000		-		0.000	0.000	0.018	0.000
Program Wide Support - Prior year no longer funded in the FYDP	Various	Various : Various	5.602	0.000		0.000		0.000		-		0.000	0.000	5.602	0.000
Subtotal			235.121	23.102		21.491		21.247		-		21.247	Continuing	Continuing	N/A

Remarks
N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD40 / Program-Wide Support
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	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	235.121	23.102	21.491	21.247	-	21.247	Continuing	Continuing	N/A

Remarks
Award Date reflects date of first obligation. Additional obligations may incrementally occur throughout the year.

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / BMD Enabling Programs	Project (Number/Name) MD40 / Program-Wide Support
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Significant Event Complete ▲	Milestone Decision Complete ★	Element Test Complete ◆	System Level Test Complete ●	Complete Activity ◆																
Significant Event Planned △	Milestone Decision Planned ☆	Element Test Planned ◇	System Level Test Planned ○	Planned Activity ◇																
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	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028													
MD40 Program-Wide Support	◇	◇	◇	◇	◇	◇	◇													

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Missile Defense Agency **Date:** March 2023

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603890C / <i>BMD Enabling Programs</i>	Project (Number/Name) MD40 / <i>Program-Wide Support</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MD40 Program-Wide Support	1	2022	4	2028