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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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</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	8,515.583	707.632	689.018	903.633	-	903.633	852.567	906.634	930.538	875.198	Continuing	Continuing
MD08: <i>Ground Based Midcourse</i>	8,049.802	650.359	637.955	841.566	-	841.566	799.484	847.444	870.177	813.229	Continuing	Continuing
MC08: <i>Cyber Operations</i>	211.015	24.858	27.795	29.035	-	29.035	21.891	22.374	22.831	22.962	Continuing	Continuing
MD40: <i>Program-Wide Support</i>	254.766	32.415	23.268	33.032	-	33.032	31.192	36.816	37.530	39.007	Continuing	Continuing

Program MDAP/MAIS Code: 362

Note

Increase from FY 2023 to FY 2024 provides for:

- Improved technical solutions in GWS 10 hardware and software development to include a GMD Network and Infrastructure (GNI) that provides a more reliable cybersecurity posture, common components to support weapon system readiness, and a framework that reduces costs of future software development. GWS 10 also provides the ability to support dual NGI concepts. Finally, the increase is due to the ramp up of a natural development cycle from year 1 to year 2.
- Increased Increment 6b and 6c development efforts based on the Ground Test Replan. Extension of the GMD Increment 6b Ground Test Replan inclusive of the fielding of GS8, in parallel with the development of GMD Increment 6c/7 and GMD Increment 10 in order to meet the GMD Flight Test Schedule.
- Change in technical solutions for Phased Array IDT development to enable on-demand communications with interceptors in flight to improve interceptor effectiveness and increase array necessary to support the Next Generation Interceptor.
- Purchasing, manufacturing, and delivery of four additional Capability Enhancement (CE)-I Service Life Extension Program (SLEP) kits to support SLEP upgrades. In addition, the increase in FY 2024 funds the emplacement of four upgraded Ground Based Interceptors. Prior year weapon system service life extension and risk reduction efforts were funded with Congressional Plus-Ups whereas beginning in FY24 these efforts are included in the budget request.
- Civilian labor and contractor program management support increases required to execute the Government's new role as Weapon System Integrator.
- Increase for inflation impacts due to ongoing global events and adjusted labor skill mix required to maintain program level integration efforts.

A. Mission Description and Budget Item Justification

The GMD is an Element of the Missile Defense System that provides combatant commands, including U.S. Northern Command, with a continuously available (24 hours a day, 7 days a week, 365 days a year) capability to defend the Homeland against limited Intercontinental Ballistic Missile attacks. The GMD Element contributes to the Missile Defense System by acquiring, developing, demonstrating, deploying, and sustaining a midcourse weapon system for Homeland Ballistic Missile defense including: currently-deployed GMD capability; integration of the Next Generation Interceptor; improving Warfighter capabilities; and GMD SLEP to improve Warfighter confidence and utilization of the GMD Weapon System. The GMD capability consists of the Ground Based Interceptor, GFC, GMD Communication Network (GCN), IDT, and Ground Launch Support Systems (LSS). Each Ground Based Interceptor delivers a single kill vehicle to defeat threat warheads in space during the midcourse phase of the ballistic trajectory. The GFC consists of fire control nodes in Fort Greely, Alaska (FGA) and Missile Defense Integration and Operations Center, Colorado Springs, Colorado. IDTs are currently located in FGA; Vandenberg Space Force Base, California (VSFB); Eareckson Air Station, Alaska; and Fort Drum, New York. LSS are currently located in FGA and VSFB. The GMD capability leverages integration of Missile Defense System sensors across the globe. GMD development program objectives include improve homeland defensive capability against an advancing threat that is increasing both in number of missiles and complexity; execute flight testing;

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modernize the GMD weapon system to enhance capability and increase reliability; provide fire control and communications; reliability testing of the current fleet; develop Ground Based Interceptor software enhancements and SLEP that improve reliability, capability, and discrimination; improve GMD Models and Simulations; and provide engineering support for participation in system tests with other Missile Defense System assets. The GMD Development Program also includes development of software and hardware to fully support the integration, testing and operational deployment of the Next Generation Interceptor and the Phased Array IDT.

B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	724.028	667.524	870.817	-	870.817
Current President's Budget	707.632	689.018	903.633	-	903.633
Total Adjustments	-16.396	21.494	32.816	-	32.816
• Congressional General Reductions	0.000	-1.000			
• Congressional Directed Reductions	0.000	-10.706			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	33.200			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-16.396	0.000			
• Other Adjustment	0.000	0.000	32.816	-	32.816

Change Summary Explanation

Project: MD08 Ground Based Midcourse

FY 2023 Congressional Add Total \$33.2 million:

- Ground-based interceptor Service life extension program (\$33.2 million)

FY 2023 Congressional Directed Reductions Total \$10.706 million:

- System engineering (\$8.592 million)

- Program operations growth (\$2.114 million)

Increase in FY 2024 provides for Missile Defense System Increment 10 development and increase for inflation impacts due to ongoing global events, and adjusted labor skill mix required to maintain program level integration efforts.

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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
MD08: <i>Ground Based Midcourse</i>	8,049.802	650.359	637.955	841.566	-	841.566	799.484	847.444	870.177	813.229	Continuing	Continuing
Quantity of RDT&E Articles	63	-	-	-	-	-	-	-	-	-		

Note

Increase from FY 2023 to FY 2024 provides for:

- Improved technical solutions in GWS 10 hardware and software development to include a GMD Network and Infrastructure (GNI) that provides a more reliable cybersecurity posture, common components to support weapon system readiness, and a framework that reduces costs of future software development. GWS 10 also provides the ability to support dual NGI concepts. Finally, the increase is due to the ramp up of a natural development cycle from year 1 to year 2.
- Increased Increment 6b and 6c development efforts based on the Ground Test Replan. Extension of the GMD Increment 6b Ground Test Replan inclusive of the fielding of GS8, in parallel with the development of GMD Increment 6c/7 and GMD Increment 10 in order to meet the GMD Flight Test Schedule.
- Change in technical solutions for Phased Array IDT development. To enable on-demand communications with interceptors in flight to improve interceptor effectiveness and increase array necessary to support the Next Generation Interceptor.
- Purchasing, manufacturing, and delivery of four additional Capability Enhancement (CE)-I Service Life Extension Program (SLEP) kits to support SLEP upgrades. In addition, the increase in FY 2024 funds the emplacement of four upgraded Ground Based Interceptors. Prior year weapon system service life extension and risk reduction efforts were funded with Congressional Plus-Ups whereas beginning in FY24 these efforts are included in the budget request.
- Civilian labor and contractor program management support increases required to execute Government's new role as Weapon System Integrator.
- Increase for inflation impacts due to ongoing global events and adjusted labor skill mix required to maintain program level integration efforts.

A. Mission Description and Budget Item Justification

GMD includes development and delivery of GMD Ground Systems, Ground Based Interceptors, and Systems engineering and Program Management. Development objectives for GMD include:

- Improve homeland defensive capability against an advancing threat that is increasing both in number of missiles and complexity
- Modernize the GMD Weapon System to provide improved fire control and communications with reduced obsolescence risk for increased availability for the Warfighter
- Develop Ground Based Interceptor software enhancements that improve reliability and discrimination
- Provide GMD and Ground Based Interceptor SLEP upgrades
- Improve GMD Models & Simulations (M&S)
- Provide engineering support for participation with other Missile Defense System assets in system tests to demonstrate Missile Defense System capabilities.

GMD will continue the effort to develop and field improved standalone and integrated Missile Defense System discrimination capabilities which will improve the System's ability to identify lethal reentry vehicles and non-lethal threat objects for enhanced interceptor performance.

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

	FY 2022	FY 2023	FY 2024
Title: Ground Based Interceptor	77.844	68.905	85.448

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
<p align="right"><i>Articles:</i></p> <p>Description: The Ground Based Interceptor program develops improvements to enhance reliability, counter emerging threats, and improve system performance for fielded Ground Based Interceptors. The Ground Based Interceptor reliability program conducts the analysis and testing necessary to characterize the reliability and service life of the Ground Based Interceptor Fleet. The data generated from the reliability program allows the Program Office to manage the Ground Based Interceptor fleet, develop fleet maintenance strategies, and extend interceptor service life. MDA engineering uses this data to develop battle simulations for the ground test program. The Warfighter uses this data to develop tactics, techniques, and procedures. The Ground Based Interceptor program has planned software builds to better utilize off-board sensor data providing improved on-board discrimination capabilities to select the most lethal object in the threat scene. Additional Ground Based Interceptor-related activities are conducted in GMD Weapon System/ Ground Based Interceptor Service Life Extension Program (SLEP) R2 Accomplishment.</p> <p>Recurring work:</p> <ul style="list-style-type: none"> -Continue sustaining the capability to develop and test replacement components and to upgrade the Ground Based Interceptor fleet -Continue software development to improve system robustness and reliability -Continue to use the Exo-atmospheric Kill Vehicle (EKV) Hardware-in-the-Loop (HWIL) 10V Chamber for operational analysis of emerging threats, discrimination improvements performance, pre-mission testing and post flight analysis and reconstruction in accordance with the Integrated Master Test Plan to reduce execution risks and gain confidence that capabilities performed as expected -Continue key EKV engineering assessments to document current performance/capability and identify potential risk areas to assess and improve overall kill vehicle (KV) reliability for the Warfighter -Continue collection of Reliability, Availability, Maintainability and Testability data and analysis of performance metrics on the Operational System in order to continuously improve the system for the Warfighter -Continue Probabilistic Risk Assessment (reliability model) development to assess the Ground Based Interceptor design enabling improvements to overall Ground Based Interceptor reliability for Warfighter defense of the homeland -Continue Stockpile Reliability Program (SRP) functional testing of naturally aged Ground Based Interceptor subsystems and components removed from previously fielded Ground Based Interceptors during upgrade/modification to understand performance and aging characteristics in order to establish life limits, achieve Ground Based Interceptor maintenance cost savings, and build Warfighter confidence in aging Ground Based Interceptors -Continue rocket motor propellant studies to extend the service life of limited life items in order to achieve cost savings on Ground Based Interceptor lifecycle maintenance and further build Warfighter confidence in aging Ground Based Interceptors -Continue Ground Based Interceptor Development and Integration Laboratory (GDIL) operations <p>Specific and/or unique accomplishments to each FY are as follows:</p>	-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
<p>FY 2023 Plans:</p> <ul style="list-style-type: none"> -Continue transition from DSC to In-service Ground Based Interceptor Fleet contracts to demonstrate and deploy new Homeland Defense Increment Capabilities to establish well-defined Capability-based baselines and an enduring Readiness baseline -Continue developing CE-II EKV software to provide additional mid-term discrimination and homeland threat space updates -Deliver Ground Based Interceptor for FTG-12 -Complete second delivery of two additional CE-II Block 1 EKV with Configuration 2 (C2) Boost Vehicle Ground Based Interceptors assembled from spares <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> -Increase of GDIL operations in support of SLEP activities -Continue CE-II EKV software development, which provides additional discrimination and homeland threat space updates -Begin execution of Ground Test (GT) Re-Plan to include re-phasing of Ground Based Interceptor configuration design verification testing -Continue transition from DSC to In-service Ground Based Interceptor Fleet contracts to demonstrate and deploy new Homeland Defense Increment Capabilities to establish well-defined Capability-based baselines and an enduring Readiness baseline -Increase SRP activities as additional components are made available from SLEP <p>FY 2023 to FY 2024 Increase/Decrease Statement:</p> <p>Increase from FY 2023 to FY 2024 provides increased activity in lab support, System engineering, and Program Management due to GT Replan driven re-phasing of Ground Based Interceptor configuration design verification testing. The increase also provides In-Service Fleet future contract personnel shadowing DSC Contract personnel training during transition to new contract. In addition, the FY 2023 budget reflects adjustment for prior year carryover.</p>			
<p>Title: Ground Systems & Fire Control</p> <p align="right">Articles:</p> <p>Description: The GMD GS enables control and operation of the GMD Element as part of the Missile Defense System. GS consists of the GFC, GMD Communication Network (GCN), IFICS Data Terminal (IDT), and Launch Site Components (silos, silo interface vaults (SIVs)). These components collect and process sensor data, perform mission planning and fire control, command the launch of GMD interceptors, communicate with interceptors in flight, and provide environmental support for GMD interceptors while in a perpetual readiness state. The GNI will expand upon the GCN to provide a common secure platform across all GWS components, improve real-time cyber integration, and improve the operator's ability to detect and respond to cyber events.</p> <p>Recurring work:</p> <ul style="list-style-type: none"> -Continue implementation of software and hardware updates, improvements and remedies to address weaknesses discovered during testing 	253.092	155.614	335.368
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
<p>-Continue implementation of additional cyber resiliency in GMD systems by developing system level requirements that flow to component level designs, allowing GMD systems to operate in a cyber-contested environment</p> <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans:</p> <ul style="list-style-type: none"> -Complete GS Software Build 8 for system level testing to support Missile Defense System Increment 6B.2: Expands battle space; uses Long Range Discrimination Radar (LRDR) / Sea-Based X-Band Radar (SBX) discrimination data to inform KV of target scene; provides mixed fleet planning optimizing use of interceptor types -Complete GS Software Build 9 (GS-9): Improves track accuracy; Incorporates space-based kill assessment (SKA); adds advanced discrimination for multiple sensors increasing performance. GS-9 is integrated into GWS 10A as a part of transition from the DSC to the GWS contract -Continue GWS Build 10A to support Missile Defense System Increment 6C/7: Software re-architecture, Implementation of DEVSECOPS, GS-9 Improvements and the development of the PA-IDT. -Initiate GWS Build 10B to support Missile Defense System Increment 10: Next Generation Interceptor flight tests, Initial Next Generation Interceptor operational support, weapon system improvements for PA-IDT, additional threats, Interceptor Mixed Fleet Planning, and discrimination improvements -Initiate design, development, and deployment of a Test PA-IDT Transportable (PA-IDT-T) Asset to ensure Next Generation Interceptor capabilities can be sufficiently tested to support an Next Generation Interceptor production decision, including fully testing both the GMD and Next Generation Interceptor capabilities to provide on-demand communications, last scene data, and post-intercept assessment for increased reliability and warfighter confidence <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> -GS software Build 8 (GS-8) updates and field Missile Defense System Increment 6B.2 -Improve KV use of off-board discrimination data and provide mixed fleet planning optimizing use of interceptor types to expand battle space -GS-9 Final Engineering Release / integration into GWS 10A to: Improve track accuracy; Incorporate SKA; add advanced discrimination for multiple sensors increasing performance; implement Missile Defense System Track to fuse data from multiple sensors and provide GMD with improved track accuracy and additional discrimination features -GWS Build 10A to support Missile Defense System Increment 6C/7/8/9: Implement Weapon System improvements to GS-9 to deliver GMD capability to support Ballistic Missile Defense System Track -GWS Build 10B to support Missile Defense System Increment 10: Implementation of DEVSECOPS, support for Next Generation Interceptor flight tests, Next Generation Interceptor operational support, development and weapon system improvements for PA-IDT, additional threats, Interceptor Mixed Fleet Planning, discrimination improvements, and software re-architecture 			

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2022	FY 2023	FY 2024
<p>-Incorporation of dual path Next Generation Interceptor designs into the GMD Weapon System to support Flight Testing of a selected Next Generation Interceptor Design</p> <p>-Complete development, testing and integration of Fort Greely, Alaska (MF)-4 and increase Silo capacity and modernize SIV equipment in existing Silos</p> <p>-Development of the PA IDT antenna to enable on-demand communication with additional interceptors throughout flight with increased frequency of communication events. This two-way communication will enable kill vehicles to provide additional target scene information to GFC enabling enhanced situational awareness for the Warfighter and improved battle management and allow multiple updates to the Next Generation Interceptor regarding the target object map informed by on-the-ground discrimination. This upgrade integrates both Next Generation Interceptor designs into the PA-IDT development and also addresses obsolescence with the current IDT configuration by replacing aged equipment and processors</p> <p>-Development and testing of an integrated GNI that provides a common secure platform across all GWS components, improves real-time cyber integration, and improves the operator's ability to detect and respond to cyber events</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Increase from FY 2023 to FY 2024 provides for:</p> <ul style="list-style-type: none"> - Improved technical solutions in GWS 10 hardware and software development to include a GMD Network and Infrastructure (GNI) that provides a more reliable cybersecurity posture, common components to support weapon system readiness, and a framework that reduces costs of future software development. GWS 10 also provides the ability to support dual NGI concepts. Finally, the increase is due to the ramp up of a natural development cycle from year 1 to year 2. - Increase is also due to transfer of requirements for modeling and simulation, subcontract management, component-level integration and cyber operations for Ground Weapon System development from the System Engineering and Program Management accomplishment to the Ground Systems and Fire Control accomplishment to more closely align with the effort and the delivered capability. - Increase in Increment 6b and 6c development efforts based on the Ground Test Replan. Extension of the GMD Increment 6b Ground Test Replan inclusive of the fielding of GS8, in parallel with the development of GMD Increment 6c/7 and GMD Increment 10 in order to meet the GMD Flight Test Schedule. - Change in technical solutions for Phased Array IDT development to enable on-demand communications with interceptors in flight to improve interceptor effectiveness and increase array necessary to support the Next Generation Interceptor. - In addition, the FY 2023 budget reflects adjustment for prior year carryover. 				
Title: Systems Engineering and Program Management		266.674	331.646	310.777
Articles:		-	-	-
Description: GMD Element Engineering consists of GMD Element Systems Engineering, GMD Element Product Engineering, and the GMD Technical Direction Agent (TDA). GMD Element Engineering provides the essential engineering functions for the				

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
<p>development, fielding, and sustainment of the GMD Element. GMD Program Management provides the management of GMD development and sustainment activities to ensure content delivery is in line with cost, schedule, and performance objectives.</p> <p>GMD Element Systems Engineering develops and integrates GMD capabilities and products with efficient processes, common tools, and with a digital engineering foundation to defeat the Strategic Missile threat to the United States Homeland. GMD Element Systems Engineering provides key functions and products such as: GMD Element-level performance requirements development and verification; GMD internal and external interface requirements development and verification; GMD Element-level developmental testing analyses; GMD Element-level performance analyses and assessments; GMD Element-level M&S development, integration, verification, and validation; digital engineering infrastructure; GMD software assessments; GMD Element-level technical integration; GMD Engineering Development and Early Integration Lab development, maintenance, and operations; and maintenance of the GMD Technical Baseline.</p> <p>GMD Element Product Engineering delivers sound and integrated engineering and manufacturing processes and products through engineering controls, management, and verification; independent test, analysis, and assessment of failed and high risk events and engineering efforts; hardware and software readiness; and industrial and manufacturing readiness. GMD Element Product Engineering provides key functions and products such as: GMD integrated design; risk, issues, and opportunities management; interface designs; failure review boards; and the maintenance of the GMD Operational Capability Baseline.</p> <p>Missile Defense System Engineering provides architecture analysis, development and flow-down of System-level GMD performance and interface requirements, Missile Defense System integration, System-level requirements verification and validation, and M&S framework support and environmental modeling required for GMD participation in System-level HWIL and digital events that provide data for System-level assessment and capability delivery to the Warfighter.</p> <p>The GMD TDA provides the technical expertise and program execution experience required to offer the MDA independent analysis, unbiased and objective weapon system level-oriented advice on technical issues and product development, and recommendations on technical issues and product development challenges faced in the GMD Program.</p> <p>Program Management provides for prime contractor management of DSC and SITR contract activities to ensure technical content delivery in line with cost, schedule, and performance objectives. The GT re-plan resulted in the extension of the Increment 6B effort on the DSC contract which will be developed in parallel with the Increment 6C/7 and Increment 10 efforts executed on the SITR contract to meet the Next Generation Interceptor Initial Flight Test. This effort includes: program and business management; program administration; subcontract management; technical and testing oversight; quality, safety, and mission assurance; integrated logistics support; and infrastructure to develop, test, and sustainment of the GMD Element.</p>			

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
<p>Recurring engineering and management efforts include:</p> <ul style="list-style-type: none"> -Execute GMD Element-level milestone technical reviews -Develop independent assessments for GMD Component technical reviews (e.g., GMD Weapon System, Next Generation Interceptor) -Develop and maintain GMD Element performance requirements -Verify GMD Element performance requirements and interfaces -Maintain GMD performance and interface requirements -Execute GMD Element performance analyses and assessments -Execute GMD Element technical integration -Integrate and deliver GMD models and simulations supporting multiple intended uses -Expand the GMD Digital Engineering infrastructure including the Integrated Digital Data Environment (IDDE) -Execute GMD Element analysis of ground and cyber tests -Execute Software Independent Verification and Validation and Software Assurance -Maintain and expand the GMD DEVSECOPS Software Factory and Ecosystem -Provide engineering, operations, and maintenance for GMD Development and Early Integration Lab Capabilities to conduct risk reduction and analysis for fielding Warfighter capabilities that defend the Homeland -Maintain the GMD Technical Baseline -Maintain GMD risks, issues, and opportunities -Execute GMD discrimination design improvements -Maintain the GMD Operational Capability Baseline -Develop and maintain GMD Interceptor to GMD Weapon System interface designs -Execute Prime Contractor Integrated Logistics Support -Conduct Prime Contractor Quality, Safety and Mission Assurance (QSMA) -Execute Prime Contractor program administration, business management, and subcontract management <p>TDA efforts include:</p> <ul style="list-style-type: none"> -Offer objective advice on technical issues and product development challenges facing the GMD Program -Facilitate the implementation of consistent software and systems engineering processes -Perform independent evaluation of GMD element/component designs, design maturity, and technical approach and make recommendations on technical issues and alternatives -Provide independent assessment of integrated system performance and mission effectiveness -Identify and assess risks; Evaluate risk mitigation approaches and make recommendations on alternative approaches and prioritization of risk reduction activities 			

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
<p>-Conduct special studies to investigate and identify solutions to specific problems that might involve alternate approaches, new architectures, or integration of new activities</p> <p>-Evaluate future mission needs and explore advanced/evolutionary concepts and technologies</p> <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 GMD Increment 6B assessments and verification -Execute GWS 10A System Requirements Review (SRR) and Preliminary Design Review (PDR) -Execute GWS Incremental Reviews -Initiate and Support Next Generation Interceptors PDRs -Conduct GMD Increment 10 SRR -Conduct Increment 10 GMD Element Design and Technical integration using Digital Engineering to integrate the Next Generation Interceptor to deliver a multi-interceptor GMD Weapon System -Transition, expand, maintain, and operate GMD Engineering Development and Early Integration Lab Capabilities for fielded and future GMD increments including establishing GMD Integration Lab -Plan, manage, and execute transition of GMD activities to align with the GMD Future Acquisition Strategy, in order to maintain and deliver GMD capabilities for Missile Defense System Increment 6B, 6C, 10, and 11 to the Warfighter -Conduct an Independent analysis and assessment of the Next Generation Interceptor programs to support PDRs and the GMD Weapon System to support Increment 6C and 10 Engineering Technical Reviews <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> -Maintain the Technical Baseline for GMD Increment 6B, GMD Increment 6C/7, and GMD Increment 10 -Complete GMD Increment 6B M&S, software independent validation & verification (IV&V)/Assurance, Verification, Performance Assessment, and Technical Integration Activities required for component deliveries -Establish the Operational Capability Baseline for GMD Increment 6B -Execute GMD Increment 6C/7 Incremental Element Reviews, including GMD Increment 6C/7 CDR -Execute GMD Increment 10 Incremental Element Reviews, including GMD Increment 10 PDR -Conduct independent assessments for GWS design development -Conduct independent assessments for Next Generation Interceptor design developments -Develop GMD Interceptor to GMD Weapon System interface requirements and interface designs for GMD Increment 10 considering competing Next Generation Interceptor designs through each Next Generation Interceptor CDR -Continue GMD Increment 10 Technical integration using Digital Engineering to integrate a multi-interceptor GMD Weapon System 			

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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"> -Continue GMD technical integration for competing Next Generation Interceptor designs with an integrated GWS -Continue GMD technical integration for a mixed interceptor fleet consisting of a Ground Based Interceptor and considering dual Next Generation Interceptor designs through each Next Generation Interceptor CDR -Expand GMD Increment 10 Government Development and Early Integration Lab Capabilities -Complete GMD Integration Lab initial capability and transition to the Sitr Contractor as a Government owned, Contractor operated facility -Complete GMD Modeling & Simulation Lab transition to the Sitr Contractor as a Contractor owned and operated facility <p>FY 2023 to FY 2024 Increase/Decrease Statement: Decrease from FY 2023 to FY 2024 reflects efficiencies in modeling and simulation, Element Systems Engineering, and Software IV&V. This decrease is also due to the movement of requirements for modeling and simulation, subcontract management, component-level integration and cyber operations for Ground Weapon System development from the System Engineering and Program Management accomplishment to the Ground Systems and Fire Control accomplishment to more closely align with the effort and the delivered capability. In addition, development labs and development support for Prime Contractor Integration Lab and Objective Stimulation Framework were transferred from the GMD Midcourse Test PE 0604887C to the GMD Midcourse PE 0603882C.</p>				
Title: Program Operations		52.749	48.590	62.436
		Articles:	-	-
<p>Description: Program Operations provides for government management of the GMD program. This effort provides:</p> <ul style="list-style-type: none"> -Technical, business, acquisition, and configuration management and integration activities to ensure the GMD program meets cost, schedule, and performance goals -Ensure program compliance with internal and external direction, policies, and regulations to deliver critical capability within a consistent and disciplined process -Internal Agency program reviews to measure program progress against the six MDA approved baselines -Mission Assurance and Manufacturing engineering Program to include QSMA in all phases of the system life cycle, throughout the supply chain, and at all levels of assembly emphasizing high yield rates which minimize test and rework costs -Sustainment of core infrastructure and unified communications services to accomplish the GMD mission <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans:</p> <ul style="list-style-type: none"> - Improve Information Technology (IT) systems and infrastructure for digital engineering implementation <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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MD08 / <i>Ground Based Midcourse</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2022	FY 2023	FY 2024
<p>- Fund Contractor support surge to implement Government as the system integrator</p> <p>- Increase Civilian labor and contractor program management to support the government's role as the Weapon System Integrator</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Increase from FY 2023 to FY 2024 provides for civilian labor and contractor program management support increases required to execute Government's new role as Weapon System Integrator. Also provides for the escalation/inflation impacts due to ongoing global events, and the increase in adjusted labor skill mix required to maintain program level integration efforts.</p> <p>Title: GMD Weapon System/GBI Service Life Extension Program (SLEP)</p> <p>Description: The GMD Weapon System / Ground Based Interceptor Service Life Extension Program (SLEP) completes reliability upgrades for existing weapon system and Ground Based Interceptor components, sustains repair capabilities, and performs other activities to sustain the existing Ground Based Interceptor and GMD Weapon System capability.</p> <p>Recurring work: -Continue reliability upgrades on existing Ground Based Interceptor fleet and weapon system components -Continue sustainment of repair capabilities, and other activities to sustain the existing Ground Based Interceptor and GMD Weapon System capability</p> <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans: -Purchase, manufacturing and delivery of remaining EKV Enhanced SLEP Kits -Purchase facility and support equipment required for SLEP activities -Congressional Adds: Ground-based interceptor Service life extension program</p> <p>FY 2024 Plans: -Purchase, manufacture, and delivery of four additional Capability Enhancement (CE)-I SLEP kits and emplacement -Continue Ground Based Interceptor emplacements and de-emplacements in support of Ground Based Interceptor SLEP upgrades -Continue executing steady-state Ground Based Interceptor SLEP activities</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Increase from FY 2023 to FY 2024 accounts for purchasing, manufacturing, and delivery of four additional Capability Enhancement (CE)-I Service Life Extension Program (SLEP) kits to support SLEP upgrades and emplacement of four SLEP</p>		0.000	33.200	47.537
		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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MD08 / <i>Ground Based Midcourse</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
upgrades. Prior year weapon system service life extension and risk reduction efforts were funded with Congressional Plus-Ups, whereas beginning in FY 2024 these efforts are included in the budget request.			
Accomplishments/Planned Programs Subtotals	650.359	637.955	841.566

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

Line Item	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
• 0208866C:MD08: <i>GMD Procurement</i>	0.000	11.300	0.000	-	0.000	30.971	36.243	34.833	18.978	Continuing	Continuing
• 0208866C:MD08: <i>Midcourse Defense O&M</i>	156.623	185.564	174.789	-	174.789	178.467	161.429	132.557	206.311	Continuing	Continuing
• 0604874C: <i>Improved Homeland Defense Interceptors</i>	863.364	1,833.357	2,130.838	-	2,130.838	2,110.409	1,444.842	1,239.966	1,015.682	Continuing	Continuing
• 0604887C: <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>	61.424	84.075	41.824	-	41.824	40.284	58.043	123.579	100.278	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Ground-Based Midcourse Defense (GMD) program will continue to execute testing, development, and evolutionary acquisition through incremental development. The Agency acquisition strategy ensures GMD components are upgraded to improve both GMD Component performance and GMD Element performance in order to retain the proven GMD contribution to the integrated Missile Defense System. This acquisition approach reduces obsolescence risk, provides incremental capability improvements, and allows decision makers to make informed trades between cost, schedule, and performance while rapidly delivering improved operational and technological capabilities.

MDA competitively awarded the Development and Sustainment Contract (DSC) to The Boeing Company in December 2011. This contract included development, fielding, test, systems engineering, integration, and configuration management; equipment manufacturing and upgrade; training, operations, and sustainment of the GMD Element and associated support facilities. In January 2018, the DSC was extended with a new period of performance through 1Q FY 2024. The DSC Extension includes supporting test, engineering, software, and performance-based logistics scope. In 2022, the MDA GT Replan resulted in the extension of minimal contract line items to support testing, engineering, hardware and software until December 2024 to complete the delivery of Missile Defense System Increment 6B.2; while performance-based logistics will transition to a new contract after December 2023. The DSC structure breaks out major efforts into separate Contract Line Item Numbers with individual incentives for management insight, accounting, and property accountability.

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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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MD08 / <i>Ground Based Midcourse</i>
<p>MDA implemented a robust Program Board structure allowing more Government insight and decisions into the technical baseline and has changed business processes for greater Government involvement in program decisions consistent with the Government's ownership of the technical baseline. In addition, GMD utilizes Government laboratory modeling and simulation and analysis capabilities to augment the current DSC efforts. These efforts utilize existing, competitively awarded contracts by MDA and Other Government Agencies including Vandenberg Space Force Base (VSFB), CA; MDIOC; U.S. Army Combat Capabilities Development Command Aviation & Missile Center (formerly known as U.S. Army Aviation and Missile Research, Development and engineering Center); and Pacific Missile Range Facility, HI.</p> <p>New GMD Contracts will satisfy future GMD Element requirements beyond DSC's support and Missile Defense System Increment 6B.2. The new contracts initiate and execute concurrently with the DSC and provide for transition periods while the DSC scope is completing to provide continuity of effort. Each of the new contracts are structured to break out major efforts into separate Contract Line Item Numbers with individual incentives for management insight, accounting and property accountability.</p> <p>MDA competitively awarded two best value contracts on March 24, 2021 to Lockheed Martin and Northrop Grumman for technology and product development of Next Generation Interceptor and plans to maintain competition through the CDR in FY 2025 to reduce technical risk, drive industry behavior(s) through retention of a competitive environment throughout early design development activities, secure competitive production pricing, and support the Department's ability to field a system capable of negating the expanded threat, as well as, maximize the likelihood of delivering this critical capability at the earliest possible opportunity.</p> <p>MDA awarded/plans to award sole source contracts to the GMD's Ground Based Interceptor ISF original equipment manufacturers to perform service life extensions and maintain the existing fleet, execute repairs, and develop software. These contracts are intended primarily to ensure fleet viability until replacement interceptors Next Generation Interceptor are fielded. ISF is constrained to the legacy interceptor fleet and its component boosters and kill vehicles. The Boost Vehicle Sustainment Contract was awarded to Northrop Grumman in September 2021. The EKV Sustainment Contract is planned for award to Raytheon Missile Systems in FY 2023. The Ground Based Interceptor Integration and Test Contract is planned for award to Boeing in FY 2024.</p> <p>The GMD Weapons System (GWS) Contract was competitively awarded to Northrop Grumman Systems Corporation in July 2022 to provide design, development, production, product level testing, sustainment planning, maintenance of the current Weapon System components including development to incorporate the Next Generation Interceptor into the GMD Weapon System. The GWS contractor is responsible for developing weapon system solutions, including fire control and communication systems improvements, required to update the legacy system to remain effective while Next Generation Interceptor is under development, as well as, preparing for the seamless introduction of Next Generation Interceptor and other future Missile Defense System capabilities. The GWS contract will update the system interface for the addition of Next Generation Interceptors to the fleet, provide the Warfighter capability to operate the GMD Weapon System with a mixed fleet of Ground Based Interceptors and Next Generation Interceptors, and identify and develop solutions for message exchanges between the GMD Weapon System and in-flight kill vehicles. All of this must be accomplished while maintaining a robust cyber defense network capable of detecting and defending against current and future cybersecurity threats.</p> <p>MDA also competitively awarded a single SITR Contract to provide, along with the Technical Direction Agent, a synergistic approach in executing the GMD Element-level engineering, integration, test, and readiness of the GMD Weapon System, which operates with the current Ground-Based Interceptor and is adding infrastructure for the integration and testing of Next Generation Interceptor. The Systems Integration, Test, and Readiness (SITR) contractor is charged with being the Government's technical partner for day-to-day operation and sustainment of the GMD Weapon System alongside the United States Northern Command Warfighters. While the</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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MD08 / <i>Ground Based Midcourse</i>
<p>Government maintains overall system integration responsibilities and authority, the SITR contractor will assume a supporting technical role responsible for ensuring overall GMD integration including physical and logical integration of the GMD Components to include Next Generation Interceptor, GMD Element, and MDA enterprise level integration, planning and execution of all necessary testing to verify and validate requirements compliance.</p> <p>GMD Increment 6C, 10, and 11 will be executed with the SITR and GWS contracts. The SITR Contract was awarded 4Q FY 2022.</p> <p>GMD also uses MDA Consolidated Support contracts for engineering and technical support; studies, analyses, and evaluations; and management and professional services to GMD functional organizations and program offices. With a focus to achieve Small Business goals, MDA is leveraging existing MDA Consolidated Support contracts and will utilize MDA competitively awarded new contracts to acquire Fiscal Years 2020-2030 Advisory and Assistance Services support.</p> <p>MDA competitively awarded two best value contracts on March 24, 2021 to Lockheed Martin and Northrop Grumman for technology and product development of Next Generation Interceptor and plans to maintain competition through the CDR in FY 2025 to reduce technical risk, drive industry behavior(s) through retention of a competitive environment throughout early design development activities, secure competitive production pricing, and support the Department's ability to field a system capable of negating the expanded threat, as well as, maximize the likelihood of delivering this critical capability at the earliest possible opportunity.</p> <p>The Next Generation Interceptor will be an integrated capability of the greater GMD Element, and will provide a fully qualified, production representative Next Generation Interceptor AUR. Once the Next Generation Interceptor AUR is accepted by the Government, it will be integrated into the GMD Element and supported by the System Engineering, Integration, Test, and Readiness (SITR) Contract while the GWS Contract will support developing the interfaces necessary for the seamless integration of Next Generation Interceptor. The funding for the development of the Next Generation Interceptor is in Program Element 0604874C Improved Homeland Defense Interceptors.</p>		

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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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MD08 / <i>Ground Based Midcourse</i>
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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			
Ground Based Interceptor - Additional Boosters	C/CPIF	Boeing AL/AK/AZ : CA/CO/TX/VA	230.724	7.573	Nov 2021	0.000		0.000		-		0.000	0.000	238.297	0.000
Ground Based Interceptor - All Up Round Development	C/CPIF	Boeing : AL/AK/AZ/ CA/CO/TX/VA	16.965	0.000		0.000		0.000		-		0.000	0.000	16.965	0.000
Ground Based Interceptor - Booster Development	C/CPIF	Boeing : AL/AK/AZ CA/CO/TX/VA	125.000	0.000		0.000		0.000		-		0.000	0.000	125.000	0.000
Ground Based Interceptor - Configuration 2 CBAU Booster Development	C/CPIF	Boeing : AL/AK/AZ CA/CO/TX/VA	54.550	0.000		0.000		0.000		-		0.000	0.000	54.550	0.000
Ground Based Interceptor - EKV Spares	C/CPIF	Boeing : AL/AK/AZ/ CA/CO/TX/VA	8.111	0.000		0.000		0.000		-		0.000	0.000	8.111	0.000
Ground Based Interceptor - Flight Rotations for MDS Testing	C/CPIF	Boeing : AL/AK/AZ/ CA/CO/TX/VA	73.950	0.000		0.000		0.000		-		0.000	0.000	73.950	0.000
Ground Based Interceptor - GBI Parts Testing & Reverse Flow	C/CPIF	Boeing : AL/AK/AZ/ CA/CO/TX/VA	7.203	0.000		0.000		0.000		-		0.000	0.000	7.203	0.000
Ground Based Interceptor - GBI Prime Product Support	C/CPIF	Boeing AL/AK/AZ : CA/CO/TX/VA	533.748	0.000		0.000		0.000		-		0.000	0.000	533.748	0.000
Ground Based Interceptor - GBI Relocations & Emplacements	C/CPIF	Boeing : AL/AK/AZ/ CA/CO/TX/VA	17.239	0.000		0.000		0.000		-		0.000	0.000	17.239	0.000
Ground Based Interceptor - Government Reliability Program	MIPR	Various : Various	36.427	0.000		0.000		0.000		-		0.000	0.000	36.427	0.000
Ground Based Interceptor - Integration for Flight Test	C/CPIF	Boeing : AL/AK/AZ/ CA/UT	11.395	3.362	Jan 2022	0.000		0.000		-		0.000	0.000	14.757	0.000
Ground Based Interceptor - Interceptor Manufacturing Support	MIPR	Various : Vanguard, HSV, AL	41.934	0.000		0.000		0.000		-		0.000	0.000	41.934	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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MD08 / <i>Ground Based Midcourse</i>
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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			
Ground Based Interceptor - Interceptors #48-58 (CE-II)	C/CPIF	Boeing : AL/AK/AZ/CA/CO/TX/VA	716.580	0.000		0.000		0.000		-		0.000	0.000	716.580	0.000
Ground Based Interceptor - Logistics and Safety Support	C/CPIF	VENTURI, INC. : Various	4.681	0.286	Jan 2022	0.000		0.000		-		0.000	0.000	4.967	0.000
Ground Based Interceptor - Logistics and Safety Support - Scott AFB	MIPR	DOD - USAF - SCOTT AIR FORCE BASE (SCOTT AFB) : IL	0.000	2.296	Jan 2022	3.217	Jan 2023	0.000		-		0.000	0.000	5.513	0.000
Ground Based Interceptor - Operational Spares	C/CPIF	Boeing AL/AK/AZ : CA/CO/TX/VA	28.962	0.000		0.000		0.000		-		0.000	0.000	28.962	0.000
Ground Based Interceptor - Prime Interceptor Manufacturing & Lab Support	C/CPIF	Boeing : AL/AK/AZ/CA/CO/TX/VA	69.227	0.149	Nov 2021	0.000		0.000		-		0.000	0.000	69.376	0.000
Ground Based Interceptor - Prime Reliability Program	C/CPIF	Boeing AL/AK/AZ : CA/CO/TX/VA	109.360	0.000		0.000		0.000		-		0.000	0.000	109.360	0.000
Ground Based Interceptor - Software Maintenance & Updates	C/CPIF	Boeing AL/AK/AZ : CA/UT/TBD	156.657	6.877	Nov 2021	0.000		0.000		-		0.000	0.000	163.534	0.000
Ground Based Interceptor - Software Maintenance & Updates - BOEING COMPANY	C/CPIF	BOEING : AL	0.000	0.000		12.530	Nov 2022	1.295	Nov 2023	-		1.295	Continuing	Continuing	Continuing
Ground Based Interceptor - Software Maintenance & Updates - RAYTHEON	C/CPIF	RAYTHEON : Various	0.000	0.000		5.077	Nov 2022	9.477	Nov 2023	-		9.477	Continuing	Continuing	Continuing
Ground Systems & Fire Control - Ft. Greely Comm Center	C/IDIQ	NORTHROP GRUMMAN : AL	0.000	0.200	Nov 2021	5.403	Nov 2022	1.522	Nov 2023	-		1.522	Continuing	Continuing	Continuing
Ground Systems & Fire Control - GS-8 Software & Hardware Development	C/CPIF	Boeing : AL/AK/CA/CO/VA	140.392	16.098	Jan 2022	0.002	Nov 2022	8.210	Nov 2023	-		8.210	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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MD08 / <i>Ground Based Midcourse</i>
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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			
Ground Systems & Fire Control - GS-9 Software & Hardware Development	C/CPIF	BOEING : AL/AK/CA/CO/VA/TBD	110.253	26.429	Jan 2022	18.812	Nov 2022	26.808	Nov 2023	-		26.808	Continuing	Continuing	Continuing
Ground Systems & Fire Control - GWS-10A Software & Hardware Development - GWS	C/IDIQ	NORTHROP GRUMMAN : AL	0.000	101.767	Jul 2022	26.787	Nov 2022	162.737	Nov 2023	-		162.737	Continuing	Continuing	Continuing
Ground Systems & Fire Control - GWS-10A Software & Hardware Development - Various	Various	NORTHROP GRUMMAN : AL	7.578	0.278	Jul 2022	0.000		0.000		-		0.000	0.000	7.856	0.000
Ground Systems & Fire Control - GWS-10B Software & Hardware Development - GWS	C/IDIQ	NORTHROP GRUMMAN : AL	0.000	0.000		59.197	Nov 2022	23.484	Nov 2023	-		23.484	Continuing	Continuing	Continuing
Ground Systems & Fire Control - Government Fort Drum IDT	MIPR	MDA/AL : /VA/NY	0.576	0.000		0.000		0.000		-		0.000	0.000	0.576	0.000
Ground Systems & Fire Control - Government Missile Field 4 (20 Silos)	MIPR	MDA : Various	19.656	0.000		0.000		0.000		-		0.000	0.000	19.656	0.000
Ground Systems & Fire Control - Government Software Development	MIPR	DOD - USA - COMBAT CAPABILITIES DEVELOPMENT COMMAND (CCDC) : AL	19.362	0.000		0.000		0.000		-		0.000	0.000	19.362	0.000
Ground Systems & Fire Control - MF-1: two silos to ensure the number of fielded GBIs does not decrease through the FYDP	C/CPIF	Boeing : AL/AK/AZ/CA/CO/VA	14.958	0.000		0.000		0.000		-		0.000	0.000	14.958	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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MD08 / <i>Ground Based Midcourse</i>
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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			
Ground Systems & Fire Control - Phased Array IDT Development	C/IDIQ	NORTHROP GRUMMAN : AL	0.216	57.956	Nov 2021	29.488	Nov 2022	83.160	Nov 2023	-		83.160	Continuing	Continuing	Continuing
Ground Systems & Fire Control - Prime CLE Re-Architecture	C/CPIF	Boeing AL/AK/AZ : CA/CO/VA	46.609	0.000		0.000		0.000		-		0.000	0.000	46.609	0.000
Ground Systems & Fire Control - Prime Communications Infrastructure	C/CPIF	Boeing AL/AK/AZ : CA/CO/VA	9.968	0.000		0.000		0.000		-		0.000	0.000	9.968	0.000
Ground Systems & Fire Control - Prime Fort Drum IDT	C/CPIF	Boeing AL : CO/NY/VA	10.063	0.000		0.000		0.000		-		0.000	0.000	10.063	0.000
Ground Systems & Fire Control - Prime Ground Systems Software Development	C/CPIF	Boeing AL/AK/AZ : CA/CO/VA	621.011	0.000		0.000		0.000		-		0.000	0.000	621.011	0.000
Ground Systems & Fire Control - Prime MF-1 Repair and Refurbishment	C/CPIF	Boeing AL/AK/AZ : CA/CO/VA	38.925	0.000		0.000		0.000		-		0.000	0.000	38.925	0.000
Ground Systems & Fire Control - Prime On Demand Communications	C/CPFF	Boeing : AL/AK/AZ/CA/CO/TX/VA	35.609	0.000		0.000		0.000		-		0.000	0.000	35.609	0.000
Ground Systems & Fire Control - Prime Technology Refresh	C/CPIF	Boeing/TBD : AL/AK/CA/CO/VA/TBD	564.183	21.495	Nov 2021	0.000		0.351	Nov 2023	-		0.351	0.000	586.029	0.000
Ground Systems & Fire Control - Test Phased Array IDT Transportable Asset - GWS	C/IDIQ	NORTHROP GRUMMAN : AL	0.000	3.852	Nov 2021	12.341	Nov 2022	28.510	Nov 2023	-		28.510	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Prime Modeling and Simulation - Boeing	C/CPIF	Boeing : AL	0.000	0.000		2.008	Nov 2022	0.000		-		0.000	0.000	2.008	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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MD08 / <i>Ground Based Midcourse</i>
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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			
Systems Engineering and Program Management - Prime Modeling and Simulation - SITR	C/CPAF	BOEING : Various	0.000	0.000		6.871	Nov 2022	0.000		-		0.000	0.000	6.871	0.000
Systems Engineering and Program Management - Prime System Engineering & Integration - SITR	C/CPAF	BOEING : Various	0.000	0.000		3.289	Nov 2022	0.000		-		0.000	0.000	3.289	0.000
GMD Weapon System/ GBI Service Life Extension Program (SLEP) - GMD Weapon System/Ground Based Interceptor Service Life Extension Program (SLEP)	C/CPIF	Boeing/TBD : AL/AK/AZ/CA/UT/TBD	449.726	0.000		33.200	Mar 2023	33.619	Nov 2023	-		33.619	0.000	516.545	0.000
GMD Weapon System/ GBI Service Life Extension Program (SLEP) - GMD Weapon System/Ground Based Interceptor Service Life Extension Program (SLEP) - ESC	C/CPFF	RAYTHEON : Various	0.000	0.000		0.000		13.509	Nov 2023	-		13.509	Continuing	Continuing	Continuing
Subtotal			4,331.798	248.618		218.222		392.682		-		392.682	Continuing	Continuing	N/A

Remarks
Award Date reflects 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			
Ground Based Interceptor - Government Reliability Program - NORTHROP GRUMMAN	C/CPIF	NORTHROP GRUMMAN : AL	0.000	0.000		2.138	Nov 2022	1.569	Nov 2023	-		1.569	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 0603882C / Ballistic Missile Defense Midcourse Defense Segment						MD08 / Ground Based Midcourse					
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
Ground Based Interceptor - Government Reliability Program - NSWC	MIPR	NSWC (Naval Surface Warfare Center) : AL/CO/IN	0.000	2.467	Jan 2022	2.043	Jan 2023	1.784	Jan 2024	-		1.784	Continuing	Continuing	Continuing
Ground Based Interceptor - Government Reliability Program - Various	C/CPIF	Various : Various	0.000	0.000		0.256	Nov 2022	0.278	Nov 2023	-		0.278	Continuing	Continuing	Continuing
Ground Based Interceptor - Kill Vehicle Space Chamber Testing - AEDC	MIPR	Arnold AFB/ Arnold Engineering Development Center (AEDC) : OH	14.687	2.432	Jan 2022	2.735	Jan 2023	2.958	Jan 2024	-		2.958	Continuing	Continuing	Continuing
Ground Based Interceptor - Kill Vehicle Space Chamber Testing - Air Force Research Laboratory (AFRL)	MIPR	Air Force Research Laboratory (AFRL) : Various	0.000	0.351	Jan 2022	0.000		0.766	Jan 2024	-		0.766	Continuing	Continuing	Continuing
Ground Based Interceptor - Kill Vehicle Space Chamber Testing - Boeing	C/CPIF	BOEING : Various	0.000	6.278	Nov 2021	4.739	Nov 2022	9.974	Nov 2023	-		9.974	Continuing	Continuing	Continuing
Ground Based Interceptor - Kill Vehicle Space Chamber Testing - CCDC	MIPR	USA CCDC AVIATION AND MISSILE CENTE : AL	0.000	0.000		2.529	Jan 2023	2.736	Jan 2024	-		2.736	Continuing	Continuing	Continuing
Ground Based Interceptor - Kill Vehicle Space Chamber Testing - ESC	C/CPIF	RAYTHEON : Various	0.000	3.314	Nov 2021	0.000		2.828	Nov 2023	-		2.828	Continuing	Continuing	Continuing
Ground Based Interceptor - Kill Vehicle Space Chamber Testing- (AFMETCAL)	MIPR	Air Force Metrology and Calibration Program Office (AFMETCAL) : Various	0.000	1.368	Jan 2022	2.122	Jan 2023	1.443	Jan 2024	-		1.443	Continuing	Continuing	Continuing
Ground Based Interceptor - Logistics & Safety Support - Army Aviation and Missile Command (AMCOM) Logistics Center (ALC)	MIPR	Army Aviation and Missile Command (AMCOM) Logistics Center (ALC) : AL	0.000	3.017	Jan 2022	2.925	Jan 2023	3.110	Jan 2024	-		3.110	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 0603882C / Ballistic Missile Defense Midcourse Defense Segment				MD08 / Ground Based Midcourse					
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
Ground Based Interceptor - Logistics & Safety Support - CCDC	MIPR	USA CCDC AVIATION AND MISSILE CENTE : AL	0.000	1.142	Jan 2022	1.291	Jan 2023	0.000		-		0.000	0.000	2.433	0.000
Ground Based Interceptor - Logistics & Safety Support - Various	C/CPIF	Various : Various	0.000	1.033	Nov 2021	0.000		1.706	Nov 2023	-		1.706	Continuing	Continuing	Continuing
Ground Based Interceptor - Logistics and Safety Support - Scott AFB	MIPR	TRANSCOM INC : Various	0.000	0.000		0.000		1.918	Jan 2024	-		1.918	Continuing	Continuing	Continuing
Ground Based Interceptor - Prime Product Support - BSC	C/CPIF	NORTHROP GRUMMAN : UT	0.000	0.000		0.000		1.219	Nov 2023	-		1.219	Continuing	Continuing	Continuing
Ground Based Interceptor - Prime Product Support - Boeing	C/CPIF	BOEING : AL/AZ/UT/CA/AK/TBD	0.000	27.352	Nov 2021	14.249	Nov 2022	24.816	Nov 2023	-		24.816	Continuing	Continuing	Continuing
Ground Based Interceptor - Prime Product Support - ESC	C/CPIF	RAYTHEON : Various	0.000	0.000		0.000		7.129	Nov 2023	-		7.129	Continuing	Continuing	Continuing
Ground Based Interceptor - Prime Product Support - ISF	Various	Various : Various	0.000	0.000		8.209	Nov 2022	0.000		-		0.000	0.000	8.209	0.000
Ground Based Interceptor - Prime Product Support - Raytheon	C/CPIF	RAYTHEON : AZ	0.000	1.586	Nov 2021	0.000		0.000		-		0.000	0.000	1.586	0.000
Ground Based Interceptor - Prime Product Support - SITR	C/CPAF	BOEING : Various	0.000	0.042	Aug 2022	0.000		0.000		-		0.000	0.000	0.042	0.000
Ground Based Interceptor - Prime Reliability Program	C/CPIF	BOEING : AL	0.000	6.400	Nov 2021	4.845	Nov 2022	1.810	Nov 2023	-		1.810	Continuing	Continuing	Continuing
Ground Based Interceptor - Prime Reliability Program - BSC	C/IDIQ	NORTHROP GRUMMAN : UT	0.000	0.000		0.000		3.075	Nov 2023	-		3.075	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 0603882C / Ballistic Missile Defense Midcourse Defense Segment						MD08 / Ground Based Midcourse					
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
Ground Based Interceptor - Prime Reliability Program - ESC	C/CPIF	RAYTHEON : Various	0.000	0.000		0.000		2.181	Nov 2023	-		2.181	Continuing	Continuing	Continuing
Ground Based Interceptor - Prime Reliability Program -SITR	C/CPAF	BOEING : Various	0.000	0.000		0.000		3.376	Nov 2023	-		3.376	Continuing	Continuing	Continuing
Ground Based Interceptor - Relocations & Emplacements	C/CPIF	Boeing : AL/AK	0.000	0.519	Nov 2021	0.000		0.000		-		0.000	0.000	0.519	0.000
Ground Systems & Fire Control - Fort Greely Communications Center	MIPR	TBD : AK	0.000	4.949	Nov 2021	0.000		0.000		-		0.000	0.000	4.949	0.000
Ground Systems & Fire Control - GS-9 Software and Hardware Development-Variou	C/CPIF	Various : Various	0.000	2.282	Nov 2021	0.000		0.000		-		0.000	0.000	2.282	0.000
Ground Systems & Fire Control - GWS-10B Software and Hardware Development TBD GWS	C/IDIQ	NORTHROP GRUMMAN : AL	0.000	0.550	Nov 2021	0.000		0.000		-		0.000	0.000	0.550	0.000
Ground Systems & Fire Control - Government Missile Field 4 (20 Silos)	MIPR	Army Corps of Engineers : AK	0.000	6.371	Nov 2021	2.985	Jan 2023	0.000		-		0.000	0.000	9.356	0.000
Ground Systems & Fire Control - Government Software Development	MIPR	Various : Various	0.000	3.252	Nov 2021	0.599	Jan 2023	0.586	Jan 2024	-		0.586	Continuing	Continuing	Continuing
Ground Systems & Fire Control - Prime Missile Field 4 (20 Silos)	C/CPIF	BOEING : AL	0.000	7.511	Nov 2021	0.000		0.000		-		0.000	0.000	7.511	0.000
Ground Systems & Fire Control - Prime Technology Refresh	C/CPIF	BOEING : TBD	0.000	0.102	Dec 2021	0.000		0.000		-		0.000	0.000	0.102	0.000
Systems Engineering and Program Management	Allot	TBD : TBD	0.000	9.262	Oct 2021	7.257	Oct 2022	7.500	Oct 2023	-		7.500	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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MD08 / <i>Ground Based Midcourse</i>
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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
- Government Civilian Salaries															
Systems Engineering and Program Management - Government Discrimination Improvements	C/CPIF	PARSONS GOVERNMENT SERVICES INC. : AL/ TBD	36.971	1.577	Nov 2021	0.553	Nov 2022	0.586	Nov 2023	-		0.586	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Government Discrimination Improvements - Aerospace	C/CPIF	AEROSPACE OPTICS, INC. : TBD	0.000	1.546	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Government EKV HWIL Tests in Space Chamber	MIPR	AEDC : Tullahoma, TN	39.996	0.000		0.000		0.000		-		0.000	0.000	39.996	0.000
Systems Engineering and Program Management - Government Modeling and Simulation	MIPR	USA CCDC AVIATION AND MISSILE CENTE : Redstone Arsenal/ AL, TBD	189.359	33.614	Nov 2021	23.743	Jan 2023	7.090	Jan 2024	-		7.090	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Government Modeling and Simulation - Decibel	C/CPIF	DECIBEL RESEARCH, INC : TBD	0.000	6.666	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Government Modeling and Simulation - Various	Various	Various : Various	0.000	0.060	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Government Systems Engineering & Integration	C/CPIF	Jacobs Tech Inc, Parsons Govt Serv, Torch Tech Inc, TBD : AL	305.163	2.722	Nov 2021	0.536	Nov 2022	0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Government Systems Engineering & Integration	C/CPIF	JACOBS TECHNOLOGY INC. : AL	0.000	17.242	Nov 2021	0.000		10.605	Nov 2023	-		10.605	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 0603882C / Ballistic Missile Defense Midcourse Defense Segment					MD08 / Ground Based Midcourse					
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
- JACOBS TECHNOLOGY INC.															
Systems Engineering and Program Management - Government Systems Engineering & Integration - MODERN TECHNOLOGY SOLUTIONS, INC.	C/CPIF	MODERN TECHNOLOGY SOLUTIONS, INC. : TBD	0.000	1.097	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Government Systems Engineering & Integration - Air Force Space and Missile Systems Center (SMC)	MIPR	Air Force Space and Missile Systems Center (SMC) : TBD	0.000	1.500	Nov 2021	3.145	Jan 2023	0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Government Systems Engineering & Integration - C3AI, Inc.	MIPR	C3 AI : TBD	0.000	0.880	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Government Systems Engineering & Integration - CCDC	MIPR	USA CCDC AVIATION AND MISSILE CENTE : AL	0.000	7.222	Nov 2021	5.374	Jan 2023	2.868	Jan 2024	-		2.868	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Government Systems Engineering & Integration - NSWC	MIPR	DOD - USN - NAVAL SURFACE WARFARE CENTER (NSWC) CRANE DIVISION : TBD	0.000	2.114	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Government Systems Engineering & Integration - PARSONS	C/CPIF	PARSONS GOVERNMENT SERVICES INC. : TBD	0.000	58.747	Nov 2021	39.764	Nov 2022	48.110	Nov 2023	-		48.110	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 0603882C / Ballistic Missile Defense Midcourse Defense Segment						MD08 / Ground Based Midcourse					
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
GOVERNMENT SERVICES INC.															
Systems Engineering and Program Management - Government Systems Engineering & Integration - TORCH TECHNOLOGIES INC	C/CPIF	TORCH TECHNOLOGIES INC : TBD	0.000	1.594	Nov 2021	1.460	Nov 2022	1.534	Nov 2023	-		1.534	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Government Systems Engineering & Integration - Classified Performer	C/CPIF	TBD : TBD	0.000	4.500	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Government Systems Engineering & Integration - Colsa	C/CPAF	COLSA CORPORATION : AL	0.000	0.000		0.000		3.250	Nov 2023	-		3.250	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Government Systems Engineering & Integration - METI	C/CPIF	BOEING : TBD	0.000	1.565	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Information Management & Technology Ops	C/CPAF	JACOBS TECHNOLOGY INC. : AL, AK, CA, CO, HI, NM, VA	75.193	0.000		12.402	Nov 2022	11.325	Nov 2023	-		11.325	Continuing	Continuing	Continuing
Systems Engineering and Program Management - M&S Industry Support	C/CPAF	Northrop Grumman : AI, VA	2.539	0.000		0.000		0.000		-		0.000	0.000	2.539	0.000
Systems Engineering and Program Management - M&S Support CCDC	Allot	Various : TBD	4.238	0.000		0.000		0.000		-		0.000	0.000	4.238	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 0603882C / Ballistic Missile Defense Midcourse Defense Segment					MD08 / Ground Based Midcourse						
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
Systems Engineering and Program Management - M&S Support - Various	Various	Various : Various	0.938	0.000		0.000		0.000		-		0.000	0.000	0.938	0.000
Systems Engineering and Program Management - Prime Design, Readiness, Analysis and Reporting	C/CPIF	Boeing AL/AK/AZ : CA/CO/TX/VA	23.672	0.000		0.000		0.000		-		0.000	0.000	23.672	0.000
Systems Engineering and Program Management - Prime Discrimination Improvements	C/CPIF	Boeing AL/AK/AZ : CA/CO/TX/VA	132.472	4.273	Nov 2021	0.000		0.000		-		0.000	0.000	136.745	0.000
Systems Engineering and Program Management - Prime EKV HWIL Tests in Space Chamber	C/CPIF	Boeing AL/AK/AZ : CA/CO/TX/VA	70.656	0.000		0.000		0.000		-		0.000	0.000	70.656	0.000
Systems Engineering and Program Management - Prime Modeling and Simulation - Boeing	C/CPIF	Boeing : AL, AZ	267.194	7.566	Nov 2021	15.498	Nov 2022	0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Prime Modeling and Simulation - SITR	C/CPAF	BOEING : TBD	0.000	5.573	Aug 2022	16.652	Dec 2022	30.570	Nov 2023	-		30.570	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Prime Program Management - Boeing	C/CPIF	Boeing : AL/AK/AZ/ CA/CO/UT	545.367	7.495	Nov 2021	22.962	Nov 2022	52.877	Nov 2023	-		52.877	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Prime Program Management - SITR	C/CPAF	BOEING : TBD	0.000	1.054	Aug 2022	9.308	Dec 2022	11.984	Nov 2023	-		11.984	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Prime System Engineering & Integration - Koda Inc	C/CPIF	KODA Technologies, Inc. : TBD	0.000	1.600	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing

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Appropriation/Budget Activity				R-1 Program Element (Number/Name)						Project (Number/Name)					
0400 / 4				PE 0603882C / Ballistic Missile Defense Midcourse Defense Segment						MD08 / Ground Based Midcourse					
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
Systems Engineering and Program Management - Prime System Engineering and Integration - Boeing	C/CPIF	Boeing/TBD : AL/AZ/TBD	556.522	17.295	Nov 2021	11.972	Nov 2022	16.218	Nov 2023	-		16.218	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Prime System Engineering and Integration - JACOBS TECHNOLOGY INC.	C/CPIF	JACOBS TECHNOLOGY INC. : TBD	0.000	0.000		10.602	Nov 2022	0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Prime System Engineering and Integration - SITR	C/CPAF	BOEING : TBD	0.000	8.633	Aug 2022	71.897	Dec 2022	48.673	Nov 2023	-		48.673	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Systems Engineering & Analysis	TBD	TBD : AL/VA/TBD	64.172	6.215	Nov 2021	5.694	Nov 2022	3.935	Nov 2023	-		3.935	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Systems Engineering & Analysis - CSS Support	C/CPFF	TEAMS : AL	34.429	7.657	Nov 2021	4.317	Nov 2022	4.304	Nov 2023	-		4.304	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Systems Engineering & Analysis - FFRDC / UARC	MIPR	Various : AL/VA	18.493	2.486	Nov 2021	1.986	Nov 2022	2.026	Jan 2024	-		2.026	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Systems Engineering & Analysis - Industry Support	C/CPIF	Boeing : AL	41.081	4.151	Nov 2021	2.920	Nov 2022	4.357	Oct 2023	-		4.357	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Systems Engineering & Analysis - Discrimination Engineering & Analysis	C/CPIF	Boeing : AL/CA/CO/VA	38.168	4.233	Nov 2021	9.606	Nov 2022	9.787	Nov 2023	-		9.787	Continuing	Continuing	Continuing

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Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
0400 / 4				PE 0603882C / Ballistic Missile Defense Midcourse Defense Segment				MD08 / Ground Based Midcourse							
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
Systems Engineering and Program Management - Systems Engineering and Analysis - Lockheed M&S Support	C/CPAF	LOCKHEED MARTIN CORPORATION : CO	0.000	0.342	Nov 2021	5.000	Nov 2022	0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Systems Engineering and Analysis - M&S Support	Allot	MDA : AL/VA	63.541	0.000		0.667	Nov 2022	0.420	Nov 2023	-		0.420	0.000	64.628	0.000
Systems Engineering and Program Management - Technical Direction Agent	MIPR	John Hopkins Univ Applied Physics Lab LLC, Various : AL/CA/MD/NM/UT/MA/VA/GA/PA/CO	135.700	14.555	Nov 2021	36.163	Nov 2022	32.758	Nov 2023	-		32.758	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Technical Direction Agent - Various	MIPR	Various : Various	0.000	1.350	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Technical Direction Agent - CMU FFRDC	MIPR	CARNEGIE MELLON UNIVERSITY : AL	0.000	2.233	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Technical Direction Agent -Space Dynamics Lab UARC	MIPR	SPACE DYNAMICS LABORATORY : AL	0.000	1.510	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Technical Direction Agent-MIT/LL FFRDC	MIPR	MASSACHUSETTS INSTITUTE OF TECHNOLOGY : Various	0.000	3.667	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Systems Engineering and Program Management - Technical Direction Agent-MITRE	MIPR	MTI : AL	0.000	5.701	Nov 2021	0.000		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					R-1 Program Element (Number/Name)					Project (Number/Name)					
0400 / 4					PE 0603882C / Ballistic Missile Defense Midcourse Defense Segment					MD08 / Ground Based Midcourse					
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
Systems Engineering and Program Management - Technical Direction-Agent Aerospace	MIPR	AEROSPACE OPTICS, INC. : Various	0.000	7.177	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Program Operations - Information Technology Services - DISA	MIPR	DOD - DEFENSE INFORMATION SYSTEMS AGENCY (DISA) : TBD	0.000	0.181	Oct 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Program Operations - Contract Support Services - Various	C/CPFF	Various : AL/AK/CA/CO/VA	518.384	0.615	Nov 2021	0.000		0.000		-		0.000	0.000	518.999	0.000
Program Operations - FFRDC Support - CECOM	MIPR	Communications Electronics Command (CECOM) : AL	0.000	1.489	Nov 2021	1.513	Jan 2023	1.408	Jan 2024	-		1.408	Continuing	Continuing	Continuing
Program Operations - FFRDC Support - MIT/LL	MIPR	MIT/LL : AL/VA/CO	57.491	0.000		0.000		0.000		-		0.000	0.000	57.491	0.000
Program Operations - Government Civilian Salaries	Allot	MDA : AL/VA	389.131	28.505	Oct 2021	24.005	Oct 2022	30.130	Oct 2023	-		30.130	Continuing	Continuing	Continuing
Program Operations - Information Technology Services	C/CPAF	Jacobs Technology Inc. : AL/CO	17.331	1.309	Oct 2021	1.471	Jan 2023	0.000		-		0.000	Continuing	Continuing	Continuing
Program Operations - Information Technology Services - NMR	C/CPAF	NETWORK MANAGEMENT RESOURCES, INC. : TBD	0.000	1.474	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Program Operations - Information Technology Services - Various	C/CPAF	Various : Various	0.000	0.000		0.000		1.672	Nov 2023	-		1.672	Continuing	Continuing	Continuing
Program Operations - Information Technology Services - Jacobs	C/CPAF	JACOBS TECHNOLOGY INC. : Various	0.000	1.934	Nov 2021	2.395	Jan 2023	3.298	Nov 2023	-		3.298	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 0603882C / Ballistic Missile Defense Midcourse Defense Segment					Project (Number/Name) MD08 / Ground Based Midcourse				

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
Program Operations - Other Government Agencies	MIPR	USA CCDC AVIATION AND MISSILE CENTE : AL	59.549	0.877	Nov 2021	0.731	Jan 2023	0.771	Jan 2024	-		0.771	Continuing	Continuing	Continuing
Program Operations - Safety and Quality	MIPR	MDA : AL/AK/CA/VA	0.583	0.000		0.000		0.000		-		0.000	0.000	0.583	0.000
Program Operations - Travel	Allot	MDA : AL/VA	14.984	1.628	Oct 2021	1.336	Oct 2022	1.395	Oct 2023	-		1.395	Continuing	Continuing	Continuing
GMD Weapon System/ GBI Service Life Extension Program (SLEP) - GMD Weapon System/Ground Based Interceptor Service Life Extension Program (SLEP) - SITR	C/CPAF	BOEING : TBD	0.000	0.000		0.000		0.409	Nov 2023	-		0.409	Continuing	Continuing	Continuing
Subtotal			3,718.004	387.004		402.594		425.122		-		425.122	Continuing	Continuing	N/A

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

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

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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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MD08 / <i>Ground Based Midcourse</i>
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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			
Program Operations - Contract Support Services - Vet Tech	C/CPIF	Veterans Technology, LLC : AL	0.000	1.525	Nov 2021	2.101	Nov 2022	2.015	Nov 2023	-		2.015	Continuing	Continuing	Continuing
Program Operations - Contract Support Services - ARES	C/CPIF	ARES CORPORATION : AL	0.000	1.273	Nov 2021	1.302	Nov 2022	1.567	Nov 2023	-		1.567	Continuing	Continuing	Continuing
Program Operations - Contract Support Services - SABG	C/CPIF	STRATEGIC ALLIANCE BUSINESS GROUP LLC : AL	0.000	0.000		1.203	Nov 2022	7.376	Nov 2023	-		7.376	Continuing	Continuing	Continuing
Program Operations - Contract Support Services - AI SOLUTIONS, INC.	C/CPIF	AI SOLUTIONS, INC. : AL	0.000	2.217	Nov 2021	2.273	Nov 2022	2.864	Nov 2023	-		2.864	Continuing	Continuing	Continuing
Program Operations - Contract Support Services - MACAULAY-BROWN, INC	C/CPIF	MACAULAY-BROWN, INC : AL	0.000	0.700	Nov 2021	0.000		1.045	Nov 2023	-		1.045	Continuing	Continuing	Continuing
Program Operations - Contract Support Services - MP Solutions LLC	C/CPIF	MP SOLUTIONS, LLC : AL	0.000	0.768	Nov 2021	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Program Operations - Contract Support Services - SAS	C/CPIF	STRATEGIC ALLIANCE SOLUTIONS LLC : AL	0.000	0.000		2.778	Nov 2022	0.000		-		0.000	Continuing	Continuing	Continuing
Program Operations - Contract Support Services - Various	C/CPIF	AI Solutions, APT Research Inc, BCF Solutions, Booz Allen Hamilton, Macaulay-Brown, Parsons Government Services, Strategic Alliance Business Group, Venturi, Veterans Tech,	0.000	0.484	Nov 2021	0.000		0.000		-		0.000	0.000	0.484	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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MD08 / <i>Ground Based Midcourse</i>
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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			
		Yorktown Systems Group : AL/CO/AK													
Program Operations - Contract Support Services - Venturi	C/CPIF	VENTURI, INC. : AL	0.000	1.624	Nov 2021	1.546	Nov 2022	1.919	Nov 2023	-		1.919	Continuing	Continuing	Continuing
Program Operations - Contract Support Services - Yorktown	C/CPIF	YORKTOWN SYSTEMS GROUP, INC. : AL	0.000	1.685	Nov 2021	1.809	Nov 2022	1.863	Nov 2023	-		1.863	Continuing	Continuing	Continuing
Program Operations - Contract Support Services - BCF SOLUTIONS, INC.	C/CPIF	BCF SOLUTIONS, INC. : AL	0.000	4.461	Nov 2021	4.127	Nov 2022	5.113	Nov 2023	-		5.113	Continuing	Continuing	Continuing
Subtotal			0.000	14.737		17.139		23.762		-		23.762	Continuing	Continuing	N/A

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

	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	8,049.802	650.359	637.955	841.566	-	841.566	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-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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MD08 / <i>Ground Based Midcourse</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
GMD Increment 6C/7 Incremental Element Reviews	2	2023	3	2023
Stockpile Reliability Program Testing	1	2022	4	2028
Integrate and Emplace FTG-12 Flight Test Vehicle	1	2022	4	2023
CE-II Block 1 Ground Based Interceptor Delivery 1	1	2022	1	2022
CE-II Block 1 Ground Based Interceptor Delivery 2	1	2022	1	2023
Delivery of Two Configuration 2 (C2) Boost Vehicles OBV 69 and OBV 70	2	2022	3	2022
Delivery of Three Configuration 2 (C2) Boost Vehicles OBV 72,73, and 74	3	2023	1	2024
Ground Systems Software 8 Development, Test, & Fielding	1	2022	1	2025
GWS 10A Development, Test & Fielding	4	2022	1	2025
Test Phased Array IDT Asset Development, Test & Fielding	1	2023	3	2026
GWS 10B Development, Test & Fielding	1	2023	4	2027
EKV SW 12.0 Development and Fielding	2	2024	2	2027
Ground Systems Software 9 Development	1	2022	4	2023
EKV SW 24.0 Development & Testing	1	2022	1	2024
IDT Modernization and Processor Upgrades	1	2022	4	2024
GCN Modernization	1	2022	1	2024
EKV SW 11.0 Development & Testing	1	2022	1	2024
MF-4/MF-1 Modernization/Expansion	1	2022	1	2025
Phased Array IDT Development	1	2022	4	2027
GMD Weapon System/Ground Based Interceptor SLEP	1	2022	4	2028
Fort Greely Communications Center	4	2022	4	2027

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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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MC08 / <i>Cyber Operations</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
MC08: <i>Cyber Operations</i>	211.015	24.858	27.795	29.035	-	29.035	21.891	22.374	22.831	22.962	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

N/A

A. Mission Description and Budget Item Justification

The Ground Based Midcourse Defense (GMD) Cyber Operations provide cybersecurity and cyber resiliency to maintain and operate all mission and mission support systems.

GMD systems must maintain Network and System Certification and Accreditation (C&A) for operation on all GMD networks and nodes. Cybersecurity and Cyber Resiliency efforts harden the GMD system against a cyber-attack and reduces system vulnerabilities. The strategy implements cybersecurity and cyber resiliency systems throughout the lifecycle to flow requirements to the Ground Based Interceptor, Next Generation Interceptor, and GMD Ground Systems to influence system development. In addition, Cybersecurity and Cyber Resiliency efforts include developmental cyber testing and assessments to reduce cyber vulnerabilities prior to fielding.

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

	FY 2022	FY 2023	FY 2024
Title: Network / System Certification and Accreditation (C&A)	8.272	7.374	7.851
Articles:	-	-	-
<p>Description: GMD Systems maintain a defensive cyber posture through analysis of system software and hardware. By conducting annual cybersecurity reviews, all GMD systems are evaluated to ensure the systems are authorized per the Risk Management Framework (RMF) to assess compliance in implementing and maintaining cybersecurity controls. Develops GMD Department of Defense (DoD) RMF Assessment and Authorization packages, necessary to ensure all GMD networks and nodes maintain authority to operate.</p> <p>Recurring efforts include:</p> <ul style="list-style-type: none"> -Assess, implement, document, and validate up to 512 cybersecurity control families (1935 security protections and control enhancements) for 25 representative systems comprising 250,000 computing and logic bearing components to support the GMD Development, Test, Training, and Operational systems -Ensure compliance with security mandates to maintain continued authorization to operate -Ensure the cyber workforce is trained and qualified 			

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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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MC08 / <i>Cyber Operations</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2022	FY 2023	FY 2024
<p>-Support modification of Installation Support Agreements for assigned real property to ensure Facility-Related Control Systems, supporting MDA facilities, are cyber-secure per DoD Instruction 8510.01</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: Cyber Security and Cyber Resiliency</p> <p>Description: Cybersecurity and Cyber Resiliency efforts harden the GMD system against a cyber-attack and reduces system vulnerabilities. The strategy implements cybersecurity and cyber resiliency systems throughout the lifecycle to flow requirements to the Ground Based Interceptor and GMD Ground Systems to influence system development. Early cyber testing is completed to identify vulnerabilities and fixes early in the design process.</p> <p>Recurring efforts:</p> <ul style="list-style-type: none"> -Implement the GMD Cybersecurity Risk Process across all systems to execute risk-based decisions on cybersecurity controls -Implement robust cyber resiliency in the GMD weapon systems by developing system level requirements that flow to component level designs, allowing the GMD system to operate in a cyber-contested environment -Support testing on developmental systems in a virtualized environment by integrating cyber test events allowing execution of specific cyber threat vectors on developmental software in an effort to identify capability flaws that will be assessed through the cyber risk process -Tests Cooperative Vulnerability and Penetration Assessment (CVPA) to discover unknown vulnerabilities and determine effectiveness of mitigations from development level cyber testing -Tests Support Adversarial Assessment penetration to determine effectiveness of cyber-attacks in an operational environment along with the effectiveness of the operational and technical mitigations implemented from developmental cyber testing -Implements software and hardware fixes to address weaknesses found during testing 		<p>Articles:</p> <p>16.586 -</p>	<p>20.421 -</p>	<p>21.184 -</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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MC08 / <i>Cyber Operations</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
<p>-Develop intermediate cybersecurity processes and procedures that provide operators, maintainers, and Warfighter specific steps to recognize and react to cyber-attacks, thus advancing the operational cyber resiliency through the defensive cyber operations capability</p> <p>-Develop and execute quarterly cybersecurity training scenarios allowing fire control operators and network defenders to train in a cyber-contested environment while in a kinetic engagement scenario</p> <p>-Provide training opportunities for Fire Control Operators and Cyber Incident Responders to test Tactics, Techniques, and Procedures to improve resiliency to a cyber-attack</p> <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans:</p> <ul style="list-style-type: none"> - Field virtualized environment on training system to test cyber-attacks on training scenarios, culminating in an assessment of Warfighter and defensive cyber operations response times - Develop new attack vectors on a virtual power plant system similar to Fort Greely, AK (FGA) Power Plant - Implement Eareckson Air Station, Alaska (EAS) SCMS upgrades for RMF compliance <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - Provide Cyber Security support including authorizations and assessments for GMD Increment 6B Ground Test Re-plan - Transition the GMD DSC to the GMD future contracts: SITR contract, GWS contract, Ground Based Interceptor In-Service Fleet BSC, ESC, and Ground Based Interceptor ITC <p>FY 2023 to FY 2024 Increase/Decrease Statement: N/A</p>			
Accomplishments/Planned Programs Subtotals	24.858	27.795	29.035

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>
• 0208866C: MD08: <i>GMD Procurement</i>	0.000	11.300	0.000	-	0.000	18.403	42.725	48.866	0.000	Continuing	Continuing
• 028866C: MD08: <i>Midcourse Defense O&M</i>	156.623	185.564	199.248	-	199.248	204.864	188.486	186.647	0.000	0.000	1,121.432
• 0604874C: <i>Improved Homeland Defense Interceptors</i>	863.364	1,833.357	2,130.838	-	2,130.838	2,110.409	1,444.842	1,239.966	1,015.682	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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MC08 / <i>Cyber Operations</i>

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
• 0604887C: <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>	61.424	84.075	41.824	-	41.824	40.284	58.043	123.579	100.278	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Ground Based Midcourse Defense (GMD) program will continue to follow testing, development, and evolutionary acquisition through incremental development. The Agency acquisition strategy ensures GMD components are upgraded to improve both GMD Component performance and GMD Element performance in order to retain the proven GMD contribution to the integrated Missile Defense System. This acquisition approach reduces obsolescence risk, provides incremental capability improvements, and allows decision makers to make informed trades between cost, schedule, and performance while rapidly delivering improved operational and technological capabilities.

GMD competitively awarded the Development and Sustainment Contract (DSC) to The Boeing Company in December 2011. This contract included development, fielding, test, systems engineering, integration, and configuration management; equipment manufacturing and upgrade; training, operations, and sustainment of the GMD Element and associated support facilities. In January 2018, the DSC was extended with a new period of performance through 1Q FY 2024. The DSC Extension includes supporting test, engineering, software, and performance based logistics scope. In 2022, the MDA Ground Test Replan resulted in the extension of minimal contract line items to support testing, engineering, hardware and software until December 2024; while performance based logistics will transition to a new contract after December 2023. The DSC structure breaks out major efforts into separate Contract Line Item Numbers with individual incentives for management insight, accounting, and property accountability.

The DSC prime contractor is responsible for a majority of the GMD scope through delivery of Missile Defense System Increment 6B.2. GMD's current DSC period of performance ends in December 2023 for general scope with select contract line items remaining open until December 2024 to allow the prime contractor to complete the delivery of Missile Defense System Increment 6B.2.

GMD has implemented a robust Program Board structure allowing more Government insight and decisions into the technical baseline and has changed business processes for greater Government involvement in program decisions consistent with the Government's ownership of the technical baseline. In addition, GMD utilizes Government laboratory modeling and simulation and analysis capabilities to augment the current DSC efforts. These efforts utilize existing, competitively awarded contracts by MDA and Other Government Agencies including Vandenberg Space Force Base, CA; Missile Defense Integration and Operations Center; U.S. Army Combat Capabilities Development Command Aviation & Missile Center (formerly known as U.S. Army Aviation and Missile Research, Development and Engineering Center); and Pacific Missile Range Facility, HI.

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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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MC08 / <i>Cyber Operations</i>
<p>New GMD Contracts will satisfy future GMD Element requirements beyond DSC's support and Missile Defense System Increment 6B.2. The new contracts initiate and execute concurrently with the DSC and provide for transition periods while the DSC scope is completing to provide continuity of effort. Each of the new contracts is structured to break out major efforts into separate Contract Line Item Numbers with individual incentives for management insight, accounting and property accountability.</p> <p>MDA competitively awarded two best value contracts on March 24, 2021 to Lockheed Martin and Northrop Grumman for technology and product development of Next Generation Interceptor and plans to maintain competition through the Critical Design Review in FY 2025 to reduce technical risk, drive industry behavior(s) through retention of a competitive environment throughout early design development activities, secure competitive production pricing, and support the Department's ability to field a system capable of negating the expanded threat, as well as, maximize the likelihood of delivering this critical capability at the earliest possible opportunity.</p> <p>MDA has awarded/plans to award sole source contracts to the GMD's Ground Based Interceptor In-Service Fleet (ISF) original equipment manufacturers to perform service life extensions and maintain the existing fleet, execute repairs, and develop software. These contracts are intended primarily to ensure fleet viability until replacement interceptors (Next Generation Interceptors) are fielded. ISF is constrained to the legacy interceptor fleet and its component boosters and kill vehicles. The Boost Vehicle Sustainment Contract was awarded to Northrop Grumman in September 2021. The EKV Sustainment Contract is planned for award to Raytheon Missile Systems in FY 2023. The Ground Based Interceptor Integration and Test Contract is planned for award to Boeing in FY 2024.</p> <p>The GMD Weapon System (GWS) Contract was competitively awarded to Northrop Grumman Systems Corporation in July 2022 to provide design, development, production, product level testing, sustainment planning, and deployment of new capabilities for the Weapon System. The GWS contractor is responsible for developing weapon system solutions, including fire control and communication systems improvements, required updates to the legacy system to remain effective while Next Generation Interceptor is under development, as well as, preparing for the seamless introduction of Next Generation Interceptor and other future Missile Defense System capabilities. The GWS contract will update the system interface for the addition of Next Generation Interceptors to the fleet, provide the Warfighter capability to operate the GMD Weapon System with a mixed fleet of Ground Based Interceptors and Next Generation Interceptors, and identify and develop solutions for message exchanges between the GMD Weapon System and in-flight kill vehicles. All of this must be accomplished while maintaining a robust cyber defense network capable of detecting and defending against current and future cybersecurity threats.</p> <p>GMD competitively awarded a single Systems Integration, Test, and Readiness (SITR) Contract to provide, along with the Technical Direction Agent, a synergistic approach in executing the GMD Element-level engineering, integration, test, and readiness of the GMD Weapon System. The SITR contractor is charged with being the Government's technical partner for day-to-day operation and sustainment of the GMD Weapon System alongside the United States Northern Command Warfighters. While the Government maintains overall system integration responsibilities and authority, the SITR contractor will assume a supporting technical role responsible for ensuring overall GMD integration including physical and logical integration of the GMD Components, GMD Element, and MDA enterprise level integration, planning and execution of all necessary testing to verify and validate overall requirements compliance.</p> <p>GMD Increment 6C, 10, and 11 will be executed with the SITR and GWS contracts. The SITR Contract was awarded 4Q FY 2022.</p> <p>GMD also uses MDA Consolidated Support along with Federally Funded Research and Development Center personnel for engineering and technical support to ensure Network and System Certification and Accreditation requirements are met; studies, analyses, and evaluations; and management and professional services to GMD</p>		

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

Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
0400 / 4	PE 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	MC08 / <i>Cyber Operations</i>

functional organizations and program offices. With a focus to achieve Small Business goals, MDA is leveraging existing MDA Consolidated Support contracts and will utilize MDA competitively awarded new contracts to acquire Fiscal Years 2020-2030 Advisory and Assistance Services support.

The Integrated Research and Development for Enterprise Solutions contract is used to provide cyber related equipment, licenses, and support.

The U.S. Corps of Engineers provides expertise and support for the Site Control Monitoring System cyber upgrade project at Eareckson Air Station, AK.

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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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MC08 / <i>Cyber Operations</i>
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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			
Cyber Security and Cyber Resiliency - Cyber Security and Cyber Resiliency - GMD Cybersecurity Program - Army Corps of Engineers	MIPR	Army Corps of Engineers/ Huntsville : TBD	0.000	0.043	Aug 2022	1.642	Jan 2023	0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			0.000	0.043		1.642		0.000		-		0.000	Continuing	Continuing	N/A

Remarks
Award Date reflects 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			
Network / System Certification and Accreditation (C&A) - Network / System Certification and Accreditation (C&A) - Civilian Salaries	Allot	MDA : AL/CA/CO	7.702	1.086	Oct 2021	1.130	Oct 2022	1.166	Oct 2023	-		1.166	Continuing	Continuing	Continuing
Network / System Certification and Accreditation (C&A) - Network / System Certification and Accreditation (C&A) - Contract Support Services	C/CPFF	Booz Allen Hamilton, AL, Decisive Analytics, AL : Torch Technologies, AL Parsons, AL	36.542	0.000		0.000		0.000		-		0.000	0.000	36.542	0.000
Cyber Security and Cyber Resiliency - Cyber Security and Cyber Resiliency - Cybersecurity	C/CPAF	Various : Various	22.476	2.243	Nov 2021	0.000		0.000		-		0.000	0.000	24.719	0.000
Cyber Security and Cyber Resiliency - Cyber Security	C/CPFF	Booz Allen Hamilton : AL, VA	2.583	0.000		0.000		0.000		-		0.000	0.000	2.583	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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>				Project (Number/Name) MC08 / <i>Cyber Operations</i>				

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	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
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
and Cyber Resiliency - Facility-Related Control Systems Contract Method															
Cyber Security and Cyber Resiliency - Cyber Security and Cyber Resiliency - GMD Cybersecurity Program	C/CPAF	Boeing : AL/CO	83.321	14.300	Nov 2021	17.048	Nov 2022	7.619	Nov 2023	-		7.619	Continuing	Continuing	Continuing
Cyber Security and Cyber Resiliency - Cyber Security and Cyber Resiliency - GMD Cybersecurity Program - ESC	C/CPIF	RAYTHEON : AZ	0.000	0.000		0.000		2.997	Nov 2023	-		2.997	Continuing	Continuing	Continuing
Cyber Security and Cyber Resiliency - Cyber Security and Cyber Resiliency - GMD Cybersecurity Program - Communications Electronics Command (CECOM)	MIPR	Communications Electronics Command (CECOM) : AL	0.000	0.000		1.371	Jan 2023	1.081	Jan 2024	-		1.081	Continuing	Continuing	Continuing
Cyber Security and Cyber Resiliency - Cyber Security and Cyber Resiliency - GMD Cybersecurity Program - ITC	C/CPIF	BOEING : AL	0.000	0.000		0.000		2.171	Nov 2023	-		2.171	Continuing	Continuing	Continuing
Cyber Security and Cyber Resiliency - Cyber Security and Cyber Resiliency - GMD Cybersecurity Program - SITR	C/CPAF	BOEING : AL	0.000	0.000		0.000		5.790	Nov 2023	-		5.790	Continuing	Continuing	Continuing
Cyber Security and Cyber Resiliency - Cyber Security and Cyber Resiliency - GMD Cybersecurity Program - Various	Various	Various : Various	0.000	0.000		0.360	Nov 2022	1.526	Nov 2023	-		1.526	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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MC08 / <i>Cyber Operations</i>
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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			
Cyber Security and Cyber Resiliency - Cyber Security and Cyber Resiliency - Ground Systems Software Cybersecurity	C/CPIF	Boeing AL/AK/AZ : CA/CO/VA	58.391	0.000		0.000		0.000		-		0.000	0.000	58.391	0.000
Subtotal			211.015	17.629		19.909		22.350		-		22.350	Continuing	Continuing	N/A

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

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

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			
Network / System Certification and Accreditation (C&A) - Contract Support Services - Booz-Allen Hamilton Inc	C/CPIF	BOOZ ALLEN HAMILTON INC. : AL	0.000	1.857	Nov 2021	1.673	Nov 2022	1.766	Nov 2023	-		1.766	Continuing	Continuing	Continuing
Network / System Certification and Accreditation (C&A) - Contract Support Services - Decisive Analytics Corp.	C/CPIF	DECISIVE ANALYTICS CORPORATION : AL	0.000	1.280	Nov 2021	0.000		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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MC08 / <i>Cyber Operations</i>
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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			
Network / System Certification and Accreditation (C&A) - Contract Support Services - Parsons	C/CPIF	PARSONS GOVERNMENT SERVICES INC. : AL	0.000	3.460	Nov 2021	3.487	Nov 2022	3.723	Nov 2023	-		3.723	Continuing	Continuing	Continuing
Network / System Certification and Accreditation (C&A) - Contract Support Services - Various	C/CPIF	Various : AL	0.000	0.589	Nov 2021	1.084	Nov 2022	1.196	Nov 2023	-		1.196	Continuing	Continuing	Continuing
Subtotal			0.000	7.186		6.244		6.685		-		6.685	Continuing	Continuing	N/A

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

	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	211.015	24.858	27.795	29.035	-	29.035	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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MC08 / <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							
Network and System Certification and Accreditation (C&A)	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
Cybersecurity and Cyber Resiliency	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
Cooperative Vulnerability Penetration Assessment (CVPA)	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
Adversarial Assessment (AA)	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
Computer Network Defense (CND)	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇

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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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MC08 / <i>Cyber Operations</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Network and System Certification and Accreditation (C&A)	1	2022	4	2028
Cybersecurity and Cyber Resiliency	1	2022	4	2028
Cooperative Vulnerability Penetration Assessment (CVPA)	1	2022	4	2028
Adversarial Assessment (AA)	1	2022	4	2028
Computer Network Defense (CND)	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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MD40 / <i>Program-Wide Support</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
MD40: <i>Program-Wide Support</i>	254.766	32.415	23.268	33.032	-	33.032	31.192	36.816	37.530	39.007	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	32.415	23.268	33.032
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			

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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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MD40 / <i>Program-Wide Support</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
<p>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.</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 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.</p>			
Accomplishments/Planned Programs Subtotals	32.415	23.268	33.032

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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MD40 / <i>Program-Wide Support</i>
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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			
Program Wide Support - Agency Facilities and Maintenance	MIPR	Various : Multi: AK, AL, CA, VA	3.920	3.000	Nov 2021	0.000		0.000		-		0.000	0.000	6.920	0.000
Program Wide Support - Agency Facilities and Maintenance SRM	MIPR	Army Corps of Engineers : Multi: AK, AL, CA, HI, NY, VA	3.652	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations Management	C/CPAF	Various : Multi: AL, CA, CO, VA	17.922	0.000		0.000		0.000		-		0.000	0.000	17.922	0.000
Program Wide Support - Agency Operations and Support Civilian Salaries, Travel, Training	Allot	MDA : Multi: AK, AL, CA, CO, VA	140.371	29.415	Oct 2021	23.268	Oct 2022	24.771	Oct 2023	-		24.771	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support Other Agency Services (MIPR)	MIPR	Various : Multi: AK, AL, CO, CA, HI, VA	26.617	0.000		0.000		0.000		-		0.000	0.000	26.617	0.000
Program Wide Support - Agency Operations and Support Services	C/FFP	Cherokee Nation Red Wing : Various	0.000	0.000		0.000		2.337	Nov 2023	-		2.337	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations, Sustainment and GPC	C/FFP	JACOBS TECHNOLOGY INC. : Multi: AK, AL, CA, HI, NY, VA	0.800	0.000		0.000		0.000		-		0.000	0.000	0.800	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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>					Project (Number/Name) MD40 / <i>Program-Wide Support</i>				

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 - Prior year no longer funded in the FYDP	Various	Various : Various	24.092	0.000		0.000		0.000		-		0.000	0.000	24.092	0.000
Subtotal			217.374	32.415		23.268		27.108		-		27.108	Continuing	Continuing	N/A

Remarks
Support is allocated on a pro-rata basis and therefore, fluctuates by year based on the adjusted RDT&E profile

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			
Program Wide Support - Agency Operations and Support Services	C/CPFF	LSINC : AL	37.392	0.000		0.000		5.924	Nov 2023	-		5.924	0.000	43.316	0.000
Subtotal			37.392	0.000		0.000		5.924		-		5.924	0.000	43.316	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		254.766	32.415	23.268	33.032	-	33.032	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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>			Project (Number/Name) MD40 / <i>Program-Wide Support</i>				
	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract	

Remarks
Award Date reflects 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 0603882C / <i>Ballistic Missile Defense Midcourse Defense Segment</i>	Project (Number/Name) MD40 / <i>Program-Wide Support</i>

Schedule Details

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