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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 0604873C / <i>Long Range Discrimination Radar (LRDR)</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	1,173.005	129.552	75.120	103.517	-	103.517	100.114	68.815	69.219	65.521	Continuing	Continuing
MD96: <i>Long Range Discrim Radar (LRDR)</i>	1,115.053	124.409	72.392	99.837	-	99.837	96.511	66.034	66.410	62.615	Continuing	Continuing
MD40: <i>Program Wide Support</i>	57.952	5.143	2.728	3.680	-	3.680	3.603	2.781	2.809	2.906	Continuing	Continuing

Program MDAP/MAIS Code: 362

Note

Increase from Fiscal Year (FY) 2023 to FY 2024 provides for Increment 6C/7 development, continuation of the Transition and Transfer process, and initiation of Increment 10 development requirements for enhanced radar capabilities and includes post-transfer radar sustainment efforts.

A. Mission Description and Budget Item Justification

The LRDR program supports and contributes to the Missile Defense Agency mission of developing and deploying a layered Missile Defense System to defend the homeland from missile attacks of all ranges, in all phases of flight by providing persistent long-range midcourse discrimination, precision tracking and hit assessment as an element of the Missile Defense System Homeland Defense Capability. The LRDR program also supports the Space Domain Awareness (SDA) and Space Object Identification (SOI) mission area.

The LRDR Program Element includes the requirements to design, develop, integrate, deliver, field, and sustain the LRDR. The LRDR operates in the S-band frequency, features scalable and open systems architecture to mitigate evolving threats, and integrates into the Missile Defense System through the Command and Control, Battle Management, and Communications (C2BMC) system. This Program Element includes Missile Defense System threat discrimination improvements to enhance Missile Defense System effectiveness against the evolving threat. The result will be a Missile Defense System architecture more capable of discriminating and interpreting re-entry vehicles with a higher degree of confidence to improve Warfighter shot doctrine, and conserve Ground Based Interceptor inventory. The LRDR is comprised of a LRDR Equipment Shelter, housing two radar array faces, a Mission Control Facility, which supports radar operations, and supporting facilities and infrastructure. The Secretary of the Air Force approved Clear Space Force Station, formerly known as Clear Air Force Station, AK as the LRDR site. The United States Space Force (USSF) Space Operations Command is the designated Lead Major Command. Initial fielding of LRDR was completed on December 6, 2021. In cooperation with the Northern Command (NORTHCOM), the Space Command (SPACECOM), and the USSF, an incremental Fielding approach is being taken. The Early Use Fielding of the LRDR SDA capability is planned for early FY 2024. Fielding of the LRDR Increment 6B.1 capability will occur when LRDR is added to the Missile Defense System Operational Capability Baseline (OCB), currently planned for 4Q FY 2024, delayed by the replanning of formal ground testing of the final LRDR Increment 6B.1 software. Operational Acceptance (OA) by the USSF is planned for 2Q FY 2025 following completion of LRDR Increment 6B.1 Fielding and Flight Test Other (FTX)-26. Completion of the LRDR System Transition and Transfer follows OA and is planned for 4Q FY 2025.

The LRDR Program Element supports the fielding of the LRDR capabilities described below:

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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604873C / <i>Long Range Discrimination Radar (LRDR)</i>
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- The LRDR capability that will be fielded when LRDR is added to the Missile Defense System Increment 6B.1 OCB includes increased Missile Defense System raid handling capability, conventional and advanced discrimination capabilities, implementation of mitigation techniques in denied environments, Missile Defense System integration and remote ops via C2BMC, including cyber protection / interoperability, autonomous and cued acquisition capabilities, initial sensor bias reporting, inherent SDA capability, and Electronic Protection (EP) capabilities. Operational fielding of the LRDR capability will be completed when added to the OCB in FY 2024. As stated previously, an incremental fielding approach is being taken to field the SDA capability in advance of the full Missile Defense System capability (i.e., Early Use).

- The LRDR capability that will be fielded with the Missile Defense System Increment 6C/7 includes software upgrades to LRDR to improve bias monitoring and reporting, increased discrimination capability that is expanded to a broader spectrum of threats and Resident Space Object scenes, increased support to the SDA/ SOI mission with additional reporting, expanded threat loading and threat type including addition of Hypersonic threat requirements, cybersecurity upgrades, reliability upgrades, cost reduction initiatives to reduce life cycle operating costs, and characterization testing and improvements to EP capability. Operational fielding of the LRDR Increment 6C/7 capability will be completed when added to the OCB in FY 2026.

- The LRDR capability that will be fielded with the Missile Defense System Increment 10 includes software upgrades to LRDR to improve capabilities against advanced threats and includes interface modifications to synchronize and verify requirements with the Next Generation Interceptor. Operational fielding of the LRDR Increment 10 capability will be completed when added to the OCB in FY 2028.

B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	133.335	75.120	103.451	-	103.451
Current President's Budget	129.552	75.120	103.517	-	103.517
Total Adjustments	-3.783	0.000	0.066	-	0.066
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-0.703	0.000			
• SBIR/STTR Transfer	-3.080	0.000			
• Other Adjustment	0.000	0.000	0.066	-	0.066

Change Summary Explanation

N/A

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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 0604873C / Long Range Discrimination Radar (LRDR)				Project (Number/Name) MD96 / Long Range Discrim Radar (LRDR)			
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
MD96: Long Range Discrim Radar (LRDR)	1,115.053	124.409	72.392	99.837	-	99.837	96.511	66.034	66.410	62.615	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Increase from Fiscal Year (FY) 2023 to FY 2024 provides for Increment 6C/7 development, continuation of the Transition and Transfer process, and initiation of Increment 10 development requirements for enhanced radar capabilities and includes post-transfer radar sustainment efforts.

A. Mission Description and Budget Item Justification

The LRDR program supports and contributes to the Missile Defense Agency mission of developing and deploying a layered Missile Defense System to defend the homeland from missile attacks of all ranges, in all phases of flight by providing persistent long-range midcourse discrimination, precision tracking and hit assessment as an element of the Missile Defense System Homeland Defense Capability. The LRDR program also supports the Space Domain Awareness (SDA) and Space Object Identification (SOI) mission area.

The LRDR Program Element includes the requirements to design, develop, integrate, deliver, field, and sustain the LRDR. The LRDR operates in the S-band frequency, features scalable and open systems architecture to mitigate evolving threats, and integrates into the Missile Defense System through the Command and Control, Battle Management, and Communications (C2BMC) system. This Program Element includes Missile Defense System threat discrimination improvements to enhance Missile Defense System effectiveness against the evolving threat. The result will be a Missile Defense System architecture more capable of discriminating and interpreting re-entry vehicles with a higher degree of confidence to improve Warfighter shot doctrine, and conserve Ground Based Interceptor inventory. The LRDR is comprised of a LRDR Equipment Shelter, housing two radar array faces, a Mission Control Facility, which supports radar operations, and supporting facilities and infrastructure. The Secretary of the Air Force approved Clear Space Force Station, formerly known as Clear Air Force Station, AK as the LRDR site. The United States Space Force (USSF) Space Operations Command is the designated Lead Major Command. Initial fielding of LRDR was completed on December 6, 2021. In cooperation with the Northern Command (NORTHCOM), the Space Command (SPACECOM), and the USSF, an incremental Fielding approach is being taken. The Early Use Fielding of the LRDR SDA capability is planned for early FY 2024. Fielding of the LRDR Increment 6B.1 capability will occur when LRDR is added to the Missile Defense System Operational Capability Baseline (OCB), currently planned for 4Q FY 2024, delayed by the replanning of formal ground testing of the final LRDR Increment 6B.1 software. Operational Acceptance (OA) by the USSF is planned for 2Q FY 2025 following completion of LRDR Increment 6B.1 Fielding and Flight Test Other (FTX)-26. Completion of the LRDR System Transition and Transfer follows OA and is planned for 4Q FY 2025.

The LRDR Program Element supports the fielding of the LRDR capabilities described below:

- The LRDR capability that will be fielded when LRDR is added to the Missile Defense System Increment 6B.1 OCB includes increased Missile Defense System raid handling capability, conventional and advanced discrimination capabilities, implementation of mitigation techniques in denied environments, Missile Defense System integration and remote ops via C2BMC, including cyber protection / interoperability, autonomous and cued acquisition capabilities, initial sensor bias reporting, inherent

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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 0604873C / Long Range Discrimination Radar (LRDR)	Project (Number/Name) MD96 / Long Range Discrim Radar (LRDR)
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SDA capability, and Electronic Protection (EP) capabilities. Operational Fielding of the LRDR capability will be completed when added to the OCB in FY 2024. As stated previously, an incremental Fielding approach is being taken to field the SDA capability in advance of the full Missile Defense System capability (i.e., Early Use).

- The LRDR capability that will be fielded with the Missile Defense System Increment 6C/7 includes software upgrades to LRDR to improve bias monitoring and reporting, increased discrimination capability that is expanded to a broader spectrum of threats and Resident Space Object scenes, increased support to the SDA/SOI mission with additional reporting, expanded threat loading and threat type including addition of Hypersonic threat requirements, cybersecurity upgrades, reliability upgrades, cost reduction initiatives to reduce life cycle operating costs, and characterization testing and improvements to EP capability. Operational Fielding of the LRDR Increment 6C/7 capability will be completed when added to the OCB in FY 2026.

- The LRDR capability that will be fielded with the Missile Defense System Increment 10 includes software upgrades to LRDR to improve capabilities against advanced threats and includes interface modifications to synchronize and verify requirements with the Next Generation Interceptor. Operational Fielding of the LRDR Increment 10 capability will be completed when added to the OCB in FY 2028.

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

	FY 2022	FY 2023	FY 2024
<p>Title: Long Range Discrimination Radar (LRDR)</p> <p align="right">Articles:</p> <p>Description: The LRDR program includes requirement development activities associated with systems engineering, software development, discrimination improvements, design reviews, testing, and modeling and simulation efforts for radar development. Efforts include LRDR site activation and preparation of site infrastructure for construction activities. The program will develop and integrate Command and Control, Battle Management, and Communications (C2BMC) systems for LRDR functionality. The program will develop, maintain, and deliver radar software Increment 6B.1 and establish the installation verification and validation (IV&V) lab for testing of operational software. The program includes purchase, manufacture, integration and test of radar materials. This program will also establish the operational baseline, initiate radar operations and communication, and initiate sustainment operations. The program includes logistics management, reliability, availability, maintainability efforts, data management, and operations support for the LRDR program office. This project also includes Missile Defense System Increment 6C/7 software upgrades to LRDR to further verify and improve discrimination techniques and capability, verify and improve electronic protection techniques and capability, expand capability to a broader spectrum of threats, including hypersonic missile threats, increase support to SDA and SOI, updates to current cybersecurity requirements, and implement cost reduction initiatives to reduce life cycle operating costs. This project also includes Missile Defense System Increment 10 software upgrades to LRDR to improve capabilities against advanced threats, interface modifications to synchronize and verify requirements with the Next Generation Interceptor, and post Transition and Transfer radar sustainment costs.</p> <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2023 Plans:</p>	124.409	72.392	99.837
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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 0604873C / Long Range Discrimination Radar (LRDR)	Project (Number/Name) MD96 / Long Range Discrim Radar (LRDR)

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024
<ul style="list-style-type: none"> - Achieve final Government acceptance of radar (DD250) - Achieve Authority to Operate - Continue efforts to add LRDR to the Increment 6B.1 OCB by FY 2024 - Complete Live Radiate 08a (LR-08a) test event - Support operational flight testing for LRDR (Flight Test Other (FTX-26)) - Continue efforts to achieve Operational Acceptance (OA) by USSF by FY 2025 - Continue Increment 6C/7 development - Complete Preliminary Design Review and Critical Design Review for Increment 6C/7 - Complete software build for Integrated Ground Test - Initiate fielding preparations to place LRDR improvements onto the Missile Defense System Increment 6C/7 OCB <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - Complete demobilization of Temporary Workforce Camp at Clear Space Station (CSFS), AK - Complete Fielding of SDA Early Use capability and Increment 6B.1 capability - Receive final builds of Increment 6C/7 software - Initiate Increment 6C/7 ground testing - Complete Interim Contractor Support phase 2 - Initiate post-transfer development and Operations and Sustainment efforts - Continue efforts to achieve Operational Acceptance (OA) by USSF by FY 2025 - Continue closeout activities for Transition and Transfer of LRDR to the USSF - Initiate LRDR development of Increment 10 capability <p>FY 2023 to FY 2024 Increase/Decrease Statement: Increase from Fiscal Year (FY) 2023 to FY 2024 provides for Increment 6C/7 development, continuation of the Transition and Transfer process, and initiation of Increment 10 development requirements for enhanced radar capabilities and includes post-transfer radar sustainment efforts. Completion of transfer of LRDR to the United States Space Force (USSF) is planned to occur in FY 2025.</p>			
Accomplishments/Planned Programs Subtotals	124.409	72.392	99.837

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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604873C / Long Range Discrimination Radar (LRDR)	Project (Number/Name) MD96 / Long Range Discrim Radar (LRDR)
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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
• 0603882C: <i>Ballistic Missile Defense Midcourse Defense Segment</i>	707.632	689.018	903.633	-	903.633	852.567	906.634	930.538	875.198	Continuing	Continuing
• 0603884C: <i>Ballistic Missile Defense Sensors</i>	250.123	230.502	239.159	-	239.159	212.191	233.877	242.623	251.226	Continuing	Continuing
• 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management & Communication</i>	556.914	589.374	554.201	-	554.201	574.275	585.966	598.896	582.156	Continuing	Continuing
• 0603904C: <i>Missile Defense Integration and Operations Center (MDIOC)</i>	44.188	49.367	50.549	-	50.549	56.624	58.020	59.193	60.615	Continuing	Continuing
• 0604672C: <i>Homeland Defense Radar-Hawaii</i>	75.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	75.000
• 0604879C: <i>Ballistic Missile Defense Sensor Test</i>	77.428	88.326	111.049	-	111.049	90.697	103.885	154.905	127.807	Continuing	Continuing
• 31299903: <i>MILCON PLANNING and DESIGN</i>	19.000	47.063	1.035	-	1.035	6.845	0.000	0.000	0.000	0.000	73.943

Remarks

D. Acquisition Strategy

The LRDR acquisition strategy, which was approved on January 7, 2015, incorporates robust acquisition practices to ensure delivery of a best value solution that meets mission performance requirements and reduces lifecycle costs. MDA awarded a fixed-price incentive contract to Lockheed Martin Corporation of Moorestown, NJ, on October 21, 2015, to design, develop, manufacture, integrate & test, and field the LRDR prime mission equipment. The prime contract included other fixed-price and cost-reimbursable line items and options in order to properly balance acquisition costs and risks. Performance and cost incentives were included to motivate contractor performance. The radar prime contractor will deliver a full technical data package, which will enable the government to effectively and affordably sustain the system. MDA synchronized the radar development contract efforts with a simultaneous Military Construction effort, which was executed through the US Army Corps of Engineers. The LRDR completed the initial fielding milestone on December 6, 2021, for Missile Defense System integration and testing of the Increment 6B.1 capability and an expected fielding of LRDR when it is added to the Missile Defense System OCB in FY 2024. The Acquisition Strategy was updated in FY 2021 to add the Increment 6C/7 capability. MDA awarded a cost-plus incentive fee contract to Lockheed Martin on September 20, 2021, to develop and deliver the Increment 6/7 software upgrade. The LRDR acquisition strategy is current being reviewed to consider support options for follow-on development and Operations and Sustainment requirements starting in FY 2024. This new strategy will also include Increment 10 development requirements for enhanced radar capabilities.

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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 0604873C / Long Range Discrimination Radar (LRDR)				MD96 / Long Range Discrim Radar (LRDR)							
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Long Range Discrimination Radar (LRDR) - BMEWS Remediation and Removal	MIPR	USACE : AL, AK	25.110	0.000		0.000		0.000		-		0.000	0.000	25.110	0.000
Long Range Discrimination Radar (LRDR) - Civilians/Travel	Allot	MDA : AL	9.670	4.133	Oct 2021	4.032	Oct 2022	4.261	Oct 2023	-		4.261	Continuing	Continuing	Continuing
Long Range Discrimination Radar (LRDR) - Communications Integration	SS/CPIF	Lockheed Martin : AL, NJ	34.986	0.000		0.000		0.000		-		0.000	0.000	34.986	0.000
Long Range Discrimination Radar (LRDR) - Contract Support Services - No longer funded in this cost category	C/CPFF	Various : Various	14.348	0.000		0.000		0.000		-		0.000	0.000	14.348	0.000
Long Range Discrimination Radar (LRDR) - FFRDC/UARC - No longer funded in this cost category	MIPR	GTRI, JHU/APL, MITRE, MIT/LL : AL, GA, IL, MA, VA	9.754	0.000		0.000		0.000		-		0.000	0.000	9.754	0.000
Long Range Discrimination Radar (LRDR) - Hybrid Program Office -No longer funded in this cost category	MIPR	US Air Force : Various	0.692	0.000		0.000		0.000		-		0.000	0.000	0.692	0.000
Long Range Discrimination Radar (LRDR) - IV&V	MIPR	DOD - USA - COMBAT CAPABILITIES DEVELOPMENT COMMAND (CCDC) AVIATION AND MISSILE CENTER (AVMC) : AL	19.938	3.996	Nov 2021	3.354	Dec 2022	2.750	Nov 2023	-		2.750	Continuing	Continuing	Continuing
Long Range Discrimination Radar (LRDR) - Prime Contractor - Increment 10	C/TBD	LOCKHEED MARTIN	0.000	0.000		5.429	Jun 2023	19.712	Mar 2024	-		19.712	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 0604873C / Long Range Discrimination Radar (LRDR)					Project (Number/Name) MD96 / Long Range Discrim Radar (LRDR)				

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			
		CORPORATION : TBD													
Long Range Discrimination Radar (LRDR) - Prime Contractor - Increment 6C/7	SS/CPPIF	LOCKHEED MARTIN CORPORATION : TBD	13.342	51.033	Oct 2021	23.639	Feb 2023	36.028	Oct 2023	-		36.028	Continuing	Continuing	Continuing
Long Range Discrimination Radar (LRDR) - Prime Contractor -Increment 6B.1	C/FPIF	LOCKHEED MARTIN CORPORATION : NJ	834.392	23.465	Nov 2021	0.000		0.000		-		0.000	0.000	857.857	0.000
Long Range Discrimination Radar (LRDR) - Program Office - No longer funded in this cost category	Various	MDA, JHU/APL, GSA AL, MA, IL : AL, MA, IL	10.616	0.000		0.000		0.000		-		0.000	0.000	10.616	0.000
Long Range Discrimination Radar (LRDR) - Radar Operations, Sustainment, and Fuel - No longer funded in this cost category	MIPR	DOD - USSF - US SPACE FORCE (USSF) : AK	23.238	0.000		0.000		0.000		-		0.000	0.000	23.238	0.000
Long Range Discrimination Radar (LRDR) - Site Activation & Studies	MIPR	USACE : AL, AK	118.967	11.016	Dec 2021	0.000		0.000		-		0.000	0.000	129.983	0.000
Subtotal			1,115.053	93.643		36.454		62.751		-		62.751	Continuing	Continuing	N/A

Remarks
N/A

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Long Range Discrimination Radar (LRDR) - Contract Support Services	C/CPFF	Various : Various	0.000	2.250	Oct 2021	1.658	Nov 2022	1.398	Oct 2023	-		1.398	Continuing	Continuing	Continuing

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0400 / 4				PE 0604873C / Long Range Discrimination Radar (LRDR)					MD96 / Long Range Discrim Radar (LRDR)						
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
Long Range Discrimination Radar (LRDR) - Contract Support Services - Logistics	C/CPFF	VENTURI, INC. : AL	0.000	1.360	Oct 2021	1.371	Nov 2022	1.271	Nov 2023	-		1.271	Continuing	Continuing	Continuing
Long Range Discrimination Radar (LRDR) - Contract Support Services - Systems Engineering	C/CPFF	PARSONS GOVERNMENT SERVICES INC. : CA	0.000	3.020	Oct 2021	2.411	Nov 2022	2.694	Nov 2023	-		2.694	Continuing	Continuing	Continuing
Long Range Discrimination Radar (LRDR) - FFRDC - MITRE	MIPR	DOD - USA - COMMUNICATIONS ELECTRONICS COMMAND (CECOM) : TBD	0.000	1.002	Nov 2021	1.065	Jan 2023	0.766	Nov 2023	-		0.766	Continuing	Continuing	Continuing
Long Range Discrimination Radar (LRDR) - High Altitude Electromagnetic Pulse (HEMP) Testing	MIPR	DOD - DEFENSE THREAT REDUCTION AGENCY (DTRA) : AK	0.000	0.000		0.000		1.382	Sep 2024	-		1.382	Continuing	Continuing	Continuing
Long Range Discrimination Radar (LRDR) - Prime Radar Integration	MIPR	DOD - USA - US ARMY CORPS OF ENGINEERS (USACE) : Various	0.000	0.000		1.732	Mar 2023	2.890	Nov 2023	-		2.890	Continuing	Continuing	Continuing
Long Range Discrimination Radar (LRDR) - Radar Operations, Sustainment, and Fuel	MIPR	DOD - USSF - US SPACE FORCE (USSF) : TBD	0.000	17.815	Nov 2021	25.131	Jan 2023	25.674	Nov 2023	-		25.674	Continuing	Continuing	Continuing
Long Range Discrimination Radar (LRDR) - UARC - GTRI	SS/CPFF	GEORGIA TECH APPLIED RESEARCH CORPORATION : Various	0.000	2.421	Apr 2022	0.000		0.000		-		0.000	0.000	2.421	0.000
Long Range Discrimination Radar (LRDR) - UARC - JHU/APL	SS/CPFF	JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS	0.000	2.898	Nov 2021	2.570	Feb 2023	1.011	Nov 2023	-		1.011	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 0604873C / Long Range Discrimination Radar (LRDR)	Project (Number/Name) MD96 / Long Range Discrim Radar (LRDR)
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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			
		LABORATORY LLC, THE : TBD													
Subtotal			0.000	30.766		35.938		37.086		-		37.086	Continuing	Continuing	N/A

Remarks
N/A

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

Remarks
N/A

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,115.053	124.409	72.392	99.837	-	99.837	Continuing	Continuing	N/A

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

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Exhibit R-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 0604873C / Long Range Discrimination Radar (LRDR)	Project (Number/Name) MD96 / Long Range Discrim Radar (LRDR)
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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			
Initial Fielding	▲																					
Long Range Discrimination Radar Capability	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
GTI-08a (N/I) (Missile Defense System Ground Test)			◆																			
FTX-45				▲																		
GTD-08a (N/I) (Missile Defense System Ground Test)				◆																		
FTX-26 (OT) (SN, OT Target Only Flight Test)								△														
GTI-08b (N/I)								◇														
LRDR Space Domain Awareness Early Use Fielding								△														
GTD-08b (N/I)									◇													
LRDR Increment 6B.1 Fielding (LRDR added to Increment 6B.1 OCB)										△												
GTI-13 Sprint 1 (N/I) (Missile Defense System Ground Test)											◇											
Operational Acceptance (OA)												△										
GTI-13 Sprint 2 (N/I) (Missile Defense System Ground Test)												◇										
GTD-13 (N/I) (Missile Defense System Ground Test)													◇									
LRDR Increment 6C/7 Fielding (LRDR added to Increment 6C/7 OCB)														△								
GTI-14 Sprint 1 (N/I)																◇						
GTI-14 (N/I) Sprint 2 (Missile Defense System Ground Test)																		◇				
GTD-14 (N/I) ((Missile Defense System Ground Test)																				◇		
LRDR Increment 10 Fielding (LRDR added to the Increment 10 OCB)																					△	

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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 0604873C / Long Range Discrimination Radar (LRDR)	Project (Number/Name) MD96 / Long Range Discrim Radar (LRDR)

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Initial Fielding	1	2022	1	2022
Long Range Discrimination Radar Capability	1	2022	4	2028
GTI-08a (N/I) (Missile Defense System Ground Test)	3	2022	3	2022
FTX-45	4	2022	4	2022
GTD-08a (N/I) (Missile Defense System Ground Test)	1	2023	1	2023
FTX-26 (OT) (SN, OT Target Only Flight Test)	4	2023	4	2023
GTI-08b (N/I)	4	2023	4	2023
LRDR Space Domain Awareness Early Use Fielding	1	2024	1	2024
GTD-08b (N/I)	2	2024	2	2024
LRDR Increment 6B.1 Fielding (LRDR added to Increment 6B.1 OCB)	4	2024	4	2024
GTI-13 Sprint 1 (N/I) (Missile Defense System Ground Test)	1	2025	1	2025
Operational Acceptance (OA)	2	2025	2	2025
GTI-13 Sprint 2 (N/I) (Missile Defense System Ground Test)	3	2025	3	2025
GTD-13 (N/I) (Missile Defense System Ground Test)	4	2025	4	2025
LRDR Increment 6C/7 Fielding (LRDR added to Increment 6C/7 OCB)	1	2026	1	2026
GTI-14 Sprint 1 (N/I)	4	2026	4	2026
GTI-14 (N/I) Sprint 2 (Missile Defense System Ground Test)	2	2027	2	2027
GTD-14 (N/I) ((Missile Defense System Ground Test)	4	2027	4	2027
LRDR Increment 10 Fielding (LRDR added to the Increment 10 OCB)	1	2028	1	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 0604873C / Long Range Discrimination Radar (LRDR)	Project (Number/Name) MD40 / Program Wide Support
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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: Program Wide Support	57.952	5.143	2.728	3.680	-	3.680	3.603	2.781	2.809	2.906	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Program Wide Support (PWS) is allocated on a pro-rata basis across multiple Agency program elements (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	5.143	2.728	3.680
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		
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604873C / <i>Long Range Discrimination Radar (LRDR)</i>	Project (Number/Name) MD40 / <i>Program Wide Support</i>		
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>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		5.143	2.728	3.680
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
<p>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.</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 0604873C / Long Range Discrimination Radar (LRDR)	Project (Number/Name) MD40 / Program Wide Support
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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 SRM (MIPR)	MIPR	Various : Multi: AL, VA, Aust, Japan	24.395	0.000		0.000		0.000		-		0.000	0.000	24.395	0.000
Program Wide Support - Agency Operations Management	Various	Various : Multi: AL, CA, CO, VA	0.625	0.000		0.000		0.000		-		0.000	0.000	0.625	0.000
Program Wide Support - Agency Operations Sustainment and GPC	C/FFP	Various : Multi: AL, CA, CO, VA etc.	2.327	0.000		0.000		0.000		-		0.000	0.000	2.327	0.000
Program Wide Support - Prior year no longer funded in the FYDP	Various	Various : Various	5.126	0.000		0.000		0.000		-		0.000	0.000	5.126	0.000
Subtotal			32.473	0.000		0.000		0.000		-		0.000	0.000	32.473	N/A

Remarks
N/A

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

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

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604873C / Long Range Discrimination Radar (LRDR)	Project (Number/Name) MD40 / Program Wide Support
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Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
N/A

Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Wide Support - Agency Operations and Support Services	C/CPFF	CHENEGA : AL	25.479	5.143	Jan 2022	2.728	Jan 2023	3.680	Jan 2024	-		3.680	Continuing	Continuing	Continuing
Subtotal			25.479	5.143		2.728		3.680		-		3.680	Continuing	Continuing	N/A

Remarks
N/A

	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	57.952	5.143	2.728	3.680	-	3.680	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 0604873C / <i>Long Range Discrimination Radar (LRDR)</i>	Project (Number/Name) MD40 / <i>Program Wide Support</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
MD40 Program-Wide Support			◇◇◇◇	◇◇◇◇	◇◇◇◇	◇◇◇◇	◇◇◇◇	◇◇◇◇	◇◇◇◇

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Missile Defense Agency		Date: March 2023
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604873C / <i>Long Range Discrimination Radar (LRDR)</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