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Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Missile Defense Agency **Date:** February 2020

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 0604672C / <i>Homeland Defense Radar-Hawaii</i>
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	-	70.735	188.480	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	259.215
MD41: <i>Homeland Defense Radar - Hawaii (HDR-H)</i>	-	70.735	181.667	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	252.402
MD40: <i>Program-Wide Support</i>	-	0.000	6.813	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6.813

Program MDAP/MAIS Code: 362

Note

Homeland Defense Radar - Hawaii (HDR-H) funding was appropriated/budgeted as follows:

FY 2017: PE 0603884C BMD Sensors, Project MD41

FY 2018: PE 0604673C Pacific Discriminating Radar, Project MD41

FY 2019/outyears: PE 0604672C Homeland Defense Radar Hawaii, Project MD41

The FY 2021 funding request was reduced by \$195.883 million during DWR to postpone HDR-Hawaii. Due to a shift in Department of Defense priorities, the Department is postponing the development and fielding of a Homeland Defense Radar - Hawaii beginning in FY 2021. Decrease from FY 2020 to FY 2021 reflects this change.

A. Mission Description and Budget Item Justification

The HDR-H Program Element (PE) 0604672C is comprised of a persistent discrimination sensor for the Missile Defense System (MDS).

Due to a shift in Department of Defense priorities, the Department is postponing the development and fielding of a Homeland Defense Radar - Hawaii beginning in FY 2021. Decrease from FY 2020 to FY 2021 reflects this change.

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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604672C / <i>Homeland Defense Radar-Hawaii</i>
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B. Program Change Summary (\$ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	62.221	274.714	210.614	-	210.614
Current President's Budget	70.735	188.480	0.000	-	0.000
Total Adjustments	8.514	-86.234	-210.614	-	-210.614
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	-86.234			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-1.485	0.000			
• Missile Defeat and Defense Enhancement	0.000	0.000	0.000	-	0.000
• Other Adjustment	9.999	0.000	-210.614	-	-210.614

Change Summary Explanation

Increase in FY 2019 reflects prime contract award and negotiated contract funding requirement in FY 2019.

Decrease in FY 2020 reflects enacted Congressional adjustment due to funding acceleration early to need; and radar foundation and thermal control system acquisition change from RDT&E to MILCON funding.

Decrease in FY 2021 is due to a shift in Department of Defense priorities, the Department is postponing the development and fielding of a Homeland Defense Radar - Hawaii beginning in FY 2021.

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Missile Defense Agency										Date: February 2020		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0604672C / Homeland Defense Radar-Hawaii				Project (Number/Name) MD41 / Homeland Defense Radar - Hawaii (HDR-H)			
COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
MD41: <i>Homeland Defense Radar - Hawaii (HDR-H)</i>	-	70.735	181.667	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	252.402
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note
 Homeland Defense Radar - Hawaii (HDR-H) funding was appropriated/budgeted as follows:
 FY 2017: PE 0603884C BMD Sensors, Project MD41
 FY 2018: PE 0604673C Pacific Discriminating Radar, Project MD41
 FY 2019/outyears: PE 0604672C Homeland Defense Radar Hawaii, Project MD41

Due to a shift in Department of Defense priorities, the Department is postponing the development and fielding of a Homeland Defense Radar - Hawaii beginning in FY 2021. Decrease from FY 2020 to FY 2021 reflects this change.

A. Mission Description and Budget Item Justification

Due to a shift in Department of Defense priorities, the Department is postponing the development and fielding of a Homeland Defense Radar - Hawaii beginning in FY 2021. Decrease from FY 2020 to FY 2021 reflects this change.

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

	FY 2019	FY 2020	FY 2021
Title: Homeland Defense Radar - Hawaii (HDR-H)	70.735	181.667	0.000
Articles:	-	-	-
Description: Due to a shift in Department of Defense priorities, the Department is postponing the development and fielding of a Homeland Defense Radar - Hawaii beginning in FY 2021. Decrease from FY 2020 to FY 2021 reflects this change.			
Specific and/or unique accomplishments to each FY are as follows:			
FY 2020 Plans: -Complete contract close out and document lessons learned			
FY 2021 Plans: -No funding is requested in FY 2021			
FY 2020 to FY 2021 Increase/Decrease Statement:			

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Missile Defense Agency		Date: February 2020
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604672C / Homeland Defense Radar-Hawaii	Project (Number/Name) MD41 / Homeland Defense Radar - Hawaii (HDR-H)

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021
Due to a shift in Department of Defense priorities, the Department is postponing the development and fielding of a Homeland Defense Radar - Hawaii beginning in FY 2021. Decrease from FY 2020 to FY 2021 reflects this change.			
Accomplishments/Planned Programs Subtotals	70.735	181.667	0.000

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

Line Item	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
• 0603882C: Ballistic Missile Defense Midcourse Defense Segment	790.316	1,303.716	1,004.305	-	1,004.305	776.125	726.566	767.592	1,068.536	Continuing	Continuing
• 0603884C: Ballistic Missile Defense Sensors	382.759	352.288	281.957	-	281.957	576.699	656.539	574.703	593.592	Continuing	Continuing
• 0603896C: Ballistic Missile Defense Command and Control, Battle Management & Communication	500.965	549.756	593.353	-	593.353	593.330	546.471	581.376	543.971	Continuing	Continuing
• 0604673C: Pacific Discriminating Radar	14.453	6.711	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	21.164
• 0604873C: Long Range Discrimination Radar (LRDR)	172.705	136.423	137.256	-	137.256	118.787	90.299	60.251	41.726	Continuing	Continuing
• 0604879C: Ballistic Missile Defense Sensor Test	71.905	105.530	76.456	-	76.456	99.138	131.191	122.983	124.398	Continuing	Continuing
• 32199903: MILCON PLANNING and DESIGN	0.000	12.872	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	12.872

Remarks

D. Acquisition Strategy

An acquisition strategy was approved in December 2017 for the procurement of a single Homeland Defense Radar (HDR) for Hawaii. In May of 2018, this acquisition strategy was updated to include the procurement of up to three Homeland Defense Radars. A competitively awarded multiple-award indefinite delivery, indefinite quantity (IDIQ) contract was awarded in July 2018 to three contractors. The first IDIQ delivery order was competitively awarded on December 18, 2018 for the development, construction, integration and testing, and delivery of one HDR to be sited in Hawaii. The HDR-H delivery order contract includes fixed price and cost-reimbursable line items that properly balance acquisition costs and risks. Performance and cost incentives were included to motivate contractor performance. The HDR-H delivery order contract includes the requirement for the radar prime to deliver a full technical data package (TDP) that will enable the Government to effectively and

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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604672C / <i>Homeland Defense Radar-Hawaii</i>	Project (Number/Name) MD41 / <i>Homeland Defense Radar - Hawaii (HDR-H)</i>

affordably sustain the system. Due to a shift in Department of Defense priorities, the Department has postponed pursuing the development and fielding of a Homeland Defense Radar - Hawaii beginning in FY 2021. In light of the postponement of the program, the MDA is evaluating contract termination and other open commitments.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Missile Defense Agency **Date:** February 2020

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604672C / Homeland Defense Radar - Hawaii	Project (Number/Name) MD41 / Homeland Defense Radar - Hawaii (HDR-H)
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Product Development (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Homeland Defense Radar - Hawaii (HDR-H) - Civilians/Travel	Allot	MDA : Various	0.000	0.972	Nov 2018	3.729	Oct 2019	0.000		-		0.000	0.000	4.701	0.000
Homeland Defense Radar - Hawaii (HDR-H) - Communications Integration	SS/CPPIF	Lockheed Martin : AL	0.000	0.057	Mar 2019	3.250	Mar 2020	0.000		-		0.000	0.000	3.307	0.000
Homeland Defense Radar - Hawaii (HDR-H) - Contractor Support Services	C/CPFF	MDA Various : AL	0.000	2.389	Nov 2018	3.810	Oct 2019	0.000		-		0.000	0.000	6.199	0.000
Homeland Defense Radar - Hawaii (HDR-H) - FFRDC/UARC	MIPR	GTRI, JHU/APL, MITRE : GA, VA, AL	0.000	2.031	Nov 2018	1.172	Oct 2019	0.000		-		0.000	0.000	3.203	0.000
Homeland Defense Radar - Hawaii (HDR-H) - Lead Service Cell	C/CPFF	MDA Various : AL, CO	0.000	0.308	Nov 2018	0.000		0.000		-		0.000	0.000	0.308	0.000
Homeland Defense Radar - Hawaii (HDR-H) - Prime Contractor	C/FPIF	Lockheed Martin : NJ	0.000	61.151	Dec 2018	151.787	Jan 2020	0.000		-		0.000	0.000	212.938	0.000
Homeland Defense Radar - Hawaii (HDR-H) - Radar Material	MIPR	Air Force : GA	0.000	0.175	Jun 2019	0.000		0.000		-		0.000	0.000	0.175	0.000
Homeland Defense Radar - Hawaii (HDR-H) - Site Activation & Studies	MIPR	Various : AL, HI	0.000	3.652	Mar 2019	17.919	Mar 2020	0.000		-		0.000	0.000	21.571	0.000
Subtotal			0.000	70.735		181.667		0.000		-		0.000	0.000	252.402	N/A

Remarks
Due to a shift in Department of Defense priorities, the Department is postponing the development and fielding of a Homeland Defense Radar - Hawaii beginning in FY 2021. Decrease from FY 2020 to FY 2021 reflects this change.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Missile Defense Agency **Date:** February 2020

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604672C / Homeland Defense Radar-Hawaii	Project (Number/Name) MD41 / Homeland Defense Radar - Hawaii (HDR-H)
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Support (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	70.735	181.667	0.000	-	0.000	0.000	252.402	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 2021 Missile Defense Agency **Date:** February 2020

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604672C / <i>Homeland Defense Radar-Hawaii</i>	Project (Number/Name) MD41 / <i>Homeland Defense Radar - Hawaii (HDR-H)</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 2019		FY 2020		FY 2021		FY 2022		FY 2023		FY 2024		FY 2025	
Homeland Defense Radar - Hawaii (HDR-H)	◇	◇	◇	◇	◇	◇	◇							
System Requirements Review (SRR)			◆											

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Missile Defense Agency		Date: February 2020
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604672C / <i>Homeland Defense Radar-Hawaii</i>	Project (Number/Name) MD41 / <i>Homeland Defense Radar - Hawaii (HDR-H)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Homeland Defense Radar - Hawaii (HDR-H)	1	2019	4	2020
System Requirements Review (SRR)	3	2019	3	2019

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Missile Defense Agency **Date:** February 2020

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604672C / Homeland Defense Radar-Hawaii	Project (Number/Name) MD40 / Program-Wide Support
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
MD40: Program-Wide Support	-	0.000	6.813	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	6.813
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Beginning in FY 20 Program Wide Support (PWS) is allocated to the Homeland Defense Radar-Hawaii PE. 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 MDS. These functions include Government Civilians and Contract Support Services. This effort provides integrity and oversight of the MDS 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 2019	FY 2020	FY 2021
Title: Program Wide Support	0.000	6.813	0.000
Articles:	-	-	-
Description: PWS contains non-headquarters management costs in support of MDA functions and activities across the entire MDS. These functions include Government Civilians and Contract Support Services. This effort provides integrity and oversight of the MDS 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,			

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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604672C / <i>Homeland Defense Radar-Hawaii</i>	Project (Number/Name) MD40 / <i>Program-Wide Support</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021
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.			
<i>FY 2020 Plans:</i> - SEE ABOVE.			
<i>FY 2021 Plans:</i> - SEE ABOVE.			
<i>FY 2020 to FY 2021 Increase/Decrease Statement:</i> Increase from FY 2020 to FY 2021 reflects the PWS allocation on a pro-rata basis across multiple Agency PE's each fiscal year based on the total Agency budget, and therefore fluctuates per PE by fiscal year.			
Accomplishments/Planned Programs Subtotals	0.000	6.813	0.000

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

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Missile Defense Agency **Date:** February 2020

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604672C / Homeland Defense Radar-Hawaii	Project (Number/Name) MD40 / Program-Wide Support
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Support (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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/Various	Various : Multi: AL, CA, CO, VA	0.000	0.000		6.813	Dec 2019	0.000		-		0.000	0.000	6.813	0.000
Subtotal			0.000	0.000		6.813		0.000		-		0.000	0.000	6.813	N/A

Remarks
N/A

	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000	6.813	0.000	-	0.000	0.000	6.813	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 2021 Missile Defense Agency						Date: February 2020									
Appropriation/Budget Activity 0400 / 4				R-1 Program Element (Number/Name) PE 0604672C / <i>Homeland Defense Radar-Hawaii</i>				Project (Number/Name) MD40 / <i>Program-Wide Support</i>							
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 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025					
MD40 Program Wide Support					◇◇◇◇	◇◇◇◇	◇◇◇◇	◇◇◇◇	◇◇◇◇	◇◇◇◇	◇◇◇◇	◇◇◇◇	◇◇◇◇	◇◇◇◇	◇◇◇◇

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Missile Defense Agency		Date: February 2020
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604672C / <i>Homeland Defense Radar-Hawaii</i>	Project (Number/Name) MD40 / <i>Program-Wide Support</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MD40 Program Wide Support	1	2020	4	2025