

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2023 Missile Defense Agency **Date:** April 2022

|   |   |
|---|---|
| <b>Appropriation/Budget Activity</b><br>0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i> | <b>R-1 Program Element (Number/Name)</b><br>PE 0603907C / <i>Sea Based X-Band Radar (SBX)</i> |
|---|---|

| COST (\$ in Millions)                                   | Prior Years | FY 2021 | FY 2022 | FY 2023 Base | FY 2023 OCO | FY 2023 Total | FY 2024 | FY 2025 | FY 2026 | FY 2027 | Cost To Complete | Total Cost |
|---|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element                                   | 952.395     | 120.063 | 147.241 | 164.668      | -           | 164.668       | 174.934 | 215.367 | 198.956 | 179.622 | Continuing       | Continuing |
| <i>MX46: Sea Based X-Band Radar Development Support</i> | 917.254     | 115.363 | 141.567 | 158.689      | -           | 158.689       | 168.779 | 208.689 | 192.046 | 173.020 | Continuing       | Continuing |
| <i>MD40: Program-Wide Support</i>                       | 35.141      | 4.700   | 5.674   | 5.979        | -           | 5.979         | 6.155   | 6.678   | 6.910   | 6.602   | Continuing       | Continuing |

**Program MDAP/MAIS Code:** 362

**Note**

Increase from FY 2022 to FY 2023 provides for the radome replacement scheduled to complete in FY 2025 and additional software sustainment and X-Band Radar (XBR) contractor logistics support.

**A. Mission Description and Budget Item Justification**

The Sea Based X-Band Radar (SBX) is an advanced XBR that provides the capability for mid-course acquisition, tracking, discrimination, and hit-assessment of missile threats. The SBX radar is mounted on a mobile, ocean-going, semi-submersible platform, enabling it to cover any region of the globe. The SBX supports the Missile Defense System (MDS) Homeland Defense mission by tracking and discriminating sophisticated Intercontinental Ballistic Missile (ICBM) threats.

The SBX operates at sea for MDS flight and ground test participation or in an active, operational status when indications and warnings signal the need for enhanced discrimination. The SBX is located in a Pacific port when not required at sea. The SBX maintains vessel certifications for operations at sea as well as software compatibility with the MDS.

**B. Program Change Summary (\$ in Millions)**

|  | <u>FY 2021</u> | <u>FY 2022</u> | <u>FY 2023 Base</u> | <u>FY 2023 OCO</u> | <u>FY 2023 Total</u> |
|--|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget              | 118.318        | 147.241        | 0.000               | -                  | 0.000                |
| Current President's Budget               | 120.063        | 147.241        | 164.668             | -                  | 164.668              |
| Total Adjustments                        | 1.745          | 0.000          | 164.668             | -                  | 164.668              |
| • 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                         | 0.000          | 0.000          |                     |                    |                      |
| • SBIR/STTR Transfer                     | 0.000          | 0.000          |                     |                    |                      |
| • Missile Defeat and Defense Enhancement | 0.000          | 0.000          | 0.000               | -                  | 0.000                |
| • Other Adjustment                       | 1.745          | 0.000          | 164.668             | -                  | 164.668              |

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2023 Missile Defense Agency **Date:** April 2022

|   |   |
|---|---|
| <b>Appropriation/Budget Activity</b><br>0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 4:<br/>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i> | <b>R-1 Program Element (Number/Name)</b><br>PE 0603907C / <i>Sea Based X-Band Radar (SBX)</i> |
|---|---|

**Change Summary Explanation**

FY 2023 funding increase reflects the fact that the FY 2022 President's Budget request did not include out-year funding.

**UNCLASSIFIED**

|  |                    |                |                |                     |  |                      |                |                |   |                         |                         |                   |
|--|--------------------|----------------|----------------|---------------------|--|----------------------|----------------|----------------|---|-------------------------|-------------------------|-------------------|
| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Missile Defense Agency |                    |                |                |                     |  |                      |                |                |   | <b>Date:</b> April 2022 |                         |                   |
| <b>Appropriation/Budget Activity</b><br>0400 / 4                                     |                    |                |                |                     | <b>R-1 Program Element (Number/Name)</b><br>PE 0603907C / Sea Based X-Band Radar (SBX) |                      |                |                | <b>Project (Number/Name)</b><br>MX46 / Sea Based X-Band Radar Development Support |                         |                         |                   |
| <b>COST (\$ in Millions)</b>   | <b>Prior Years</b> | <b>FY 2021</b> | <b>FY 2022</b> | <b>FY 2023 Base</b> | <b>FY 2023 OCO</b>   | <b>FY 2023 Total</b> | <b>FY 2024</b> | <b>FY 2025</b> | <b>FY 2026</b>  | <b>FY 2027</b>          | <b>Cost To Complete</b> | <b>Total Cost</b> |
| MX46: Sea Based X-Band Radar Development Support                                     | 917.254            | 115.363        | 141.567        | 158.689             | -  | 158.689              | 168.779        | 208.689        | 192.046   | 173.020                 | Continuing              | Continuing        |
| Quantity of RDT&E Articles   | -                  | -              | -              | -                   | -  | -                    | -              | -              | -   | -                       |                         |                   |

**Note**

Increase from FY 2022 to FY 2023 provides for the radome replacement scheduled to complete in FY 2025 and additional software sustainment and X-Band Radar (XBR) contractor logistics support.

**A. Mission Description and Budget Item Justification**

This project provides developmental operations and support of the SBX Radar and its four major sub-systems: the self-propelled vessel; the X-Band Radar (XBR); the In-Flight Interceptor Communications System Data Terminal; and the communications network. Developmental operations and support activities include operation and sustainment of the vessel, developmental operation and sustainment of the XBR, limited XBR software support, and vessel and shore side security. The FY 2023 budget reflects the continued development required to deliver MDS enhanced discrimination capability.

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

|  | <b>FY 2021</b> | <b>FY 2022</b> | <b>FY 2023</b> |
|--|----------------|----------------|----------------|
| <b>Title:</b> Vessel Operations and Support  | 62.663         | 71.124         | 69.422         |
| <b>Articles:</b>   | -              | -              | -              |
| <b>Description:</b> Vessel Operations and Support provides for sustainment of the SBX vessel for full operations. This effort maintains annual surveys and U.S. Coast Guard Certifications to ensure readiness for operational contingencies, provides for resupply of SBX, and conducts in port and underway maintenance. The SBX participates in MDS ground tests and flight tests per the Integrated Master Test Plan (IMTP). This effort also provides force protection for SBX, maintenance repair, air charter transportation, and supply vessel charters. |                |                |                |
| Specific and/or unique accomplishments to each FY are as follows:  |                |                |                |
| <b>FY 2022 Plans:</b>  |                |                |                |
| - Conduct in port SBX maintenance period and recurring 2.5-year U.S. Coast Guard/American Bureau of Shipping surveys.  |                |                |                |
| <b>FY 2023 Plans:</b>  |                |                |                |
| - Operate at sea for Homeland Defense, including annual surveys at sea.  |                |                |                |
| <b>FY 2022 to FY 2023 Increase/Decrease Statement:</b>   |                |                |                |

**UNCLASSIFIED**

|  |  |   |
|--|--|---|
| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Missile Defense Agency |  | <b>Date:</b> April 2022   |
| <b>Appropriation/Budget Activity</b><br>0400 / 4                                     | <b>R-1 Program Element (Number/Name)</b><br>PE 0603907C / Sea Based X-Band Radar (SBX) | <b>Project (Number/Name)</b><br>MX46 / Sea Based X-Band Radar Development Support |

| <b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>  | <b>FY 2021</b> | <b>FY 2022</b> | <b>FY 2023</b> |
|--|----------------|----------------|----------------|
| N/A  |                |                |                |
| <p><b>Title:</b> XBR Operations and Support</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> This effort operates and sustains the XBR at full operations, operates and sustains SBX communications systems, performs mission integration functions, and provides support for contingency operations with manning for improved readiness enabling rapid response time from notification to underway. XBR Operations and Support maintains limited software sustainment for system capability with the MDS and fields additional XBR capability to the Warfighter with the MDS capability increment. This effort also provides precision track, discrimination, and hit assessment for engagement support in MDS ground tests and flight tests per the approved IMTP. Additional development includes continuation of the radome replacement effort, expected to complete in 2025.</p> <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p><b>FY 2022 Plans:</b></p> <ul style="list-style-type: none"> <li>- Complete XBR x86 software initial fielding to increase the XBR processing capabilities.</li> <li>- Continuation of radome replacement effort, expected to complete in 2025.</li> </ul> <p><b>FY 2023 Plans:</b></p> <ul style="list-style-type: none"> <li>- Operate at sea for Homeland Defense, including recurring routine maintenance and testing.</li> </ul> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b><br/>Increase from FY 2022 to FY 2023 provides for the radome replacement and additional software sustainment and X-Band Radar (XBR) contractor logistics support.</p> | 52.700         | 70.443         | 89.267         |
|  | -              | -              | -              |
| <b>Accomplishments/Planned Programs Subtotals</b>  | 115.363        | 141.567        | 158.689        |

| <b>C. Other Program Funding Summary (\$ in Millions)</b>              |                |                |                               |                              |                                |                |                |                |                |                                   |                   |
|---|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| <u>Line Item</u>  | <u>FY 2021</u> | <u>FY 2022</u> | <u>FY 2023</u><br><u>Base</u> | <u>FY 2023</u><br><u>OCO</u> | <u>FY 2023</u><br><u>Total</u> | <u>FY 2024</u> | <u>FY 2025</u> | <u>FY 2026</u> | <u>FY 2027</u> | <u>Cost To</u><br><u>Complete</u> | <u>Total Cost</u> |
| • 0603882C: Ballistic<br>Missile Defense Midcourse<br>Defense Segment | 1,195.853      | 724.028        | 667.524                       | -                            | 667.524                        | 870.817        | 802.617        | 781.973        | 765.733        | Continuing                        | Continuing        |
| • 0603884C: Ballistic<br>Missile Defense Sensors                      | 259.605        | 254.962        | 231.134                       | -                            | 231.134                        | 250.028        | 274.705        | 276.254        | 257.575        | Continuing                        | Continuing        |

**UNCLASSIFIED**

**Exhibit R-2A, RDT&E Project Justification:** PB 2023 Missile Defense Agency **Date:** April 2022

|  |  |   |
|--|--|---|
| <b>Appropriation/Budget Activity</b><br>0400 / 4 | <b>R-1 Program Element (Number/Name)</b><br>PE 0603907C / Sea Based X-Band Radar (SBX) | <b>Project (Number/Name)</b><br>MX46 / Sea Based X-Band Radar Development Support |
|--|--|---|

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

| <b>Line Item</b>  | <b>FY 2021</b> | <b>FY 2022</b> | <b>FY 2023<br/>Base</b> | <b>FY 2023<br/>OCO</b> | <b>FY 2023<br/>Total</b> | <b>FY 2024</b> | <b>FY 2025</b> | <b>FY 2026</b> | <b>FY 2027</b> | <b>Cost To<br/>Complete</b> | <b>Total Cost</b> |
|---|----------------|----------------|-------------------------|------------------------|--------------------------|----------------|----------------|----------------|----------------|-----------------------------|-------------------|
| • 0603891C: <i>Special Programs - MDA</i>   | 380.204        | 413.374        | 316.977                 | -                      | 316.977                  | 276.846        | 281.065        | 286.880        | 292.589        | Continuing                  | Continuing        |
| • 0603896C: <i>Ballistic Missile Defense Command and Control, Battle Management &amp; Communication</i> | 639.027        | 564.946        | 589.374                 | -                      | 589.374                  | 575.883        | 588.824        | 612.853        | 605.801        | Continuing                  | Continuing        |
| • 0603898C: <i>Ballistic Missile Defense Joint Warfighter Support</i>                                   | 49.261         | 50.594         | 50.269                  | -                      | 50.269                   | 51.849         | 55.960         | 56.488         | 54.980         | Continuing                  | Continuing        |
| • 0603904C: <i>Missile Defense Integration and Operations Center (MDIOC)</i>                            | 54.026         | 52.403         | 49.367                  | -                      | 49.367                   | 51.744         | 56.502         | 57.833         | 59.006         | Continuing                  | Continuing        |
| • 0604879C: <i>Ballistic Missile Defense Sensor Test</i>  | 64.245         | 77.428         | 88.326                  | -                      | 88.326                   | 91.495         | 98.146         | 103.010        | 145.810        | Continuing                  | Continuing        |

**Remarks**

**D. Acquisition Strategy**

The SBX is contractor operated and maintained through a variety of contracts between the Navy and MDA. SBX-1 Vessel Management, Offshore Supply Vessel (OSV), and Security contracts are managed by Military Sealift Command. The SBX radar is operated and maintained on contracts managed by MDA.

**UNCLASSIFIED**

**Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Missile Defense Agency** **Date:** April 2022

|  |  |   |
|--|--|---|
| <b>Appropriation/Budget Activity</b><br>0400 / 4 | <b>R-1 Program Element (Number/Name)</b><br>PE 0603907C / Sea Based X-Band Radar (SBX) | <b>Project (Number/Name)</b><br>MX46 / Sea Based X-Band Radar Development Support |
|--|--|---|

| <b>Product Development (\$ in Millions)</b>                              |                        |                                |             | FY 2021 |            | FY 2022 |            | FY 2023 Base |            | FY 2023 OCO |            | FY 2023 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          |                  |            |                          |
| XBR Operations and Support - XBR Operations & Support-Radome Replacement | SS/CPFF                | RAYTHEON : MA                  | 6.500       | 6.241   | May 2021   | 16.002  | Jan 2022   | 22.828       | Nov 2022   | -           |            | 22.828        | Continuing       | Continuing | Continuing               |
| <b>Subtotal</b>  |                        |                                | 6.500       | 6.241   |            | 16.002  |            | 22.828       |            | -           |            | 22.828        | Continuing       | Continuing | N/A                      |

**Remarks**  
N/A

| <b>Support (\$ in Millions)</b>   |                        |                                |             | FY 2021 |            | FY 2022 |            | FY 2023 Base |            | FY 2023 OCO |            | FY 2023 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          |                  |            |                          |
| Vessel Operations and Support - Air Charter                               | MIPR                   | Military Sealift Command : VA  | 0.000       | 0.000   |            | 1.050   | Oct 2021   | 1.079        | Oct 2022   | -           |            | 1.079         | Continuing       | Continuing | Continuing               |
| Vessel Operations and Support - Force Protection                          | MIPR                   | Military Sealift Command : VA  | 12.081      | 6.482   | Oct 2020   | 5.850   | Oct 2021   | 6.011        | Oct 2022   | -           |            | 6.011         | Continuing       | Continuing | Continuing               |
| Vessel Operations and Support - Fuel                                      | MIPR                   | Military Sealift Command : VA  | 75.611      | 10.535  | Oct 2020   | 8.500   | Oct 2021   | 12.342       | Oct 2022   | -           |            | 12.342        | Continuing       | Continuing | Continuing               |
| Vessel Operations and Support - Navy Program Management Office            | MIPR                   | Military Sealift Command : VA  | 10.559      | 2.910   | Oct 2020   | 3.571   | Oct 2021   | 4.930        | Oct 2022   | -           |            | 4.930         | Continuing       | Continuing | Continuing               |
| Vessel Operations and Support - Navy Transition Office                    | MIPR                   | U.S. Navy : AL                 | 5.732       | 0.000   |            | 0.000   |            | 0.000        |            | -           |            | 0.000         | 0.000            | 5.732      | 0.000                    |
| Vessel Operations and Support - Operational Support Vessel (OSV Resupply) | MIPR                   | Military Sealift Command : VA  | 63.152      | 19.667  | Oct 2020   | 14.600  | Oct 2021   | 17.181       | Oct 2022   | -           |            | 17.181        | Continuing       | Continuing | Continuing               |
| Vessel Operations and Support - SBX Operations & Support (Vessel)         | MIPR                   | Military Sealift Command : VA  | 223.855     | 23.069  | Oct 2020   | 37.553  | Oct 2021   | 27.879       | Oct 2022   | -           |            | 27.879        | Continuing       | Continuing | Continuing               |

**UNCLASSIFIED**

| Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Missile Defense Agency |                        |   |             |  |            |         |            |   |            |             |            | Date: April 2022 |                  |            |                          |
|--|------------------------|---|-------------|--|------------|---------|------------|---|------------|-------------|------------|------------------|------------------|------------|--------------------------|
| Appropriation/Budget Activity  |                        |   |             | R-1 Program Element (Number/Name)          |            |         |            | Project (Number/Name)                             |            |             |            |                  |                  |            |                          |
| 0400 / 4   |                        |   |             | PE 0603907C / Sea Based X-Band Radar (SBX) |            |         |            | MX46 / Sea Based X-Band Radar Development Support |            |             |            |                  |                  |            |                          |
| Support (\$ in Millions)   |                        |   |             | FY 2021                                    |            | FY 2022 |            | FY 2023 Base                                      |            | FY 2023 OCO |            | FY 2023 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 |
| Vessel Operations and Support - SBX Vessel Maintenance                   | MIPR                   | Tote : HI/NJ  | 36.963      | 0.000                                      |            | 0.000   |            | 0.000   |            | -           |            | 0.000            | 0.000            | 36.963     | 0.000                    |
| Vessel Operations and Support - Vessel Mission Integration               | C/CPIF                 | Gryphon Tech. : AL/ HI  | 77.234      | 0.000                                      |            | 0.000   |            | 0.000   |            | -           |            | 0.000            | 0.000            | 77.234     | 0.000                    |
| XBR Operations and Support - Civilian Salaries/ Travel                   | Allot                  | MDA : Various   | 1.456       | 1.910                                      | Oct 2020   | 1.356   | Oct 2021   | 1.399   | Oct 2022   | -           |            | 1.399            | Continuing       | Continuing | Continuing               |
| XBR Operations and Support - Contract Support Services                   | C/CPFF                 | Various : Various   | 1.200       | 1.293                                      | Oct 2020   | 2.059   | Oct 2021   | 1.017   | Oct 2022   | -           |            | 1.017            | Continuing       | Continuing | Continuing               |
| XBR Operations and Support - Contract Support Services - Engineering     | C/CPFF                 | PARSONS GOVERNMENT SERVICES INC. : Various                        | 0.000       | 0.000                                      |            | 0.000   |            | 1.140   | Oct 2022   | -           |            | 1.140            | Continuing       | Continuing | Continuing               |
| XBR Operations and Support - Mission Integration                         | C/CPIF                 | MANTECH : AL/ HI  | 0.000       | 7.302                                      | Feb 2021   | 9.286   | Dec 2021   | 10.682  | Nov 2022   | -           |            | 10.682           | Continuing       | Continuing | Continuing               |
| XBR Operations and Support - Network And Infrastructure Services         | C/CPAF                 | Jacobs Engineering : AL, CO, HI, NM, VA                           | 0.855       | 0.439                                      | Jan 2021   | 0.438   | Jan 2022   | 0.446   | Jan 2023   | -           |            | 0.446            | Continuing       | Continuing | Continuing               |
| XBR Operations and Support - SBX Communications Support                  | SS/CPIF                | Boeing : AL/ HI   | 17.120      | 2.705                                      | Jan 2021   | 2.565   | Jan 2022   | 2.931   | Jan 2023   | -           |            | 2.931            | Continuing       | Continuing | Continuing               |
| XBR Operations and Support - UARC -JHU/APL                               | SS/CPFF                | JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY LLC, THE : MD | 0.000       | 0.000                                      |            | 0.349   | Nov 2021   | 0.361   | Nov 2022   | -           |            | 0.361            | Continuing       | Continuing | Continuing               |
| XBR Operations and Support - XBR Operations & Support                    | SS/CPFF                | RAYTHEON : AL/ AK/ HI   | 384.936     | 32.810                                     | Dec 2020   | 38.388  | Dec 2021   | 48.463  | Dec 2022   | -           |            | 48.463           | Continuing       | Continuing | Continuing               |
| <b>Subtotal</b>  |                        |   | 910.754     | 109.122                                    |            | 125.565 |            | 135.861   |            | -           |            | 135.861          | Continuing       | Continuing | N/A                      |

**UNCLASSIFIED**

**Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Missile Defense Agency** **Date:** April 2022

|  |  |   |
|--|--|---|
| <b>Appropriation/Budget Activity</b><br>0400 / 4 | <b>R-1 Program Element (Number/Name)</b><br>PE 0603907C / Sea Based X-Band Radar (SBX) | <b>Project (Number/Name)</b><br>MX46 / Sea Based X-Band Radar Development Support |
|--|--|---|

| Support (\$ in Millions) |                        |                                |             | FY 2021 |            | FY 2022 |            | FY 2023 Base |            | FY 2023 OCO |            | FY 2023 Total | Cost To Complete | Total Cost | Target Value of Contract |
|--------------------------|------------------------|--------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item       | Contract Method & Type | Performing Activity & Location | Prior Years | Cost    | Award Date | Cost    | Award Date | Cost         | Award Date | Cost        | Award Date | Cost          |                  |            |                          |

**Remarks**  
N/A

| Test and Evaluation (\$ in Millions) |                        |                                |             | FY 2021 |            | FY 2022 |            | FY 2023 Base |            | FY 2023 OCO |            | FY 2023 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          |                  |            |                          |
| <b>Subtotal</b>                      |                        |                                | -           | -       |            | -       |            | -            |            | -           |            | -             | -                | -          | N/A                      |

**Remarks**  
N/A

| Management Services (\$ in Millions) |                        |                                |             | FY 2021 |            | FY 2022 |            | FY 2023 Base |            | FY 2023 OCO |            | FY 2023 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          |                  |            |                          |
| <b>Subtotal</b>                      |                        |                                | -           | -       |            | -       |            | -            |            | -           |            | -             | -                | -          | N/A                      |

**Remarks**  
N/A

|                            | Prior Years | FY 2021 | FY 2022 | FY 2023 Base | FY 2023 OCO | FY 2023 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------|---------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| <b>Project Cost Totals</b> | 917.254     | 115.363 | 141.567 | 158.689      | -           | 158.689       | Continuing       | Continuing | N/A                      |

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

**UNCLASSIFIED**

**Exhibit R-4, RDT&E Schedule Profile: PB 2023 Missile Defense Agency** **Date:** April 2022

|  |  |   |
|--|--|---|
| <b>Appropriation/Budget Activity</b><br>0400 / 4 | <b>R-1 Program Element (Number/Name)</b><br>PE 0603907C / Sea Based X-Band Radar (SBX) | <b>Project (Number/Name)</b><br>MX46 / Sea Based X-Band Radar Development Support |
|--|--|---|

|  | 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 2021                      | FY 2022 | FY 2023                       | FY 2024 | FY 2025                 | FY 2026 | FY 2027                      |   |                     |   |   |   |
| FTM-44 (AEGIS 5.1, DT Intercept Flight Test) | ▲                            |         |                               |         |                         |         |                              |   |                     |   |   |   |
| GTI-08a (N/I) (MDS Ground Test)              |                              | ◇       |                               |         |                         |         |                              |   |                     |   |   |   |
| FTX-26 (OT) (SN, OT Target Only Flight Test) |                              |         | △                             |         |                         |         |                              |   |                     |   |   |   |
| FTX-45                                       |                              |         | △                             |         |                         |         |                              |   |                     |   |   |   |
| GTD-08a (N/I) (MDS Ground Test)              |                              |         | ◇                             |         |                         |         |                              |   |                     |   |   |   |
| GTI-08b (N/I)                                |                              |         |                               | ◇       |                         |         |                              |   |                     |   |   |   |
| FTG-12 (GM, DT/OT Intercept Flight Test)     |                              |         |                               | △       |                         |         |                              |   |                     |   |   |   |
| GTD-08b (N/I)                                |                              |         |                               |         | ◇                       |         |                              |   |                     |   |   |   |
| GTI-13 Sprint 1 (N/I) (MDS Ground Test)      |                              |         |                               |         |                         | ◇       |                              |   |                     |   |   |   |
| GTI-13 Sprint 2 (N/I) (MDS Ground Test)      |                              |         |                               |         |                         |         | ◇                            |   |                     |   |   |   |
| GTD-13 (N/I) (MDS Ground Test)               |                              |         |                               |         |                         |         |                              | ◇ |                     |   |   |   |
| GTI-14 Sprint 1 (N/I)                        |                              |         |                               |         |                         |         |                              |   |                     | ◇ |   |   |
| GTI-14 (N/I) Sprint 2 (MDS Ground Test)      |                              |         |                               |         |                         |         |                              |   |                     |   | ◇ |   |
| FTG-16 (GM, DT Intercept Flight Test)        |                              |         |                               |         |                         |         |                              |   |                     |   |   | △ |
| FTG-17 (GM, DT/OT Intercept Flight Test)     |                              |         |                               |         |                         |         |                              |   |                     |   |   | △ |
| GTD-14 (N/I) (MDS Ground Test)               |                              |         |                               |         |                         |         |                              |   |                     |   |   | ◇ |

**UNCLASSIFIED**

|   |  |   |
|---|--|---|
| <b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2023 Missile Defense Agency |  | <b>Date:</b> April 2022   |
| <b>Appropriation/Budget Activity</b><br>0400 / 4                                | <b>R-1 Program Element (Number/Name)</b><br>PE 0603907C / Sea Based X-Band Radar (SBX) | <b>Project (Number/Name)</b><br>MX46 / Sea Based X-Band Radar Development Support |

Schedule Details

| Events                                       | Start   |      | End     |      |
|--|---------|------|---------|------|
|  | Quarter | Year | Quarter | Year |
| FTM-44 (AEGIS 5.1, DT Intercept Flight Test) | 1       | 2021 | 1       | 2021 |
| GTI-08a (N/I) (MDS Ground Test)              | 3       | 2022 | 3       | 2022 |
| FTX-26 (OT) (SN, OT Target Only Flight Test) | 4       | 2022 | 4       | 2022 |
| FTX-45                                       | 4       | 2022 | 4       | 2022 |
| GTD-08a (N/I) (MDS Ground Test)              | 1       | 2023 | 1       | 2023 |
| GTI-08b (N/I)                                | 4       | 2023 | 4       | 2023 |
| FTG-12 (GM, DT/OT Intercept Flight Test)     | 4       | 2023 | 4       | 2023 |
| GTD-08b (N/I)                                | 2       | 2024 | 2       | 2024 |
| GTI-13 Sprint 1 (N/I) (MDS Ground Test)      | 1       | 2025 | 1       | 2025 |
| GTI-13 Sprint 2 (N/I) (MDS Ground Test)      | 3       | 2025 | 3       | 2025 |
| GTD-13 (N/I) (MDS Ground Test)               | 4       | 2025 | 4       | 2025 |
| GTI-14 Sprint 1 (N/I)                        | 4       | 2026 | 4       | 2026 |
| GTI-14 (N/I) Sprint 2 (MDS Ground Test)      | 2       | 2027 | 2       | 2027 |
| FTG-16 (GM, DT Intercept Flight Test)        | 2       | 2027 | 2       | 2027 |
| FTG-17 (GM, DT/OT Intercept Flight Test)     | 4       | 2027 | 4       | 2027 |
| GTD-14 (N/I) (MDS Ground Test)               | 4       | 2027 | 4       | 2027 |

**UNCLASSIFIED**

|  |                    |                |                |                     |  |                      |                |                |   |                         |                         |                   |
|--|--------------------|----------------|----------------|---------------------|--|----------------------|----------------|----------------|---|-------------------------|-------------------------|-------------------|
| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Missile Defense Agency |                    |                |                |                     |  |                      |                |                |   | <b>Date:</b> April 2022 |                         |                   |
| <b>Appropriation/Budget Activity</b><br>0400 / 4                                     |                    |                |                |                     | <b>R-1 Program Element (Number/Name)</b><br>PE 0603907C / Sea Based X-Band Radar (SBX) |                      |                |                | <b>Project (Number/Name)</b><br>MD40 / Program-Wide Support |                         |                         |                   |
| <b>COST (\$ in Millions)</b>   | <b>Prior Years</b> | <b>FY 2021</b> | <b>FY 2022</b> | <b>FY 2023 Base</b> | <b>FY 2023 OCO</b>   | <b>FY 2023 Total</b> | <b>FY 2024</b> | <b>FY 2025</b> | <b>FY 2026</b>  | <b>FY 2027</b>          | <b>Cost To Complete</b> | <b>Total Cost</b> |
| MD40: <i>Program-Wide Support</i>  | 35.141             | 4.700          | 5.674          | 5.979               | -  | 5.979                | 6.155          | 6.678          | 6.910   | 6.602                   | 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 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)**

|   | <b>FY 2021</b> | <b>FY 2022</b> | <b>FY 2023</b> |
|---|----------------|----------------|----------------|
| <b>Title:</b> Program Wide Support  | 4.700          | 5.674          | 5.979          |
| <b>Articles:</b>  | -              | -              | -              |
| <b>Description:</b> 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, |                |                |                |

**UNCLASSIFIED**

|  |  |   |                |                |
|--|--|---|----------------|----------------|
| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2023 Missile Defense Agency   |  | <b>Date:</b> April 2022                                     |                |                |
| <b>Appropriation/Budget Activity</b><br>0400 / 4   | <b>R-1 Program Element (Number/Name)</b><br>PE 0603907C / Sea Based X-Band Radar (SBX) | <b>Project (Number/Name)</b><br>MD40 / Program-Wide Support |                |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>  |  | <b>FY 2021</b>  | <b>FY 2022</b> | <b>FY 2023</b> |
| <p>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><b>FY 2022 Plans:</b><br/>- SEE ABOVE.</p> <p><b>FY 2023 Plans:</b><br/>- SEE ABOVE.</p> <p><b>FY 2022 to FY 2023 Increase/Decrease Statement:</b><br/>N/A</p> |  |   |                |                |
| <b>Accomplishments/Planned Programs Subtotals</b>  |  | 4.700   | 5.674          | 5.979          |
| <b>C. Other Program Funding Summary (\$ in Millions)</b>   |  |   |                |                |
| N/A  |  |   |                |                |
| <b>Remarks</b>   |  |   |                |                |
| <b>D. Acquisition Strategy</b>   |  |   |                |                |
| N/A  |  |   |                |                |

**UNCLASSIFIED**

**Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Missile Defense Agency** **Date:** April 2022

|  |  |   |
|--|--|---|
| <b>Appropriation/Budget Activity</b><br>0400 / 4 | <b>R-1 Program Element (Number/Name)</b><br>PE 0603907C / Sea Based X-Band Radar (SBX) | <b>Project (Number/Name)</b><br>MD40 / Program-Wide Support |
|--|--|---|

| <b>Support (\$ in Millions)</b>   |                        |                                    |             | FY 2021 |            | FY 2022 |            | FY 2023 Base |            | FY 2023 OCO |            | FY 2023 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 Wide Support - Agency Facilities and Maintenance SRM  | MIPR                   | Various : Various                  | 0.000       | 0.000   |            | 0.000   |            | 1.743        | Nov 2022   | -           |            | 1.743         | Continuing       | Continuing | Continuing               |
| Program Wide Support - Agency Operations and Support Services   | C/CPFF                 | Various : Various                  | 0.000       | 0.000   |            | 0.000   |            | 4.236        | Nov 2022   | -           |            | 4.236         | Continuing       | Continuing | Continuing               |
| Program Wide Support - Prior year no longer funded in the FYDP  | Various                | Various : Various                  | 9.154       | 0.000   |            | 0.000   |            | 0.000        |            | -           |            | 0.000         | 0.000            | 9.154      | 0.000                    |
| Program Wide Support - Program Wide Support - Agency Operations Management                                      | Various                | Various Multi : AK, AL, CA, CO, VA | 2.070       | 0.142   | Jul 2021   | 0.145   | Jul 2022   | 0.000        |            | -           |            | 0.000         | Continuing       | Continuing | Continuing               |
| Program Wide Support - Program Wide Support - Agency Operations and Support Civilian Salaries, Travel, Training | Various                | MDA Multi : AK, AL, CA, CO, VA     | 0.000       | 1.606   | Jan 2021   | 0.000   |            | 0.000        |            | -           |            | 0.000         | 0.000            | 1.606      | 0.000                    |
| Program Wide Support - Program Wide Support - Agency Operations and Support Other Agency Services (MIPRs)       | MIPR                   | Various Multi : AK, AL, CA, CO, VA | 23.699      | 2.799   | Nov 2020   | 5.395   | Nov 2021   | 0.000        |            | -           |            | 0.000         | Continuing       | Continuing | Continuing               |
| Program Wide Support - Program Wide Support - Agency Operations and Support Services (FFP)                      | C/FFP                  | Various Multi : VA, WA             | 0.218       | 0.153   | Jun 2021   | 0.134   | May 2022   | 0.000        |            | -           |            | 0.000         | Continuing       | Continuing | Continuing               |
| <b>Subtotal</b>   |                        |                                    | 35.141      | 4.700   |            | 5.674   |            | 5.979        |            | -           |            | 5.979         | Continuing       | Continuing | N/A                      |

**Remarks**  
N/A

**UNCLASSIFIED**

**Exhibit R-3, RDT&E Project Cost Analysis:** PB 2023 Missile Defense Agency **Date:** April 2022

|  |  |   |
|--|--|---|
| <b>Appropriation/Budget Activity</b><br>0400 / 4 | <b>R-1 Program Element (Number/Name)</b><br>PE 0603907C / Sea Based X-Band Radar (SBX) | <b>Project (Number/Name)</b><br>MD40 / Program-Wide Support |
|--|--|---|

| Management Services (\$ in Millions) |                        |                                |             | FY 2021 |            | FY 2022 |            | FY 2023 Base |            | FY 2023 OCO |            | FY 2023 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          |                  |            |                          |
| <b>Subtotal</b>                      |                        |                                | -           | -       |            | -       |            | -            |            | -           |            | -             | -                | -          | N/A                      |

**Remarks**  
N/A

|                            | Prior Years | FY 2021 | FY 2022 | FY 2023 Base | FY 2023 OCO | FY 2023 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------|---------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| <b>Project Cost Totals</b> | 35.141      | 4.700   | 5.674   | 5.979        | -           | 5.979         | Continuing       | Continuing | N/A                      |

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



**UNCLASSIFIED**

|   |   |  |
|---|---|--|
| <b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2023 Missile Defense Agency |   | <b>Date:</b> April 2022  |
| <b>Appropriation/Budget Activity</b><br>0400 / 4                                | <b>R-1 Program Element (Number/Name)</b><br>PE 0603907C / <i>Sea Based X-Band Radar (SBX)</i> | <b>Project (Number/Name)</b><br>MD40 / <i>Program-Wide Support</i> |

Schedule Details

| Events                    | Start   |      | End     |      |
|---------------------------|---------|------|---------|------|
|                           | Quarter | Year | Quarter | Year |
| MD40 Program-Wide Support | 1       | 2021 | 4       | 2027 |