| Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Navy | Date: March 2019 |
|---|---|
| **Appropriation/Budget Activity**<br>1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support* | **R-1 Program Element (Number/Name)**<br>PE 0605126N *I (U)Joint Theater Air and Missile Defense Org* |

| COST ($ in Millions) | Prior Years | FY 2018 | FY 2019 | FY 2020 Base | FY 2020 OCO | FY 2020 Total | FY 2021 | FY 2022 | FY 2023 | FY 2024 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element | 0.000 | 0.140 | 0.048 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.188 |
| 3307: *Maritime Integrated Air and Missile Defense (IAMD) Processing Sys (MIPS)* | 0.000 | 0.140 | 0.048 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.188 |

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

Maritime Integrated Air and Missile Defense (IAMD) Planning System (MIPS) is an automated air and missile defense planning tool that supports the Joint Force Maritime Component Commander at the Operational Level of War (OLW) by automatically and optimally allocating and stationing ships in support of Ballistic Missile Defense (BMD) and Anti-Air Warfare (AAW). MIPS contains United States Army Patriot and Terminal High Altitude Air Defense (THAAD) models to ensure synergistic allocation and positioning of maritime units in relation to other joint units, providing optimized mutual defense for selected defended assets against selected BMD and AAW threats. MIPS completed developing significantly improved inorganic Ballistic Missile Defense planning capabilities through the incorporation of Long Range Surveillance and Training, Cued Engagement, and Launch on Tactical Digital Information Links (TADIL) planning functionality. In FY2015, MIPS began development to deliver an automated planning capability for Naval Integrated Fire Control-Counter Air (NIFC-CA) operations, incorporating the Naval Positioning Assessment Tool (NPAT) to assist in aviation asset placement, bottom contours will be added to refine the areas of ship positioning during the planning process, and adding the Cooperative Engagement Capability (CEC) stationing planning capability.

| B. Program Change Summary ($ in Millions) | FY 2018 | FY 2019 | FY 2020 Base | FY 2020 OCO | FY 2020 Total |
|---|---|---|---|---|---|
| Previous President's Budget | 0.141 | 0.048 | 0.000 | - | 0.000 |
| Current President's Budget | 0.140 | 0.048 | 0.000 | - | 0.000 |
| Total Adjustments | -0.001 | 0.000 | 0.000 | - | 0.000 |
| • Congressional General Reductions | - | - | | | |
| • Congressional Directed Reductions | - | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | - | - | | | |
| • Congressional Directed Transfers | - | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | -0.001 | 0.000 | | | |
| • Rate/Misc Adjustments | 0.000 | 0.000 | 0.000 | - | 0.000 |

**Change Summary Explanation**

FY18 reflects -$0.001M due to SBIR realignment.

| Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy | | | Date: March 2019 |
|---|---|---|---|
| Appropriation/Budget Activity<br>1319 / 6 | R-1 Program Element (Number/Name)<br>PE 0605126N / *(U)Joint Theater Air and Missile Defense Org* | Project (Number/Name)<br>3307 / *Maritime Integrated Air and Missile Defense (IAMD) Processing Sys (MIPS)* | |

| COST ($ in Millions) | Prior Years | FY 2018 | FY 2019 | FY 2020 Base | FY 2020 OCO | FY 2020 Total | FY 2021 | FY 2022 | FY 2023 | FY 2024 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3307: *Maritime Integrated Air and Missile Defense (IAMD) Processing Sys (MIPS)* | 0.000 | 0.140 | 0.048 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.188 |
| Quantity of RDT&E Articles | | - | - | - | - | - | - | - | - | - | | |

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

Maritime Integrated Air and Missile Defense (IAMD) Planning System (MIPS) is an automated air and missile defense planning tool that supports the Joint Force Maritime Component Commander at the Operational Level of War (OLW) by automatically and optimally allocating and stationing ships in support of Ballistic Missile Defense (BMD) and Anti-Air Warfare (AAW). MIPS contains United States Army Patriot and Terminal High Altitude Air Defense (THAAD) models to ensure synergistic allocation and positioning of maritime units in relation to other joint units, providing optimized mutual defense for selected defended assets against selected BMD and AAW threats. MIPS completed developing significantly improved inorganic Ballistic Missile Defense planning capabilities through the incorporation of Long Range Surveillance and Training, Cued Engagement, and Launch on Tactical Digital Information Links (TADIL) planning functionality. In FY2015, MIPS began development to deliver an automated planning capability for Naval Integrated Fire Control-Counter Air (NIFC-CA) operations, incorporating the Naval Positioning Assessment Tool (NPAT) to assist in aviation asset placement, bottom contours will be added to refine the areas of ship positioning during the planning process, and adding the Cooperative Engagement Capability (CEC) stationing planning capability.

| B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each) | FY 2018 | FY 2019 | FY 2020 Base | FY 2020 OCO | FY 2020 Total |
|---|---|---|---|---|---|
| ***Title:*** Systems Engineering | 0.140 | 0.048 | 0.000 | 0.000 | 0.000 |
| ***Articles:*** | - | - | - | - | - |
| ***FY 2019 Plans:***<br>- Complete test analysis and resolve test performance issues. | | | | | |
| ***FY 2020 Base Plans:***<br>N/A | | | | | |
| ***FY 2020 OCO Plans:***<br>N/A | | | | | |
| ***FY 2019 to FY 2020 Increase/Decrease Statement:***<br>Research and Development effort complete in FY 2019. No requirement is needed for FY 2020. | | | | | |
| **Accomplishments/Planned Programs Subtotals** | 0.140 | 0.048 | 0.000 | 0.000 | 0.000 |

| Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy | | Date: March 2019 |
|---|---|---|
| **Appropriation/Budget Activity**<br>1319 / 6 | **R-1 Program Element (Number/Name)**<br>PE 0605126N / *(U)Joint Theater Air and Missile Defense Org* | **Project (Number/Name)**<br>3307 / *Maritime Integrated Air and Missile Defense (IAMD) Processing Sys (MIPS)* |

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

N/A

**Remarks**

**D. Acquisition Strategy**

ACAT III designation granted February 2011.
The MIPS Capabilities Development Document (CDD) signed and approved 4QTRFY2016.

Contracts:
MIPS RDT&E FY15-FY17

**E. Performance Metrics**

FY18:
- Performed independent government testing.

FY19:
- Complete test analysis and resolve test performance issues.