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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy** **DATE:** February 2011

|   |  |
|---|--|
| <b>APPROPRIATION/BUDGET ACTIVITY</b><br>1319: <i>Research, Development, Test &amp; Evaluation, Navy</i><br>BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i> | <b>R-1 ITEM NOMENCLATURE</b><br>PE 0304270N: <i>Electronic Warfare Development - MIP</i> |
|---|--|

| COST (\$ in Millions)            | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element            | -       | 0.663   | 0.625        | -           | 0.625         | 0.645   | 0.660   | 0.673   | 0.684   | Continuing       | Continuing |
| 2260: <i>Specific Emitter ID</i> | -       | 0.663   | 0.625        | -           | 0.625         | 0.645   | 0.660   | 0.673   | 0.684   | Continuing       | Continuing |

**Note**

New MIP PE formerly funded in 0604270N.

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

The efforts described in this Program Element (PE) are based on investment directions as defined in the Naval S&T Strategic Plan approved by the S&T Corporate Board (Feb 2009).

This project supports systems development and collection of Specific Emitter Identification (SEI) information from National Technical Means (NTM) to track commercial ships over 200 gross registered tons world-wide. Research and development will cover improvements and enhancements to Electronic Intelligence technology. This will include improved/next generation SEI technology for miniaturization and automation of hardware, national collection systems, signal processing and analysis, and de-interleaving of signals. Propagation in a multi-path signal environment will also be assessed. All work on this project will be undertaken in pursuit of goals stated by the Office of Naval Intelligence and the National Security Agency in support of the Worldwide Ship Tracking Program.

This effort was previously funded in PE 0604270N and is moved to this new PE 0304270N for FY11 onward. This PE is a Military Intelligence Program.

| <b>B. Program Change Summary (\$ in Millions)</b> | <b>FY 2010</b> | <b>FY 2011</b> | <b>FY 2012 Base</b> | <b>FY 2012 OCO</b> | <b>FY 2012 Total</b> |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget                       | -              | 0.663          | 0.666               | -                  | 0.666                |
| Current President's Budget                        | -              | 0.663          | 0.625               | -                  | 0.625                |
| Total Adjustments                                 | -              | -              | -0.041              | -                  | -0.041               |
| • Congressional General Reductions                |                | -              |                     |                    |                      |
| • Congressional Directed Reductions               |                | -              |                     |                    |                      |
| • Congressional Rescissions                       | -              | -              |                     |                    |                      |
| • Congressional Adds                              |                | -              |                     |                    |                      |
| • Congressional Directed Transfers                |                | -              |                     |                    |                      |
| • Reprogrammings                                  | -              | -              |                     |                    |                      |
| • SBIR/STTR Transfer                              | -              | -              |                     |                    |                      |
| • Program Adjustments                             | -              | -              | -0.040              | -                  | -0.040               |
| • Rate/Misc Adjustments                           | -              | -              | -0.001              | -                  | -0.001               |

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**APPROPRIATION/BUDGET ACTIVITY**  
1319: *Research, Development, Test & Evaluation, Navy*  
BA 4: *Advanced Component Development & Prototypes (ACD&P)*

**R-1 ITEM NOMENCLATURE**  
PE 0304270N: *Electronic Warfare Development - MIP*

**Change Summary Explanation**

Technical: Not applicable.

Schedule: Not applicable.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Navy **DATE:** February 2011

|   |   |  |
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| <b>APPROPRIATION/BUDGET ACTIVITY</b><br>1319: <i>Research, Development, Test &amp; Evaluation, Navy</i><br>BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i> | <b>R-1 ITEM NOMENCLATURE</b><br>PE 0304270N: <i>Electronic Warfare Development</i><br>- MIP | <b>PROJECT</b><br>2260: <i>Specific Emitter ID</i> |
|---|---|--|

| COST (\$ in Millions)            | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2260: <i>Specific Emitter ID</i> | -       | 0.663   | 0.625        | -           | 0.625         | 0.645   | 0.660   | 0.673   | 0.684   | Continuing       | Continuing |
| Quantity of RDT&E Articles       | 0       | 0       | 0            | 0           | 0             | 0       | 0       | 0       | 0       |                  |            |

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

This project supports systems development and collection of Specific Emitter Identification (SEI) information from National Technical Means (NTM) to track commercial ships over 200 gross registered tons world-wide. Research and development will cover improvements and enhancements to Electronic Intelligence technology. This will include improved/next generation SEI technology for miniaturization and automation of hardware, national collection systems, signal processing and analysis, and de-interleaving of signals. Propagation in a multi-path signal environment will also be assessed. All work on this project will be undertaken in pursuit of goals stated by the Office of Naval Intelligence and the National Security Agency in support of the Worldwide Ship Tracking Program.

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

|   | FY 2010 | FY 2011    | FY 2012    |
|---|---------|------------|------------|
| <p><b>Title:</b> SENSOR FUSION</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> This effort supports systems development and information fusion of improved SEI technology for automation of hardware, national collection systems, signal processing and analysis, and de-interleaving of signals.</p> <p><b>FY 2011 Plans:</b><br/>(Transitioned from PE 0604270N/Specific Emitter ID)<br/>- Continue task to fuse additional sources of data with SEI data for automation of hardware, national collection systems, signal processing and analysis, and de-interleaving of signals. Work toward increasing sensor fusion, collection and reporting automation helped reduce staffing and support remote access and control capability.</p> <p><b>FY 2012 Plans:</b><br/>- Continue all efforts of FY 2011.</p> | -       | 0.199<br>0 | 0.189<br>0 |
| <p><b>Title:</b> SYSTEM AUTOMATION</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> This effort supports development of an autonomous surveillance system capable of providing emitter signal information to a central location.</p> <p><b>FY 2011 Plans:</b><br/>(Transitioned from PE 0604270N/Specific Emitter ID)<br/>- Continue task to develop an unmanned, autonomous, remote collection and surveillance system.</p>  | -       | 0.234<br>0 | 0.219<br>0 |

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| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Navy  |   | <b>DATE:</b> February 2011                         |                |                |
| <b>APPROPRIATION/BUDGET ACTIVITY</b><br>1319: <i>Research, Development, Test &amp; Evaluation, Navy</i><br>BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>   | <b>R-1 ITEM NOMENCLATURE</b><br>PE 0304270N: <i>Electronic Warfare Development</i><br>- MIP | <b>PROJECT</b><br>2260: <i>Specific Emitter ID</i> |                |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>   |   | <b>FY 2010</b>                                     | <b>FY 2011</b> | <b>FY 2012</b> |
| - Continue task to automate fusion of other sensor information with SEI data collection.<br><b>FY 2012 Plans:</b><br>- Continue all efforts of FY 2011.   |   |  |                |                |
| <b>Title:</b> TECHNOLOGY REFRESH & COMMUNICATION ENHANCEMENT<br><br><b>Description:</b> This effort improves SEI system performance, real-time communication and tactical use of SEI which will be expanded with next generation SEI technology.<br><br><b>FY 2011 Plans:</b><br>(Transitioned from PE 0604270N/Specific Emitter ID)<br>- Continue task to incorporate other SEI algorithms into deployed processing software.<br>- Continue task on integrating advanced SEI hardware with WINSEI software to support improved SEI system performance and capabilities for tactical and technical use, and which can be expanded with next generation SEI algorithms.<br>- Continue task to incorporate further message reporting formats for dissemination of SEI data and improve SEI interoperability.<br>- Continue task to expand collection capability to support additional radar types.<br><br><b>FY 2012 Plans:</b><br>- Continue all efforts of FY 2011. |   | -  | 0.230<br>0     | 0.217<br>0     |
| <b>Accomplishments/Planned Programs Subtotals</b>   |   | -  | 0.663          | 0.625          |
| <b>C. Other Program Funding Summary (\$ in Millions)</b><br>N/A   |   |  |                |                |
| <b>D. Acquisition Strategy</b><br>Not applicable.   |   |  |                |                |
| <b>E. Performance Metrics</b><br>MIP Program.   |   |  |                |                |