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|---|---------|---------|---------|---|--|--|--|
| <b>Exhibit R-2, RDT&amp;E Budget Item Justification</b> |         |         |         | DATE: May 2009  |  |  |  |
| Appropriation/Budget Activity<br>RDT&E, N / BA 7        |         |         |         | R-1 Item Nomenclature:<br>0204574N Cryptologic Direct Support |  |  |  |
| COST (\$ in Millions)                                   | FY 2008 | FY 2009 | FY 2010 |   |  |  |  |
| Total PE Cost   | 1.434   | 1.437   | 1.609   |   |  |  |  |
| Advanced Cryptologic Systems Engineering (CCOP) / 3091  | 1.434   | 1.437   | 1.609   |   |  |  |  |

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

The Advanced Cryptologic Systems Engineering (CCOP) program develops state-of-the-art signal acquisition software in response to Combatant Command requirements for a quick-reaction surface, subsurface and airborne cryptologic carry-on capability. There are approximately 100 cryptologic capable surface ships in the current Navy inventory. Each of these ships is a potential user of this carry-on equipment, depending on deployment schedules and the tempo of operations. In addition, there are numerous subsurface and air platforms that are also potential users. This funding line will provide the resources to enable rapid transition of available Commercial Off-The-Shelf (COTS) and Government Off -The-Shelf (GOTS) technologies that apply to Fleet requirements for carry-on system functionalities. These technologies typically require various levels of integration to leverage on-board systems that provide system and mission management, product reporting and data analysis. COTS/GOTS system documentation and training materials usually require some level of adaptation or modification to meet fleet operator requirements, or entirely new training materials may need to be developed. Before deployment for operational use, systems must be systematically tested to ensure suitable and reliable operation, tested for network vulnerabilities if connected to shipboard Local Area Networks (LAN)s, and tested relative to interoperability requirements. Certification testing is conducted to meet Office of Naval Intelligence (ONI) security requirements and network testing is conducted in accordance with Information Technology (IT)-21 requirements to allow connection to Navy networks. This Research, Development, Test & Evaluation (RDT&E) will also provide resources to address rapid deployment of enhancements or improvements to the common hardware and/or software baseline of all other carry-on subsystems to meet emergent requirements.

FY10 funds will continue to integrate, test, and document identified COTS and GOTS technologies and subsystems that meet emergent and on-going Fleet requirements as specified in the Signals of Interest (SOI) and Target Threat list. Funds will continue to develop upgrades to existing systems and subsystems according to Fleet requirements. Additional funds will aid in the development of new SOI algorithms in support of cryptologic systems.

Exhibit R-2, Budget Item Justification

| Exhibit R-2, RDT&E Budget Item Justification     |                                | DATE: May 2009  |               |               |
|--|--------------------------------|---|---------------|---------------|
| Appropriation/Budget Activity<br>RDT&E, N / BA 7 |                                | R-1 Item Nomenclature:<br>0204574N Cryptologic Direct Support |               |               |
| <b>B. Program Change Summary:</b>                |                                |   |               |               |
| (U) Funding:                                     |                                | FY 2008   | FY 2009       | FY 2010       |
| FY09 President's Budget Submit                   |                                | 1.434   | 1.441         | 1.630         |
| FY10 President's Budget Submit                   |                                | 1.434   | 1.437         | 1.609         |
| Total Adjustments                                |                                | <u>0.000</u>  | <u>-0.004</u> | <u>-0.021</u> |
| Summary of Adjustments                           |                                |   |               |               |
|  | Rate/Miscellaneous Adjustments | <u>0.000</u>  | <u>-0.004</u> | <u>-0.021</u> |
|  | Subtotal                       | <u>0.000</u>  | <u>-0.004</u> | <u>-0.021</u> |
| (U) Schedule:<br>N/A                             |                                |   |               |               |
| (U) Technical:<br>N/A                            |                                |   |               |               |

Exhibit R-2, Budget Item Justification

|  |       |   |       |
|--|-------|---|-------|
| <b>EXHIBIT R-2a, RDT&amp;E Project Justification</b>   |       | DATE: May 2009  |       |
| Appropriation/Budget Activity<br>RDT&E, N / BA 7   |       | Project Name and Number<br>Advanced Cryptologic Systems Engineering (CCOP) / 3091 |       |
| <b>B. Accomplishments/Planned Program</b>  |       |   |       |
| Cryptologic Carry-On Equipment (CCOP)  | FY08  | FY09  | FY10  |
| Accomplishments/Effort/Subtotal Cost   | 1.434 | 1.437   | 1.609 |
| RDT&E Articles Quantity  |       |   |       |
| <p>FY08 - Continued to integrate, test, and document identified Commercial Off-The-Shelf (COTS) and Government Off -The-Shelf (GOTS) technologies and subsystems that meet emergent and on-going Fleet requirements as specified in the FY08 Signals of Interest (SOI) and Target Threat list. Continued to develop upgrades to existing systems and subsystems according to Fleet requirements.</p> <p>FY09 - Continue to integrate, test, and document identified COTS and GOTS technologies and subsystems that meet emergent and on-going Fleet requirements as specified in the FY09 SOI and Target Threat list. Continue to develop upgrades to existing systems and subsystems according to Fleet requirements.</p> <p>FY10 - Continue to integrate, test, and document identified COTS and GOTS technologies and subsystems that meet emergent and on-going Fleet requirements as specified in the FY10 SOI and Target Threat list. Continue to develop upgrades to existing systems and subsystems according to Fleet requirements. Additional funds will aid in the development of new SOI algorithms in support of cryptologic systems.</p> |       |   |       |

Exhibit R-2a, Project Justification

| EXHIBIT R-2a, RDT&E Project Justification   |                |                |   | DATE: | May 2009 |
|---|----------------|----------------|---|-------|----------|
| Appropriation/Budget Activity<br>RDT&E, N / BA 7  |                |                | Project Name and Number<br>Advanced Cryptologic Systems Engineering (CCOP) / 3091 |       |          |
| <b>C. Other Program Funding Summary:</b>  |                |                |   |       |          |
|   | <u>FY 2008</u> | <u>FY 2009</u> | <u>FY 2010</u>  |       |          |
| OPN Line Item 3501, Cryptologic Equipment   | 23.730         | 16.667         | 16.839  |       |          |
| <b>D. Acquisition Strategy:</b>   |                |                |   |       |          |
| Acquisition, management and contracting strategies are to support engineering and manufacturing development by providing funds to Space and Naval Warfare (SPAWAR) Systems Centers (SSCs) Charleston and San Diego, and miscellaneous contractors, with management oversight by SPAWAR. |                |                |   |       |          |
| <b>E. Major Performers:</b>   |                |                |   |       |          |
| N/A   |                |                |   |       |          |

Exhibit R-2a, Project Justification

| Exhibit R-3, RDT&E Project Cost Analysis        |                        |                                |                             |            |                  |            |                  | DATE: May 2009  |  |  |  |  |
|---|------------------------|--------------------------------|-----------------------------|------------|------------------|------------|------------------|---|--|--|--|--|
| Appropriation/Budget Activity<br>RDT&E, N / BA7 |                        |                                | Program Element<br>0204574N |            |                  |            |                  | Project Name and Number<br>Advanced Cryptologic Systems Engineering (CCOP) / 3091 |  |  |  |  |
| Cost Categories                                 | Contract Method & Type | Performing Activity & Location | Total PY s Cost             | FY 09 Cost | FY 09 Award Date | FY 10 Cost | FY 10 Award Date |   |  |  |  |  |
| Primary Hardware Development                    |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |
| Ancillary Hardware Development                  |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |
| Systems Engineering                             | Various                | Various                        | 1.547                       | 0.172      | 12/08            | 0.196      | 12/09            |   |  |  |  |  |
| Licenses  |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |
| Tooling   |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |
| GFE   |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |
| Award Fees                                      |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |
| Subtotal Product Development                    |                        |                                | 1.547                       | 0.172      |                  | 0.196      |                  |   |  |  |  |  |
| Remarks:  |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |
| Development Support                             |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |
| Software Development                            | Various                | Various                        | 3.992                       | 1.005      | 12/08            | 1.119      | 12/09            |   |  |  |  |  |
| Training Development                            |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |
| Integrated Logistics Support                    |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |
| Configuration Management                        |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |
| Technical Data                                  |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |
| GFE   |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |
| Subtotal Support                                |                        |                                | 3.992                       | 1.005      |                  | 1.119      |                  |   |  |  |  |  |
| Remarks:  |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |

| Exhibit R-3, RDT&E Project Cost Analysis (page 2) |                        |                                |                             |            |                  |            |                  | DATE: May 2009  |  |  |  |  |
|---|------------------------|--------------------------------|-----------------------------|------------|------------------|------------|------------------|---|--|--|--|--|
| Appropriation/Budget Activity<br>RDT&E, N / BA7   |                        |                                | Program Element<br>0204574N |            |                  |            |                  | Project Name and Number<br>Advanced Cryptologic Systems Engineering (CCOP) / 3091 |  |  |  |  |
| Cost Categories                                   | Contract Method & Type | Performing Activity & Location | Total PY s Cost             | FY 09 Cost | FY 09 Award Date | FY 10 Cost | FY 10 Award Date |   |  |  |  |  |
| Developmental Test & Evaluation                   | Various                | Various                        | 0.212                       | 0.056      | 12/08            | 0.065      | 12/09            |   |  |  |  |  |
| Operational Test & Evaluation                     |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |
| Live Fire Test & Evaluation                       |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |
| Test Assets                                       |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |
| Tooling   |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |
| GFE   |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |
| Subtotal T&E                                      |                        |                                | 0.212                       | 0.056      |                  | 0.065      |                  |   |  |  |  |  |
| Remarks:  |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |
| Contractor Engineering Support                    |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |
| Government Engineering Support                    |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |
| Program Management Support                        | Various                | Various                        | 0.618                       | 0.160      | Various          | 0.180      | Various          |   |  |  |  |  |
| Travel  |                        |                                | 0.173                       | 0.044      |                  | 0.049      |                  |   |  |  |  |  |
| Subtotal Management                               |                        |                                | 0.791                       | 0.204      |                  | 0.229      |                  |   |  |  |  |  |
| Remarks:  |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |
| Total Cost  |                        |                                | 6.542                       | 1.437      |                  | 1.609      |                  |   |  |  |  |  |
| Remarks:  |                        |                                |                             |            |                  |            |                  |   |  |  |  |  |

| Exhibit R-4, RDT&E Program Schedule Profile      |            |   |         |   |            |   |  |   |          |   |         |   |  | DATE: May 2009  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|------------|---|---------|---|------------|---|--|---|----------|---|---------|---|--|---|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Appropriation/Budget Activity<br>RDT&E, N / BA 7 |            |   |         |   |            |   | Program Element Name and Number<br>0204574N Cryptologic Direct Support |   |          |   |         |   |  | Project Name and Number<br>Advanced Cryptologic Systems Engineering (CCOP) / 3091 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fiscal Year                                      | 2008       |   |         |   | 2009       |   |  |   | 2010     |   |         |   |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 1          | 2 | 3       | 4 | 1          | 2 | 3  | 4 | 1        | 2 | 3       | 4 |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Prototype Phase                                  | ██████████ |   |         |   | ██████████ |   |  |   | □□□□     |   |         |   |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| System Development<br>(e.g., Radar System dev.)  | ▲<br>SDR   |   |         |   | ▲<br>SDR   |   |  |   | △<br>SDR |   |         |   |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Equipment Delivery<br>(e.g., EDM Radar Delivery) |            |   | ▲       |   |            |   | △  |   |          |   | △       |   |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| T&E Milestones<br>Operational Assessment         |            |   | OA<br>▲ |   |            |   | OA<br>△  |   |          |   | OA<br>△ |   |  |   |  |  |  |  |  |  |  |  |  |  |  |  |  |

Exhibit R-4, Program Schedule Profile

| Exhibit R-4a, RDT&E Program Schedule Detail      |  |         |         | DATE: May 2009  |  |  |  |
|--|--|---------|---------|---|--|--|--|
| Appropriation/Budget Activity<br>RDT&E, N / BA 7 | Program Element Name and Number<br>0204574N Cryptologic Direct Support |         |         | Project Name and Number<br>Advanced Cryptologic Systems Engineering (CCOP) / 3091 |  |  |  |
| Schedule Profile                                 | FY 2008  | FY 2009 | FY 2010 |   |  |  |  |
| Prototype Phase                                  | 1Q-4Q  | 1Q-4Q   | 1Q-4Q   |   |  |  |  |
| System Design Review (SDR)                       | 2Q   | 2Q      | 2Q      |   |  |  |  |
| Equipment Delivery                               | 3Q/4Q  | 3Q/4Q   | 3Q/4Q   |   |  |  |  |
| Operational Assessment (OA)                      | 3Q   | 3Q      | 3Q      |   |  |  |  |
|  |  |         |         |   |  |  |  |
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Exhibit R-4a, Program Schedule Detail