

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy DATE: February 2012

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|---------|---------|--------------|---|---------------|---------|---------|---------|---------|------------------|------------|
| 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD) | | | | PE 0304785N: Tactical Cryptologic Systems | | | | | | | |
| COST (\$ in Millions) | FY 2011 | FY 2012 | FY 2013 Base | FY 2013 OCO | FY 2013 Total | FY 2014 | FY 2015 | FY 2016 | FY 2017 | Cost To Complete | Total Cost |
| Total Program Element | 12.303 | 31.740 | 23.255 | - | 23.255 | 9.310 | 9.351 | 9.587 | 9.837 | Continuing | Continuing |
| 2134.: Shipboard IW Exploit | 11.840 | 31.740 | 23.255 | - | 23.255 | 9.310 | 9.351 | 9.587 | 9.837 | Continuing | Continuing |
| 3165: Automatic Identification System (AIS) | 0.463 | - | - | - | - | - | - | - | - | 0.000 | 0.463 |

A. Mission Description and Budget Item Justification

The Shipboard Information Warfare (IW) line includes the Ships Signal Exploitation Equipment (SSEE) Increment (Inc) E, F,G and Modification programs. The SSEE program is a classified IW / Electronic Warfare (EW) and tactical cryptologic system that provides critical tactical intelligence, situational awareness, battlespace awareness, indications and warnings and hostile threat assessment. These systems provide the battle group and combatant commanders with the surface fleet's only EW non-kinetic capabilities ("Finish"). In addition they provide the battle groups with real time indications and warnings by acquisition ("Find") and localization ("Fix") of Signals of Interest (SOI). As an incremental acquisition program, Research, Development, Test & Evaluation (RDT&E) funding is required to have new technologies and associated new operational capabilities rapidly developed and transitioned as Pre-Planned Product Improvements (P3I) upgrades into the system's hardware/ software configuration. This program's funding incorporates P3I, new Commercial Off-the-Shelf (COTS) based technologies and software into the existing systems. Funding will also focus on developing and delivering expanded non-kinetic EW capabilities and net-centric Service Oriented Architecture (SOA), which includes the development, integration and test of Medusa and the SSEE Modification capabilities in support of "Ballistic Missile Defense (BMD) Executive Committee (EXCOM) Anti-Submarine Warfare (ASW) Chief of Naval Operations (CNO) Executive Board Information Operation (IO) Countermeasure Red Flash/Medusa (details classified)."

SSEE Inc F will be developing software and hardware upgrades in support of emergent adversary Signal of Interest (SOI), inserting SOI and new technology enhancements via incremental software builds and corresponding hardware upgrades.

SSEE Inc G will integrate and improve upon all aspects of the "BMD EXCOM ASW CNO CEB IO Countermeasure Red Flash/Medusa" and expand upon the SSEE Inc F capability of exploiting signals throughout the Radio Frequency (RF) spectrum, in addition to focusing new technologies towards new and previously unexplored/ unexploited CYBER capabilities as we integrate into the Electronic Warfare (EW) Battle Management Network. SSEE Inc G will build off of the advancement of the Inc F system to automate and integrate all existing Ships Signal Exploitation Space (SSES) capabilities into a common user interface, while still advancing and incorporating new technologies through an open software architecture that allows for rapid integration and deployment of those capabilities.

The SSEE Modification program includes the "BMD EXCOM ASW CEB IO Countermeasure Red Flash/Medusa", capabilities of Paragon and Graywing. Paragon (Frequency Extension) is a classified Navy tactical signals intelligence frequency extension capability that will be integrated into Ships Signal Exploitation Equipment (SSEE) Inc E and F programs. This capability provides simultaneous detection, collection, processing, Electronic Warfare and display of communication intelligence data from hostile, high threat and adversary platforms in select frequency ranges that are not prosecuted or encountered today. Graywing is an electronic sensing and attack capability that shares the Paragon topside exploitation assets and will be integrated into SSEE Inc E and F systems. Both Paragon and Graywing will commence

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| Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy | | DATE: February 2012 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> |
| <p>development of its Engineering Development Model (EDM) as well as its initial laboratory integration and testing in FY12 and preparation for at sea Operational testing in FY13. Additional program details are held at a higher classification level.</p> <p>Integrated Communications and Data Systems (ICADS): ICADS (AN/URC-148(V)) is a Chief of Naval Operations (CNO) directed mission critical system which provided limited back-up, mobile communications capability for large deck naval platforms. The system provided a reliable, limited solution for re-establishing command and control for high value unit, subordinate units, and controlling fleet entities. ICADS is comprised of several mature systems. Specific program details held at a higher classification.</p> <p>Automatic Identification System (AIS) is an International Maritime Very High Frequency Communication system that allows ships to exchange information (machine to machine) on Navigation (Position, Course, Speed, etc), Ship Info (Ship Name, Call Sign, Length/Beam), and Cargo Info (Draft, Type, Destination, Route, Estimated Time of Arrival) and Messaging (Safety, Text). This technology will improve capabilities in three diverse areas: (a) Situational Awareness/Common Operational Picture (b) Navigation/Safety of Ship and (c) Other intelligence gathering/correlation. Funding will support the integration of modified Commercial Off-The-Shelf AIS equipment with the existing Global Command and Control - Maritime/Common Operational Picture, navigation and bridge display capabilities, surface search / weapons systems and intelligence / cryptologic capabilities.</p> <p>FY13 funding will further incorporate Pre Planned Improvement(P3I) capabilities into SSEE Inc F, improve the software user interface and continue its phased software build approach of rolling capability into the system, and initiate the process of the "Application Store" (App Store) concept. The App Store concept will use the SSEE Inc F system as a Service Oriented Architecture (SOA) host for integrating special black box capability developed by third party providers.</p> <p>FY13 funding for the SSEE Modification Program will complete the accelerated development and operationalization of "BMD EXCOM ASW CEB IO Countermeasure Red Flash/Medusa" capabilities of Paragon and Graywing.</p> <p>FY13 funding is required to complete acquisition documentation to support a Milestone C production decision. Funding will develop and integrate system design variants to support refined COMPACFLT requirements and support multiple test events. Specific program details held at a higher classification.</p> | | |

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| APPROPRIATION/BUDGET ACTIVITY | | R-1 ITEM NOMENCLATURE | | | |
| 1319: Research, Development, Test & Evaluation, Navy | | PE 0304785N: Tactical Cryptologic Systems | | | |
| BA 5: Development & Demonstration (SDD) | | | | | |
| B. Program Change Summary (\$ in Millions) | FY 2011 | FY 2012 | FY 2013 Base | FY 2013 OCO | FY 2013 Total |
| Previous President's Budget | 17.019 | 31.740 | 14.784 | - | 14.784 |
| Current President's Budget | 12.303 | 31.740 | 23.255 | - | 23.255 |
| Total Adjustments | -4.716 | - | 8.471 | - | 8.471 |
| • Congressional General Reductions | - | - | | | |
| • Congressional Directed Reductions | - | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | - | - | | | |
| • Congressional Directed Transfers | - | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | - | - | | | |
| • Program Adjustments | - | - | 8.526 | - | 8.526 |
| • Rate/Misc Adjustments | - | - | -0.055 | - | -0.055 |
| • Congressional General Reductions Adjustments | -0.084 | - | - | - | - |
| • Congressional Directed Reductions Adjustments | -4.632 | - | - | - | - |
| Change Summary Explanation | | | | | |
| The increase in funding from FY11 to FY12 reflects the transfer of efforts and funds to accelerate the development and operationalization of "BMD EXCOM ASW CEB IO Countermeasure Red Flash/Medusa" from PE 0204575N, project unit 2263. The SSEE Modification Program was created to develop and integrate Graywing and Paragon capabilities into the SSEE programs to support this effort. | | | | | |
| SSEE Inc G Request For Proposal(RFP) shifted from FY12 to FY14. Funding will be used to complete higher priority efforts; (the development and operationalization of "BMD EXCOM ASW CEB IO Countermeasure Red Flash/Medusa" capabilities of Paragon and Graywing under the SSEE Modification Program). | | | | | |

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> | | | | PROJECT 2134.: <i>Shipboard IW Exploit</i> | | | |
|---|----------------|----------------|---------------------|--|----------------------|----------------|----------------|--|----------------|-------------------------|-------------------|
| COST (\$ in Millions) | FY 2011 | FY 2012 | FY 2013 Base | FY 2013 OCO | FY 2013 Total | FY 2014 | FY 2015 | FY 2016 | FY 2017 | Cost To Complete | Total Cost |
| 2134.: <i>Shipboard IW Exploit</i> | 11.840 | 31.740 | 23.255 | - | 23.255 | 9.310 | 9.351 | 9.587 | 9.837 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The Shipboard Information Warfare (IW) line includes the Ships Signal Exploitation Equipment (SSEE) Increment (Inc) E, F,G and Modification programs. The SSEE program is a classified IW / Electronic Warfare (EW) and tactical cryptologic system that provides critical tactical intelligence, situational awareness, battlespace awareness, indications and warnings and hostile threat assessment. These systems provide the battle group and combatant commanders with the surfaces fleet's only EW non-kinetic capabilities ("Finish"). In addition they provide the battle groups with real time indications and warnings by acquisition ("Find") and localization ("Fix") of Signals of Interest (SOI). As an incremental acquisition program, Research, Development, Test & Evaluation (RDT&E) funding is required to have new technologies and associated new operational capabilities rapidly developed and transitioned as Pre-Planned Product Improvements (P3I) upgrades into the system's hardware/software configuration. This program's funding incorporates P3I, new Commercial Off-the-Shelf (COTS) based technologies and software into the existing systems. Funding will also focus on developing and delivering expanded non-kinetic EW capabilities and net-centric Service Oriented Architecture (SOA), which includes the development, integration and test of Medusa and the SSEE Modification capabilities in support of "Ballistic Missile Defense (BMD) Executive Committee (EXCOM) Anti-Submarine Warfare (ASW) Chief of Naval Operations (CNO) Executive Board Information Operation (IO) Countermeasure Red Flash/Medusa (details classified)."

SSEE Inc F will be developing software and hardware upgrades in support of emergent adversary SOI, inserting SOI and new technology enhancements via incremental software builds and corresponding hardware upgrades.

SSEE Inc G will integrate and improve upon all aspects of the "BMD EXCOM ASW CNO CEB IO Countermeasure Red Flash/Medusa" and expand upon the SSEE Inc F capability of exploiting signals throughout the Radio Frequency (RF) spectrum, in addition to focusing new technologies towards new and previously unexplored/unexploited CYBER capabilities as we integrate into the Electronic Warfare (EW) Battle Management Network. SSEE Inc G will build off of the advancement of the Inc F system to automate and integrate all existing Ships Signal Exploitation Space (SSES) capabilities into a common user interface, while still advancing and incorporating new technologies through an open software architecture that allows for rapid integration and deployment of those capabilities.

The SSEE Modification program includes the "BMD EXCOM ASW CEB IO Countermeasure Red Flash/Medusa", capabilities of Paragon and Graywing. Paragon (Frequency Extension) is a classified Navy tactical signals intelligence frequency extension capability that will be integrated into Ships Signal Exploitation Equipment (SSEE) Inc E and F programs. This capability provides simultaneous detection, collection, processing, Electronic Warfare and display of communication intelligence data from hostile, high threat and adversary platforms in select frequency ranges that are not prosecuted or encountered today. Graywing is an electronic sensing and attack capability that shares the Paragon topside exploitation assets and will be integrated into SSEE Inc E and F systems. Both Paragon and Graywing will commence development of its Engineering Development Model (EDM) as well as its initial laboratory integration and testing in FY12 and preparation for at sea Operational testing in FY13. Additional program details are held at a higher classification level.

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| Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy | | DATE: February 2012 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD) | R-1 ITEM NOMENCLATURE PE 0304785N: Tactical Cryptologic Systems | PROJECT 2134.: Shipboard IW Exploit | | |
| Integrated Communications and Data Systems (ICADS): ICADS (AN/URC-148(V)) is a Chief of Naval Operations (CNO) directed mission critical system which provided limited back-up, mobile communications capability for large deck naval platforms. The system provided a reliable, limited solution for re-establishing command and control for high value unit, subordinate units, and controlling fleet entities. ICADS is comprised of several mature systems. Specific program details held at a higher classification. | | | | |
| FY13 funding will further incorporate Pre Planned Improvement(P3I)capabilities into SSEE Inc F, improve the software user interface and continue its phased software build approach of rolling capability into the system, and initiate the process of the "Application Store" (App Store) concept. The App Store concept will use the SSEE Inc F system as a Service Oriented Architecture (SOA) host for integrating special black box capability developed by third party providers. | | | | |
| FY13 funding for the SSEE Modification Program will complete the accelerated development and operationalization of "BMD EXCOM ASW CEB IO Countermeasure Red Flash/Medusa" capabilities of Paragon and Graywing. | | | | |
| FY13 funding will also support the continuation of pre-acquisition activities of SSEE Inc G, with a prime focus on analyzing and documenting the results of FY12 funded maritime feasibility studies on CYBER capabilities and their incorporation into the SSEE Inc G software, and employ an Analysis of Alternative (AoA) based on these feasibility results. | | | | |
| FY13 funding is required to complete acquisition documentation to support a Milestone C production decision. Funding will develop and integrate system design variants to support refined COMPACFLT requirements and support multiple test events. Specific program details held at a higher classification. | | | | |
| Graywing is currently a part of SSEE Mods, the Navy Acquisition Category (ACAT) III Program of Record (POR) to expand the capability of the Ship Signal Exploitation Equipment (SSEE). The POR will acquire multiple Graywing systems for ship installation over the period FY13 through FY17. The Speed to Fleet Project 2134 uses hardware provided in conjunction with Graywing development to deliver a self-contained, transportable system to provide shore based capabilities. In addition to providing an independent shore based capability the Speed to Fleet design provides an alternative Graywing receive and transmit subsystem design for risk reduction to the POR. The transportable Speed to Fleet Graywing also provides an accessible platform to rapidly demonstrate new or improved Information Operations (IO) capabilities by providing a relatively low cost land-based field test article. Furthermore, the hardware developed under this project could be adapted as a roll-on/roll-off ship configuration to supplement the POR installations, if needed by the Fleet. | | | | |
| Medusa is a part of the SSEE programs. The POR will acquire multiple Medusa systems for ship installation over the period FY11 through FY17. The Speed to Fleet Project 2134 will deliver a new firmware spiral that increases the capability of Medusa to respond to a wider range of threat systems, and to improve aspects of its deception generation capability. It will also deliver a laboratory test system that will be used to validate future firmware changes. | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2011 | FY 2012 | FY 2013 |
| Title: Ship Signals Exploitation Equipment Inc F (SSEE Inc F) | | 10.901 | 5.638 | 5.220 |
| Articles: | | 0 | 0 | 0 |
| FY 2011 Accomplishments: | | | | |
| Expanded Signal of Interest (SOI) processing capability to allow collection of the newest high priority modern technology threat signals for tightly integrated Electroninc Warfare (EW)/non-kinetic capabilities for support to time critical military strike operation and subsequent processing and analysis capabilities for timely and accurate situational awareness for force protection. Conducted developmental testing and operational evaluation in support of full rate decision and corrected identified limitations. Continued to develop and deliver Information Operation (IO) capabilities based on FY11 SOI threats and Net-Centric System | | | | |

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| APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD) | R-1 ITEM NOMENCLATURE PE 0304785N: Tactical Cryptologic Systems | PROJECT 2134.: Shipboard IW Exploit | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2011 | FY 2012 | FY 2013 |
| <p>Oriented Architecture(SOA)in support of "BMD EXCOM ASW CEB IO Countermeasure Red Flash/Medusa". Completed Medusa Phase 1 Lab Testing, Shipboard Testing and Factory Acceptance Testing to reach Initial Operating Capability(IOC) allowing for completion of deployment plan for Medusa integration within the SSEE Inc F Full Rate Production (FRP) suite of equipment (Phase II).</p> <p>SSEE Inc F software development phase (Cryptologic Unified Build (CUB) Replacement) were broken into interim phases. Significant elements of the software build were delayed to FY12.</p> <p>FY 2012 Plans:</p> <p>Complete SSEE Inc F (Cryptologic Unified Build (CUB) Replacement)software development. Continue to expand SOI processing capability to allow collection of the newest high priority modern technology threat signals for tightly integrated IO/non-kinetic capabilities for support to time critical military strike operation and subsequent processing and analysis capabilities for timely and accurate situational awareness for force protection. Continue to develop and deliver EW capabilities based on FY12 SOI threats for integration into SSEE Inc F.</p> <p>FY 2013 Plans:</p> <p>Continue to advance SOI processing capability by incorporating the next incremental software build, which will also allow transition of the SSEE Inc F software Graphic User Interface (GUIs) to SSEE Inc E. This allows for a common user interface between Inc E and F, simplifies the training for the sailor and saves future training costs by collapsing both curriculums into one. FY13 funding will fund integration of new capabilities into the Inc F software baseline, reducing the current hardware footprint required, freeing up space for other black box capability. Red Falcon development and integration will be used as a test case for the App Store concept, pioneering a new software integration process for SSES capabilities. Finalization of the integration interfaces for third party software, including an Interface Control Drawing (ICD) process and Software Development Kit (SDK) process, will open capability development potential to new technology partners in the industry by standardizing a process for incorporation into the host Inc F system. In support of the "BMD EXCOM ASW CEB IO Countermeasure Red Flash/Medusa" initiative, the Medusa Phase III integration will network the capability and complete integration of Mommand and Control (C2) Infrastructure by enabling follow on automated tasking and synchronize system use across the Force. The networking aspect of the Medusa Phase III development is the most critical effort of the Medusa capability, and will showcase the benefits of all previous phased development. Medusa Phase III testing will be part of the Developmental Test (DT)/Operational Assessment (OA), demonstrating the Red Flash capabilities alongside Paragon and Graywing capabilities.</p> | | | | |
| <p>Title: Ship Signals Exploitation Equipment Inc G (SSEE Inc G)</p> <p>Articles:</p> <p>FY 2012 Plans:</p> <p>SSEE Inc G is a new start in FY12. Decrease in FY12 funding from PB12 reflects a reprioritization of requirements being allocated to the SSEE Modification Program to complete the accelerated development and operationalization of "BMD EXCOM</p> | | - | 1.207 0 | 2.05 0 |

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| APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD) | R-1 ITEM NOMENCLATURE PE 0304785N: Tactical Cryptologic Systems | PROJECT 2134.: Shipboard IW Exploit | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2011 | FY 2012 | FY 2013 |
| ASW CEB Information Operation (IO) Countermeasure Red Flash/Medusa". These capabilities will be part of the SSEE Inc G baseline. Commence the initial research and pre-acquisition activities in support of SSEE Inc G. Conduct research into CYBER capabilities (details classified) that can be integrated into SSEE Inc G software and determine if their use is feasible in the maritime environment. FY 2013 Plans: Continuation of pre-acquisition activities leading up to MS B in FY14, with a prime focus on analyzing and documenting the results of FY12 funded maritime feasibility studies on CYBER capabilities and their incorporation into the SSEE Inc G software, and employ an Analysis of Alternative (AoA) based on these feasibility results. Begin a detailed review of the feasibility of all new technologies looking beyond the current Radio Frequency (RF) spectrum to bound the requirements for the SSEE Inc G system, in preparation for the eventual release of a Request for Proposal (RFP) for both software and hardware in FY14. | | | | |
| Title: Integrated Communications and Data Systems (ICADS) FY 2011 Accomplishments: FY11 - Integrated Communications and Data Systems (ICADS): ICADS (AN/URC-148(V)) is a Chief of Naval Operations (CNO) directed mission critical system which provided limited back-up, mobile communications capability for large deck naval platforms. The system provided a reliable, limited solution for re-establishing command and control for high value unit, subordinate units, and controlling fleet entities. ICADS is a Rapid Deployment Capability (RDC) and is comprised of several mature systems. Specific program details held at a higher classification. FY 2013 Plans: FY13 - Integrated Communications and Data Systems (ICADS): ICADS (AN/URC-148(V)) is a Chief of Naval Operations (CNO) directed mission critical system which provided limited back-up, mobile communications capability for large deck naval platforms. The system provided a reliable, limited solution for re-establishing command and control for high value unit, subordinate units, and controlling fleet entities. ICADS is is comprised of several mature systems. FY13 funding is required to complete acquisition documentation to support a Milestone C production decision. Funding will develop and integrate system design variants to support refined COMPACFLT requirements and support multiple test events. Specific program details held at a higher classification. | | 0.939 0 Articles: | - | 3.787 0 |
| Title: SSEE Modifications FY 2012 Plans: | | - Articles: | 24.895 2 | 11.000 0 |

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| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> | PROJECT 2134.: <i>Shipboard IW Exploit</i> | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2011 | FY 2012 |
| <p>Accelerate development, integration and testing of the Paragon and Graywing capability to operationalize within the Future Year Defense Plan (FYDP). Continue Phase I development towards Initial Operating Capability (IOC), refine and complete final Engineering Development Model (EDM) design for the high gain Information Operatoion (IO) topside antennas and below-deck rack components. Initiate procurement of the EDM hardware, complete build, assemble, and integration; receive delivery of 1 Paragon and 1 Graywing EDM. Initiate laboratory testing for the below deck integration to the topside antenna suite, and software integration and testing of Paragon/Graywing software with the SSEE Inc E and F software. Begin development on the Developmental Test (DT)/Operational Assessment (OA) test plan.</p> <p>Note: Funding and developmental efforts for Graywing transferred from PE 0204575N, project unit 2263 beginning in FY12. FY12 funding increase reflects Paragon and Graywing efforts being combined under the SSEE Modification Program to support the accelerated development and operationalization of "BMD EXCOM ASW CEB IO Countermeasure Red Flash/Medusa" capabilities.</p> <p>FY 2013 Plans:</p> <p>Conduct environmental testing on 1 Paragon EDM and 1 Graywing EDM. Complete integration and testing with the Paragon High Gain IO topside antenna and install EDM for Paragon/Graywing Phase I(OA). The frequency extension and targeting enhancement Paragon will bring to the Fleet will expand the IO capability realm to boundaries previously presumed unreachable. Commence development efforts for Phase II, which replaces larger Paragon/Graywing below deck hardware components in the racks with component cards in the Inc F system and fully integrates the capability into the SSEE Inc F software. Further FY13 development efforts to build an automated asset controller to control Paragon, Graywing and other Red Flash assets, will improve the control of operations and maintenance procedures by removing the manual cabling swap out currently required under Phase I. FY13 efforts will deliver Paragon/Graywing IOC to the Fleet in support of the "BMD EXCOM ASW CEB IO Countermeasure Red Flash", and initiate further development enhancements with the ultimate goal of full integration into the Inc F system as part of another crucial capability component of a coordinated IO weapon system.</p> | | | |
| <p>Title: Shipboard IW Exploit</p> <p align="right">Articles:</p> <p>FY 2013 Plans:</p> <p>Shore based Graywing:</p> <ul style="list-style-type: none"> - Assemble system and perform end-to-end hardware testing. - Integrate and test the control software including user interface for operations, displays and diagnostics. - Integrate and test the Mission Planning Tool modified for land operation. - Perform end-to-end testing of the system. Document results in after-test reports. - Develop operator user manuals, diagnostic procedures and a capabilities description. | | - | - |
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| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> | | | | PROJECT 2134.: <i>Shipboard IW Exploit</i> | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | | | | | | | | | FY 2011 | FY 2012 | FY 2013 |
| Medusa Upgrade: - Conduct benchtop testing of new Medusa firmware against designated signals. - Conduct field test against surrogate threat system. Document test results. - Document firmware modifications. | | | | | | | | | | | | |
| Accomplishments/Planned Programs Subtotals | | | | | | | | | | 11.840 | 31.740 | 23.255 |
| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | | |
| Line Item | FY 2011 | FY 2012 | FY 2013 Base | FY 2013 OCO | FY 2013 Total | FY 2014 | FY 2015 | FY 2016 | FY 2017 | Cost To Complete | Total Cost | |
| • OPN / 2360: <i>Shipboard IW Exploit</i> | 108.551 | 100.745 | 107.060 | 0.000 | 107.060 | 139.126 | 171.724 | 166.311 | 185.597 | Continuing | Continuing | |
| • OPN/2188: <i>Electronic Warfare MILDEC</i> | 0.000 | 16.841 | 0.000 | 0.000 | 0.000 | 20.609 | 54.248 | 4.526 | 4.995 | Continuing | Continuing | |
| D. Acquisition Strategy | | | | | | | | | | | | |
| Acquisition, management and contracting strategies are to support engineering and manufacturing development by providing funds to a Prime Contractor and Space & Naval Warfare Systems Command (SPAWAR) Systems Center (SSC) - Atlantic, SSC - Pacific and miscellaneous contractors, with management oversight by SPAWAR. Funding supports development and demonstration to rapidly deliver advanced and improved Information Operation (IO) capabilities to the Fleet. The Shore based Graywing unit developed will provide a rapidly deployable capability for the protection of land based resources. Multiple copies of the first article can be replicated depending on operational needs. These systems could also be used as a carry on capability to supplement the Graywing ship installations via the SSEE Mods ACAT III program or to those ships that are not SSEE capable. The Medusa upgrade adds additional capabilities via software to address a different class of radars which are proliferating, allowing backfit into existing systems via a new software load. | | | | | | | | | | | | |
| E. Performance Metrics | | | | | | | | | | | | |
| SSEE Inc F achieved Full Rate Production (FRP) in FY11. Program of Record (POR) specification has established Graywing performance metrics that will be met in the Speed to Fleet transportable version. Field testing will be used to verify this performance. Medusa firmware modifications will meet existing Medusa performance metrics for the new signal classes and will be verified via bench testing and end-to-end field testing. | | | | | | | | | | | | |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy | | | | | | | | | | | DATE: February 2012 | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD) | | | | R-1 ITEM NOMENCLATURE PE 0304785N: Tactical Cryptologic Systems | | | | PROJECT 2134.: Shipboard IW Exploit | | | | | | |
| Product Development (\$ in Millions) | | | | FY 2012 | | FY 2013 Base | | FY 2013 OCO | | FY 2013 Total | | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Primary Hardware Development | Various | Various:Various | 73.395 | - | | - | | - | | - | Continuing | Continuing | Continuing | |
| Primary Hardware Development | WR | SSC PAC:San Diego, CA | 1.125 | 5.685 | Nov 2011 | 2.647 | Nov 2012 | - | | 2.647 | Continuing | Continuing | Continuing | |
| Systems Engineering | Various | Various:Various | 22.309 | - | | - | | - | | - | Continuing | Continuing | Continuing | |
| Systems Engineering | C/CPAF | Classified Contract:Classified Contract | 0.950 | 3.159 | Nov 2011 | 2.550 | Nov 2012 | - | | 2.550 | Continuing | Continuing | Continuing | |
| Systems Engineering | WR | SSC PAC:San Diego, CA | 0.750 | 1.650 | Nov 2011 | 0.875 | Nov 2012 | - | | 0.875 | Continuing | Continuing | Continuing | |
| Systems Engineering | WR | SSC LANT:Charleston, SC | 2.485 | 1.487 | Nov 2011 | 0.750 | Nov 2012 | - | | 0.750 | Continuing | Continuing | Continuing | |
| Training Development | WR | SSC PAC:San Diego, CA | 1.696 | 0.613 | Nov 2011 | 0.700 | Nov 2012 | - | | 0.700 | Continuing | Continuing | Continuing | |
| Primary Hardware Development | C/CPAF | Classified Contract:TBD | - | 2.000 | Nov 2011 | 1.850 | Nov 2012 | - | | 1.850 | Continuing | Continuing | Continuing | |
| Primary Hardware Development | WR | NRL:Washington, DC | - | 1.800 | Nov 2011 | 0.750 | Nov 2012 | - | | 0.750 | Continuing | Continuing | Continuing | |
| Primary Hardware Development | C/CPAF | Classified Contracts:TBD | - | - | | 1.000 | Nov 2012 | - | | 1.000 | 0.000 | 1.000 | | |
| Subtotal | | | 102.710 | 16.394 | | 11.122 | | - | | 11.122 | | | | |
| Support (\$ in Millions) | | | | FY 2012 | | FY 2013 Base | | FY 2013 OCO | | FY 2013 Total | | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Software Development | Various | Various:Various | 40.776 | - | | - | | - | | - | Continuing | Continuing | Continuing | |
| Software Development | C/CPAF | Classified Contract:Classified Contract | 11.800 | 6.600 | Nov 2011 | 3.100 | Nov 2012 | - | | 3.100 | Continuing | Continuing | Continuing | |
| Software Development | WR | SSC PAC:San Diego, CA | 0.392 | 0.465 | Nov 2011 | 0.250 | Nov 2012 | - | | 0.250 | Continuing | Continuing | Continuing | |

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|--|------------------------|---|------------------------|--|------------|--------------|------------|--|------------|---------------|---------------------|------------|--------------------------|--|
| Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy | | | | | | | | | | | DATE: February 2012 | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD) | | | | R-1 ITEM NOMENCLATURE PE 0304785N: Tactical Cryptologic Systems | | | | PROJECT 2134.: Shipboard IW Exploit | | | | | | |
| Support (\$ in Millions) | | | | FY 2012 | | FY 2013 Base | | FY 2013 OCO | | FY 2013 Total | | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Training Development | Various | Various:Various | 0.079 | - | | - | | - | | - | Continuing | Continuing | Continuing | |
| Training Development | C/CPFF | Classified Contract:Classified Contract | 0.445 | 0.907 | Nov 2011 | 0.375 | Nov 2012 | - | | 0.375 | Continuing | Continuing | Continuing | |
| Integrated Logistics Support | Various | Various:Various | 2.206 | - | | - | | - | | - | Continuing | Continuing | Continuing | |
| Integrated Logistics Support | C/CPFF | Unknown:Unknown | - | 0.300 | Nov 2011 | 0.200 | Nov 2012 | - | | 0.200 | Continuing | Continuing | Continuing | |
| Configuration Management | WR | SSC Lant:Charleston, SC | 1.390 | 0.123 | Nov 2011 | 0.125 | Nov 2012 | - | | 0.125 | Continuing | Continuing | Continuing | |
| Configuration Management | WR | SSC PAC:San Diego, CA | 0.113 | 0.123 | Nov 2011 | 0.100 | Nov 2012 | - | | 0.100 | Continuing | Continuing | Continuing | |
| Technical Data | Various | Various:Various | 0.542 | - | | - | | - | | - | Continuing | Continuing | Continuing | |
| Technical Data | WR | SSC PAC:San Diego, CA | 0.219 | 0.917 | Nov 2011 | 0.400 | Nov 2012 | - | | 0.400 | Continuing | Continuing | Continuing | |
| Training Development | WR | SSC LANT:Charleston, SC | - | - | | 0.125 | Nov 2012 | - | | 0.125 | 0.000 | 0.125 | | |
| Integrated Logistic Support | WR | SSC LANT:Charleston, SC | - | - | | 0.250 | Nov 2012 | - | | 0.250 | 0.000 | 0.250 | | |
| Subtotal | | | 57.962 | 9.435 | | 4.925 | | - | | 4.925 | | | | |
| Test and Evaluation (\$ in Millions) | | | | FY 2012 | | FY 2013 Base | | FY 2013 OCO | | FY 2013 Total | | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Developmental Test & Evaluation | Various | Various:Various | 7.375 | - | | - | | - | | - | Continuing | Continuing | Continuing | |
| Developmental Test & Evaluation | WR | SSC PAC:San Diego, CA | 0.505 | 0.925 | Nov 2011 | 0.850 | Nov 2012 | - | | 0.850 | Continuing | Continuing | Continuing | |
| Developmental Test & Evaluation | WR | SSC LANT:Charleston, SC | 0.817 | 1.128 | Nov 2011 | 0.535 | Nov 2012 | - | | 0.535 | Continuing | Continuing | Continuing | |
| Developmental Test & Evaluation | WR | NRL:Washington, DC | 0.400 | 0.776 | Nov 2011 | 0.585 | Nov 2012 | - | | 0.585 | Continuing | Continuing | Continuing | |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy | | | | | | | | | | | DATE: February 2012 | | | |
|---|------------------------|---|------------------------|---|------------|--------------|------------|-----------------------------|------------|---------------|---------------------|------------|--------------------------|--|
| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | PROJECT | | | | | | |
| 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD) | | | | PE 0304785N: Tactical Cryptologic Systems | | | | 2134.: Shipboard IW Exploit | | | | | | |
| Test and Evaluation (\$ in Millions) | | | | FY 2012 | | FY 2013 Base | | FY 2013 OCO | | FY 2013 Total | | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Operational Test & Evaluation | WR | OPTEVFOR:Norfolk, VA | 3.078 | 0.395 | Nov 2011 | 0.975 | Nov 2012 | - | | 0.975 | Continuing | Continuing | Continuing | |
| Test Assets | WR | SSC PAC:San Diego, CA | 1.747 | - | | - | | - | | - | Continuing | Continuing | Continuing | |
| Test Assets | WR | SSC LANT:Charleston, SC | 0.070 | 0.085 | Nov 2011 | - | | - | | - | Continuing | Continuing | Continuing | |
| Operational Test & Evaluation | WR | SSC LANT:Charleston, SC | - | - | | 0.500 | Nov 2012 | - | | 0.500 | 0.000 | 0.500 | | |
| Developmental Test & Evaluation | WR | OPTEVFOR:Norfolk, VA | - | - | | 0.125 | Nov 2012 | - | | 0.125 | 0.000 | 0.125 | | |
| Developmental Test and Evaluation | WR | NRL:Washington DC | - | - | | 1.197 | Nov 2012 | - | | 1.197 | 0.000 | 1.197 | Continuing | |
| Subtotal | | | 13.992 | 3.309 | | 4.767 | | - | | 4.767 | | | | |
| Management Services (\$ in Millions) | | | | FY 2012 | | FY 2013 Base | | FY 2013 OCO | | FY 2013 Total | | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Contractor Engineering Support | Various | Various:Various | 0.933 | - | | - | | - | | - | Continuing | Continuing | Continuing | |
| Contractor Engineering Support | C/CPFF | Classified Contract:Classified Contract | 0.952 | 0.652 | Nov 2011 | 0.315 | Nov 2012 | - | | 0.315 | Continuing | Continuing | Continuing | |
| Government Engineering Support | Various | Various:Various | 1.290 | - | | - | | - | | - | Continuing | Continuing | Continuing | |
| Government Engineering Support | WR | SSC LANT:Charleston, SC | 0.407 | 0.525 | Nov 2011 | 0.339 | Nov 2012 | - | | 0.339 | Continuing | Continuing | Continuing | |
| Government Engineering Support | WR | SSC PAC:San Diego, CA | 1.040 | 0.668 | Nov 2011 | 0.365 | Nov 2012 | - | | 0.365 | Continuing | Continuing | Continuing | |
| Program Management Support | Various | Various:Various | 16.211 | - | | - | | - | | - | Continuing | Continuing | Continuing | |

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|--|------------------------|---|------------------------|--|------------|--------------|------------|--|------------|---------------------|------------------|------------|--------------------------|
| Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy | | | | | | | | | | DATE: February 2012 | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD) | | | | R-1 ITEM NOMENCLATURE PE 0304785N: Tactical Cryptologic Systems | | | | PROJECT 2134.: Shipboard IW Exploit | | | | | |
| Management Services (\$ in Millions) | | | | FY 2012 | | FY 2013 Base | | FY 2013 OCO | | FY 2013 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management Support | C/CPFF | Classified Contract:Classified Contract | 0.535 | 0.614 | Nov 2011 | 0.362 | Nov 2012 | - | | 0.362 | Continuing | Continuing | Continuing |
| Program Management Support | WR | SSC LANT:Charleston, SC | 0.065 | 0.063 | Nov 2011 | 0.440 | Nov 2012 | - | | 0.440 | Continuing | Continuing | Continuing |
| Travel | WR | SPAWAR:San Diego, CA | 2.101 | 0.080 | Nov 2011 | 0.070 | Nov 2012 | - | | 0.070 | Continuing | Continuing | Continuing |
| Acquisition Workforce | Various | Various:Various | 0.062 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Contractor Engineering Support | WR | SPAWAR:San Diego, CA | - | - | | 0.550 | Nov 2012 | - | | 0.550 | 0.000 | 0.550 | |
| Subtotal | | | 23.596 | 2.602 | | 2.441 | | - | | 2.441 | | | |
| | | | Total Prior Years Cost | FY 2012 | | FY 2013 Base | | FY 2013 OCO | | FY 2013 Total | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals | | | 198.260 | 31.740 | | 23.255 | | - | | 23.255 | | | |
| Remarks | | | | | | | | | | | | | |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy | | DATE: February 2012 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> | PROJECT 2134.: <i>Shipboard IW Exploit</i> |
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| Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy | | DATE: February 2012 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> | PROJECT 2134.: <i>Shipboard IW Exploit</i> |
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| Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy | | DATE: February 2012 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> | PROJECT 2134.: <i>Shipboard IW Exploit</i> |
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| Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy | | DATE: February 2012 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> | PROJECT 2134.: <i>Shipboard IW Exploit</i> |
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| Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy | | | DATE: February 2012 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> | PROJECT 2134.: <i>Shipboard IW Exploit</i> | |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 2134.S14 | | | | |
| Testing and Documentation | 1 | 2013 | 4 | 2013 |
| SSEE Inc F | | | | |
| Operator Training | 1 | 2014 | 1 | 2014 |
| Inc F - Developmental Testing IT-C1 | 1 | 2011 | 1 | 2011 |
| Inc F - Software Development | 1 | 2011 | 4 | 2016 |
| Inc F - Developmental Testing IT-C2 | 2 | 2011 | 3 | 2011 |
| Inc F - Operational Testing (OT) OPEVAL | 2 | 2011 | 2 | 2011 |
| Inc F - Full Rate Production (FRP) Decision Review (DR) | 4 | 2011 | 4 | 2011 |
| Inc F - FRP Contract Award | 4 | 2011 | 4 | 2011 |
| Inc F - Initial Operational Capability (IOC) | 3 | 2012 | 3 | 2012 |
| SSEE Inc G | | | | |
| Inc G - Pre-Milestone B (MSB) Activities | 1 | 2012 | 1 | 2014 |
| Inc G - Milestone B (MSB) | 2 | 2014 | 2 | 2014 |
| Inc G - Request For Proposal Release (RFP) | 2 | 2014 | 3 | 2014 |
| Inc G - EDM Contract Award | 1 | 2015 | 1 | 2015 |
| Inc G - Systems Readiness Review (SRR) | 1 | 2015 | 1 | 2015 |
| Inc G - Preliminary Design Review (PDR) | 2 | 2015 | 2 | 2015 |
| Inc G - Critical Design Review (CDR) | 3 | 2015 | 3 | 2015 |
| Inc G - Developmental Testing (DT) IT-B1 | 1 | 2017 | 1 | 2017 |
| Inc G - Operational Testing (OT) IT-B2 | 2 | 2017 | 2 | 2017 |
| Inc G - Engineering Development Models (EDM) Deliveries | 1 | 2017 | 1 | 2017 |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy | | | DATE: February 2012 | |
| APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD) | R-1 ITEM NOMENCLATURE PE 0304785N: Tactical Cryptologic Systems | | PROJECT 2134.: Shipboard IW Exploit | |
| | Start | | End | |
| Events by Sub Project | Quarter | Year | Quarter | Year |
| Inc G - MS C Decisional Report | 4 | 2017 | 4 | 2017 |
| SSEE Modifications | | | | |
| SSEE Modification - Sytem Readiness Review | 1 | 2011 | 1 | 2011 |
| SSEE Modification - System Development (Topside/Below Deck) | 1 | 2011 | 3 | 2012 |
| SSEE Modification - Software Development (Phase I) | 1 | 2011 | 3 | 2012 |
| SSEE Modification - Preliminary Design Review | 3 | 2011 | 3 | 2011 |
| SSEE Modification - Critical Design Review | 3 | 2012 | 3 | 2012 |
| SSEE Modification - EDM Build | 1 | 2012 | 4 | 2012 |
| SSEE Modification - Software Integration & Test (Phase I) | 3 | 2012 | 4 | 2012 |
| SSEE Modification - DT (Phase I) | 2 | 2013 | 2 | 2013 |
| SSEE Modification - OT (Phase I) | 2 | 2013 | 2 | 2013 |
| SSEE Modification - EDM #1 (Paragon & Graywing) | 4 | 2012 | 4 | 2012 |
| SSEE Modification - EDM #2 (Paragon & Graywing) | 2 | 2013 | 2 | 2013 |
| SSEE Modification - Graywing Development (Phase II) | 1 | 2013 | 3 | 2014 |
| SSEE Modification - Phase I Fielding Decision | 2 | 2013 | 2 | 2013 |
| SSEE Modification - Software Integration & Test (Phase II) | 3 | 2014 | 4 | 2014 |
| SSEE Modification - DT (Phase II) | 2 | 2015 | 2 | 2015 |
| SSEE Modification - OT (Phase II) | 2 | 2015 | 2 | 2015 |
| SSEE Modification - Phase II Fielding Decision | 3 | 2015 | 3 | 2015 |
| SSEE Modification - Production Contract Award | 2 | 2013 | 2 | 2013 |
| ICADS | | | | |
| ICADS- Rapid Deployment Capability | 1 | 2011 | 4 | 2011 |
| ICADS- Quick Reaction Assessment #2 | 1 | 2011 | 1 | 2011 |
| ICADS- Systems Engineering Plan | 1 | 2011 | 4 | 2011 |
| ICADS- Capabilities Production Document (CPD) | 1 | 2011 | 3 | 2012 |

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> | PROJECT 2134.: <i>Shipboard IW Exploit</i> |
|---|--|--|

| Events by Sub Project | Start | | End | |
|---|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| ICADS- Concepts of Operations/Tactical Memo | 1 | 2011 | 1 | 2012 |
| ICADS- Engineering Changes Production Representative #1 | 1 | 2011 | 2 | 2012 |
| ICADS- Subsystem Testing MH Testing | 4 | 2011 | 4 | 2011 |
| ICADS- Subsystem Testing Ex11 | 1 | 2012 | 1 | 2012 |
| ICADS- Production Representative (V) #1 | 3 | 2012 | 3 | 2012 |
| ICADS- Test and Evaluation Master Plan | 1 | 2013 | 2 | 2013 |
| ICADS- New Development for Variance (Variant X, Y, Z) | 1 | 2013 | 3 | 2013 |
| ICADS- Functional Configuration Audit (FCA) | 1 | 2013 | 1 | 2013 |
| ICADS- Developmental Testing | 1 | 2013 | 1 | 2013 |
| ICADS- Physical Configuration Audit (PCA) | 2 | 2013 | 2 | 2013 |
| ICADS- Operational Test Readiness Review | 2 | 2013 | 2 | 2013 |
| ICADS- Operational Assessment | 3 | 2013 | 3 | 2013 |
| ICADS- Milestone C / Full Rate Production | 4 | 2013 | 4 | 2013 |
| ICADS- Production Representative #2 | 4 | 2013 | 4 | 2013 |
| ICADS- Initial Operational Capabilities | 3 | 2014 | 3 | 2014 |
| ICADS- Variant (1 FY14) | 3 | 2014 | 3 | 2014 |
| ICADS- Variant (1 FY15) | 3 | 2015 | 3 | 2015 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy | | | | | | | | | DATE: February 2012 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD) | | | | R-1 ITEM NOMENCLATURE PE 0304785N: Tactical Cryptologic Systems | | | | PROJECT 3165: Automatic Identification System (AIS) | | | |
| COST (\$ in Millions) | FY 2011 | FY 2012 | FY 2013 Base | FY 2013 OCO | FY 2013 Total | FY 2014 | FY 2015 | FY 2016 | FY 2017 | Cost To Complete | Total Cost |
| 3165: Automatic Identification System (AIS) | 0.463 | - | - | - | - | - | - | - | - | 0.000 | 0.463 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Automatic Identification System (AIS) is an International Maritime Very High Frequency Communication system that allows ships to exchange information (machine to machine) on Navigation (Position, Course, Speed, etc), Ship Info (Ship Name, Call Sign, Length/Beam), and Cargo Info (Draft, Type, Destination, Route, Estimated Time of Arrival) and Messaging (Safety, Text). This technology will improve capabilities in three diverse areas: (a) Situational Awareness/Common Operational Picture (b) Navigation/Safety of Ship and (c) Other intelligence gathering/correlation. Funding will support the integration of modified Commercial Off-The-Shelf AIS equipment with the existing Global Command and Control - Maritime/Common Operational Picture, navigation and bridge display capabilities, surface search / weapons systems and intelligence / Cryptologic capabilities

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

| | | | | |
|---|--|----------------|----------------|----------------|
| Title: Automatic Identification System (AIS) | | FY 2011 | FY 2012 | FY 2013 |
| Articles: | | 0.463 0 | - | - |
| FY 2011 Accomplishments: AIS development was completed in FY11. Completed the refinement of the Global AIS architecture, and its relation to the overall United State Navy (USN) Maritime Domain Awareness (MDA) effort and Concept of Operation (CONOP) as well as the National MDA CONOP. This provides for secure end-to-end AIS data sharing capability in-line with National MDA CONOPs. | | | | |
| Accomplishments/Planned Programs Subtotals | | 0.463 | - | - |

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

| Line Item | FY 2011 | FY 2012 | FY 2013 Base | FY 2013 OCO | FY 2013 Total | FY 2014 | FY 2015 | FY 2016 | FY 2017 | Cost To Complete | Total Cost |
|--|----------------|----------------|---------------------|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| • OPN / 2361: <i>Automatic Identification System</i> | 1.292 | 1.364 | 0.914 | 0.000 | 0.914 | 0.902 | 0.880 | 0.844 | 0.868 | Continuing | Continuing |
| • OPN / 2360: : <i>Shipboard IW Exploit (AIS only)</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 2.399 |

D. Acquisition Strategy

Acquisition management and contracting strategies are to support the integration of Commercial Off-The-Shelf (COTS) Automatic Identification System (AIS) data into the existing and emerging United States Navy Command and Control and Network infrastructure capabilities, navigation and bridge capabilities surface search/

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| Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy | | DATE: February 2012 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> | PROJECT 3165: <i>Automatic Identification System (AIS)</i> |
| weapons systems and intelligence/cryptologic capabilities. COTS will be procured from a contractor with government over sight from Space and Naval Warfare (SPAWAR) Systems Center (SSC) - Atlantic with management oversight by SPAWAR . | | |
| <u>E. Performance Metrics</u> N/A | | |