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| <b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2014 Navy | <b>DATE:</b> April 2013 |
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| APPROPRIATION/BUDGET ACTIVITY                                                                                                |                 |         |                      |              | R-1 ITEM NOMENCLATURE                     |               |         |         |         |         |                  |            |
|------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|----------------------|--------------|-------------------------------------------|---------------|---------|---------|---------|---------|------------------|------------|
| 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i><br>BA 5: <i>System Development &amp; Demonstration (SDD)</i> |                 |         |                      |              | PE 0604215N: <i>Standards Development</i> |               |         |         |         |         |                  |            |
| COST (\$ in Millions)                                                                                                        | All Prior Years | FY 2012 | FY 2013 <sup>#</sup> | FY 2014 Base | FY 2014 OCO <sup>##</sup>                 | FY 2014 Total | FY 2015 | FY 2016 | FY 2017 | FY 2018 | Cost To Complete | Total Cost |
| Total Program Element                                                                                                        | 909.720         | 47.406  | 84.988               | 99.891       | -                                         | 99.891        | 69.670  | 55.110  | 59.729  | 64.769  | Continuing       | Continuing |
| 0572: <i>JT Service/NV Std Avionics CP/SB</i>                                                                                | 762.197         | 33.454  | 69.745               | 85.236       | -                                         | 85.236        | 54.733  | 40.027  | 44.218  | 49.007  | Continuing       | Continuing |
| 1857: <i>Calibration Standards</i>                                                                                           | 7.698           | 1.338   | 1.856                | 1.835        | -                                         | 1.835         | 1.909   | 1.939   | 1.985   | 2.011   | Continuing       | Continuing |
| 2311: <i>Stores Planning and Weaponneering Module</i>                                                                        | 126.104         | 11.748  | 12.508               | 12.256       | -                                         | 12.256        | 12.469  | 12.564  | 12.854  | 13.068  | Continuing       | Continuing |
| 2312: <i>Common Helicopters</i>                                                                                              | 13.721          | 0.866   | 0.879                | 0.564        | -                                         | 0.564         | 0.559   | 0.580   | 0.672   | 0.683   | Continuing       | Continuing |

<sup>#</sup> FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

<sup>##</sup> The FY 2014 OCO Request will be submitted at a later date

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

This project provides for the identification, study, design, development, demonstration, test, evaluation, and qualification of standard avionics capabilities for Navy use, and wherever practicable, use across all Services and Foreign Military Sales. Such air combat electronics developments include communications and airborne networking, navigation and sensors, flight avionics, safety systems, and flight mission information systems for both forward fit and retrofit aircraft. These efforts continue to maintain federated systems while encouraging transition of procurements to support a modular system for enhanced performance and affordability. Consideration is given up front to reduce acquisition costs through larger procurement quantities that satisfy multi-aircraft customer requirements and that reduce life cycle costs in the areas of reliability, maintainability, and training. This project also provides a Navy-wide program to develop required calibration standards (hardware) in all major measurement technology areas in support of Navy Hull, Mechanical and Electrical (HM&E) systems as well as Navy Weapons systems, ground and air, throughout the Fleet. It funds Navy lead-service responsibilities in the DOD and Joint Services Metrology Research and Development program. This project supports the military requirement to verify the performance of all test systems used to validate the operation of HM&E as well as Navy Weapon Systems with calibration standards traceable to the National Institute of Standards and Technology.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

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| Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Navy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |         |                                    |              | DATE: April 2013 |               |
| APPROPRIATION/BUDGET ACTIVITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |         | R-1 ITEM NOMENCLATURE              |              |                  |               |
| 1319: Research, Development, Test & Evaluation, Navy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |         | PE 0604215N: Standards Development |              |                  |               |
| BA 5: System Development & Demonstration (SDD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |         |                                    |              |                  |               |
| B. Program Change Summary (\$ in Millions)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | FY 2012 | FY 2013                            | FY 2014 Base | FY 2014 OCO      | FY 2014 Total |
| Previous President's Budget                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 49.439  | 84.988                             | 91.136       | -                | 91.136        |
| Current President's Budget                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 47.406  | 84.988                             | 99.891       | -                | 99.891        |
| Total Adjustments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | -2.033  | 0.000                              | 8.755        | -                | 8.755         |
| • Congressional General Reductions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | -       | -                                  |              |                  |               |
| • Congressional Directed Reductions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -       | -                                  |              |                  |               |
| • Congressional Rescissions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -       | -                                  |              |                  |               |
| • Congressional Adds                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | -       | -                                  |              |                  |               |
| • Congressional Directed Transfers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | -       | -                                  |              |                  |               |
| • Reprogrammings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | -1.139  | 0.000                              |              |                  |               |
| • SBIR/STTR Transfer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | -0.894  | 0.000                              |              |                  |               |
| • Program Adjustments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.000   | 0.000                              | 9.207        | -                | 9.207         |
| • Rate/Misc Adjustments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 0.000   | 0.000                              | -0.452       | -                | -0.452        |
| Change Summary Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |         |                                    |              |                  |               |
| Technical: Not applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |         |                                    |              |                  |               |
| Schedule:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |         |                                    |              |                  |               |
| 0572:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |         |                                    |              |                  |               |
| Communication, Navigation, Surveillance/Air Traffic Management - Developing a model to ensure the design of Mode S systems in developmental platforms meets diversity requirements. Evaluating ADS-B (Out) technologies and developing solutions that will support platform integrations on the E-2D, P-8A, JSF, CH-53K, and UAVs to meet 2020 mandate in CONUS. CNS/ATM Common Component software being developed to support RNP RNAV certification of platforms to include the E-2D, CH-53K, and JSF. P-8A Required Navigation Performance Area Navigation Test and Evaluation and certification extended into 3Q FY13 due to technical challenges. MH-53E Automatic Dependent Surveillance-Broadcast DT/OT removed from schedule due to reprioritization by OPNAV. |         |                                    |              |                  |               |
| Ground Proximity Warning System/Terrain Awareness Warning System (GPWS/TAWS) - H-60 TAWS II MS B moved to 3Q FY13, MS C moved to 2Q FY17, and IT&E changed to DT due to change in acquisition strategy. MH-60 TAWS II S/W Development and Integration start date moved from 3Q FY12 to 4Q FY13 and end date moved from 4Q FY15 to 2Q FY15 due to change in acquisition strategy and to align with platform schedule. H-1 GPWS DT start moved from 1Q FY12 to 2Q FY13 and end moved from 4Q FY12 to 3Q FY13 due to change in platform test schedule. H-1 GPWS S/W Development added 2Q-4Q FY12 to align with platform schedule. MV-22 TAWS II Requirements Development start moved from 4Q FY17 to 3Q FY17 to align with platform schedule.                            |         |                                    |              |                  |               |
| Military Flight Operations Quality Assurance - Program re-baselined in December 2011 due to requirements changes and testing delays. MS C and IOC moved from 3Q FY12 to 2Q FY14.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |                                    |              |                  |               |

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| <b>Exhibit R-2, RDT&amp;E Budget Item Justification: PB 2014 Navy</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  | <b>DATE:</b> April 2013                   |
| <b>APPROPRIATION/BUDGET ACTIVITY</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | <b>R-1 ITEM NOMENCLATURE</b>              |
| 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i><br>BA 5: <i>System Development &amp; Demonstration (SDD)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | PE 0604215N: <i>Standards Development</i> |
| <p>Collaborative Warfare - Added FLEX 13 2Q FY12 to 3Q FY13 due to the next step beyond TRIDENT WARRIOR 11 to use an integrated tactical network for netted sensors correlation and fusion. NEXT Gate 1 Resource Requirements Review Board (R3B) moved from 1Q FY11 to 4Q FY13 due to a timeline extension required to align with the Offensive Anti-Surface Warfare Weapon Analysis of Alternatives (AoA) as directed by the R3B, and an administrative staffing error between the approving authority and the Capabilities Based Assessment sponsor.</p> <p>Advanced Digital Data Set - FY12 Development contract and MS B delayed from 3Q FY12 to 3Q FY13 due to New Acquisition documentation requirements mandated by DoDI 5000.2E and changes to the acquisition strategy. Specifically, requirement for independent AoA was levied on all new start programs.</p> <p>Mid Air Collision Avoidance Capability (MCAC) - Revised MCAC Acquisition Milestones: MS B 3Q FY14. Revised MCAC Systems Development and T&amp;E Milestones based on current acquisition plans. Revised Integration efforts to account for MH-60R/S and UH-1Y/AH-1Z software update schedules.</p> <p>1857: Not Applicable.</p> <p>2311: Acquisition Milestone Changes:</p> <p>Due to efficiencies gained from competing the Primary Software Development contract, the Weapon engineering and Stores Planning (WASP) schedule for V3.2, V3.3, and V3.4/V4.0 were able to be accelerated in order to better meet the fleet's requirements.</p> <p>V3.2 Milestones were adjusted accordingly: Software Requirements Review (SRR) from 3QFY14 to 4QFY13, Preliminary Design Review (PDR) from 3QFY14 to 1QFY14, Critical Design Review (CDR) from 4QFY14 to 1QFY14, Test Readiness Review (TRR) from 2QFY15 to 3QFY14, Technical Information Review Board (TIRB) from 4QFY15 to 1QFY15, Functional Qualification Test (FQT) from 4QFY15 to 1QFY15, Test &amp; Evaluation (T&amp;E) from 2QFY15 to 3QFY14, and Initial Operational Capability (IOC) from 2QFY16 to 3QFY15.</p> <p>V3.3 Milestones were adjusted accordingly: SRR from 1QFY16 to 1QFY15, PDR from 1QFY16 to 2QFY15, CDR from 2QFY16 to 2QFY15, TRR from 4QFY16 to 4QFY15, TIRB from 2QFY17 to 2QFY16, FQT from 2QFY17 to 2QFY16, Test &amp; Evaluation (T&amp;E) from 4QFY16 to 4QFY15, and Initial Operational Capability (IOC) from 3QFY17 to 3QFY16.</p> <p>V3.4 was replaced by V4.0 due to the transition to 64-bit technology, and to align with Joint Mission Planning System (JMPS) 1.5 framework.</p> <p>2312: Not Applicable.</p> |  |                                           |

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| Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                 |         |                      |              |                                                             |               |         |         |                                                   | DATE: April 2013 |                  |            |
| APPROPRIATION/BUDGET ACTIVITY<br>1319: Research, Development, Test & Evaluation, Navy<br>BA 5: System Development & Demonstration (SDD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                 |         |                      |              | R-1 ITEM NOMENCLATURE<br>PE 0604215N: Standards Development |               |         |         | PROJECT<br>0572: JT Service/NV Std Avionics CP/SB |                  |                  |            |
| COST (\$ in Millions)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | All Prior Years | FY 2012 | FY 2013 <sup>#</sup> | FY 2014 Base | FY 2014 OCO <sup>##</sup>                                   | FY 2014 Total | FY 2015 | FY 2016 | FY 2017                                           | FY 2018          | Cost To Complete | Total Cost |
| 0572: JT Service/NV Std Avionics CP/SB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 762.197         | 33.454  | 69.745               | 85.236       | -                                                           | 85.236        | 54.733  | 40.027  | 44.218                                            | 49.007           | Continuing       | Continuing |
| Quantity of RDT&E Articles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0               | 0       | 0                    | 0            |                                                             | 0             | 0       | 0       | 0                                                 | 0                |                  |            |
| # FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |         |                      |              |                                                             |               |         |         |                                                   |                  |                  |            |
| ## The FY 2014 OCO Request will be submitted at a later date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |         |                      |              |                                                             |               |         |         |                                                   |                  |                  |            |
| Note                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |         |                      |              |                                                             |               |         |         |                                                   |                  |                  |            |
| FY14 New Start - Mid Air Collision Avoidance Capability (MCAC).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |         |                      |              |                                                             |               |         |         |                                                   |                  |                  |            |
| FY14 Advanced Digital Data Set (ADDS) RDT&E Articles (21) for F/A-18.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |         |                      |              |                                                             |               |         |         |                                                   |                  |                  |            |
| A. Mission Description and Budget Item Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |         |                      |              |                                                             |               |         |         |                                                   |                  |                  |            |
| Joint Services/Navy Standard Avionics Components and Subsystems: This project provides for the identification, study, design, development, demonstration, test, evaluation, and qualification of standard avionics capabilities for Navy use, and wherever practicable, use across all Services and Foreign Military Sales. Standard avionics capabilities under development include the Joint Service Review Committee for Avionics Standardization (JSRC-AS), Communication Navigation Surveillance Air Traffic Management (CNS/ATM), Tactical Communications (TACCOM), Ground Proximity Warning System/Terrain Awareness Warning System (GPWS/TAWS), Military Flight Operations Quality Assurance (MFOQA), Collaborative Warfare (CW), Avionics Component Improvement Program (AvCIP), ADDS and MCAC. Participation in Human Factors Quality Management Board ensures Navy safety upgrades and mandatory safety improvements for naval aircraft. |                 |         |                      |              |                                                             |               |         |         |                                                   |                  |                  |            |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 |         |                      |              |                                                             |               |         |         | FY 2012                                           | FY 2013          | FY 2014          |            |
| Title: Joint Service Review Committee for Avionics Standardization (JSRC-AS)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |         |                      |              |                                                             |               |         |         | 1.258                                             | 2.000            | 2.181            |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |         |                      |              |                                                             |               |         |         | 0                                                 | 0                | 0                |            |
| Description: The JSRC-AS program supports Congressional and ASN (RDA) direction to control the growing proliferation of unique avionics and improve coordination among the services through the identification, development, and promotion of investigative and development efforts across the services and U.S. Coast Guard. The JRSC-AS supports the development, analysis and review of new avionics requirements with potential for joint service application. The JSRC-AS consists of an O-6 Level principal from each service and Coast Guard as well as the appropriate staff to support joint service working group efforts. The JSRC-AS reports to the O-7 level tri-service Aviation Common Systems Board who reports to the O-9 level Joint Aeronautical Commanders Group.                                                                                                                                                               |                 |         |                      |              |                                                             |               |         |         |                                                   |                  |                  |            |
| FY 2012 Accomplishments:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |         |                      |              |                                                             |               |         |         |                                                   |                  |                  |            |

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| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2014 Navy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                           | <b>DATE:</b> April 2013                                         |                |
| <b>APPROPRIATION/BUDGET ACTIVITY</b><br>1319: <i>Research, Development, Test &amp; Evaluation, Navy</i><br>BA 5: <i>System Development &amp; Demonstration (SDD)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>R-1 ITEM NOMENCLATURE</b><br>PE 0604215N: <i>Standards Development</i> | <b>PROJECT</b><br>0572: <i>JT Service/NV Std Avionics CP/SB</i> |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                           | <b>FY 2012</b>                                                  | <b>FY 2013</b> |
| <p>Provided leadership in support of the Navy's interest to the JSRC tri-service committee promoting commonality and joint programs with focus on interoperability, communications, CNS/ATM, Joint Services avionics obsolescence management and updated of the Core Avionics Master Plan (CAMP).</p> <p><b>FY 2013 Plans:</b><br/>Provide leadership and strategic vision as naval aviation's representatives to the JSRC-AS. Participate in joint working groups and promote efforts that makes good technical and economic sense to more than one service.</p> <p><b>FY 2014 Plans:</b><br/>Provide leadership and strategic vision as naval aviation's represenatives to the JSRC-AS. Participate in joint working groups and promote efforts that make good technical and economic sense to more than one service.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                           |                                                                 |                |
| <p><b>Title:</b> Communication Navigation Surveillance/Air Traffic Management (CNS/ATM)</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> This program will conduct and support CNS/ATM research, studies, development, integration, demonstration, test and evaluation efforts for Naval Aviation platforms in development. Platform integration of Mode S, 8.33kHz, Reduced Vertical Separation Minimums (RVSM), Required Navigation Performance Area Navigation (RNP/RNAV), and Automatic Dependent Surveillance-Broadcast (ADS-B) functional integration and certification efforts into naval aircraft. Assist with insertion of communication, navigation, surveillance, and supporting technologies and conduct capability certification on developmental platforms such as E-2D, P-8A, Joint Strike Fighter (JSF), CH-53K, and Unmanned Air Systems. Capabilities include Mode S, 8.33kHz, RVSM, RNP/RNAV, ADS-B, and other civil and military capabilities.</p> <p><b>FY 2012 Accomplishments:</b><br/>Commenced integration and certification of 8.33 kHz, MODE S, Reduced Vertical Separation Minimums (RVSM) and RPN RNAV. Assisted with insertion of CNS/ATM technologies on and certification of developmental platforms.</p> <p><b>FY 2013 Plans:</b><br/>Develop Mode S diversity requirements and develop solutions for developmental platforms. Evaluate ADS-B (Out) technologies and develop solutions to support platform integrations. Develop CNS/ATM Common Component to support RNP RNAV developmental platform requirements. Assist with insertion of CNS/ATM technologies on and certification of developmental platforms.</p> <p><b>FY 2014 Plans:</b><br/>Research Mode S diversity requirements and design solutions for developmental platforms. Evaluate ADS-B (Out) technologies and develop solutions to support platform integrations. Assist with insertion of CNS/ATM technologies on and certification of</p> |                                                                           | 1.480<br>0                                                      | 7.082<br>0     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                           | 22.128<br>0                                                     |                |

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| Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                             | DATE: April 2013                                  |            |             |
| APPROPRIATION/BUDGET ACTIVITY<br>1319: Research, Development, Test & Evaluation, Navy<br>BA 5: System Development & Demonstration (SDD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | R-1 ITEM NOMENCLATURE<br>PE 0604215N: Standards Development | PROJECT<br>0572: JT Service/NV Std Avionics CP/SB |            |             |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                             | FY 2012                                           | FY 2013    | FY 2014     |
| developmental platforms. Where practical, new technologies will be designed to maximize reuse on future platforms through open architectures including the Future Airborne Capability Environment (FACE).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                             |                                                   |            |             |
| Title: Tactical Communications (TACCOM)<br><br>Description: This program will conduct research, studies, development, integration, demonstration, test and evaluation efforts to ensure tactical communication systems and capabilities are developed and available to support naval aviation requirements. Perform tactical communication platform integration studies and activities to determine technical and cost effective solutions across Naval Aviation. Develop tactical communications (voice/data) requirements, concepts and systems which have application across Naval Aviation. Support all necessary tasks to ensure evolution of legacy communications systems incorporating programmable Communication Security/Information Assurance, Variable Message Format (VMF), Beyond Line-of-Sight, Satellite Communication, High Frequency, civil interoperability, and Joint Precision Approach Landing System data link into the ARC-210 system. Support for networking requirements development and prototyping, Integrated Waveform (IW), Intelligence Broadcast System, Joint Tactical Radio System, Tactical Networks, Datalinks and Link 16.<br><br>FY 2012 Accomplishments:<br>Received Joint Interoperability Testing Center (JITC) and NSA certification of the RT-1990(C) and RT-1939(C). Continued development of the Tactical Secure Voice, Crypto Algorithm and IW. Completed release of S/W version 3.<br><br>FY 2013 Plans:<br>Continue SATCOM and Variable Message Format (VMF) P3I S/W development. Complete IW and complete release of S/W version 4.<br><br>FY 2014 Plans:<br>Continue development of IW and VMF. |                                                             | Articles:<br>6.409<br>0                           | 3.369<br>0 | 2.434<br>0  |
| Title: Ground Proximity Warning System/Terrain Awareness Warning System (GPWS/TAWS)<br><br>Description: This program will conduct research, studies, development, integration, demonstration, test and evaluation efforts to meet Naval Aviation GPWS/TAWS requirements. Perform GPWS/TAWS platform integration studies and activities to determine technical and cost effective solutions across Naval Aviation. Develop GPWS/TAWS algorithm tailored to platform performance and missions. Develop simulation models for use at manned flight simulator (MFS) as required for platform tailoring, including procurement of test article hardware for MFS. Evaluate aircraft simulation models for suitability in GPWS/TAWS development effort. Develop GPWS/TAWS algorithms utilizing MFS as real-time hardware and pilot in the loop tool. Develop and evaluate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                             | Articles:<br>2.293<br>0                           | 8.304<br>0 | 12.099<br>0 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                             | DATE: April 2013                                  |         |         |
| APPROPRIATION/BUDGET ACTIVITY<br>1319: Research, Development, Test & Evaluation, Navy<br>BA 5: System Development & Demonstration (SDD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | R-1 ITEM NOMENCLATURE<br>PE 0604215N: Standards Development | PROJECT<br>0572: JT Service/NV Std Avionics CP/SB |         |         |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                             | FY 2012                                           | FY 2013 | FY 2014 |
| algorithm interfaces necessary for integration of the algorithm within platform host computer. Develop software code to execute GPWS/TAWS algorithm in host platforms.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                             |                                                   |         |         |
| FY 2012 Accomplishments:<br>Completed H-1 GPWS software development for Software Configuration Set (SCS) 7.0. Initiated TAWS with obstacles acquisition documentation to support H-60.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                             |                                                   |         |         |
| FY 2013 Plans:<br>Conduct DT of H-1 GPWS in platform Software Configuration Set (SCS) 7.0. Achieve MS-B for H-60 TAWS with obstacles. Continue TAWS with obstacles requirements definition and software development for H-60.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                             |                                                   |         |         |
| FY 2014 Plans:<br>Continue H-60 TAWS II S/W development and integration.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                             |                                                   |         |         |
| Title: Military Flight Operations Quality Assurance (MFOQA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                             | 16.096                                            | 15.284  | 17.852  |
| Articles:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                             | 0                                                 | 0       | 0       |
| Description: This program will develop a MFOQA baseline software integration framework using Government procured software modules to perform functions such as flight data analysis, post mission aircrew debrief, aircraft maintenance and system troubleshooting, and mishap investigation to meet Naval Aviation requirements. Additional efforts will include software development and integration for fleet wide shore based and shipboard MFOQA implementation. Develop and evaluate aircraft recorder systems and requirements to meet current and future MFOQA requirements. Prepare and conduct MFOQA acquisition events such as Systems Readiness Review, Preliminary Design Review, Critical Design Review, Developmental Testing, Milestone C (MS C) and follow-on Decision Reviews in support of initial Fixed Wing (Phase 1) and Rotary Wing (Phase 2) platforms. |                                                             |                                                   |         |         |
| FY 2012 Accomplishments:<br>Completed Critical Design and initiated Phase 1 Systems Integration.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                             |                                                   |         |         |
| FY 2013 Plans:<br>Complete Phase 1 Systems Integration; Complete Phase 1 Integrated Test and Initiate Phase 2 Requirements Definition.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                             |                                                   |         |         |
| FY 2014 Plans:<br>Achieve MS C and initiate fielding to F/A-18C-F and EA-18G. Complete Requirements Definition and software design for Phase 2 (MH-60R/S, M/CH-53, AH-1Z, and UH-1Y).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                             |                                                   |         |         |
| Title: Collaborative Warfare (CW)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                             | 0.448                                             | 0.540   | 0.181   |
| Articles:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                             | 0                                                 | 0       | 0       |

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| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2014 Navy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                           | <b>DATE:</b> April 2013                                         |                |
| <b>APPROPRIATION/BUDGET ACTIVITY</b><br>1319: <i>Research, Development, Test &amp; Evaluation, Navy</i><br>BA 5: <i>System Development &amp; Demonstration (SDD)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>R-1 ITEM NOMENCLATURE</b><br>PE 0604215N: <i>Standards Development</i> | <b>PROJECT</b><br>0572: <i>JT Service/NV Std Avionics CP/SB</i> |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                           | <b>FY 2012</b>                                                  | <b>FY 2013</b> |
| <p><b>Description:</b> The CW component is a Research &amp; Development effort to identify targeting gaps and determine the warfighting benefit of integrating networked capabilities into naval aircraft to fill those gaps. The CW component also addresses targeting gaps for naval aircraft to operate more effectively with other military services. The following efforts are included: 1) A concept refinement Joint Capability Integration Development System activity, specifically, the Naval Effects Cross Domain Targeting (NEXT) Capabilities Based Assessment and Initial Capabilities Document. 2) Netted sensors proof of concept prototype demonstrations leveraging the Navy's Fleet Experimentation (FLEX) campaign. 3) An integration of Netted Sensors/Sensor Fusion into Naval Aviation Integrated Capabilities Packages supporting multi-mission capability enhancements; a comprehensive Naval Aviation Tactical Networking Strategy; and the Integrated Targeting and Fire Control Roadmap. 4) A Modeling Simulation and Analysis Study to quantify benefits of collaborative warfare capabilities, assess feasibility, and derive initial decomposition to system requirements for use by various platform's Program Objective Memorandum issue sheets. 5) Provide resource sponsor oversight on an Office of Naval Research Future Naval Capability Enabling Capability for an Advanced Tactical Data Link (ATDL) for Naval Aviation. 6) Develop a Joint Tactical Networking Concept of Employment that aligns Navy ATDL and Joint Aerial Layer Network - Maritime with USAF future strategies.</p> <p><b>FY 2012 Accomplishments:</b><br/>Initiated Joint Tactical networking Concept of Employment (JTN CONEMP) analysis to identify Navy and Air Force interoperability gaps for the Counter Air and Offensive Anti-Surface Warfare (OASuW) mission areas. This analysis will directly inform Navy and Air Force Service Chief Decisions in the 2013 Air Force-Navy Warfighter Talks as well as contribute to other critical analytical efforts such as the joint Aerial layer network (JALN) AoA, OASuW AoA, and the NEXT CBA/ICD. Completed the first draft of the Naval Effects Cross-domain Targeting (NEXT) Initial Capabilities Document (ICD), articulating collaborative functional gaps across dissimilar nodes in the battle space. Led the effort to organize and prepare for the TRIDENT WARRIOR 13 netted sensors Family of Systems (FoS) experiment. This experiment will demonstrate the military utility of a Tactical Targeting Network Technology (TTNT) and Network Centric Collaborative Targeting (NCCT)-enabled multi-INT correlation architecture and reduce technical risks associated with developing and fielding the relevant technologies.</p> <p><b>FY 2013 Plans:</b><br/>Complete the first iteration of the JTN CONEMP and brief results to the March 2013 Air Force - Navy Warfighter Talks. Solicit inputs to refine the NEXT CID, generate AoA guidance, and present to Gate 1 Resourcing Requirements Review Board (R3B) for approval to move forward with an AoA. Complete preparations and execute the TRIDENT WARRIOR 13 netted sensors FoS experiment.</p> <p><b>FY 2014 Plans:</b><br/>Develop requirements, standards, and architectures in support of new and updated netted-sensors' CONOPS and capabilities.</p> |                                                                           |                                                                 |                |
| <b>Title:</b> Avionics Component Improvement Program (AvCIP)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                           | 1.845                                                           | 2.423          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                           | 5.000                                                           |                |



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| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2014 Navy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                           | <b>DATE:</b> April 2013 |                                                                 |                |
| <b>APPROPRIATION/BUDGET ACTIVITY</b><br>1319: <i>Research, Development, Test &amp; Evaluation, Navy</i><br>BA 5: <i>System Development &amp; Demonstration (SDD)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | <b>R-1 ITEM NOMENCLATURE</b><br>PE 0604215N: <i>Standards Development</i> |                         | <b>PROJECT</b><br>0572: <i>JT Service/NV Std Avionics CP/SB</i> |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                                                                           | <b>FY 2012</b>          | <b>FY 2013</b>                                                  | <b>FY 2014</b> |
| <b>Articles:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                                                           | 0                       | 0                                                               | 0              |
| <p><b>Description:</b> Investigate high value Return On Investment (ROI) component improvement candidate projects in support of NAVAIR Commander's third focus area - Improve "capital A" Affordability. Stop operating and sustainment cost growth by reducing costs for fielded systems and implementing life-cycle cost reduction initiatives as part of new systems development. This program positions resources for next year application to fast-track corrections to existing problematic systems. Projects address critical readiness issues (significant back-orders or impending sustainability failures that threaten to down aircraft), functional performance obsolescence issues (system failing to support mission requirement), and top sustainment cost drivers (out of proportion annual maintenance or repair costs). Resources enable design and development of technology insertion and product redesign or replacement to meet readiness goals, meet mission objectives, or reduce overall sustainment costs. Candidate projects are submitted via a rigorous template, reviewed by a panel of Avionics professionals, and selected based upon urgency, warfighting contributions, breadth of application and scope of ROI. Resources cover engineering elements (including design and development, prototypes, platform integration, test and evaluation), program management and associated logistics elements (including technical data preparation, support equipment, provisioning, and training). Analysis shows that funding applied under this program between 2006 and 2011 will enable sustainment and procurement cost avoidances exceeding a five to one margin by 2020.</p> <p>FY12 AVCIP funding has been moved from PE 0702239N, Project Unit 3170.</p> <p><b>FY 2012 Accomplishments:</b><br/>Addressed current fleet problem avionics systems (top readiness degraders, cost drivers, obsolescence-driven sustainability, capability loss, fleet head-hurters).</p> <p><b>FY 2013 Plans:</b><br/>Address current fleet problem avionics systems (top readiness degraders, cost drivers, obsolescence-driven sustainability, capability loss, fleet head-hurters).</p> <p><b>FY 2014 Plans:</b><br/>Address current fleet problem avionics systems (top readiness degraders, cost drivers, obsolescence-driven sustainability, capability loss, fleet head-hurters).</p> |  |                                                                           |                         |                                                                 |                |
| <b>Title:</b> Advanced Digital Data Set (ADDS)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                           | 3.625                   | 30.743                                                          | 13.500         |
| <b>Articles:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                                                           | 0                       | 0                                                               | 21             |
| <p><b>Description:</b> This program consists of enabling hardware and software solution for an advanced digital data military operating environment replacing the current data transfer systems. This system includes removable memory , secure data management and storage high speed data transfer of Mission and Map data, recording data (including mission, sensor, audio, and video),</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                                                                           |                         |                                                                 |                |

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| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2014 Navy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                           | <b>DATE:</b> April 2013                                         |                |
| <b>APPROPRIATION/BUDGET ACTIVITY</b><br>1319: <i>Research, Development, Test &amp; Evaluation, Navy</i><br>BA 5: <i>System Development &amp; Demonstration (SDD)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>R-1 ITEM NOMENCLATURE</b><br>PE 0604215N: <i>Standards Development</i> | <b>PROJECT</b><br>0572: <i>JT Service/NV Std Avionics CP/SB</i> |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                           | <b>FY 2012</b>                                                  | <b>FY 2013</b> |
| <p>and maintenance diagnostics. This approach will include development, test, integration, and delivery of development hardware. ADDS will increase mission effectiveness by providing situational awareness, reduce crew workload, and enhanced capability for navigation, and mission planning.</p> <p>Data Transfer Unit (DTU) is a form/fit replacement for the existing Digital Memory Device (DMD), it will perform all the data loader/recorder functions that DMD provides. DTU will add data at rest protection via encryption for all data stored on removable memory; this includes NSA type 1 encryption for mission data and FIPS 140 encryption for maintenance data. DTU will also provide enhanced download speed and increased storage capacity for mission and maintenance data. In order to support full time encryption, DTU will include a ground encryption device for use with the Joint Mission Planning System (JMPS) and software to be integrated into the Automated Maintenance Environment (AME). These enhancements will allow Naval Aircraft to support future weapons, systems, and tactics as well as comply with data at rest requirements.</p> <p><b>FY 2012 Accomplishments:</b><br/>Completed Analysis of Alternatives (AOA) and Material Development Decision/Acquisition Strategy Review (MDD/ASR). Developed system specification and Request for Proposal. Initiated coordination with NSA for information assurance.</p> <p><b>FY 2013 Plans:</b><br/>Award developmental contract(s). Conduct Systems Requirements Review (SRR) and Preliminary Design Review (PDR). Initiate NSA certification with the vendor to develop Type 1 Encryption. Begin JMPS, AME, and aircraft integration.</p> <p><b>FY 2014 Plans:</b><br/>Conduct Critical Design Review and Test Readiness Review. NSA will continue to support the vendor in developing and certifying the Type I encryption. Continue integration efforts and perform flight qualification testing, carrier suitability, and ElectroMagnetic Interference testing.</p> |                                                                           |                                                                 |                |
| <p><b>Title:</b> Mid Air Collision Avoidance Capability (MCAC)</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> This program will conduct research, studies, development, integration, demonstration, test and evaluation efforts to meet Naval Aviation MCAC requirements. Perform MCAC platform integration studies and activities to determine technical and cost effective solutions across Naval Aviation. Develop MCAC algorithm tailored to platform performance and missions. Develop simulation models for use at manned flight simulator (MFS) as required for platform tailoring, including procurement of test article hardware for MFS. Evaluate aircraft simulation models for suitability in MCAC development effort. Develop MCAC algorithms utilizing MFS as real-time hardware and pilot in the loop tool. Develop and evaluate algorithm interfaces necessary for integration of the algorithm within platform host computers and/or Original Manufacture Equipment Military Transponders.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                           | 0.000                                                           | 0.000          |
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| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2014 Navy                                                                                                   |  |  |  |                                                                           |  |  |  |                                                                 |  | <b>DATE:</b> April 2013 |  |
| <b>APPROPRIATION/BUDGET ACTIVITY</b><br>1319: <i>Research, Development, Test &amp; Evaluation, Navy</i><br>BA 5: <i>System Development &amp; Demonstration (SDD)</i> |  |  |  | <b>R-1 ITEM NOMENCLATURE</b><br>PE 0604215N: <i>Standards Development</i> |  |  |  | <b>PROJECT</b><br>0572: <i>JT Service/NV Std Avionics CP/SB</i> |  |                         |  |

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| <b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>                                                                                                                                                                                                                                                                                                                                                                                                           |  |  | <b>FY 2012</b> | <b>FY 2013</b> | <b>FY 2014</b> |
| <b><i>FY 2014 Plans:</i></b><br>Conduct Materiel Development Decision/Acquisition Strategy Review. Conduct pre-Engineering Manufacturing and Development meeting with Milestone Decision Authority. Conduct Specification Review Board, System Readiness Review/System Functional Review and Preliminary Design Review for software algorithms. Achieve Milestone B and begin engineering changes required in military transponder. Initiate engineering, manufacturing, and development efforts. |  |  |                |                |                |
| <b>Accomplishments/Planned Programs Subtotals</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  | 33.454         | 69.745         | 85.236         |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                |                |                         |                        |                          |                |                |                |                |                             |                   |
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| <b>C. Other Program Funding Summary (\$ in Millions)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                |                |                         |                        |                          |                |                |                |                |                             |                   |
| <b>Line Item</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>FY 2012</b> | <b>FY 2013</b> | <b>FY 2014<br/>Base</b> | <b>FY 2014<br/>OCO</b> | <b>FY 2014<br/>Total</b> | <b>FY 2015</b> | <b>FY 2016</b> | <b>FY 2017</b> | <b>FY 2018</b> | <b>Cost To<br/>Complete</b> | <b>Total Cost</b> |
| • APN/05770: <i>Common Avionics</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 150.660        | 96.753         | 120.660                 |                        | 120.660                  | 136.841        | 165.419        | 156.070        | 154.604        | 406.398                     | 3,467.663         |
| <b>Remarks</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                |                |                         |                        |                          |                |                |                |                |                             |                   |
| <b>D. Acquisition Strategy</b><br>CNS/ATM program is a system of systems. The program will encompass the integration of various systems that are currently post-MS C. Systems will be procured utilizing existing contracts for integration on forward-fit and retrofit platforms to provide CNS/ATM functionality. TACCOM is utilizing a firm fixed price contract to Rockwell Collins for research and development of the ARC-210 Gen 5 and other Navy contract vehicles for integration studies. The Navy will integrate systems and components to satisfy platform requirements to achieve tactical communication capability as determined by analyses. GPWS/TAWS Software Modules will be developed by a Government Software Product Team in collaboration with Industry where required. MFOQA Government activities include integrating a combination of existing aircraft hardware, ground support equipment, commercial off the shelf (COTS), government off the shelf hardware and software products. MFOQA program interfaces will be created to share data captured by the automated maintenance systems (e.g., AME, HUMS) and existing databases. The Navy conducted a full and open competition for both the MFOQA software development, integration and support contract as well as the COTS software data analysis product. Follow-on Sole Source Product Contracts will be awarded to complete MFOQA development, as required. AvCIP will annually review, compete and select candidate component improvement proposals according to urgency, criticality of warfighting contributions, technical risk, breadth of application, and scope of Return On Investment. Projects are selected by a panel of Avionics management experts, including representatives from OPNAV N98, NAVAIR, NAVICP, and the Fleet. Projects are executed by managers in platform or commodity offices that own the component. The AvCIP program management team manages project selection, allocates funds, monitors multiple project executions against proposed spend plans, and tracks solution performance and achievement of projected ROI's over time using Fleet maintenance and component performance databases. Cost avoidances are coordinated with OPNAV N98 to balance Flying Hour Program costs. Component improvement solutions include modular hardware, software and material upgrades. Resources cover engineering elements (including design and development, prototypes, platform integration, test and evaluation), program management and associated logistics elements (including technical data preparation, support equipment, provisioning, and training). ADDS will award a contract(s) to Industry for the development and procurement of enabling hardware and software in collaboration with platform program offices utilizing competitive methods wherever possible. Mid Air Collision Avoidance Capability (MCAC) is the capability umbrella which encompasses all systems |                |                |                         |                        |                          |                |                |                |                |                             |                   |

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| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2014 Navy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                           | <b>DATE:</b> April 2013                                         |
| <b>APPROPRIATION/BUDGET ACTIVITY</b><br>1319: <i>Research, Development, Test &amp; Evaluation, Navy</i><br>BA 5: <i>System Development &amp; Demonstration (SDD)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>R-1 ITEM NOMENCLATURE</b><br>PE 0604215N: <i>Standards Development</i> | <b>PROJECT</b><br>0572: <i>JT Service/NV Std Avionics CP/SB</i> |
| <p>designed and developed which may aid in air-to-air collision avoidance. Systems include but are not limited to Traffic Collision Avoidance Systems, and Mid-Air Collision Avoidance Systems. MCAC Software Modules will be developed by a Government Software Product Team in collaboration with Industry where required.</p> <p><b><u>E. Performance Metrics</u></b></p> <p>JSRC - Provide leadership in support of the Navy's interest to the JSRC tri-service committee promoting commonality and joint programs with focus on interoperability, communications, CNS/ATM, Joint Services avionics obsolescence management and the update of the CAMP. Support and participate in NARG panels, OAG, and HFQMB.</p> <p>CNS/ATM - Successfully complete platform integration, test, and certifications.</p> <p>TACCOM - Achieve JITC and NSA certifications on system developmental efforts to meet operational requirements.</p> <p>GPWS/TAWS - Develop algorithm and software to meet platform specific requirements, successfully complete flight test, and deliver product on schedule.</p> <p>MFOQA - Successfully complete MS C and IOC on schedule; successfully complete Phase 2 development and fleet introduction.</p> <p>CW - Identify collaborative warfighting capability gaps and ensure the development of the most intelligent, cost effective, and timely solutions to fill those gaps.</p> <p>AvCIP - Successful project competition and selection, execution of allocated funds, fielding of solutions, and documentation of component performance enhancement and benefits.</p> <p>ADDs - Achieve program acquisition milestones on cost and schedule meeting platform requirements.</p> <p>MCAC - Achieve program acquisition milestones on cost and schedule meeting platform requirements.</p> |                                                                           |                                                                 |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy                                                                                  |                        |                                          |                 |         |            |                                                             |            |              |            |                                                   |            | DATE: April 2013 |                  |            |                          |
|-----------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------------------------|-----------------|---------|------------|-------------------------------------------------------------|------------|--------------|------------|---------------------------------------------------|------------|------------------|------------------|------------|--------------------------|
| APPROPRIATION/BUDGET ACTIVITY<br>1319: Research, Development, Test & Evaluation, Navy<br>BA 5: System Development & Demonstration (SDD) |                        |                                          |                 |         |            | R-1 ITEM NOMENCLATURE<br>PE 0604215N: Standards Development |            |              |            | PROJECT<br>0572: JT Service/NV Std Avionics CP/SB |            |                  |                  |            |                          |
| Product Development (\$ in Millions)                                                                                                    |                        |                                          |                 | FY 2012 |            | FY 2013                                                     |            | FY 2014 Base |            | FY 2014 OCO                                       |            | FY 2014 Total    |                  |            |                          |
| Cost Category Item                                                                                                                      | Contract Method & Type | Performing Activity & Location           | All Prior Years | Cost    | Award Date | Cost                                                        | Award Date | Cost         | Award Date | Cost                                              | Award Date | Cost             | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Dev MFOQA                                                                                                              | SS/CPIF                | Mantech:Fairfax, VA                      | 27.485          | 6.127   | Dec 2011   | 2.922                                                       | Dec 2012   | 2.938        | Dec 2013   | -                                                 |            | 2.938            | 0.000            | 39.472     | 39.471                   |
| Primary Hardware Dev MFOQA                                                                                                              | SS/CPFF                | BGI:Akron, OH                            | 3.981           | 4.156   | May 2012   | 5.073                                                       | Dec 2012   | 6.058        | Dec 2013   | -                                                 |            | 6.058            | 0.000            | 19.268     | 19.268                   |
| Primary Hardware Dev GPWS                                                                                                               | TBD                    | Lockheed Martin:Not Specified            | 0.000           | 0.000   |            | 2.230                                                       | Feb 2013   | 4.779        | Feb 2014   | -                                                 |            | 4.779            | 0.000            | 7.009      | 7.009                    |
| Primary Hardware Dev ADDS                                                                                                               | SS/BOA                 | Physical Optics Corporation:Torrance, CA | 0.000           | 0.000   |            | 8.500                                                       | May 2013   | 0.000        |            | -                                                 |            | 0.000            | 0.000            | 8.500      | 8.500                    |
| Primary Hardware Dev ADDS                                                                                                               | TBD                    | TBD:TBD                                  | 0.000           | 0.000   |            | 16.960                                                      | Jun 2013   | 11.040       | Dec 2013   | -                                                 |            | 11.040           | 8.700            | 36.700     | 36.700                   |
| Primary Hardware Dev MCAC                                                                                                               | TBD                    | BAE:TBD                                  | 0.000           | 0.000   |            | 0.000                                                       |            | 7.740        | Dec 2013   | -                                                 |            | 7.740            | 0.000            | 7.740      | 7.740                    |
| Primary Hardware Dev                                                                                                                    | Various                | Various:Various                          | 61.464          | 0.509   | Mar 2012   | 2.502                                                       | Mar 2013   | 3.408        | Mar 2014   | -                                                 |            | 3.408            | Continuing       | Continuing | Continuing               |
| Aircraft Integration TACCOM                                                                                                             | SS/FFP                 | Rockwell Collins:Cedar Rapids, IA        | 57.049          | 0.000   |            | 0.000                                                       |            | 0.000        |            | -                                                 |            | 0.000            | 0.000            | 57.049     | 57.049                   |
| Aircraft Integration                                                                                                                    | Various                | Various:Various                          | 41.036          | 1.360   | Mar 2012   | 0.764                                                       | Mar 2013   | 1.101        | Mar 2014   | -                                                 |            | 1.101            | Continuing       | Continuing | Continuing               |
| Systems Engineering                                                                                                                     | WR                     | NAWCAD:Patuxent River, MD                | 22.668          | 3.175   | Nov 2011   | 2.853                                                       | Nov 2012   | 4.577        | Dec 2013   | -                                                 |            | 4.577            | Continuing       | Continuing | Continuing               |
| Training Development                                                                                                                    | C/BA                   | DP Associates:Alexandria, VA             | 0.000           | 0.000   |            | 0.027                                                       | Nov 2012   | 0.000        |            | -                                                 |            | 0.000            | 0.000            | 0.027      | 0.027                    |
| Prior year Prod Dev costs no longer funded in FYDP                                                                                      | Various                | Various:Various                          | 337.371         | 0.000   |            | 0.000                                                       |            | 0.000        |            | -                                                 |            | 0.000            | 0.000            | 337.371    |                          |
| Subtotal                                                                                                                                |                        |                                          | 551.054         | 15.327  |            | 41.831                                                      |            | 41.641       |            | 0.000                                             |            | 41.641           |                  |            |                          |
| Support (\$ in Millions)                                                                                                                |                        |                                          |                 | FY 2012 |            | FY 2013                                                     |            | FY 2014 Base |            | FY 2014 OCO                                       |            | FY 2014 Total    |                  |            |                          |
| Cost Category Item                                                                                                                      | Contract Method & Type | Performing Activity & Location           | All Prior Years | Cost    | Award Date | Cost                                                        | Award Date | Cost         | Award Date | Cost                                              | Award Date | Cost             | Cost To Complete | Total Cost | Target Value of Contract |
| Development Support                                                                                                                     | Various                | Various:Various                          | 2.261           | 0.000   |            | 0.000                                                       |            | 0.000        |            | -                                                 |            | 0.000            | Continuing       | Continuing | Continuing               |

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|-----------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------------------------------------|-----------------|---------|------------|-------------------------------------------------------------|------------|--------------|------------|---------------------------------------------------|------------|------------------|------------------|------------|--------------------------|
| Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy                                                                                  |                        |                                                      |                 |         |            |                                                             |            |              |            |                                                   |            | DATE: April 2013 |                  |            |                          |
| APPROPRIATION/BUDGET ACTIVITY<br>1319: Research, Development, Test & Evaluation, Navy<br>BA 5: System Development & Demonstration (SDD) |                        |                                                      |                 |         |            | R-1 ITEM NOMENCLATURE<br>PE 0604215N: Standards Development |            |              |            | PROJECT<br>0572: JT Service/NV Std Avionics CP/SB |            |                  |                  |            |                          |
| Support (\$ in Millions)                                                                                                                |                        |                                                      |                 | FY 2012 |            | FY 2013                                                     |            | FY 2014 Base |            | FY 2014 OCO                                       |            | FY 2014 Total    |                  |            |                          |
| Cost Category Item                                                                                                                      | Contract Method & Type | Performing Activity & Location                       | All Prior Years | Cost    | Award Date | Cost                                                        | Award Date | Cost         | Award Date | Cost                                              | Award Date | Cost             | Cost To Complete | Total Cost | Target Value of Contract |
| Software Development CNS/ATM                                                                                                            | MIPR                   | Defense Technical Information Center:Ft. Belvoir, VA | 0.000           | 0.000   |            | 0.000                                                       |            | 5.661        | Dec 2013   | -                                                 |            | 5.661            | 0.000            | 5.661      | 5.661                    |
| Software Development                                                                                                                    | Various                | Various:Various                                      | 1.975           | 0.000   |            | 0.000                                                       |            | 0.000        |            | -                                                 |            | 0.000            | 0.000            | 1.975      |                          |
| Integrated Logistics Support ADDS                                                                                                       | SS/FFP                 | Boeing:St. Louis, MO                                 | 0.000           | 0.000   |            | 4.343                                                       | Jun 2013   | 1.000        | Dec 2013   | -                                                 |            | 1.000            | 0.000            | 5.343      | 5.343                    |
| Integrated Logistics Support                                                                                                            | Various                | Vartious:Various                                     | 13.558          | 1.962   | Mar 2012   | 1.772                                                       | Mar 2013   | 2.024        | Mar 2014   | -                                                 |            | 2.024            | Continuing       | Continuing | Continuing               |
| Studies and Analysis                                                                                                                    | Various                | Various:Various                                      | 17.172          | 0.100   | Apr 2012   | 0.700                                                       | Feb 2013   | 0.000        |            | -                                                 |            | 0.000            | 0.000            | 17.972     |                          |
| Prior year Support costs no longer funded in FYDP                                                                                       | Various                | Various:Various                                      | 25.371          | 0.000   |            | 0.000                                                       |            | 0.000        |            | -                                                 |            | 0.000            | 0.000            | 25.371     |                          |
| Subtotal                                                                                                                                |                        |                                                      | 60.337          | 2.062   |            | 6.815                                                       |            | 8.685        |            | 0.000                                             |            | 8.685            |                  |            |                          |
| Test and Evaluation (\$ in Millions)                                                                                                    |                        |                                                      |                 | FY 2012 |            | FY 2013                                                     |            | FY 2014 Base |            | FY 2014 OCO                                       |            | FY 2014 Total    |                  |            |                          |
| Cost Category Item                                                                                                                      | Contract Method & Type | Performing Activity & Location                       | All Prior Years | Cost    | Award Date | Cost                                                        | Award Date | Cost         | Award Date | Cost                                              | Award Date | Cost             | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test and Evaluation                                                                                                       | WR                     | NAWCAD:Patuxent River, MD                            | 7.821           | 1.485   | Jan 2012   | 2.394                                                       | Jan 2013   | 5.060        | Jan 2014   | -                                                 |            | 5.060            | Continuing       | Continuing | Continuing               |
| Prior year T&E costs no longer funded in FYDP                                                                                           | Various                | Various:Various                                      | 39.111          | 0.000   |            | 0.000                                                       |            | 0.000        |            | -                                                 |            | 0.000            | 0.000            | 39.111     |                          |
| Subtotal                                                                                                                                |                        |                                                      | 46.932          | 1.485   |            | 2.394                                                       |            | 5.060        |            | 0.000                                             |            | 5.060            |                  |            |                          |
| Management Services (\$ in Millions)                                                                                                    |                        |                                                      |                 | FY 2012 |            | FY 2013                                                     |            | FY 2014 Base |            | FY 2014 OCO                                       |            | FY 2014 Total    |                  |            |                          |
| Cost Category Item                                                                                                                      | Contract Method & Type | Performing Activity & Location                       | All Prior Years | Cost    | Award Date | 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                                      | 51.825          | 7.898   | Feb 2012   | 7.998                                                       | Feb 2013   | 12.429       | Feb 2014   | -                                                 |            | 12.429           | Continuing       | Continuing | Continuing               |

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|---------------------------------------------------------------------------|--|--|--|-----------------------------------------------------------------|--|-------------------------|--|--|
| <b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2014 Navy                                                                                                    |  |  |  |  |  |  |                                                                           |  |  |  |                                                                 |  | <b>DATE:</b> April 2013 |  |  |
| <b>APPROPRIATION/BUDGET ACTIVITY</b><br>1319: <i>Research, Development, Test &amp; Evaluation, Navy</i><br>BA 5: <i>System Development &amp; Demonstration (SDD)</i> |  |  |  |  |  |  | <b>R-1 ITEM NOMENCLATURE</b><br>PE 0604215N: <i>Standards Development</i> |  |  |  | <b>PROJECT</b><br>0572: <i>JT Service/NV Std Avionics CP/SB</i> |  |                         |  |  |

| Management Services (\$ in Millions)           |                        |                                |                 | FY 2012 |            | FY 2013 |            | FY 2014 Base |            | FY 2014 OCO |            | FY 2014 Total |                  |            |                          |
|------------------------------------------------|------------------------|--------------------------------|-----------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item                             | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost    | Award Date | Cost    | Award Date | Cost         | Award Date | Cost        | Award Date | Cost          | Cost To Complete | Total Cost | Target Value of Contract |
| Government Engineering Support                 | WR                     | NAWCAD:Patuxent River, MD      | 14.944          | 4.337   | Mar 2012   | 5.750   | Mar 2013   | 9.075        | Mar 2014   | -           |            | 9.075         | Continuing       | Continuing | Continuing               |
| Program Management Support                     | WR                     | NAWCAD:Patuxent River, MD      | 14.489          | 2.285   | Mar 2012   | 4.836   | Mar 2013   | 8.078        | Mar 2014   | -           |            | 8.078         | Continuing       | Continuing | Continuing               |
| Travel                                         | WR                     | NAVAIR:Patuxent River, MD      | 1.080           | 0.060   | Oct 2011   | 0.121   | Oct 2012   | 0.268        | Oct 2013   | -           |            | 0.268         | Continuing       | Continuing | Continuing               |
| Prior year Mgmt costs no longer funded in FYDP | Various                | Various:Various                | 21.536          | 0.000   |            | 0.000   |            | 0.000        |            | -           |            | 0.000         | 0.000            | 21.536     |                          |
| <b>Subtotal</b>                                |                        |                                | 103.874         | 14.580  |            | 18.705  |            | 29.850       |            | 0.000       |            | 29.850        |                  |            |                          |

|                            | All Prior Years | FY 2012 | FY 2013 | FY 2014 Base | FY 2014 OCO | FY 2014 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-----------------|---------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| <b>Project Cost Totals</b> | 762.197         | 33.454  | 69.745  | 85.236       | 0.000       | 85.236        |                  |            |                          |

**Remarks**

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|-----------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|------------------------------------------------------------------------------------------|----|----|----|---------|----|----|-------------------------------------------------------------|---------|----|----|----|---------|----|----|---------------------------------------------------|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy                                                                                       |  |  |  |  |                                                                                          |    |    |    |         |    |    |                                                             |         |    |    |    |         |    |    | DATE: April 2013                                  |         |    |    |    |         |    |    |    |         |    |    |    |
| APPROPRIATION/BUDGET ACTIVITY<br>1319: Research, Development, Test & Evaluation, Navy<br>BA 5: System Development & Demonstration (SDD) |  |  |  |  |                                                                                          |    |    |    |         |    |    | R-1 ITEM NOMENCLATURE<br>PE 0604215N: Standards Development |         |    |    |    |         |    |    | PROJECT<br>0572: JT Service/NV Std Avionics CP/SB |         |    |    |    |         |    |    |    |         |    |    |    |
| COMMUNICATION, NAVIGATION, SURVEILLANCE/AIR TRAFFIC MGMT (CNS/ATM)                                                                      |  |  |  |  | FY 2012                                                                                  |    |    |    | FY 2013 |    |    |                                                             | FY 2014 |    |    |    | FY 2015 |    |    |                                                   | FY 2016 |    |    |    | FY 2017 |    |    |    | FY 2018 |    |    |    |
|                                                                                                                                         |  |  |  |  | 1Q                                                                                       | 2Q | 3Q | 4Q | 1Q      | 2Q | 3Q | 4Q                                                          | 1Q      | 2Q | 3Q | 4Q | 1Q      | 2Q | 3Q | 4Q                                                | 1Q      | 2Q | 3Q | 4Q | 1Q      | 2Q | 3Q | 4Q | 1Q      | 2Q | 3Q | 4Q |
| Acquisition Milestones                                                                                                                  |  |  |  |  |                                                                                          |    |    |    |         |    |    |                                                             |         |    |    |    |         |    |    |                                                   |         |    |    |    |         |    |    |    |         |    |    |    |
| Systems Development                                                                                                                     |  |  |  |  |                                                                                          |    |    |    |         |    |    |                                                             |         |    |    |    |         |    |    |                                                   |         |    |    |    |         |    |    |    |         |    |    |    |
|                                                                                                                                         |  |  |  |  | Develop Mode S Diversity requirements for developmental platforms                        |    |    |    |         |    |    |                                                             |         |    |    |    |         |    |    |                                                   |         |    |    |    |         |    |    |    |         |    |    |    |
|                                                                                                                                         |  |  |  |  | Evaluate ADS-B (Out) technologies/develop solutions to support platform integrations     |    |    |    |         |    |    |                                                             |         |    |    |    |         |    |    |                                                   |         |    |    |    |         |    |    |    |         |    |    |    |
|                                                                                                                                         |  |  |  |  | Develop CNS/ATM Common Component to support RNP RNAV developmental platform requirements |    |    |    |         |    |    |                                                             |         |    |    |    |         |    |    |                                                   |         |    |    |    |         |    |    |    |         |    |    |    |
| Test and Evaluation                                                                                                                     |  |  |  |  |                                                                                          |    |    |    |         |    |    |                                                             |         |    |    |    |         |    |    |                                                   |         |    |    |    |         |    |    |    |         |    |    |    |
| Integration/Certification of 8.33 kHz, MODE S, Reduced Vertical Separation Minimums (RVSM) and RNP/RNAV                                 |  |  |  |  | P-8A                                                                                     |    |    |    |         |    |    |                                                             |         |    |    |    |         |    |    |                                                   |         |    |    |    |         |    |    |    |         |    |    |    |
|                                                                                                                                         |  |  |  |  |                                                                                          |    |    |    |         |    |    |                                                             |         |    |    |    |         |    |    |                                                   |         |    |    |    |         |    |    |    |         |    |    |    |
|                                                                                                                                         |  |  |  |  | CNS/ATM technologies/certification of developmental platforms                            |    |    |    |         |    |    |                                                             |         |    |    |    |         |    |    |                                                   |         |    |    |    |         |    |    |    |         |    |    |    |
| Production Milestones                                                                                                                   |  |  |  |  |                                                                                          |    |    |    |         |    |    |                                                             |         |    |    |    |         |    |    |                                                   |         |    |    |    |         |    |    |    |         |    |    |    |
| Deliveries                                                                                                                              |  |  |  |  |                                                                                          |    |    |    |         |    |    |                                                             |         |    |    |    |         |    |    |                                                   |         |    |    |    |         |    |    |    |         |    |    |    |
| 2014PB - 0604215N - 0572                                                                                                                |  |  |  |  |                                                                                          |    |    |    |         |    |    |                                                             |         |    |    |    |         |    |    |                                                   |         |    |    |    |         |    |    |    |         |    |    |    |



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PE 0604215N: *Standards Development*  
Navy

R-1 Line #83

**APPROPRIATION/BUDGET ACTIVITY**

1319: *Research, Development, Test & Evaluation, Navy*

**BA 5: System Development & Demonstration (SDD)**

## R-1 ITEM NOMENCLATURE

PE 0604215N: *Standards Development*

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| PROJECT |  |
|---------|--|

0572: JT Service/NV Std Avionics CP/SB

[illegible]

2014PB - 0604215N - 0572

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**Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy**

**DATE:** April 2013

**APPROPRIATION/BUDGET ACTIVITY**

1319: Research, Development, Test & Evaluation, Navy  
BA 5: System Development & Demonstration (SDD)

**R-1 ITEM NOMENCLATURE**

PE 0604215N: Standards Development

**PROJECT**

0572: JT Service/NV Std Avionics CP/SB

| GROUND PROXIMITY WARNING<br>SYSTEM/TERRAIN AWARENESS<br>WARNING SYSTEM<br>(GPWS/TAWS) | FY 2012 |                    |    |    | FY 2013 |    |                                 |    | FY 2014 |    |    |    | FY 2015 |    |    |    | FY 2016 |    |    |    | FY 2017                         |    |    |    | FY 2018 |    |    |    |
|---------------------------------------------------------------------------------------|---------|--------------------|----|----|---------|----|---------------------------------|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------------------------------|----|----|----|---------|----|----|----|
|                                                                                       | 1Q      | 2Q                 | 3Q | 4Q | 1Q      | 2Q | 3Q                              | 4Q | 1Q      | 2Q | 3Q | 4Q | 1Q      | 2Q | 3Q | 4Q | 1Q      | 2Q | 3Q | 4Q | 1Q                              | 2Q | 3Q | 4Q | 1Q      | 2Q | 3Q | 4Q |
| <b>Acquisition Milestones</b>                                                         |         |                    |    |    |         |    |                                 |    |         |    |    |    |         |    |    |    |         |    |    |    |                                 |    |    |    |         |    |    |    |
| Milestones                                                                            |         |                    |    |    |         |    | H-60<br>TAWS<br>II MS<br>B<br>▲ |    |         |    |    |    |         |    |    |    |         |    |    |    | H-60<br>TAWS<br>II MS<br>C<br>▲ |    |    |    |         |    |    |    |
| <b>Systems Development</b>                                                            |         |                    |    |    |         |    |                                 |    |         |    |    |    |         |    |    |    |         |    |    |    |                                 |    |    |    |         |    |    |    |
|                                                                                       |         | H-1 GPWS<br>SW Dev |    |    |         |    |                                 |    |         |    |    |    |         |    |    |    |         |    |    |    |                                 |    |    |    |         |    |    |    |
|                                                                                       |         |                    |    |    |         |    |                                 |    |         |    |    |    |         |    |    |    |         |    |    |    |                                 |    |    |    |         |    |    |    |
| <b>Test and Evaluation</b>                                                            |         |                    |    |    |         |    |                                 |    |         |    |    |    |         |    |    |    |         |    |    |    |                                 |    |    |    |         |    |    |    |
| Developmental Testing                                                                 |         |                    |    |    |         |    | H-1<br>GPWS DT                  |    |         |    |    |    |         |    |    |    |         |    |    |    |                                 |    |    |    |         |    |    |    |
|                                                                                       |         |                    |    |    |         |    |                                 |    |         |    |    |    |         |    |    |    |         |    |    |    |                                 |    |    |    |         |    |    |    |
| Operational Testing                                                                   |         |                    |    |    |         |    |                                 |    |         |    |    |    |         |    |    |    |         |    |    |    |                                 |    |    |    |         |    |    |    |
| <b>Production Milestones</b>                                                          |         |                    |    |    |         |    |                                 |    |         |    |    |    |         |    |    |    |         |    |    |    |                                 |    |    |    |         |    |    |    |
| Deliveries                                                                            |         |                    |    |    |         |    |                                 |    |         |    |    |    |         |    |    |    |         |    |    |    |                                 |    |    |    |         |    |    |    |

2014PB - 0604215N - 0572

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PE 0604215N: *Standards Development*  
Navy

R-1 Line #83

**APPROPRIATION/BUDGET ACTIVITY**  
1319: Research, Development, Test & Evaluation, Navy  
BA 5: System Development & Demonstration (SDD)

PE 0604215N: *Standards Development*

## 0572: JT Service/NV Std Avionics CP/SB

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|                                                      |  |  |  |  |  |  |  |  |  |  |  |  |  |                                    |  |  |  |  |  |  |  |  |  |                                        |  |  |  |  |  |  |  |  |  |
|------------------------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|------------------------------------|--|--|--|--|--|--|--|--|--|----------------------------------------|--|--|--|--|--|--|--|--|--|
| Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy    |  |  |  |  |  |  |  |  |  |  |  |  |  | DATE: April 2013                   |  |  |  |  |  |  |  |  |  |                                        |  |  |  |  |  |  |  |  |  |
| APPROPRIATION/BUDGET ACTIVITY                        |  |  |  |  |  |  |  |  |  |  |  |  |  | R-1 ITEM NOMENCLATURE              |  |  |  |  |  |  |  |  |  | PROJECT                                |  |  |  |  |  |  |  |  |  |
| 1319: Research, Development, Test & Evaluation, Navy |  |  |  |  |  |  |  |  |  |  |  |  |  | PE 0604215N: Standards Development |  |  |  |  |  |  |  |  |  | 0572: JT Service/NV Std Avionics CP/SB |  |  |  |  |  |  |  |  |  |
| BA 5: System Development & Demonstration (SDD)       |  |  |  |  |  |  |  |  |  |  |  |  |  |                                    |  |  |  |  |  |  |  |  |  |                                        |  |  |  |  |  |  |  |  |  |
| H-60R/S                                              |  |  |  |  |  |  |  |  |  |  |  |  |  |                                    |  |  |  |  |  |  |  |  |  | 1 SQDN                                 |  |  |  |  |  |  |  |  |  |
| CH-53E                                               |  |  |  |  |  |  |  |  |  |  |  |  |  |                                    |  |  |  |  |  |  |  |  |  | 1 SQDN                                 |  |  |  |  |  |  |  |  |  |
| AH-1Z, UH-1Y                                         |  |  |  |  |  |  |  |  |  |  |  |  |  |                                    |  |  |  |  |  |  |  |  |  | 1 SQDN                                 |  |  |  |  |  |  |  |  |  |
| Production Milestones                                |  |  |  |  |  |  |  |  |  |  |  |  |  |                                    |  |  |  |  |  |  |  |  |  |                                        |  |  |  |  |  |  |  |  |  |
| Production Fielding                                  |  |  |  |  |  |  |  |  |  |  |  |  |  | Phase 1 Fielding                   |  |  |  |  |  |  |  |  |  | Phase 2 Fielding                       |  |  |  |  |  |  |  |  |  |
| 2014PB - 0604215N - 0572                             |  |  |  |  |  |  |  |  |  |  |  |  |  |                                    |  |  |  |  |  |  |  |  |  |                                        |  |  |  |  |  |  |  |  |  |

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|-----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|----|----|----|---------|----|----|----------------------|---------|----|----|-------------------------------------------------------------|---------|----|----|----|---------|----|----|----|---------|----|------------------|---------------------------------------------------|---------|----|----|----|
| Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy                                                                                       |                                                              |    |    |    |         |    |    |                      |         |    |    |                                                             |         |    |    |    |         |    |    |    |         |    | DATE: April 2013 |                                                   |         |    |    |    |
| APPROPRIATION/BUDGET ACTIVITY<br>1319: Research, Development, Test & Evaluation, Navy<br>BA 5: System Development & Demonstration (SDD) |                                                              |    |    |    |         |    |    |                      |         |    |    | R-1 ITEM NOMENCLATURE<br>PE 0604215N: Standards Development |         |    |    |    |         |    |    |    |         |    |                  | PROJECT<br>0572: JT Service/NV Std Avionics CP/SB |         |    |    |    |
| COLLABORATIVE WARFARE (CW)                                                                                                              | FY 2012                                                      |    |    |    | FY 2013 |    |    |                      | FY 2014 |    |    |                                                             | FY 2015 |    |    |    | FY 2016 |    |    |    | FY 2017 |    |                  |                                                   | FY 2018 |    |    |    |
|                                                                                                                                         | 1Q                                                           | 2Q | 3Q | 4Q | 1Q      | 2Q | 3Q | 4Q                   | 1Q      | 2Q | 3Q | 4Q                                                          | 1Q      | 2Q | 3Q | 4Q | 1Q      | 2Q | 3Q | 4Q | 1Q      | 2Q | 3Q               | 4Q                                                | 1Q      | 2Q | 3Q | 4Q |
| Acquisition Milestones                                                                                                                  |                                                              |    |    |    |         |    |    |                      |         |    |    |                                                             |         |    |    |    |         |    |    |    |         |    |                  |                                                   |         |    |    |    |
| JCIDS Activities                                                                                                                        | NEXT ICD                                                     |    |    |    |         |    |    |                      |         |    |    |                                                             |         |    |    |    |         |    |    |    |         |    |                  |                                                   |         |    |    |    |
| Netted Sensors CONOPS, Standards and Architectures/Requirements Development                                                             | CONOPS, Standards and Architectures/Requirements Development |    |    |    |         |    |    |                      |         |    |    |                                                             |         |    |    |    |         |    |    |    |         |    |                  |                                                   |         |    |    |    |
| Netted Sensors Demonstrations                                                                                                           | FLEX 13                                                      |    |    |    |         |    |    |                      |         |    |    |                                                             |         |    |    |    |         |    |    |    |         |    |                  |                                                   |         |    |    |    |
| Capabilities-Based Assessment                                                                                                           |                                                              |    |    |    |         |    |    | NEXT Gate 1 R3B<br>▼ |         |    |    |                                                             |         |    |    |    |         |    |    |    |         |    |                  |                                                   |         |    |    |    |
| Systems Development                                                                                                                     |                                                              |    |    |    |         |    |    |                      |         |    |    |                                                             |         |    |    |    |         |    |    |    |         |    |                  |                                                   |         |    |    |    |
| Test and Evaluation                                                                                                                     |                                                              |    |    |    |         |    |    |                      |         |    |    |                                                             |         |    |    |    |         |    |    |    |         |    |                  |                                                   |         |    |    |    |
| Production Milestones                                                                                                                   |                                                              |    |    |    |         |    |    |                      |         |    |    |                                                             |         |    |    |    |         |    |    |    |         |    |                  |                                                   |         |    |    |    |
| Deliveries                                                                                                                              |                                                              |    |    |    |         |    |    |                      |         |    |    |                                                             |         |    |    |    |         |    |    |    |         |    |                  |                                                   |         |    |    |    |
| 2014PB - 0604215N - 0572                                                                                                                |                                                              |    |    |    |         |    |    |                      |         |    |    |                                                             |         |    |    |    |         |    |    |    |         |    |                  |                                                   |         |    |    |    |

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|-----------------------------------------------------------------------------------------------------------------------------------------|---------|----|----|----|---------------------------|----|-------------------------------------------------|------------|--------------|-------------------------------------------------------------|----|----|---------|----|----|----|---------|----|------------------|---------------------------------------------------|---------|----|----|----|---------|----|----|----|--|
| Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy                                                                                       |         |    |    |    |                           |    |                                                 |            |              |                                                             |    |    |         |    |    |    |         |    | DATE: April 2013 |                                                   |         |    |    |    |         |    |    |    |  |
| APPROPRIATION/BUDGET ACTIVITY<br>1319: Research, Development, Test & Evaluation, Navy<br>BA 5: System Development & Demonstration (SDD) |         |    |    |    |                           |    |                                                 |            |              | R-1 ITEM NOMENCLATURE<br>PE 0604215N: Standards Development |    |    |         |    |    |    |         |    |                  | PROJECT<br>0572: JT Service/NV Std Avionics CP/SB |         |    |    |    |         |    |    |    |  |
| ADVANCED DIGITAL DATA SET (ADDS)                                                                                                        | FY 2012 |    |    |    | FY 2013                   |    |                                                 |            | FY 2014      |                                                             |    |    | FY 2015 |    |    |    | FY 2016 |    |                  |                                                   | FY 2017 |    |    |    | FY 2018 |    |    |    |  |
|                                                                                                                                         | 1Q      | 2Q | 3Q | 4Q | 1Q                        | 2Q | 3Q                                              | 4Q         | 1Q           | 2Q                                                          | 3Q | 4Q | 1Q      | 2Q | 3Q | 4Q | 1Q      | 2Q | 3Q               | 4Q                                                | 1Q      | 2Q | 3Q | 4Q | 1Q      | 2Q | 3Q | 4Q |  |
| Acquisition Milestones                                                                                                                  |         |    |    |    |                           |    |                                                 |            |              |                                                             |    |    |         |    |    |    |         |    |                  |                                                   |         |    |    |    |         |    |    |    |  |
| Systems Development                                                                                                                     |         |    |    |    |                           |    |                                                 |            |              |                                                             |    |    |         |    |    |    |         |    |                  |                                                   |         |    |    |    |         |    |    |    |  |
| Contract                                                                                                                                |         |    |    |    |                           |    | Phase II/LRIP Award - CH-53K                    |            |              |                                                             |    |    |         |    |    |    |         |    |                  |                                                   |         |    |    |    |         |    |    |    |  |
| NSA Information Assurance                                                                                                               |         |    |    |    | NSA Information Assurance |    |                                                 |            |              |                                                             |    |    |         |    |    |    |         |    |                  |                                                   |         |    |    |    |         |    |    |    |  |
| JMPS Integration                                                                                                                        |         |    |    |    | JMPS Integration - F/A-18 |    |                                                 |            |              |                                                             |    |    |         |    |    |    |         |    |                  |                                                   |         |    |    |    |         |    |    |    |  |
| AME Integration                                                                                                                         |         |    |    |    | AME Integration - F/A-18  |    |                                                 |            |              |                                                             |    |    |         |    |    |    |         |    |                  |                                                   |         |    |    |    |         |    |    |    |  |
| Aircraft Integration/Logistics Support                                                                                                  |         |    |    |    |                           |    | Aircraft Integration/Logistics Support - F/A-18 |            |              |                                                             |    |    |         |    |    |    |         |    |                  |                                                   |         |    |    |    |         |    |    |    |  |
| Design Reviews / Certifications                                                                                                         |         |    |    |    |                           |    | SRR F/A-18                                      | PDR F/A-18 | CDR - F/A-18 | TRR - F/A-18                                                |    |    |         |    |    |    |         |    |                  |                                                   |         |    |    |    |         |    |    |    |  |
| Test and Evaluation                                                                                                                     |         |    |    |    |                           |    |                                                 |            |              |                                                             |    |    |         |    |    |    |         |    |                  |                                                   |         |    |    |    |         |    |    |    |  |
| Production Milestones                                                                                                                   |         |    |    |    |                           |    |                                                 |            |              |                                                             |    |    |         |    |    |    |         |    |                  |                                                   |         |    |    |    |         |    |    |    |  |
| 2014PB - 0604215N - 0572                                                                                                                |         |    |    |    |                           |    |                                                 |            |              |                                                             |    |    |         |    |    |    |         |    |                  |                                                   |         |    |    |    |         |    |    |    |  |

2014PB - 0604215N - 0572

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PE 0604215N: *Standards Development*  
Navy

R-1 Line #83

## R-1 ITEM NOMENCLATURE

PE 0604215N: *Standards Development*

## 0572: JT Service/NV Std Avionics CP/SB

| MID AIR COLLISION AVOIDANCE<br>CAPABILITY (MCAC) | FY 2012 |    |    |    | FY 2013 |    |    |    | FY 2014           |                          |    |                                           | FY 2015  |          |                                 |          | FY 2016     |    |                                       |             | FY 2017 |    |    |    | FY 2018 |    |           |    |  |
|--------------------------------------------------|---------|----|----|----|---------|----|----|----|-------------------|--------------------------|----|-------------------------------------------|----------|----------|---------------------------------|----------|-------------|----|---------------------------------------|-------------|---------|----|----|----|---------|----|-----------|----|--|
|                                                  | 1Q      | 2Q | 3Q | 4Q | 1Q      | 2Q | 3Q | 4Q | 1Q                | 2Q                       | 3Q | 4Q                                        | 1Q       | 2Q       | 3Q                              | 4Q       | 1Q          | 2Q | 3Q                                    | 4Q          | 1Q      | 2Q | 3Q | 4Q | 1Q      | 2Q | 3Q        | 4Q |  |
| Acquisition Milestones                           |         |    |    |    |         |    |    |    | CDD Complete<br>▼ |                          |    | Pre-EMD<br>▼<br>MDD/ASR<br>■<br>MS B<br>▲ |          |          |                                 |          |             |    |                                       |             |         |    |    |    |         |    | MS C<br>▲ |    |  |
| Systems Development                              |         |    |    |    |         |    |    |    |                   | SRB<br>■<br>SRR/SFR<br>■ |    |                                           | PDR<br>■ | CDR<br>■ | Software Design and Development |          |             |    | Platform Integration and Test Support |             |         |    |    |    |         |    |           |    |  |
| Integration                                      |         |    |    |    |         |    |    |    |                   |                          |    |                                           | MH-60R/S |          |                                 |          | UH-1Y/AH-1Z |    |                                       |             |         |    |    |    |         |    |           |    |  |
| Test and Evaluation                              |         |    |    |    |         |    |    |    |                   |                          |    |                                           |          |          |                                 | MH-60R/S |             |    |                                       | UH-1Y/AH-1Z |         |    |    |    |         |    |           |    |  |

2014PB - 0604215N - 0572

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|-----------------------------------------------------------------------------------------------------------------------------------------|---------|----|----|----|---------|----|----|----|---------|----|----|-------------------------------------------------------------|---------|----|----|----|---------|----|----|---------------------------------------------------|---------|----|----|------------------|---------|----|----|----|
| Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy                                                                                       |         |    |    |    |         |    |    |    |         |    |    |                                                             |         |    |    |    |         |    |    |                                                   |         |    |    | DATE: April 2013 |         |    |    |    |
| APPROPRIATION/BUDGET ACTIVITY<br>1319: Research, Development, Test & Evaluation, Navy<br>BA 5: System Development & Demonstration (SDD) |         |    |    |    |         |    |    |    |         |    |    | R-1 ITEM NOMENCLATURE<br>PE 0604215N: Standards Development |         |    |    |    |         |    |    | PROJECT<br>0572: JT Service/NV Std Avionics CP/SB |         |    |    |                  |         |    |    |    |
| AVIONICS COMPONENT<br>IMPROVEMENT PROGRAM<br>(AvCIP)                                                                                    | FY 2012 |    |    |    | FY 2013 |    |    |    | FY 2014 |    |    |                                                             | FY 2015 |    |    |    | FY 2016 |    |    |                                                   | FY 2017 |    |    |                  | FY 2018 |    |    |    |
|                                                                                                                                         | 1Q      | 2Q | 3Q | 4Q | 1Q      | 2Q | 3Q | 4Q | 1Q      | 2Q | 3Q | 4Q                                                          | 1Q      | 2Q | 3Q | 4Q | 1Q      | 2Q | 3Q | 4Q                                                | 1Q      | 2Q | 3Q | 4Q               | 1Q      | 2Q | 3Q | 4Q |
| Acquisition Milestones                                                                                                                  |         |    |    |    |         |    |    |    |         |    |    |                                                             |         |    |    |    |         |    |    |                                                   |         |    |    |                  |         |    |    |    |
| Funding Allocation                                                                                                                      | ▼       |    |    |    | ▼       |    |    |    | ▼       |    |    |                                                             | ▼       |    |    |    | ▼       |    |    |                                                   | ▼       |    |    |                  | ▼       |    |    |    |
| Proposal Collection                                                                                                                     |         |    |    |    |         |    |    |    |         |    |    |                                                             |         |    |    |    |         |    |    |                                                   |         |    |    |                  |         |    |    |    |
| Proposal Evaluation                                                                                                                     |         | ▼  |    |    |         | ▼  |    |    |         | ▼  |    |                                                             |         | ▼  |    |    |         | ▼  |    |                                                   |         | ▼  |    |                  |         | ▼  |    |    |
| Proposal Prioritization and Selection                                                                                                   |         |    | ▼  |    |         | ▼  |    |    |         | ▼  |    |                                                             |         | ▼  |    |    |         | ▼  |    |                                                   |         | ▼  |    |                  |         | ▼  |    |    |
| Contract Establishment & Execution Plan                                                                                                 |         |    |    |    |         |    |    |    |         |    |    |                                                             |         |    |    |    |         |    |    |                                                   |         |    |    |                  |         |    |    |    |
| Systems Development                                                                                                                     |         |    |    |    |         |    |    |    |         |    |    |                                                             |         |    |    |    |         |    |    |                                                   |         |    |    |                  |         |    |    |    |
| Test and Evaluation                                                                                                                     |         |    |    |    |         |    |    |    |         |    |    |                                                             |         |    |    |    |         |    |    |                                                   |         |    |    |                  |         |    |    |    |
| Production Milestones                                                                                                                   |         |    |    |    |         |    |    |    |         |    |    |                                                             |         |    |    |    |         |    |    |                                                   |         |    |    |                  |         |    |    |    |
| Deliveries                                                                                                                              |         |    |    |    |         |    |    |    |         |    |    |                                                             |         |    |    |    |         |    |    |                                                   |         |    |    |                  |         |    |    |    |
| 2014PB - 0604215N - 0572                                                                                                                |         |    |    |    |         |    |    |    |         |    |    |                                                             |         |    |    |    |         |    |    |                                                   |         |    |    |                  |         |    |    |    |



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| <b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2014 Navy                                                                                                        |                                                                           |                                                                 | <b>DATE:</b> April 2013 |
| <b>APPROPRIATION/BUDGET ACTIVITY</b><br>1319: <i>Research, Development, Test &amp; Evaluation, Navy</i><br>BA 5: <i>System Development &amp; Demonstration (SDD)</i> | <b>R-1 ITEM NOMENCLATURE</b><br>PE 0604215N: <i>Standards Development</i> | <b>PROJECT</b><br>0572: <i>JT Service/NV Std Avionics CP/SB</i> |                         |

**Schedule Details**

| Events by Sub Project                                                                                                                                                                         | Start   |      | End     |      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|------|---------|------|
|                                                                                                                                                                                               | Quarter | Year | Quarter | Year |
| <b>COMMUNICATION, NAVIGATION, SURVEILLANCE/AIR TRAFFIC MGMT (CNS/ATM)</b>                                                                                                                     |         |      |         |      |
| Systems Development: Develop Mode S Diversity requirements for developmental platforms                                                                                                        | 1       | 2013 | 4       | 2014 |
| Systems Development: Evaluate ADS-B (Out) technologies and develop solutions to support platform integrations                                                                                 | 1       | 2013 | 4       | 2018 |
| Systems Development: Develop CNS/ATM Common Component to support RNP RNAV developmental platform requirements                                                                                 | 1       | 2013 | 4       | 2018 |
| Test and Evaluation: Integration/Certification of 8.33 kHz, MODE S, Reduced Vertical Separation Minimums (RVSM) and RNP/RNAV: P-8A Integration/Certification 8.33 kHz, MODE S, RVSM, RNP RNAV | 1       | 2012 | 1       | 2014 |
| Test and Evaluation: Integration/Certification of 8.33 kHz, MODE S, Reduced Vertical Separation Minimums (RVSM) and RNP/RNAV: CNS/ATM technologies/certification of developmental platforms   | 1       | 2012 | 4       | 2018 |
| <b>TACTICAL COMMUNICATIONS (TACCOM)</b>                                                                                                                                                       |         |      |         |      |
| Systems Development: GEN 5 Integrated Waveform Satellite Communications (SATCOM) S/W Development                                                                                              | 1       | 2012 | 1       | 2012 |
| Systems Development: GEN 5 Integrated Waveform Satellite Communications (SATCOM) S/W Development Phase 2                                                                                      | 2       | 2016 | 3       | 2018 |
| Systems Development: GEN 5 Crypto Algorithm Assessment/Development                                                                                                                            | 1       | 2012 | 1       | 2013 |
| Systems Development: GEN 5 SATCOM P3I S/W Assessment/Development                                                                                                                              | 1       | 2012 | 4       | 2015 |
| Systems Development: Joint Precision Approach Landing System (S/W) Integration                                                                                                                | 4       | 2015 | 3       | 2018 |
| Test and Evaluation: GEN 5 JTIC Certification1                                                                                                                                                | 1       | 2012 | 1       | 2012 |
| Test and Evaluation: GEN 5 JTIC Certification2                                                                                                                                                | 4       | 2014 | 4       | 2014 |
| Test and Evaluation: GEN 5 National Security Agency (NSA) Certification1                                                                                                                      | 4       | 2012 | 4       | 2012 |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy                                                                                      |                                                             |      | DATE: April 2013                                  |      |
| APPROPRIATION/BUDGET ACTIVITY<br>1319: Research, Development, Test & Evaluation, Navy<br>BA 5: System Development & Demonstration (SDD) | R-1 ITEM NOMENCLATURE<br>PE 0604215N: Standards Development |      | PROJECT<br>0572: JT Service/NV Std Avionics CP/SB |      |
|                                                                                                                                         | Start                                                       |      | End                                               |      |
| Events by Sub Project                                                                                                                   | Quarter                                                     | Year | Quarter                                           | Year |
| Production Milestones: GEN 5 Evol S/W Releases 3                                                                                        | 3                                                           | 2012 | 3                                                 | 2012 |
| Production Milestones: GEN 5 Evol S/W Releases 4                                                                                        | 3                                                           | 2013 | 3                                                 | 2013 |
| Production Milestones: GEN 5 Evol S/W Releases 5                                                                                        | 1                                                           | 2015 | 1                                                 | 2015 |
| Production Milestones: GEN 5 Evol S/W Releases 6                                                                                        | 2                                                           | 2016 | 2                                                 | 2016 |
| Production Milestones: GEN 5 Evol S/W Releases 7                                                                                        | 4                                                           | 2017 | 4                                                 | 2017 |
| GROUND PROXIMITY WARNING SYSTEM/TERRAIN AWARENESS WARNING SYSTEM (GPWS/TAWS)                                                            |                                                             |      |                                                   |      |
| Acquisition Milestones: Milestones: H-60 TAWS II MS B                                                                                   | 3                                                           | 2013 | 3                                                 | 2013 |
| Acquisition Milestones: Milestones: H-60 TAWS II MS C                                                                                   | 2                                                           | 2017 | 2                                                 | 2017 |
| Systems Development: H-1 GPWS SW Dev                                                                                                    | 2                                                           | 2012 | 4                                                 | 2012 |
| Systems Development: H-60 TAWS II Software Development                                                                                  | 4                                                           | 2013 | 2                                                 | 2015 |
| Systems Development: V-22 TAWS II Reqts Dev                                                                                             | 3                                                           | 2017 | 2                                                 | 2018 |
| Systems Development: V-22 TAWS II SW Dev                                                                                                | 3                                                           | 2018 | 4                                                 | 2018 |
| Test and Evaluation: Developmental Testing: H-1 GPWS DT                                                                                 | 2                                                           | 2013 | 3                                                 | 2013 |
| Test and Evaluation: Developmental Testing: H-60 TAWS II DT                                                                             | 3                                                           | 2015 | 3                                                 | 2016 |
| MILITARY FLIGHT OPERATION QUALITY ASSURANCE (MFOQA)                                                                                     |                                                             |      |                                                   |      |
| Acquisition Milestones: Milestones: Milestone C (MS C)                                                                                  | 2                                                           | 2014 | 2                                                 | 2014 |
| Acquisition Milestones: Milestones: IOC                                                                                                 | 2                                                           | 2014 | 2                                                 | 2014 |
| Acquisition Milestones: Milestones: Phase 2 Fielding Decision                                                                           | 2                                                           | 2016 | 2                                                 | 2016 |
| Systems Development: Reviews: Phase 1 Req Dev                                                                                           | 2                                                           | 2012 | 2                                                 | 2012 |
| Systems Development: Reviews: Phase 1 Sys Integration                                                                                   | 3                                                           | 2012 | 2                                                 | 2013 |
| Systems Development: Reviews: Phase 2 Req Dev                                                                                           | 4                                                           | 2013 | 2                                                 | 2014 |
| Systems Development: Reviews: Phase 2 Sys Integration                                                                                   | 3                                                           | 2014 | 2                                                 | 2015 |
| Systems Development: Reviews: CDR                                                                                                       | 3                                                           | 2012 | 3                                                 | 2012 |
| Systems Development: Flight Visualization and Data Analysis (FVDA) S/W Modules: FVDA S/W Modules OPT4                                   | 1                                                           | 2012 | 1                                                 | 2012 |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy                                                                                                                                  |         |                                                             | DATE: April 2013 |                                                   |
| APPROPRIATION/BUDGET ACTIVITY<br>1319: Research, Development, Test & Evaluation, Navy<br>BA 5: System Development & Demonstration (SDD)                                             |         | R-1 ITEM NOMENCLATURE<br>PE 0604215N: Standards Development |                  | PROJECT<br>0572: JT Service/NV Std Avionics CP/SB |
|                                                                                                                                                                                     |         | Start                                                       |                  | End                                               |
| Events by Sub Project                                                                                                                                                               | Quarter | Year                                                        | Quarter          | Year                                              |
| Systems Development: Flight Visualization and Data Analysis (FVDA) S/W Modules: FVDA S/W Modules Contract Award RDTEN                                                               | 1       | 2013                                                        | 1                | 2013                                              |
| Systems Development: Flight Visualization and Data Analysis (FVDA) S/W Modules: Phase 2 Mod                                                                                         | 1       | 2014                                                        | 1                | 2014                                              |
| Systems Development: Product Team: Product Team Contract Award RDT&EN OPT5                                                                                                          | 1       | 2012                                                        | 1                | 2012                                              |
| Systems Development: Product Team: Product Team Contract Award RDT&EN CA                                                                                                            | 3       | 2012                                                        | 3                | 2012                                              |
| Systems Development: Product Team: Phase 2 Mod                                                                                                                                      | 1       | 2014                                                        | 1                | 2014                                              |
| Test and Evaluation: F/A-18 Testing: Phase 1 Testing                                                                                                                                | 3       | 2013                                                        | 4                | 2013                                              |
| Test and Evaluation: Reviews: Phase 1 TRR                                                                                                                                           | 2       | 2013                                                        | 2                | 2013                                              |
| Test and Evaluation: MH-53R/S, M/CH-53E, AH-1Z, UH-1Y Testing: Phase 2 Test                                                                                                         | 3       | 2015                                                        | 1                | 2016                                              |
| Test and Evaluation: Reviews: Phase 2 TRR                                                                                                                                           | 2       | 2015                                                        | 2                | 2015                                              |
| Deliveries: F/A-18: 1 Squadron R&D                                                                                                                                                  | 2       | 2014                                                        | 2                | 2014                                              |
| Deliveries: H-60R/S: 1 Squadron R&D                                                                                                                                                 | 3       | 2016                                                        | 3                | 2016                                              |
| Deliveries: CH-53E: 1 Squadron R&D                                                                                                                                                  | 3       | 2016                                                        | 3                | 2016                                              |
| Deliveries: AH-1Z, UH-1Y: 1 Squadron R&D                                                                                                                                            | 3       | 2016                                                        | 3                | 2016                                              |
| Production Milestones: Production Fielding: Phase 1 Fielding                                                                                                                        | 2       | 2014                                                        | 4                | 2015                                              |
| Production Milestones: Production Fielding: Phase 2 Fielding                                                                                                                        | 2       | 2016                                                        | 4                | 2017                                              |
| COLLABORATIVE WARFARE (CW)                                                                                                                                                          |         |                                                             |                  |                                                   |
| Acquisition Milestones: JCIDS Activities: NEXT ICD                                                                                                                                  | 1       | 2012                                                        | 2                | 2013                                              |
| Acquisition Milestones: Netted Sensors CONOPS, Standards and Architectures/ Requirements Development: Netted Sensors CONOPS, Standards, and Architectures/ Requirements Development | 1       | 2012                                                        | 4                | 2018                                              |
| Acquisition Milestones: Netted Sensors Demonstrations: FLEX 13                                                                                                                      | 2       | 2012                                                        | 3                | 2013                                              |
| Acquisition Milestones: Capabilities-Based Assessment: NEXT Gate 1 R3B                                                                                                              | 4       | 2013                                                        | 4                | 2013                                              |
| ADVANCED DIGITAL DATA SET (ADDS)                                                                                                                                                    |         |                                                             |                  |                                                   |
| Systems Development: Contract: Phase II/LRIP Award - CH-53K                                                                                                                         | 3       | 2013                                                        | 3                | 2013                                              |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy                                                                                      |                                                             |      | DATE: April 2013                                  |      |
| APPROPRIATION/BUDGET ACTIVITY<br>1319: Research, Development, Test & Evaluation, Navy<br>BA 5: System Development & Demonstration (SDD) | R-1 ITEM NOMENCLATURE<br>PE 0604215N: Standards Development |      | PROJECT<br>0572: JT Service/NV Std Avionics CP/SB |      |
|                                                                                                                                         | Start                                                       |      | End                                               |      |
| Events by Sub Project                                                                                                                   | Quarter                                                     | Year | Quarter                                           | Year |
| Systems Development: NSA Information Assurance: NSA Effort - F/A-18                                                                     | 2                                                           | 2012 | 4                                                 | 2014 |
| Systems Development: JMPS Integration: JMPS Integration - F/A-18                                                                        | 2                                                           | 2013 | 4                                                 | 2014 |
| Systems Development: AME Integration: AME Integration - F/A-18                                                                          | 2                                                           | 2013 | 4                                                 | 2014 |
| Systems Development: Aircraft Integration/Logistics Support: Aircraft Integration/Logistics Support - F/A-18                            | 4                                                           | 2013 | 4                                                 | 2014 |
| Systems Development: Design Reviews / Certifications: SRR                                                                               | 3                                                           | 2013 | 3                                                 | 2013 |
| Systems Development: Design Reviews / Certifications: PDR - F/A-18                                                                      | 4                                                           | 2013 | 4                                                 | 2013 |
| Systems Development: Design Reviews / Certifications: CDR - F/A-18                                                                      | 2                                                           | 2014 | 2                                                 | 2014 |
| Systems Development: Design Reviews / Certifications: TRR - F/A-18                                                                      | 4                                                           | 2014 | 4                                                 | 2014 |
| MID AIR COLLISION AVOIDANCE CAPABILITY (MCAC)                                                                                           |                                                             |      |                                                   |      |
| Acquisition Milestones: CDD Complete                                                                                                    | 1                                                           | 2014 | 1                                                 | 2014 |
| Acquisition Milestones: Pre-EMD                                                                                                         | 3                                                           | 2014 | 3                                                 | 2014 |
| Acquisition Milestones: MDD/ASR                                                                                                         | 3                                                           | 2014 | 3                                                 | 2014 |
| Acquisition Milestones: MS B                                                                                                            | 3                                                           | 2014 | 3                                                 | 2014 |
| Acquisition Milestones: MS C                                                                                                            | 1                                                           | 2018 | 1                                                 | 2018 |
| Systems Development: SRB                                                                                                                | 2                                                           | 2014 | 2                                                 | 2014 |
| Systems Development: SRR/SFR                                                                                                            | 2                                                           | 2014 | 2                                                 | 2014 |
| Systems Development: PDR                                                                                                                | 4                                                           | 2014 | 4                                                 | 2014 |
| Systems Development: CDR                                                                                                                | 1                                                           | 2015 | 1                                                 | 2015 |
| Systems Development: Software Design and Development                                                                                    | 4                                                           | 2014 | 2                                                 | 2016 |
| Systems Development: Platform Integration and Test Support                                                                              | 1                                                           | 2015 | 4                                                 | 2018 |
| Integration: MH-60R/S                                                                                                                   | 1                                                           | 2015 | 1                                                 | 2016 |
| Integration: UH-1Y/AH-1Z                                                                                                                | 4                                                           | 2015 | 1                                                 | 2017 |
| Test and Evaluation: MH-60R/S                                                                                                           | 1                                                           | 2016 | 1                                                 | 2018 |
| Test and Evaluation: UH-1Y/AH-1Z                                                                                                        | 1                                                           | 2017 | 4                                                 | 2018 |
| AVIONICS COMPONENT IMPROVEMENT PROGRAM (AvCIP)                                                                                          |                                                             |      |                                                   |      |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy                                                                                      |  |                                                             | DATE: April 2013 |                                                   |
| APPROPRIATION/BUDGET ACTIVITY<br>1319: Research, Development, Test & Evaluation, Navy<br>BA 5: System Development & Demonstration (SDD) |  | R-1 ITEM NOMENCLATURE<br>PE 0604215N: Standards Development |                  | PROJECT<br>0572: JT Service/NV Std Avionics CP/SB |
|                                                                                                                                         |  | Start                                                       |                  | End                                               |
| Events by Sub Project                                                                                                                   |  | Quarter                                                     | Year             | Quarter<br>Year                                   |
| Acquisition Milestones: Funding Allocation: Funding Allocation 12                                                                       |  | 1                                                           | 2012             | 1<br>2012                                         |
| Acquisition Milestones: Funding Allocation: Funding Allocation 13                                                                       |  | 1                                                           | 2013             | 1<br>2013                                         |
| Acquisition Milestones: Funding Allocation: Funding Allocation 14                                                                       |  | 1                                                           | 2014             | 1<br>2014                                         |
| Acquisition Milestones: Funding Allocation: Funding Allocation 15                                                                       |  | 1                                                           | 2015             | 1<br>2015                                         |
| Acquisition Milestones: Funding Allocation: Funding Allocation 16                                                                       |  | 1                                                           | 2016             | 1<br>2016                                         |
| Acquisition Milestones: Funding Allocation: Funding Allocation 17                                                                       |  | 1                                                           | 2017             | 1<br>2017                                         |
| Acquisition Milestones: Funding Allocation: Funding Allocation 18                                                                       |  | 1                                                           | 2018             | 1<br>2018                                         |
| Acquisition Milestones: Proposal Collection: Proposal Collection 12                                                                     |  | 1                                                           | 2012             | 2<br>2012                                         |
| Acquisition Milestones: Proposal Collection: Proposal Collection 13                                                                     |  | 1                                                           | 2013             | 2<br>2013                                         |
| Acquisition Milestones: Proposal Collection: Proposal Collection 14                                                                     |  | 1                                                           | 2014             | 2<br>2014                                         |
| Acquisition Milestones: Proposal Collection: Proposal Collection 15                                                                     |  | 1                                                           | 2015             | 2<br>2015                                         |
| Acquisition Milestones: Proposal Collection: Proposal Collection 16                                                                     |  | 1                                                           | 2016             | 2<br>2016                                         |
| Acquisition Milestones: Proposal Collection: Proposal Collection 17                                                                     |  | 1                                                           | 2017             | 2<br>2017                                         |
| Acquisition Milestones: Proposal Collection: Proposal Collection 18                                                                     |  | 1                                                           | 2018             | 2<br>2018                                         |
| Acquisition Milestones: Proposal Evaluation: Proposal Evaluation 12                                                                     |  | 2                                                           | 2012             | 2<br>2012                                         |
| Acquisition Milestones: Proposal Evaluation: Proposal Evaluation 13                                                                     |  | 2                                                           | 2013             | 2<br>2013                                         |
| Acquisition Milestones: Proposal Evaluation: Proposal Evaluation 14                                                                     |  | 2                                                           | 2014             | 2<br>2014                                         |
| Acquisition Milestones: Proposal Evaluation: Proposal Evaluation 15                                                                     |  | 2                                                           | 2015             | 2<br>2015                                         |
| Acquisition Milestones: Proposal Evaluation: Proposal Evaluation 16                                                                     |  | 2                                                           | 2016             | 2<br>2016                                         |
| Acquisition Milestones: Proposal Evaluation: Proposal Evaluation 17                                                                     |  | 2                                                           | 2017             | 2<br>2017                                         |
| Acquisition Milestones: Proposal Evaluation: Proposal Evaluation 18                                                                     |  | 2                                                           | 2018             | 2<br>2018                                         |
| Acquisition Milestones: Proposal Prioritization and Selection: Proposal Prioritization and Selection 12                                 |  | 3                                                           | 2012             | 3<br>2012                                         |
| Acquisition Milestones: Proposal Prioritization and Selection: Proposal Prioritization and Selection 13                                 |  | 3                                                           | 2013             | 3<br>2013                                         |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy                                                                                      |  |                                                             | DATE: April 2013 |                                                   |
| APPROPRIATION/BUDGET ACTIVITY<br>1319: Research, Development, Test & Evaluation, Navy<br>BA 5: System Development & Demonstration (SDD) |  | R-1 ITEM NOMENCLATURE<br>PE 0604215N: Standards Development |                  | PROJECT<br>0572: JT Service/NV Std Avionics CP/SB |
|                                                                                                                                         |  | Start                                                       |                  | End                                               |
| Events by Sub Project                                                                                                                   |  | Quarter                                                     | Year             | Quarter<br>Year                                   |
| Acquisition Milestones: Proposal Prioritization and Selection: Proposal Prioritization and Selection 14                                 |  | 3                                                           | 2014             | 3<br>2014                                         |
| Acquisition Milestones: Proposal Prioritization and Selection: Proposal Prioritization and Selection 15                                 |  | 3                                                           | 2015             | 3<br>2015                                         |
| Acquisition Milestones: Proposal Prioritization and Selection: Proposal Prioritization and Selection 16                                 |  | 3                                                           | 2016             | 3<br>2016                                         |
| Acquisition Milestones: Proposal Prioritization and Selection: Proposal Prioritization and Selection 17                                 |  | 3                                                           | 2017             | 3<br>2017                                         |
| Acquisition Milestones: Proposal Prioritization and Selection: Proposal Prioritization and Selection 18                                 |  | 3                                                           | 2018             | 3<br>2018                                         |
| Acquisition Milestones: Contract Establishment & Execution Plan: Contract Establishment & Execution Plan 12                             |  | 3                                                           | 2012             | 4<br>2012                                         |
| Acquisition Milestones: Contract Establishment & Execution Plan: Contract Establishment & Execution Plan 13                             |  | 3                                                           | 2013             | 4<br>2013                                         |
| Acquisition Milestones: Contract Establishment & Execution Plan: Contract Establishment & Execution Plan 14                             |  | 3                                                           | 2014             | 4<br>2014                                         |
| Acquisition Milestones: Contract Establishment & Execution Plan: Contract Establishment & Execution Plan 15                             |  | 3                                                           | 2015             | 4<br>2015                                         |
| Acquisition Milestones: Contract Establishment & Execution Plan: Contract Establishment & Execution Plan 16                             |  | 3                                                           | 2016             | 4<br>2016                                         |
| Acquisition Milestones: Contract Establishment & Execution Plan: Contract Establishment & Execution Plan 17                             |  | 3                                                           | 2017             | 4<br>2017                                         |
| Acquisition Milestones: Contract Establishment & Execution Plan: Contract Establishment & Execution Plan 18                             |  | 3                                                           | 2018             | 4<br>2018                                         |

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|----------------------|--------------|-------------------------------------------------------------|---------------|---------|---------|----------------------------------------|---------|------------------|------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                 |         |                      |              |                                                             |               |         |         | DATE: April 2013                       |         |                  |            |
| APPROPRIATION/BUDGET ACTIVITY<br>1319: Research, Development, Test & Evaluation, Navy<br>BA 5: System Development & Demonstration (SDD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                 |         |                      |              | R-1 ITEM NOMENCLATURE<br>PE 0604215N: Standards Development |               |         |         | PROJECT<br>1857: Calibration Standards |         |                  |            |
| COST (\$ in Millions)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | All Prior Years | FY 2012 | FY 2013 <sup>#</sup> | FY 2014 Base | FY 2014 OCO <sup>##</sup>                                   | FY 2014 Total | FY 2015 | FY 2016 | FY 2017                                | FY 2018 | Cost To Complete | Total Cost |
| 1857: Calibration Standards                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 7.698           | 1.338   | 1.856                | 1.835        | -                                                           | 1.835         | 1.909   | 1.939   | 1.985                                  | 2.011   | Continuing       | Continuing |
| Quantity of RDT&E Articles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0               | 0       | 0                    | 0            |                                                             | 0             | 0       | 0       | 0                                      | 0       |                  |            |
| # FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 |         |                      |              |                                                             |               |         |         |                                        |         |                  |            |
| ## The FY 2014 OCO Request will be submitted at a later date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 |         |                      |              |                                                             |               |         |         |                                        |         |                  |            |
| A. Mission Description and Budget Item Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                 |         |                      |              |                                                             |               |         |         |                                        |         |                  |            |
| OPNAV sponsored (by instruction), Navy-wide program which addresses Metrology related RDT&E issues for navy weapon systems, shipboard platforms, Naval Air, and Fleet Ground Marines. It supports development of calibration standards (equipment, procedures and technical data) required to resolve Metcal related safety, obsolescence, new and emerging technology support and cost reduction issues. It funds Navy unique and lead service responsibilities in DoD and Joint Services Metrology Research Programs to develop calibration solutions. The line supports development of measurement requirements to verify performance of all test systems used to validate the operation of Navy weapon Systems with calibration standards traceable to the National Institute of Standards and Technology to calibrate, sustain and ensure performance accuracy. |                 |         |                      |              |                                                             |               |         |         |                                        |         |                  |            |
| This program also provides benefits and efficiencies in a joint collaborative environment within the Tri-Services. Projects are identified and defined so that they will meet the universal requirement. Development efforts are integrated in order to achieve the common capabilities required at minimum cost. This is also a regular and common business practice within the Navy Metrology Community where R&D efforts are communicated and integrated into the multiple testing and Monitoring Systems. This is done in support of Program Managers, Sponsors, and Principle Executive officers. As a result, common requirements are established, duplication of efforts are eliminated, and best value, high quality Metcal products are produced for the Navy.                                                                                              |                 |         |                      |              |                                                             |               |         |         |                                        |         |                  |            |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |         |                      |              |                                                             |               |         |         | FY 2012                                | FY 2013 | FY 2014          |            |
| Title: Calibration Standards                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                 |         |                      |              |                                                             |               |         |         | 1.338                                  | 1.856   | 1.835            |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |         |                      |              |                                                             |               |         |         | 0                                      | 0       | 0                |            |
| FY 2012 Accomplishments:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                 |         |                      |              |                                                             |               |         |         |                                        |         |                  |            |
| (\$ .130) Transition a calibration standard (hardware) in support of chemical and biological detection systems.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |         |                      |              |                                                             |               |         |         |                                        |         |                  |            |
| (\$ .253) Transition a couple of electro optical measurement calibration standards (hardware) to support flight safety and operations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |         |                      |              |                                                             |               |         |         |                                        |         |                  |            |
| (\$ .180) Transition analytical metrology (processes) in support of automated interval and uncertainty analysis.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |         |                      |              |                                                             |               |         |         |                                        |         |                  |            |
| (\$ .165) Continue development of calibration standards (hardware) in support of chemical and biological detection systems (chemical warfare agent detection systems).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |         |                      |              |                                                             |               |         |         |                                        |         |                  |            |

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| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2014 Navy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | <b>DATE:</b> April 2013                                                   |                                                      |
| <b>APPROPRIATION/BUDGET ACTIVITY</b><br>1319: <i>Research, Development, Test &amp; Evaluation, Navy</i><br>BA 5: <i>System Development &amp; Demonstration (SDD)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | <b>R-1 ITEM NOMENCLATURE</b><br>PE 0604215N: <i>Standards Development</i> | <b>PROJECT</b><br>1857: <i>Calibration Standards</i> |
| <b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | <b>FY 2012</b>                                                            | <b>FY 2013</b>                                       |
| (\$.231) Continue development of physical and mechanical calibration standards (hardware) in support of Fleet shipboard calibration enhancements.<br><br>(\$.250) Continue development of electro optical standards (hardware) in support of safety of flight operations.<br><br>(\$.129) Continue development of analytical metrology (processes) in support of automated interval and uncertainty analysis.<br><b>FY 2013 Plans:</b><br>(\$.759) Continue to develop calibration standards (hardware) in support of physical mechanical and chemical biological detection systems.<br><br>(\$.321) Continue development of physical and mechanical calibration standards in support of Fleet shipboard calibration enhancements.<br><br>(\$.776) Continue development of standards in support of electro optical high vision systems and boresight calibration.<br><b>FY 2014 Plans:</b><br>(\$.632) Transition calibration standards in support of electro optical standards (hardware) in support of safety of flight operations.<br><br>(\$.872) Continue development of calibration standards (hardware) in support of chemical and biological detection systems (chemical warfare agent detection systems).<br><br>(\$.331) Continue development of analytical metrology (processes) in support of automated interval and uncertainty analysis. |  |                                                                           |                                                      |
| <b>Accomplishments/Planned Programs Subtotals</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | 1.338                                                                     | 1.856                                                |
| <b>C. Other Program Funding Summary (\$ in Millions)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                           |                                                      |
| N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                           |                                                      |
| <b>Remarks</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                                                                           |                                                      |
| <b>D. Acquisition Strategy</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                                                                           |                                                      |
| Funds provide for in-service engineering initiation of metrology research and developmental efforts of unique non-commercial hardware standards in the development of six key thrust technological areas which correspond to Chembio Defense, Microwave/Millimeter wave, Physical Mechanical, Electro-Optical, Analytical Metrology and Electrical/Electronic systems. These standards will ensure measurement accuracy in advanced and emerging combat weapon systems and associated test equipment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                           |                                                      |



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| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2014 Navy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                           | <b>DATE:</b> April 2013                              |
| <b>APPROPRIATION/BUDGET ACTIVITY</b><br>1319: <i>Research, Development, Test &amp; Evaluation, Navy</i><br>BA 5: <i>System Development &amp; Demonstration (SDD)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>R-1 ITEM NOMENCLATURE</b><br>PE 0604215N: <i>Standards Development</i> | <b>PROJECT</b><br>1857: <i>Calibration Standards</i> |
| <p>These hardware test standards will also provide for cost effective and efficient system maintenance and calibration measurements that reduce wrong test decisions and will result in lower maintenance cost and higher system performance reliability.</p> <p><b><u>E. Performance Metrics</u></b></p> <p>The U.S. Navy Metrology RDT&amp;E Program will transition 4 current projects within the next 12 months in technology area of Electro Optical, Physical Mechanical, Nuclear, Biological and Chemical, and Analytical metrology in new calibration hardware and processes. Will continue the research and development of 5 projects in progress in the technology areas of Physical Mechanical, Electro Optical, Nuclear, Biological and Chemical, and Analytical metrology for the purpose of ensuring measurement accuracy in new emerging technology measurement requirements of Navy weapon systems. Success measures will be articulated through program goals and a balance score card strategy system.</p> |                                                                           |                                                      |

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|-----------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------------|-----------------|---------|------------|-------------------------------------------------------------|------------|--------------|------------|----------------------------------------|------------|------------------|------------------|------------|--------------------------|
| Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy                                                                                  |                        |                                |                 |         |            |                                                             |            |              |            |                                        |            | DATE: April 2013 |                  |            |                          |
| APPROPRIATION/BUDGET ACTIVITY<br>1319: Research, Development, Test & Evaluation, Navy<br>BA 5: System Development & Demonstration (SDD) |                        |                                |                 |         |            | R-1 ITEM NOMENCLATURE<br>PE 0604215N: Standards Development |            |              |            | PROJECT<br>1857: Calibration Standards |            |                  |                  |            |                          |
| Product Development (\$ in Millions)                                                                                                    |                        |                                |                 | FY 2012 |            | FY 2013                                                     |            | FY 2014 Base |            | FY 2014 OCO                            |            | FY 2014 Total    |                  |            |                          |
| Cost Category Item                                                                                                                      | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost    | Award Date | Cost                                                        | Award Date | Cost         | Award Date | Cost                                   | Award Date | Cost             | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development                                                                                                            | WR                     | NSWC Corona:Corona, CA         | 4.181           | 0.700   | Oct 2011   | 0.115                                                       | Jan 2013   | 0.322        | Mar 2014   | -                                      |            | 0.322            | Continuing       | Continuing | Continuing               |
| Subtotal                                                                                                                                |                        |                                | 4.181           | 0.700   |            | 0.115                                                       |            | 0.322        |            | 0.000                                  |            | 0.322            |                  |            |                          |
| Management Services (\$ in Millions)                                                                                                    |                        |                                |                 | FY 2012 |            | FY 2013                                                     |            | FY 2014 Base |            | FY 2014 OCO                            |            | FY 2014 Total    |                  |            |                          |
| Cost Category Item                                                                                                                      | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost    | Award Date | Cost                                                        | Award Date | Cost         | Award Date | Cost                                   | Award Date | Cost             | Cost To Complete | Total Cost | Target Value of Contract |
| Contractor Engineering Support                                                                                                          | WR                     | NSWC Corona:Corona, CA         | 1.276           | 0.300   | Oct 2011   | 0.226                                                       | Oct 2012   | 0.200        | Dec 2013   | -                                      |            | 0.200            | 0.000            | 2.002      |                          |
| Government Engineering Support                                                                                                          | WR                     | NSWC Corona:Corona, CA         | 2.170           | 0.308   | Oct 2011   | 1.480                                                       | Oct 2012   | 1.283        | Oct 2013   | -                                      |            | 1.283            | 0.000            | 5.241      |                          |
| Defense Acquisition Workforce                                                                                                           | Various                | Various:Various                | 0.007           | 0.000   |            | 0.000                                                       |            | 0.000        |            | -                                      |            | 0.000            | 0.000            | 0.007      |                          |
| Travel                                                                                                                                  | WR                     | NSWC Corona:Corona, CA         | 0.064           | 0.030   | Oct 2011   | 0.035                                                       | Oct 2012   | 0.030        | Oct 2013   | -                                      |            | 0.030            | 0.000            | 0.159      |                          |
| Subtotal                                                                                                                                |                        |                                | 3.517           | 0.638   |            | 1.741                                                       |            | 1.513        |            | 0.000                                  |            | 1.513            | 0.000            | 7.409      |                          |
|                                                                                                                                         |                        |                                | All Prior Years | FY 2012 |            | FY 2013                                                     |            | FY 2014 Base |            | FY 2014 OCO                            |            | FY 2014 Total    | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals                                                                                                                     |                        |                                | 7.698           | 1.338   |            | 1.856                                                       |            | 1.835        |            | 0.000                                  |            | 1.835            |                  |            |                          |
| Remarks                                                                                                                                 |                        |                                |                 |         |            |                                                             |            |              |            |                                        |            |                  |                  |            |                          |

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|--------------------------------------------------------------------------------------------------------|---------|----|----|----|---------|----|----|----|---------|----|----|------------------------------------|---------|----|----|------------------|---------|----|----|-----------------------------|---------|----|----|----|---------|----|----|----|
| Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy                                                      |         |    |    |    |         |    |    |    |         |    |    |                                    |         |    |    | DATE: April 2013 |         |    |    |                             |         |    |    |    |         |    |    |    |
| APPROPRIATION/BUDGET ACTIVITY                                                                          |         |    |    |    |         |    |    |    |         |    |    | R-1 ITEM NOMENCLATURE              |         |    |    |                  |         |    |    | PROJECT                     |         |    |    |    |         |    |    |    |
| 1319: Research, Development, Test & Evaluation, Navy<br>BA 5: System Development & Demonstration (SDD) |         |    |    |    |         |    |    |    |         |    |    | PE 0604215N: Standards Development |         |    |    |                  |         |    |    | 1857: Calibration Standards |         |    |    |    |         |    |    |    |
| Proj 1857                                                                                              | FY 2012 |    |    |    | FY 2013 |    |    |    | FY 2014 |    |    |                                    | FY 2015 |    |    |                  | FY 2016 |    |    |                             | FY 2017 |    |    |    | FY 2018 |    |    |    |
|                                                                                                        | 1Q      | 2Q | 3Q | 4Q | 1Q      | 2Q | 3Q | 4Q | 1Q      | 2Q | 3Q | 4Q                                 | 1Q      | 2Q | 3Q | 4Q               | 1Q      | 2Q | 3Q | 4Q                          | 1Q      | 2Q | 3Q | 4Q | 1Q      | 2Q | 3Q | 4Q |
|                                                                                                        |         |    |    |    |         |    |    |    |         |    |    |                                    |         |    |    |                  |         |    |    |                             |         |    |    |    |         |    |    |    |
|                                                                                                        |         |    |    |    |         |    |    |    |         |    |    |                                    |         |    |    |                  |         |    |    |                             |         |    |    |    |         |    |    |    |
|                                                                                                        |         |    |    |    |         |    |    |    |         |    |    |                                    |         |    |    |                  |         |    |    |                             |         |    |    |    |         |    |    |    |
|                                                                                                        |         |    |    |    |         |    |    |    |         |    |    |                                    |         |    |    |                  |         |    |    |                             |         |    |    |    |         |    |    |    |
|                                                                                                        |         |    |    |    |         |    |    |    |         |    |    |                                    |         |    |    |                  |         |    |    |                             |         |    |    |    |         |    |    |    |
|                                                                                                        |         |    |    |    |         |    |    |    |         |    |    |                                    |         |    |    |                  |         |    |    |                             |         |    |    |    |         |    |    |    |
|                                                                                                        |         |    |    |    |         |    |    |    |         |    |    |                                    |         |    |    |                  |         |    |    |                             |         |    |    |    |         |    |    |    |
|                                                                                                        |         |    |    |    |         |    |    |    |         |    |    |                                    |         |    |    |                  |         |    |    |                             |         |    |    |    |         |    |    |    |
|                                                                                                        |         |    |    |    |         |    |    |    |         |    |    |                                    |         |    |    |                  |         |    |    |                             |         |    |    |    |         |    |    |    |
| 2014OSD - 0604215N - 1857                                                                              |         |    |    |    |         |    |    |    |         |    |    |                                    |         |    |    |                  |         |    |    |                             |         |    |    |    |         |    |    |    |

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| <b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2014 Navy                                                                                                        |                                                                           |                                                      | <b>DATE:</b> April 2013 |
| <b>APPROPRIATION/BUDGET ACTIVITY</b><br>1319: <i>Research, Development, Test &amp; Evaluation, Navy</i><br>BA 5: <i>System Development &amp; Demonstration (SDD)</i> | <b>R-1 ITEM NOMENCLATURE</b><br>PE 0604215N: <i>Standards Development</i> | <b>PROJECT</b><br>1857: <i>Calibration Standards</i> |                         |

Schedule Details

| Events by Sub Project                                                     | Start   |      | End     |      |
|---------------------------------------------------------------------------|---------|------|---------|------|
|                                                                           | Quarter | Year | Quarter | Year |
| <b><i>Proj 1857</i></b>                                                   |         |      |         |      |
| Chemical Biological Detection Systems development                         | 1       | 2012 | 4       | 2015 |
| Electro-optical Night Vision Systems and Boresight Calibration Capability | 1       | 2012 | 4       | 2014 |
| In-situ Wireless Closed Loop Calibrations development                     | 1       | 2012 | 4       | 2015 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy                                                                                 |                 |         |                      |              |                                                             |               |         |         |                                                           | DATE: April 2013 |                  |            |
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| APPROPRIATION/BUDGET ACTIVITY<br>1319: Research, Development, Test & Evaluation, Navy<br>BA 5: System Development & Demonstration (SDD) |                 |         |                      |              | R-1 ITEM NOMENCLATURE<br>PE 0604215N: Standards Development |               |         |         | PROJECT<br>2311: Stores Planning and Weaponneering Module |                  |                  |            |
| COST (\$ in Millions)                                                                                                                   | All Prior Years | FY 2012 | FY 2013 <sup>#</sup> | FY 2014 Base | FY 2014 OCO <sup>##</sup>                                   | FY 2014 Total | FY 2015 | FY 2016 | FY 2017                                                   | FY 2018          | Cost To Complete | Total Cost |
| 2311: Stores Planning and Weaponneering Module                                                                                          | 126.104         | 11.748  | 12.508               | 12.256       | -                                                           | 12.256        | 12.469  | 12.564  | 12.854                                                    | 13.068           | Continuing       | Continuing |
| Quantity of RDT&E Articles                                                                                                              | 0               | 0       | 0                    | 0            |                                                             | 0             | 0       | 0       | 0                                                         | 0                |                  |            |

<sup>#</sup> FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

<sup>##</sup> The FY 2014 OCO Request will be submitted at a later date

## A. Mission Description and Budget Item Justification

Project 2311, Stores Planning and Weaponneering Module: The Naval Aircraft Weaponneering Components project, now referred to as the Weaponneering and Stores Planning (WASP) components, are integrated software products that allow aircrew to determine the best combinations of weapons and delivery conditions to achieve the desired level of target damage, eliminate weapon delivery solutions that violate aircraft Type/Model/Series (T/M/S) specific safety-of-flight envelopes, and perform detailed weapons employment planning. WASP is approved by Air Warfare Division (N98) as a flight clearance implementation system for the F/A-18 A, A+, B, C, D, D (RC), E, F; and EA-18G. WASP components will alert pilots if their planned weapon release conditions meet flight clearance limits, will result in bomb-to-bomb collisions, bomb-to-aircraft collisions, aircraft overstress, or excessive risk of aircraft loss/damage in the event of fuze early bursts. Weapon employment planning is fundamental to the Joint Capability Area of Force Application and joint mission areas of Strike and Amphibious Warfare. WASP provides the Navy and Marine Corp with weaponneering capabilities that are critical requirements for Interdiction, Armed Reconnaissance and Close Air Support mission planning. Therefore, WASP product availability is critical to successful employment of the Joint Mission Planning System (JMPS) for the F/A-18 A-F and EA-18G. The WASP product encompasses a multitude of Government Furnished Information software components and tools (aircraft target maneuver simulations, weapon flyout models, target probability of damage calculators). WASP products will require updates as emergent requirements for new aircraft T/M/S, stores and weapons are approved, and new flight clearances and flight restrictions are issued by Naval Air Systems Command Headquarters (NAVAIRSYSCOM).

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

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>FY 2012</b> | <b>FY 2013</b> | <b>FY 2014</b> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------|----------------|
| <b>Title:</b> Product Development                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 6.405          | 7.078          | 6.473          |
| <b>Articles:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 0              | 0              | 0              |
| <b>Description:</b> Includes associated system engineering design, development, installation, integration and software development for WASP components V3.0, V3.1, V3.1.1, V3.1.2, V3.2, V3.2.1, V3.3, V3.3.1, V4.0 to support F/A-18 A-F; and V3.1 and later to support EA-18G. Naval Air Warfare Center Weapons Division (NAWCWD), Joint Software Support Activity (JSSA) will develop and maintain the AV-8B Weapons and Release Planning (WARP) tool using \$0.6M in FY12 and \$0.3M in FY13. Define requirements to integrate WASP components into the JMPS. Provide domain engineering support for weapons separation, aircraft loads, flutter, fuzing and safe escape for application to WASP. Provide analysis of new requirements, allocation of requirements, design oversight, and life cycle management of the WASP program. Develop new aircraft configuration, aircraft loading, weapon optimization, store release and delivery planning components for F/A-18 A-F and EA-18G new flight clearances and flight restrictions issued by NAVAIRSYSCOM. Provide configuration management, system administration, quality assurance, |                |                |                |

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------------------------|------------|------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                             | DATE: April 2013                                          |            |            |
| APPROPRIATION/BUDGET ACTIVITY<br>1319: Research, Development, Test & Evaluation, Navy<br>BA 5: System Development & Demonstration (SDD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | R-1 ITEM NOMENCLATURE<br>PE 0604215N: Standards Development | PROJECT<br>2311: Stores Planning and Weaponneering Module |            |            |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                             | FY 2012                                                   | FY 2013    | FY 2014    |
| documentation, metrics and software risk management for WASP. Acquire, integrate and modify numerous Government Furnished Information (GFI) software components and tools (aircraft target maneuver simulations, weapon flyout models, target probability of damage calculators, etc.) that are used for the WASP software development. Integrate WASP with Joint Standoff Weapon/Joint Direct Attack Munitions/Standoff Land-Attack Missile - Expanded Response and other weapons mission planning systems as required.<br><br><b>FY 2012 Accomplishments:</b><br>Released V1.2.4 to the fleet 1QFY12. Continued development of V3.0. Provided \$0.6M of funding to NAWCWD, JSSA for WARP product development.<br><br><b>FY 2013 Plans:</b><br>Release V3.0 to the fleet by 1QFY13, and continue development of V3.1. Provide \$0.3M of funding to NAWCWD, JSSA for WARP product development.<br><br><b>FY 2014 Plans:</b><br>Release V3.1 to the fleet by 1QFY14, continue development of V3.2, and begin development of V3.3.                                                                                                                                                                                                                                                                                                                                                                                        |                                                             |                                                           |            |            |
| <b>Title:</b> Test and Evaluation (T&E)<br><br><b>Articles:</b><br><br><b>Description:</b> Provide test and evaluation for unit and system level testing; functional qualification testing; safety of flight certification testing; integration and standards compliance testing for WASP versions V3.0, V3.1, V3.1.1, V3.1.2, V3.2, V3.2.1, V3.3, V3.3.1, V4.0. Provide Joint Mission Planning System Mission Planning Environment Integration test support. Provide testing and test support to ensure all (to include internally developed software, externally developed GFI) components comply with Department of Navy (DoN) and Department of Defense (DoD) software mandates and directives. These include Integrated Shipboard Network System IT-21, DoD Information Assurance Certification and Accreditation Process, Navy Marine Corps Intranet (NMCI) and DoD Information Technology Portfolio Repository. All Fleet released software must comply with DoN and DoD software directives or will not be allowed to run on ship Local Area Networks or NMCI.<br><br><b>FY 2012 Accomplishments:</b><br>Completed test and evaluation of WASP V3.0 in order to release to fleet in FY13. Analyzed test requirements for V3.1.<br><br><b>FY 2013 Plans:</b><br>Complete test and evaluation of WASP V3.1 in order to release to fleet in FY14. Analyze test requirements for V3.2.<br><br><b>FY 2014 Plans:</b> |                                                             | 2.172<br>0                                                | 2.516<br>0 | 2.552<br>0 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |         |         |                 |                                                             |                  |         | DATE: April 2013                                      |         |         |                     |            |  |
| APPROPRIATION/BUDGET ACTIVITY<br>1319: Research, Development, Test & Evaluation, Navy<br>BA 5: System Development & Demonstration (SDD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |         |         |                 | R-1 ITEM NOMENCLATURE<br>PE 0604215N: Standards Development |                  |         | PROJECT<br>2311: Stores Planning and Weaponing Module |         |         |                     |            |  |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |         |         |                 |                                                             |                  |         | FY 2012                                               |         | FY 2013 |                     | FY 2014    |  |
| Complete test and evaluation of WASP V3.2 in order to release to fleet in FY15. Analyze test requirements for V3.3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |         |         |                 |                                                             |                  |         |                                                       |         |         |                     |            |  |
| Title: Program Management/Systems Engineering                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |         |         |                 |                                                             |                  |         | 3.171                                                 |         | 2.914   |                     | 3.231      |  |
| Articles:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |         |         |                 |                                                             |                  |         | 0                                                     |         | 0       |                     | 0          |  |
| Description: Provide program management and systems engineering support, which includes requirements definition and analysis, compliance with Naval Air Systems Command systems engineering technical review processes, Weaponing and Stores Planning (WASP) acquisition documentation development and support, cost, schedule and performance management, contracting support (providing contract administration, preparing contract packages for award), compliance with external directives and providing financial support (accept, obligate, commit, and track funding). Provide travel for WASP Government personnel. Continue performing project management support for this program throughout the Future Years Defense Program/Plan.                                                                                                                          |         |         |                 |                                                             |                  |         |                                                       |         |         |                     |            |  |
| FY 2012 Accomplishments:<br>Continued project management and systems engineering support to the WASP for future releases of WASP to the fleet.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |         |         |                 |                                                             |                  |         |                                                       |         |         |                     |            |  |
| FY 2013 Plans:<br>Continue project management and systems engineering support to the WASP for future releases of WASP to the fleet.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |         |         |                 |                                                             |                  |         |                                                       |         |         |                     |            |  |
| FY 2014 Plans:<br>Continue project management and systems engineering support to the WASP for future releases of WASP to the fleet.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |         |         |                 |                                                             |                  |         |                                                       |         |         |                     |            |  |
| Accomplishments/Planned Programs Subtotals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |         |         |                 |                                                             |                  |         | 11.748                                                |         | 12.508  |                     | 12.256     |  |
| C. Other Program Funding Summary (\$ in Millions)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |         |                 |                                                             |                  |         |                                                       |         |         |                     |            |  |
| Line Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | FY 2012 | FY 2013 | FY 2014<br>Base | FY 2014<br>OCO                                              | FY 2014<br>Total | FY 2015 | FY 2016                                               | FY 2017 | FY 2018 | Cost To<br>Complete | Total Cost |  |
| • RDTE/3858: Air Force Mission Planning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 63.009  | 69.377  | 70.322          |                                                             | 70.322           | 82.164  | 84.284                                                | 84.542  | 0.000   | Continuing          | Continuing |  |
| Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |         |         |                 |                                                             |                  |         |                                                       |         |         |                     |            |  |
| D. Acquisition Strategy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |         |         |                 |                                                             |                  |         |                                                       |         |         |                     |            |  |
| Weaponing and Stores Planning (WASP) products, delivered annually, were developed in-house by NAVAIR consisting of Naval Air Warfare Center Aircraft Division and Naval Air Warfare Center Weapons Division engineers and support contractors. The team has now migrated to a smaller government team that provides functional expertise in aircraft safety-of-flight (air-vehicle stores compatibility, weapons separation, aircraft aerodynamic flutter, ground/flight loads, authorized fuze arm times, aircraft safe escape), guided weapons employment and weapons effects against targets, with the majority of the software development conducted by various contractors. The Government, engineering, test, and support teams (test facilities, functional qualification testing and certification/accreditation test) are supplemented with contractor labor. |         |         |                 |                                                             |                  |         |                                                       |         |         |                     |            |  |

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| Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                    | DATE: April 2013                                                 |
| APPROPRIATION/BUDGET ACTIVITY<br>1319: <i>Research, Development, Test &amp; Evaluation, Navy</i><br>BA 5: <i>System Development &amp; Demonstration (SDD)</i>                                                                                                                                                                                                                                                                                                                                                                | R-1 ITEM NOMENCLATURE<br>PE 0604215N: <i>Standards Development</i> | PROJECT<br>2311: <i>Stores Planning and Weaponneering Module</i> |
| <b>E. Performance Metrics</b><br><br>Average time to plan a flight: Threshold value is < 1 hour average time to plan a flight that includes full aircraft loadout and weapons delivery safe escape planning. Objective value is < 15 minutes average time to plan a flight that includes full aircraft loadout and weapons delivery safe escape planning. End product is a pilot's z-diagram knee board card.<br><br>Interoperability: Threshold value is 100% stand alone value. Objective value is 100% stand alone value. |                                                                    |                                                                  |



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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Navy                                                 |                        |                                                                      |                 |         |            |                                    |            |              |            |                                                |            | DATE: April 2013 |                  |            |                          |
|--------------------------------------------------------------------------------------------------------|------------------------|----------------------------------------------------------------------|-----------------|---------|------------|------------------------------------|------------|--------------|------------|------------------------------------------------|------------|------------------|------------------|------------|--------------------------|
| APPROPRIATION/BUDGET ACTIVITY                                                                          |                        |                                                                      |                 |         |            | R-1 ITEM NOMENCLATURE              |            |              |            | PROJECT                                        |            |                  |                  |            |                          |
| 1319: Research, Development, Test & Evaluation, Navy<br>BA 5: System Development & Demonstration (SDD) |                        |                                                                      |                 |         |            | PE 0604215N: Standards Development |            |              |            | 2311: Stores Planning and Weaponneering Module |            |                  |                  |            |                          |
| Product Development (\$ in Millions)                                                                   |                        |                                                                      |                 | FY 2012 |            | FY 2013                            |            | FY 2014 Base |            | FY 2014 OCO                                    |            | FY 2014 Total    |                  |            |                          |
| Cost Category Item                                                                                     | Contract Method & Type | Performing Activity & Location                                       | All Prior Years | Cost    | Award Date | Cost                               | Award Date | Cost         | Award Date | Cost                                           | Award Date | Cost             | Cost To Complete | Total Cost | Target Value of Contract |
| Product Development (Government Furnished Information, Occupancy (OCC))                                | WR                     | Naval Air Warfare Center Aircraft Division NAWCAD:Patuxent River, MD | 16.909          | 0.050   | Nov 2011   | 0.057                              | Nov 2012   | 0.030        | Nov 2013   | -                                              |            | 0.030            | Continuing       | Continuing | Continuing               |
| Product Development                                                                                    | WR                     | Air Force Seek Eagle:Eglin Air Force Base, FL                        | 0.074           | 0.076   | Nov 2011   | 0.079                              | Nov 2012   | 0.081        | Nov 2013   | -                                              |            | 0.081            | Continuing       | Continuing | Continuing               |
| Primary Software Development                                                                           | C/CPFF                 | Lockheed Martin:Marlton, NJ                                          | 5.572           | 1.448   | Nov 2011   | 0.000                              |            | 0.000        |            | -                                              |            | 0.000            | 0.000            | 7.020      | 7.020                    |
| Primary Software Development                                                                           | C/CPFF                 | DCS Corp.:Alexandria, VA                                             | 0.000           | 3.660   | Apr 2012   | 5.964                              | Apr 2013   | 0.000        |            | -                                              |            | 0.000            | 0.000            | 9.624      | 9.624                    |
| Primary Software Development                                                                           | TBD                    | TBD:TBD                                                              | 0.000           | 0.000   |            | 0.000                              |            | 5.734        | Apr 2014   | -                                              |            | 5.734            | 0.000            | 5.734      | 5.734                    |
| Product Development - Weapons and Release Planning (WARP)                                              | WR                     | Naval Air Warfare Center Weapons Division NAWCWD:China Lake, CA      | 0.937           | 0.631   | Nov 2011   | 0.369                              | Nov 2012   | 0.000        |            | -                                              |            | 0.000            | Continuing       | Continuing | Continuing               |
| Software Development                                                                                   | Various                | Various:Various                                                      | 0.000           | 0.540   | Nov 2011   | 0.609                              | Nov 2012   | 0.628        | Nov 2013   | -                                              |            | 0.628            | Continuing       | Continuing | Continuing               |
| Prior year Prod Dev cost no longer funded in Future Years Defense Program/ Plan                        | Various                | Various:Various                                                      | 57.187          | 0.000   |            | 0.000                              |            | 0.000        |            | -                                              |            | 0.000            | 0.000            | 57.187     |                          |
| Subtotal                                                                                               |                        |                                                                      | 80.679          | 6.405   |            | 7.078                              |            | 6.473        |            | 0.000                                          |            | 6.473            |                  |            |                          |
| Test and Evaluation (\$ in Millions)                                                                   |                        |                                                                      |                 | FY 2012 |            | FY 2013                            |            | FY 2014 Base |            | FY 2014 OCO                                    |            | FY 2014 Total    |                  |            |                          |
| Cost Category Item                                                                                     | Contract Method & Type | Performing Activity & Location                                       | All Prior Years | Cost    | Award Date | Cost                               | Award Date | Cost         | Award Date | Cost                                           | Award Date | Cost             | Cost To Complete | Total Cost | Target Value of Contract |
| Test & Evaluation Civilian & OCC                                                                       | WR                     | NAWCAD:Patuxent River, MD                                            | 18.191          | 0.886   | Nov 2011   | 1.185                              | Nov 2012   | 1.156        | Nov 2013   | -                                              |            | 1.156            | Continuing       | Continuing | Continuing               |
|                                                                                                        |                        |                                                                      |                 |         |            |                                    |            |              |            |                                                |            |                  |                  |            |                          |

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------------------------------------------|------------------------|----------------|-------------------|---------------------------------------------------------------------------|-------------------|---------------------|-------------------|--------------------|-------------------|-------------------------------------------------------------------------|-------------------------|-------------------|---------------------------------|
| <b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2014 Navy</b>                                                                                                    |                                   |                                                                      |                        |                |                   |                                                                           |                   |                     |                   |                    |                   | <b>DATE:</b> April 2013                                                 |                         |                   |                                 |
| <b>APPROPRIATION/BUDGET ACTIVITY</b><br>1319: <i>Research, Development, Test &amp; Evaluation, Navy</i><br>BA 5: <i>System Development &amp; Demonstration (SDD)</i> |                                   |                                                                      |                        |                |                   | <b>R-1 ITEM NOMENCLATURE</b><br>PE 0604215N: <i>Standards Development</i> |                   |                     |                   |                    |                   | <b>PROJECT</b><br>2311: <i>Stores Planning and Weaponneering Module</i> |                         |                   |                                 |
| <b>Test and Evaluation (\$ in Millions)</b>                                                                                                                          |                                   |                                                                      |                        | <b>FY 2012</b> |                   | <b>FY 2013</b>                                                            |                   | <b>FY 2014 Base</b> |                   | <b>FY 2014 OCO</b> |                   | <b>FY 2014 Total</b>                                                    |                         |                   |                                 |
| <b>Cost Category Item</b>                                                                                                                                            | <b>Contract Method &amp; Type</b> | <b>Performing Activity &amp; Location</b>                            | <b>All Prior Years</b> | <b>Cost</b>    | <b>Award Date</b> | <b>Cost</b>                                                               | <b>Award Date</b> | <b>Cost</b>         | <b>Award Date</b> | <b>Cost</b>        | <b>Award Date</b> | <b>Cost</b>                                                             | <b>Cost To Complete</b> | <b>Total Cost</b> | <b>Target Value of Contract</b> |
| Test & Evaluation MANTECH & WYLE                                                                                                                                     | C/CPFF                            | Various:Various                                                      | 8.250                  | 1.286          | Nov 2011          | 1.331                                                                     | Nov 2012          | 1.396               | Nov 2013          | -                  |                   | 1.396                                                                   | 0.000                   | 12.263            | 12.263                          |
| Prior Year T&E costs no longer funded in Future Years Defense Program/ Plan (FYDP)                                                                                   | Various                           | Various:Various                                                      | 0.377                  | 0.000          |                   | 0.000                                                                     |                   | 0.000               |                   | -                  |                   | 0.000                                                                   | 0.000                   | 0.377             |                                 |
| <b>Subtotal</b>                                                                                                                                                      |                                   |                                                                      | 26.818                 | 2.172          |                   | 2.516                                                                     |                   | 2.552               |                   | 0.000              |                   | 2.552                                                                   |                         |                   |                                 |
| <b>Management Services (\$ in Millions)</b>                                                                                                                          |                                   |                                                                      |                        | <b>FY 2012</b> |                   | <b>FY 2013</b>                                                            |                   | <b>FY 2014 Base</b> |                   | <b>FY 2014 OCO</b> |                   | <b>FY 2014 Total</b>                                                    |                         |                   |                                 |
| <b>Cost Category Item</b>                                                                                                                                            | <b>Contract Method &amp; Type</b> | <b>Performing Activity &amp; Location</b>                            | <b>All Prior Years</b> | <b>Cost</b>    | <b>Award Date</b> | <b>Cost</b>                                                               | <b>Award Date</b> | <b>Cost</b>         | <b>Award Date</b> | <b>Cost</b>        | <b>Award Date</b> | <b>Cost</b>                                                             | <b>Cost To Complete</b> | <b>Total Cost</b> | <b>Target Value of Contract</b> |
| Program Management Support Tecelote, shared costs, Materials                                                                                                         | WR                                | Naval Air Warfare Center Aircraft Division NAWCAD:Patuxent River, MD | 8.608                  | 0.568          | Nov 2011          | 0.416                                                                     | Nov 2012          | 0.440               | Nov 2013          | -                  |                   | 0.440                                                                   | Continuing              | Continuing        | Continuing                      |
| Government Engineering Support Civilian Sys Eng                                                                                                                      | WR                                | NAWCAD:Patuxent River, MD                                            | 5.617                  | 0.543          | Nov 2011          | 0.591                                                                     | Nov 2012          | 0.593               | Nov 2013          | -                  |                   | 0.593                                                                   | Continuing              | Continuing        | Continuing                      |
| Program Management Support Brandes & MANTECH                                                                                                                         | Various                           | Various:Various                                                      | 0.659                  | 0.813          | Feb 2012          | 0.720                                                                     | Feb 2013          | 0.743               | Feb 2014          | -                  |                   | 0.743                                                                   | 0.000                   | 2.935             | 2.935                           |
| Government Engineering Support: Guided Weapons                                                                                                                       | WR                                | Naval Air Warfare Center Weapons Division NAWCWD:China Lake, CA      | 1.115                  | 0.018          | Nov 2011          | 0.000                                                                     |                   | 0.019               | Nov 2013          | -                  |                   | 0.019                                                                   | Continuing              | Continuing        | Continuing                      |
| Travel                                                                                                                                                               | WR                                | NAWCAD:Patuxent River, MD                                            | 1.261                  | 0.032          | Nov 2011          | 0.030                                                                     | Nov 2012          | 0.030               | Nov 2013          | -                  |                   | 0.030                                                                   | Continuing              | Continuing        | Continuing                      |
| Systems Engineering Support                                                                                                                                          | Various                           | Wyle:Huntsville, AL                                                  | 0.684                  | 1.000          | Nov 2011          | 1.157                                                                     | Nov 2012          | 1.197               | Nov 2013          | -                  |                   | 1.197                                                                   | 0.000                   | 4.038             | 4.038                           |

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| <b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2014 Navy                                                                                                    |  |  |  |  |  |  |                                                                           |  |  |  |                                                                       | <b>DATE:</b> April 2013 |  |  |
| <b>APPROPRIATION/BUDGET ACTIVITY</b><br>1319: <i>Research, Development, Test &amp; Evaluation, Navy</i><br>BA 5: <i>System Development &amp; Demonstration (SDD)</i> |  |  |  |  |  |  | <b>R-1 ITEM NOMENCLATURE</b><br>PE 0604215N: <i>Standards Development</i> |  |  |  | <b>PROJECT</b><br>2311: <i>Stores Planning and Weaponeeing Module</i> |                         |  |  |

| Management Services (\$ in Millions)                               |                        |                                |                 | FY 2012 |            | FY 2013 |            | FY 2014 Base |            | FY 2014 OCO |            | FY 2014 Total |                  |            |                          |
|--------------------------------------------------------------------|------------------------|--------------------------------|-----------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item                                                 | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost    | Award Date | Cost    | Award Date | Cost         | Award Date | Cost        | Award Date | Cost          | Cost To Complete | Total Cost | Target Value of Contract |
| Govt Engineering Support: Mission Planning Environment Integration | WR                     | NAWCWD:Point Mugu, CA          | 0.000           | 0.197   | Jan 2012   | 0.000   |            | 0.209        | Jan 2014   | -           |            | 0.209         | Continuing       | Continuing | Continuing               |
| Prior year Mgmt costs no longer funded in FYDP                     | Various                | Various:Various                | 0.663           | 0.000   |            | 0.000   |            | 0.000        |            | -           |            | 0.000         | 0.000            | 0.663      |                          |
| <b>Subtotal</b>                                                    |                        |                                | 18.607          | 3.171   |            | 2.914   |            | 3.231        |            | 0.000       |            | 3.231         |                  |            |                          |

|                            | All Prior Years | FY 2012 |  | FY 2013 |  | FY 2014 Base |  | FY 2014 OCO |  | FY 2014 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-----------------|---------|--|---------|--|--------------|--|-------------|--|---------------|------------------|------------|--------------------------|
| <b>Project Cost Totals</b> | 126.104         | 11.748  |  | 12.508  |  | 12.256       |  | 0.000       |  | 12.256        |                  |            |                          |

**Remarks**

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PE 0604215N: *Standards Development*  
Navy

R-1 Line #83

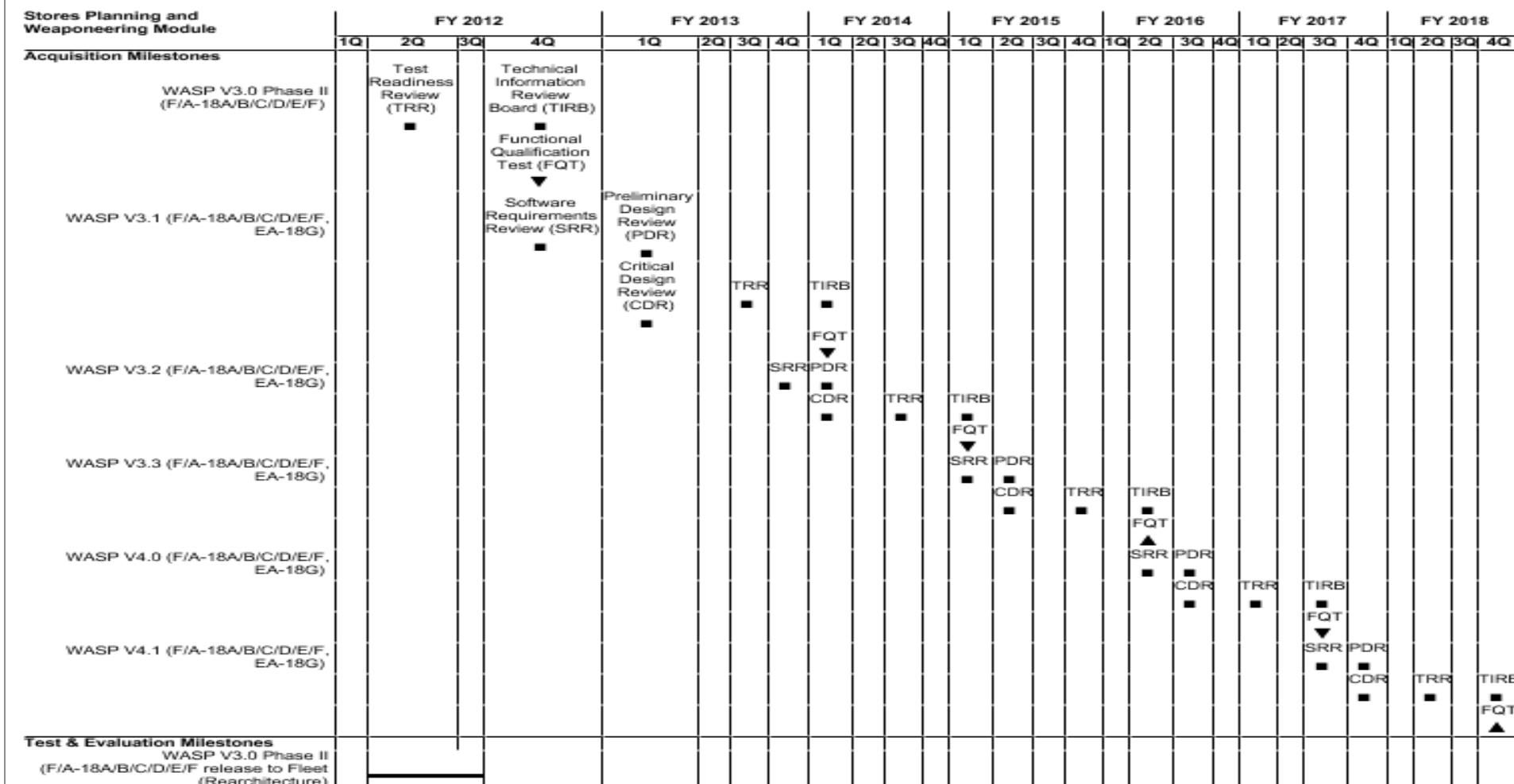
**APPROPRIATION/BUDGET ACTIVITY**

1319: *Research, Development, Test & Evaluation, Navy*  
BA 5: *System Development & Demonstration (SDD)*

### R-1 ITEM NOMENCLATURE

PE 0604215N: *Standards Development*

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|  | <b>PROJECT</b> |
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2311: Stores Planning and Weaponneering  
Module

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|----------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|------------------------------------|--|--|--|--|--|--|--|--|--|------------------------------------------------|--|--|--|--|--|--|--|--|--|
| Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy                    |  |  |  |  |  |  |  |  |  | DATE: April 2013                   |  |  |  |  |  |  |  |  |  |                                                |  |  |  |  |  |  |  |  |  |
| APPROPRIATION/BUDGET ACTIVITY                                        |  |  |  |  |  |  |  |  |  | R-1 ITEM NOMENCLATURE              |  |  |  |  |  |  |  |  |  | PROJECT                                        |  |  |  |  |  |  |  |  |  |
| 1319: Research, Development, Test & Evaluation, Navy                 |  |  |  |  |  |  |  |  |  | PE 0604215N: Standards Development |  |  |  |  |  |  |  |  |  | 2311: Stores Planning and Weaponneering Module |  |  |  |  |  |  |  |  |  |
| BA 5: System Development & Demonstration (SDD)                       |  |  |  |  |  |  |  |  |  |                                    |  |  |  |  |  |  |  |  |  |                                                |  |  |  |  |  |  |  |  |  |
| WASP V3.1 (F/A-18A/B/C/D/E/F, EA-18G)                                |  |  |  |  |  |  |  |  |  |                                    |  |  |  |  |  |  |  |  |  |                                                |  |  |  |  |  |  |  |  |  |
| WASP V3.2 (F/A-18A/B/C/D/E/F, EA-18G)                                |  |  |  |  |  |  |  |  |  |                                    |  |  |  |  |  |  |  |  |  |                                                |  |  |  |  |  |  |  |  |  |
| WASP V3.3 (F/A-18A/B/C/D/E/F, EA-18G)                                |  |  |  |  |  |  |  |  |  |                                    |  |  |  |  |  |  |  |  |  |                                                |  |  |  |  |  |  |  |  |  |
| WASP V4.0 (F/A-18A/B/C/D/E/F, EA-18G)                                |  |  |  |  |  |  |  |  |  |                                    |  |  |  |  |  |  |  |  |  |                                                |  |  |  |  |  |  |  |  |  |
| WASP V4.1 (F/A-18A/B/C/D/E/F, EA-18G)                                |  |  |  |  |  |  |  |  |  |                                    |  |  |  |  |  |  |  |  |  |                                                |  |  |  |  |  |  |  |  |  |
| Production Milestones                                                |  |  |  |  |  |  |  |  |  |                                    |  |  |  |  |  |  |  |  |  |                                                |  |  |  |  |  |  |  |  |  |
| WASP V1.2.4 (F/A-18A/B/C/D/E/F) Initial Operational Capability (IOC) |  |  |  |  |  |  |  |  |  | ▲                                  |  |  |  |  |  |  |  |  |  |                                                |  |  |  |  |  |  |  |  |  |
| WASP V3.0 (F/A-18A/B/C/D/E/F) IOC                                    |  |  |  |  |  |  |  |  |  | ▲                                  |  |  |  |  |  |  |  |  |  |                                                |  |  |  |  |  |  |  |  |  |
| WASP V3.1 (F/A-18A/B/C/D/E/F, EA-18G) IOC                            |  |  |  |  |  |  |  |  |  |                                    |  |  |  |  |  |  |  |  |  | ▲                                              |  |  |  |  |  |  |  |  |  |
| WASP V3.2 (F/A-18A/B/C/D/E/F, EA-18G) IOC                            |  |  |  |  |  |  |  |  |  |                                    |  |  |  |  |  |  |  |  |  | ▲                                              |  |  |  |  |  |  |  |  |  |
| WASP V3.3 (F/A-18A/B/C/D/E/F, EA-18G) IOC                            |  |  |  |  |  |  |  |  |  |                                    |  |  |  |  |  |  |  |  |  | ▲                                              |  |  |  |  |  |  |  |  |  |
| WASP V4.0 (F/A-18A/B/C/D/E/F, EA-18G) IOC                            |  |  |  |  |  |  |  |  |  |                                    |  |  |  |  |  |  |  |  |  | ▲                                              |  |  |  |  |  |  |  |  |  |
| 2014PB - 0604215N - 2311                                             |  |  |  |  |  |  |  |  |  |                                    |  |  |  |  |  |  |  |  |  |                                                |  |  |  |  |  |  |  |  |  |

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| <b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2014 Navy                                                                                                        |                                                                           |                                                                         | <b>DATE:</b> April 2013 |
| <b>APPROPRIATION/BUDGET ACTIVITY</b><br>1319: <i>Research, Development, Test &amp; Evaluation, Navy</i><br>BA 5: <i>System Development &amp; Demonstration (SDD)</i> | <b>R-1 ITEM NOMENCLATURE</b><br>PE 0604215N: <i>Standards Development</i> | <b>PROJECT</b><br>2311: <i>Stores Planning and Weaponneering Module</i> |                         |

## Schedule Details

| Events by Sub Project                                                                              | Start   |      | End     |      |
|----------------------------------------------------------------------------------------------------|---------|------|---------|------|
|                                                                                                    | Quarter | Year | Quarter | Year |
| <b><i>Stores Planning and Weaponneering Module</i></b>                                             |         |      |         |      |
| Acquisition Milestones: WASP V3.0 Phase II (F/A-18A/B/C/D/E/F): Test Readiness Review              | 2       | 2012 | 2       | 2012 |
| Acquisition Milestones: WASP V3.0 Phase II (F/A-18A/B/C/D/E/F): Technical Information Review Board | 4       | 2012 | 4       | 2012 |
| Acquisition Milestones: WASP V3.0 Phase II (F/A-18A/B/C/D/E/F): Functional Qualification Test      | 4       | 2012 | 4       | 2012 |
| Acquisition Milestones: WASP V3.1 (F/A-18A/B/C/D/E/F, EA-18G): Software Requirements Review        | 4       | 2012 | 4       | 2012 |
| Acquisition Milestones: WASP V3.1 (F/A-18A/B/C/D/E/F, EA-18G): Preliminary Design Review           | 1       | 2013 | 1       | 2013 |
| Acquisition Milestones: WASP V3.1 (F/A-18A/B/C/D/E/F, EA-18G): Critical Design Review              | 1       | 2013 | 1       | 2013 |
| Acquisition Milestones: WASP V3.1 (F/A-18A/B/C/D/E/F, EA-18G): Test Readiness Review               | 3       | 2013 | 3       | 2013 |
| Acquisition Milestones: WASP V3.1 (F/A-18A/B/C/D/E/F, EA-18G): Technical Information Review Board  | 1       | 2014 | 1       | 2014 |
| Acquisition Milestones: WASP V3.1 (F/A-18A/B/C/D/E/F, EA-18G): Functional Qualification Test       | 1       | 2014 | 1       | 2014 |
| Acquisition Milestones: WASP V3.2 (F/A-18A/B/C/D/E/F, EA-18G): Software Requirements Review        | 4       | 2013 | 4       | 2013 |
| Acquisition Milestones: WASP V3.2 (F/A-18A/B/C/D/E/F, EA-18G): Preliminary Design Review           | 1       | 2014 | 1       | 2014 |
| Acquisition Milestones: WASP V3.2 (F/A-18A/B/C/D/E/F, EA-18G): Critical Design Review              | 1       | 2014 | 1       | 2014 |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2014 Navy                                                                                      |  |                                                             | DATE: April 2013 |                                                           |      |
| APPROPRIATION/BUDGET ACTIVITY<br>1319: Research, Development, Test & Evaluation, Navy<br>BA 5: System Development & Demonstration (SDD) |  | R-1 ITEM NOMENCLATURE<br>PE 0604215N: Standards Development |                  | PROJECT<br>2311: Stores Planning and Weaponneering Module |      |
|                                                                                                                                         |  | Start                                                       |                  | End                                                       |      |
| Events by Sub Project                                                                                                                   |  | Quarter                                                     | Year             | Quarter                                                   | Year |
| Acquisition Milestones: WASP V3.2 (F/A-18A/B/C/D/E/F, EA-18G): Test Readiness Review                                                    |  | 3                                                           | 2014             | 3                                                         | 2014 |
| Acquisition Milestones: WASP V3.2 (F/A-18A/B/C/D/E/F, EA-18G): Technical Information Review Board                                       |  | 1                                                           | 2015             | 1                                                         | 2015 |
| Acquisition Milestones: WASP V3.2 (F/A-18A/B/C/D/E/F, EA-18G): Functional Qualification Test                                            |  | 1                                                           | 2015             | 1                                                         | 2015 |
| Acquisition Milestones: WASP V3.3 (F/A-18A/B/C/D/E/F, EA-18G): Software Requirements Review                                             |  | 1                                                           | 2015             | 1                                                         | 2015 |
| Acquisition Milestones: WASP V3.3 (F/A-18A/B/C/D/E/F, EA-18G): Preliminary Design Review                                                |  | 2                                                           | 2015             | 2                                                         | 2015 |
| Acquisition Milestones: WASP V3.3 (F/A-18A/B/C/D/E/F, EA-18G): Critical Design Review                                                   |  | 2                                                           | 2015             | 2                                                         | 2015 |
| Acquisition Milestones: WASP V3.3 (F/A-18A/B/C/D/E/F, EA-18G): Test Readiness Review                                                    |  | 4                                                           | 2015             | 4                                                         | 2015 |
| Acquisition Milestones: WASP V3.3 (F/A-18A/B/C/D/E/F, EA-18G): Technical Information Review Board                                       |  | 2                                                           | 2016             | 2                                                         | 2016 |
| Acquisition Milestones: WASP V3.3 (F/A-18A/B/C/D/E/F, EA-18G): Functional Qualification Test                                            |  | 2                                                           | 2016             | 2                                                         | 2016 |
| Acquisition Milestones: WASP V4.0 (F/A-18A/B/C/D/E/F, EA-18G): Software Requirements Review                                             |  | 2                                                           | 2016             | 2                                                         | 2016 |
| Acquisition Milestones: WASP V4.0 (F/A-18A/B/C/D/E/F, EA-18G): Preliminary Design Review                                                |  | 3                                                           | 2016             | 3                                                         | 2016 |
| Acquisition Milestones: WASP V4.0 (F/A-18A/B/C/D/E/F, EA-18G): Critical Design Review                                                   |  | 3                                                           | 2016             | 3                                                         | 2016 |
| Acquisition Milestones: WASP V4.0 (F/A-18A/B/C/D/E/F, EA-18G): Test Readiness Review                                                    |  | 1                                                           | 2017             | 1                                                         | 2017 |
| Acquisition Milestones: WASP V4.0 (F/A-18A/B/C/D/E/F, EA-18G): Technical Information Review Board                                       |  | 3                                                           | 2017             | 3                                                         | 2017 |

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| <b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2014 Navy                                                                                                        |  |                                                                           | <b>DATE:</b> April 2013 |                                                                         |
| <b>APPROPRIATION/BUDGET ACTIVITY</b><br>1319: <i>Research, Development, Test &amp; Evaluation, Navy</i><br>BA 5: <i>System Development &amp; Demonstration (SDD)</i> |  | <b>R-1 ITEM NOMENCLATURE</b><br>PE 0604215N: <i>Standards Development</i> |                         | <b>PROJECT</b><br>2311: <i>Stores Planning and Weaponneering Module</i> |
|                                                                                                                                                                      |  | <b>Start</b>                                                              |                         | <b>End</b>                                                              |
| <b>Events by Sub Project</b>                                                                                                                                         |  | <b>Quarter</b>                                                            | <b>Year</b>             | <b>Quarter</b>                                                          |
| Acquisition Milestones: WASP V4.0 (F/A-18A/B/C/D/E/F, EA-18G): Functional Qualification Test                                                                         |  | 3                                                                         | 2017                    | 3                                                                       |
| Acquisition Milestones: WASP V4.1 (F/A-18A/B/C/D/E/F, EA-18G): Software Requirements Review                                                                          |  | 3                                                                         | 2017                    | 3                                                                       |
| Acquisition Milestones: WASP V4.1 (F/A-18A/B/C/D/E/F, EA-18G): Preliminary Design Review                                                                             |  | 4                                                                         | 2017                    | 4                                                                       |
| Acquisition Milestones: WASP V4.1 (F/A-18A/B/C/D/E/F, EA-18G): Critical Design Review                                                                                |  | 4                                                                         | 2017                    | 4                                                                       |
| Acquisition Milestones: WASP V4.1 (F/A-18A/B/C/D/E/F, EA-18G): Test Readiness Review                                                                                 |  | 2                                                                         | 2018                    | 2                                                                       |
| Acquisition Milestones: WASP V4.1 (F/A-18A/B/C/D/E/F, EA-18G): Technical Information Review Board                                                                    |  | 4                                                                         | 2018                    | 4                                                                       |
| Acquisition Milestones: WASP V4.1 (F/A-18A/B/C/D/E/F, EA-18G): Functional Qualification Test                                                                         |  | 4                                                                         | 2018                    | 4                                                                       |
| Test & Evaluation Milestones: WASP V3.0 Phase II (F/A-18A/B/C/D/E/F release to Fleet (Rearchitecture): Test and Evaluation                                           |  | 2                                                                         | 2012                    | 3                                                                       |
| Test & Evaluation Milestones: WASP V3.1 (F/A-18A/B/C/D/E/F, EA-18G): Test and Evaluation                                                                             |  | 3                                                                         | 2013                    | 4                                                                       |
| Test & Evaluation Milestones: WASP V3.2 (F/A-18A/B/C/D/E/F, EA-18G): Test and Evaluation                                                                             |  | 3                                                                         | 2014                    | 4                                                                       |
| Test & Evaluation Milestones: WASP V3.3 (F/A-18A/B/C/D/E/F, EA-18G): Test and Evaluation                                                                             |  | 4                                                                         | 2015                    | 2                                                                       |
| Test & Evaluation Milestones: WASP V4.0 (F/A-18A/B/C/D/E/F, EA-18G): Test and Evaluation                                                                             |  | 1                                                                         | 2017                    | 2                                                                       |
| Test & Evaluation Milestones: WASP V4.1 (F/A-18A/B/C/D/E/F, EA-18G): Test and Evaluation                                                                             |  | 2                                                                         | 2018                    | 4                                                                       |
| Production Milestones: WASP V1.2.4 (F/A-18A/B/C/D/E/F) Initial Operational Capability (IOC):                                                                         |  | 1                                                                         | 2012                    | 1                                                                       |
| Production Milestones: WASP V3.0 (F/A-18A/B/C/D/E/F) IOC:                                                                                                            |  | 2                                                                         | 2013                    | 2                                                                       |



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| <b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2014 Navy                                                                                                        |  |                                                                           | <b>DATE:</b> April 2013 |                                                                         |
| <b>APPROPRIATION/BUDGET ACTIVITY</b><br>1319: <i>Research, Development, Test &amp; Evaluation, Navy</i><br>BA 5: <i>System Development &amp; Demonstration (SDD)</i> |  | <b>R-1 ITEM NOMENCLATURE</b><br>PE 0604215N: <i>Standards Development</i> |                         | <b>PROJECT</b><br>2311: <i>Stores Planning and Weaponneering Module</i> |
|                                                                                                                                                                      |  | <b>Start</b>                                                              |                         | <b>End</b>                                                              |
| <b>Events by Sub Project</b>                                                                                                                                         |  | <b>Quarter</b>                                                            | <b>Year</b>             | <b>Quarter</b>                                                          |
| Production Milestones: WASP V3.1 (F/A-18A/B/C/D/E/F, EA-18G) IOC:                                                                                                    |  | 2                                                                         | 2014                    | 2                                                                       |
| Production Milestones: WASP V3.2 (F/A-18A/B/C/D/E/F, EA-18G) IOC:                                                                                                    |  | 3                                                                         | 2015                    | 3                                                                       |
| Production Milestones: WASP V3.3 (F/A-18A/B/C/D/E/F, EA-18G) IOC:                                                                                                    |  | 3                                                                         | 2016                    | 3                                                                       |
| Production Milestones: WASP V4.0 (F/A-18A/B/C/D/E/F, EA-18G) IOC:                                                                                                    |  | 4                                                                         | 2017                    | 4                                                                       |

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------|----------------------|--------------|-------------------------------------------------------------|---------------|---------|---------|-------------------------------------|------------------|------------------|------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2014 Navy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |         |                      |              |                                                             |               |         |         |                                     | DATE: April 2013 |                  |            |
| APPROPRIATION/BUDGET ACTIVITY<br>1319: Research, Development, Test & Evaluation, Navy<br>BA 5: System Development & Demonstration (SDD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |         |                      |              | R-1 ITEM NOMENCLATURE<br>PE 0604215N: Standards Development |               |         |         | PROJECT<br>2312: Common Helicopters |                  |                  |            |
| COST (\$ in Millions)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | All Prior Years | FY 2012 | FY 2013 <sup>#</sup> | FY 2014 Base | FY 2014 OCO <sup>##</sup>                                   | FY 2014 Total | FY 2015 | FY 2016 | FY 2017                             | FY 2018          | Cost To Complete | Total Cost |
| 2312: Common Helicopters                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 13.721          | 0.866   | 0.879                | 0.564        | -                                                           | 0.564         | 0.559   | 0.580   | 0.672                               | 0.683            | Continuing       | Continuing |
| Quantity of RDT&E Articles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0               | 0       | 0                    | 0            |                                                             | 0             | 0       | 0       | 0                                   | 0                |                  |            |
| # FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                 |         |                      |              |                                                             |               |         |         |                                     |                  |                  |            |
| ## The FY 2014 OCO Request will be submitted at a later date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |         |                      |              |                                                             |               |         |         |                                     |                  |                  |            |
| A. Mission Description and Budget Item Justification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 |         |                      |              |                                                             |               |         |         |                                     |                  |                  |            |
| Automated mission planning systems to date have focused on developing planning capabilities for fixed-wing aircraft, while the unique planning requirements for helicopters have not been fully addressed. The unique and enhanced automated mission planning requirements that must be developed and implemented for helicopters include: data loading, an enhanced route editor (serpentine routing, hover), manipulation of higher fidelity (smaller scale) maps and imagery, enhanced performance tools (performance in and out of ground effect, performance degradation due to atmospheric conditions & elevation), and enhanced fidelity of landing zone, target zone, and threat analyses. The following type/model/series aircraft are supported by this PE: AH-1W/Z, UH-1N/Y, H-46/E, H-53D/E, H-60B/F/H/R/S and V-22. Common helicopter functionality will be developed for implementation in Joint Mission Planning System (JMPS). |                 |         |                      |              |                                                             |               |         |         |                                     |                  |                  |            |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |         |                      |              |                                                             |               |         |         |                                     | FY 2012          | FY 2013          | FY 2014    |
| Title: Common Helicopters                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |         |                      |              |                                                             |               |         |         |                                     | 0.866            | 0.879            | 0.564      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |         |                      |              |                                                             |               |         |         |                                     | Articles: 0      | 0                | 0          |
| Description: Continue development of Common Helicopter functionality and integration with JMPS Version 1.2.4, 1.3.5, 1.4 and Portable Flight Planning Station (PFPS) Version 3.3.1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |         |                      |              |                                                             |               |         |         |                                     |                  |                  |            |
| FY 2012 Accomplishments:<br>Developed Common Mission Data Loader (CMDL) and Weapons Employment Zone Overlay Tool (WEZOT) compatibility with Windows 7, FW 1.2, 1.3 and 1.4 to DT.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                 |         |                      |              |                                                             |               |         |         |                                     |                  |                  |            |
| FY 2013 Plans:<br>Complete CMDL and WEZOT compatibility with Windows 7, FW 1.2, 1.3 and 1.4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |         |                      |              |                                                             |               |         |         |                                     |                  |                  |            |
| FY 2014 Plans:<br>Develop a Search Pattern Tool and WEZOT functionality to display weapon employment zone overlays for the Advanced Precision Kill Weapons System and Joint Air-to-Ground Missile for JMPS. Develop CMDL and WEZOT to operate with next JMPS FW and 64 bit Operating System.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |         |                      |              |                                                             |               |         |         |                                     |                  |                  |            |
| Accomplishments/Planned Programs Subtotals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |         |                      |              |                                                             |               |         |         |                                     | 0.866            | 0.879            | 0.564      |

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| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2014 Navy                                                                                                               |                |                |                |                                                                           |                |                |                |                                                   |                | <b>DATE:</b> April 2013 |                   |
| <b>APPROPRIATION/BUDGET ACTIVITY</b><br>1319: <i>Research, Development, Test &amp; Evaluation, Navy</i><br>BA 5: <i>System Development &amp; Demonstration (SDD)</i>             |                |                |                | <b>R-1 ITEM NOMENCLATURE</b><br>PE 0604215N: <i>Standards Development</i> |                |                |                | <b>PROJECT</b><br>2312: <i>Common Helicopters</i> |                |                         |                   |
| <b>C. Other Program Funding Summary (\$ in Millions)</b>                                                                                                                         |                |                |                |                                                                           |                |                |                |                                                   |                |                         |                   |
|                                                                                                                                                                                  |                |                | <u>FY 2014</u> | <u>FY 2014</u>                                                            | <u>FY 2014</u> |                |                |                                                   |                | <u>Cost To</u>          |                   |
| <u>Line Item</u>                                                                                                                                                                 | <u>FY 2012</u> | <u>FY 2013</u> | <u>Base</u>    | <u>OCO</u>                                                                | <u>Total</u>   | <u>FY 2015</u> | <u>FY 2016</u> | <u>FY 2017</u>                                    | <u>FY 2018</u> | <u>Complete</u>         | <u>Total Cost</u> |
| • RDTE/3858,5302,5380: <i>Air Force Mission Planning Systems</i>                                                                                                                 | 63.009         | 69.377         | 70.332         |                                                                           | 70.332         | 82.164         | 84.284         | 84.542                                            | 0.000          | Continuing              | Continuing        |
| • 0604231N/2213: <i>Mission Planning</i>                                                                                                                                         | 19.116         | 25.195         | 20.059         |                                                                           | 20.059         | 37.463         | 26.211         | 24.845                                            | 22.919         | Continuing              | Continuing        |
| <b>Remarks</b>                                                                                                                                                                   |                |                |                |                                                                           |                |                |                |                                                   |                |                         |                   |
| <b>D. Acquisition Strategy</b>                                                                                                                                                   |                |                |                |                                                                           |                |                |                |                                                   |                |                         |                   |
| Not Applicable.                                                                                                                                                                  |                |                |                |                                                                           |                |                |                |                                                   |                |                         |                   |
| <b>E. Performance Metrics</b>                                                                                                                                                    |                |                |                |                                                                           |                |                |                |                                                   |                |                         |                   |
| Export Mission Data to Data Transfer Device: Threshold value is < 12 minutes to transfer navigation, communication, weapon system initialization settings and intelligence data. |                |                |                |                                                                           |                |                |                |                                                   |                |                         |                   |
| Interoperability: Threshold value is 100% of top level Information Exchange Requirements designated critical will be satisfied.                                                  |                |                |                |                                                                           |                |                |                |                                                   |                |                         |                   |
| Objective value is 100% of top level IERs will be satisfied.                                                                                                                     |                |                |                |                                                                           |                |                |                |                                                   |                |                         |                   |

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### Remarks