| Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Navy | | | | | | | | | | DATE: February 2010 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY<br>1319: *Research, Development, Test & Evaluation, Navy*<br>BA 7: *Operational Systems Development* | | | | R-1 ITEM NOMENCLATURE<br>PE 0205658N: *Navy Science Assistance Progr* | | | | | | | |
| **COST ($ in Millions)** | **FY 2009 Actual** | **FY 2010 Estimate** | **FY 2011 Base Estimate** | **FY 2011 OCO Estimate** | **FY 2011 Total Estimate** | **FY 2012 Estimate** | **FY 2013 Estimate** | **FY 2014 Estimate** | **FY 2015 Estimate** | **Cost To Complete** | **Total Cost** |
| Total Program Element | 6.152 | 3.701 | 3.535 | 0.000 | 3.535 | 3.605 | 3.670 | 3.756 | 3.830 | Continuing | Continuing |
| 0834: *LAB Fit Support* | 6.152 | 3.701 | 3.535 | 0.000 | 3.535 | 3.605 | 3.670 | 3.756 | 3.830 | Continuing | Continuing |

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

The Naval Science Advisor Program ensures the Fleet/Force (F/F) helps shape the Department of the Navy (DoN) investment in Science and Technology (S&T), develops teaming relationships to rapidly demonstrate and transition technology, supports development of technology-based capability options for naval forces, and enables warfighting innovations based on technical and conceptual possibilities. This is accomplished through proactive connectivity and collaboration between DoN S&T and Joint, Navy, and Marine Corps commands worldwide. The program accomplishes this through several methods. It provides Science Advisors to Joint, Navy, and Marine Corps operational and strategic planning commands. Science Advisors facilitate and disseminate Joint Capabilities Integration and Development System (JCIDS) requirements provided by the F/F Commanders to the Director of Navy Test and Evaluation and Technology Requirements (OPNAV N091). Science Advisors collaborate with the F/F to identify specific solutions to known operational capability needs and provide the means to develop and demonstrate prototype systems. As a result, Science Advisors provide insight into issues associated with Naval Warfighting Capabilities that influence S&T program decision making. The program develops leaders among civilian scientists and engineers in the Naval Research Enterprise (NRE). Upon completion of their tours, Science Advisors return to the NRE with first hand knowledge of the F/F, warfighting issues, and strategic decision making. The Office of Naval Research (ONR) Science Advisor program enables continuous communication and collaboration between the warfighters, the technical community, and strategic development commands.

| Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Navy | DATE: February 2010 |
|---|---|
| **APPROPRIATION/BUDGET ACTIVITY**<br>1319: *Research, Development, Test & Evaluation, Navy*<br>BA 7: *Operational Systems Development* | **R-1 ITEM NOMENCLATURE**<br>PE 0205658N: *Navy Science Assistance Progr* |

**B. Program Change Summary ($ in Millions)**

| | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
|---|---|---|---|---|---|
| Previous President's Budget | 3.609 | 3.716 | 0.000 | 0.000 | 0.000 |
| Current President's Budget | 6.152 | 3.701 | 3.535 | 0.000 | 3.535 |
| Total Adjustments | 2.543 | -0.015 | 3.535 | 0.000 | 3.535 |
| • Congressional General Reductions | | -0.015 | | | |
| • Congressional Directed Reductions | | 0.000 | | | |
| • Congressional Rescissions | 0.000 | 0.000 | | | |
| • Congressional Adds | | 0.000 | | | |
| • Congressional Directed Transfers | | 0.000 | | | |
| • Reprogrammings | 2.543 | 0.000 | | | |
| • SBIR/STTR Transfer | 0.000 | 0.000 | | | |
| • Program Adjustments | 0.000 | 0.000 | 3.535 | 0.000 | 3.535 |

**Change Summary Explanation**

Technical: Not applicable.

Schedule: Not applicable.

FY11 from previous President's Budget is shown as zero because no FY11-15 data was presented in President's Budget 2010.

| Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy | | | DATE: February 2010 |
|---|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY<br>1319: *Research, Development, Test & Evaluation, Navy*<br>BA 7: *Operational Systems Development* | R-1 ITEM NOMENCLATURE<br>PE 0205658N: *Navy Science Assistance Progr* | PROJECT<br>0834: *LAB Fit Support* | |

| COST ($ in Millions) | FY 2009 Actual | FY 2010 Estimate | FY 2011 Base Estimate | FY 2011 OCO Estimate | FY 2011 Total Estimate | FY 2012 Estimate | FY 2013 Estimate | FY 2014 Estimate | FY 2015 Estimate | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0834: *LAB Fit Support* | 6.152 | 3.701 | 3.535 | 0.000 | 3.535 | 3.605 | 3.670 | 3.756 | 3.830 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

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

The Naval Science Advisor Program ensures the F/F helps shape the DoN investment in S&T, develops teaming relationships to rapidly demonstrate and transition technology, supports development of technology-based capability options for naval forces, and enables warfighting innovations based on technical and conceptual possibilities. This is accomplished through proactive connectivity and collaboration between DoN S&T and Joint, Navy, and Marine Corps commands worldwide. The program accomplishes this through several methods. It provides Science Advisors to Joint, Navy, and Marine Corps operational and strategic planning commands. Science Advisors facilitate and disseminate JCIDS requirements provided by the F/F Commanders to the OPNAV N091. Science Advisors collaborate with the F/F to identify specific solutions to known operational capability needs and provide the means to develop and demonstrate prototype systems. As a result, Science Advisors provide insight into issues associated with Naval Warfighting Capabilities that influence S&T program decision making. The program develops leaders among civilian scientists and engineers in the NRE. Upon completion of their tours, Science Advisors return to the NRE with first hand knowledge of the F/F, warfighting issues, and strategic decision making. The Office of Naval Research (ONR) Science Advisor program enables continuous communication and collaboration between the warfighters, the technical community, and strategic development commands.

**B. Accomplishments/Planned Program ($ in Millions)**

| | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
|---|---|---|---|---|---|
| NAVAL SCIENCE ADVISOR PROGRAM | 6.152 | 3.701 | 3.535 | 0.000 | 3.535 |
| *FY 2009 Accomplishments:*<br>The Science Advisors are a conduit between the F/F, ONR and the NRE. Specific Fleet Accomplishments were:<br><br>- Science Advisor, Commander Seventh Fleet (COMSEVENTHFLT) (C7F), continued engagement with the NRE as follows: briefed senior level audiences, participated in discussions on relevant technology and S&T gaps in the areas of Information Operations (IO), Electronic Warfare (EW), | | | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy | | DATE: February 2010 |
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| APPROPRIATION/BUDGET ACTIVITY<br>1319: *Research, Development, Test & Evaluation, Navy*<br>BA 7: *Operational Systems Development* | R-1 ITEM NOMENCLATURE<br>PE 0205658N: *Navy Science Assistance Progr* | PROJECT<br>0834: *LAB Fit Support* |

**B. Accomplishments/Planned Program ($ in Millions)**

| | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
|---|---|---|---|---|---|
| Computer Network Operations (CNO), Information Analysis & Communications, Survivability & Self Defense, Strike, and Anti-Submarine Warfare in the context of the Navy's 13 S&T Focus Areas and Sea Power 21 Pillars. Initiated projects, solicited and received over $3M in project funds for the following efforts: Office of the Secretary of Defense Research Development Test & Evaluation (RDT&E) sponsored Project DogStar, a Command and Control and Combat Support (C2/CS) Protection effort for the Command & Control of Cyberspace fusing NetOps, Intel, and CNO. ONR TechSolutions sponsored EW Toolkit using Google Earth Commercial Off the Shelf (COTS) technology as applied to Tactical EW. Deputy Chief of Naval Operations for Communications Networks (OPNAV N6) sponsored Low Bandwidth Pilot to provide a proof of concept capability for Knowledge Management system replication between ship and shore. Technology and experiment prioritization were also staffed and provided to higher headquarters for Future Naval Capabilities (FNC), Rapid Technology Transitions (RTT), and Joint Capability Technology Demonstrations (JCTD).<br><br>- Science Advisor, Commander United States Fleet Forces Command (CUSFFC), facilitated integration and articulation of fleet warfighter and readiness requirements influencing Naval and Department of Defense RDT&E resourcing as follows: Led team from Operational Fleets, Force Providers and Naval Component Commands in articulation of fleet requirements to S&T community. Managed prioritization of proposed technical capabilities including FNC Program, RTT Program, Rapid Development and Deployment Program supporting Navy Urgent Operational needs, and Joint Concept Technology Demonstrator. Programs were prioritized in accordance with overarching Defense, Naval, and Fleet guidance (Combatant Command Integrated Priority List, Naval Strategic Plan, Warfighter Capability Plan, Integrated Capability Plan, etc.) and supported United States Fleet Forces (USFF) Flag Officer/Senior Executive Service (SES) voting member.<br><br>- Science Advisor, Commander U. S. Naval Forces Central Command (COMUSNAVCENT), developed, prioritized, and socialized COMUSNAVCENT Technology gaps based on prioritized threat with Chief of Naval Operations (CNO), OSD, National Reconnaissance Office (NRO), National Maritime Intelligence Center (NMIC), Naval Sea Systems Command (NAVSEA) and ONR. Developed | | | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy | | DATE: February 2010 |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY<br>1319: *Research, Development, Test & Evaluation, Navy*<br>BA 7: *Operational Systems Development* | R-1 ITEM NOMENCLATURE<br>PE 0205658N: *Navy Science Assistance Progr* | PROJECT<br>0834: *LAB Fit Support* |

**B. Accomplishments/Planned Program ($ in Millions)**

| | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
|---|---|---|---|---|---|
| and issued unclassified common operational picture Urgent Operational Need Statement (UONs) for Commander Task Force (CTF) 151- counters piracy efforts. Provided oversight to three previously issued UONs: 1) Counter surveillance; 2) Non Lethal Weapons; and 3) Counter Swarm. Coordinated with NAVCENT Force Protection, Naval Support Activity Security and Fleet Anti-Terrorism Security Team (FAST) company Marines to provide independent operational evaluation of counter surveillance technologies. Demonstrated 3D line of sight software tools to the National Geospatial Imagery Analysts and Naval Criminal Investigative Service (NCIS) agents on staff to optimize the use of these technologies. Influenced TechSolutions investments in Rapid detection of contraband in voids and spaces by the Visit, Board, Search, and Seizure (VBSS) teams. Initiated the JCTD "Darkfusion" through the ONR, the JCTD is at the Joint Requirements Oversight Council (JROC).<br><br>- Science Advisor, Commander Submarine Forces (COMSUBFOR), influenced ONR investments to improve alignment with Undersea Enterprise (USE) S&T needs. FNC proposals jointly shaped, developed and advocated by ONR and USE were subsequently approved by Navy: Torpedo Fuze; Data Triage and Information Architecture for Improved Decision Making; and Adaptive Learning for Trainers. Influenced Defense Advanced Research Projects Agency (DARPA) to start a Laser-based Submarine Communications Program. Initiated first-ever USE/ONR Discovery and Invention (D&I) exchange between ONR and NRE.<br><br>- Science Advisor, Commander Naval Surface Forces (SURFOR). Elevated Surface input for Improved Affordable Watertight Doors; evaluation and transition of an ONR/Program Executive Office Ships (PEO-SHIPS) Solid State Lighting project; Replaced Guided Missile Destroyer (DDG) Sonar fittings with quick-disconnects. Principal in Surface Ship Technology process (SURFTECH), providing the Command's perspective to the Chief Technology Officer's Team. SURFOR's advocate for Anti-Submarine Warfare (ASW) Improvement Program (ASWIP), Surface Warfare Improvement Program (SUWIP), and the Sea Trial experimentation working group. Supported commander, Naval Surface Forces for Littoral Combat Ship, Fleet requirements, and evaluation of candidate concepts of naval relevance. Managed and coordinated the Scientist at Sea Program. | | | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy | | DATE: February 2010 |
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| APPROPRIATION/BUDGET ACTIVITY<br>1319: *Research, Development, Test & Evaluation, Navy*<br>BA 7: *Operational Systems Development* | R-1 ITEM NOMENCLATURE<br>PE 0205658N: *Navy Science Assistance Progr* | PROJECT<br>0834: *LAB Fit Support* |

**B. Accomplishments/Planned Program ($ in Millions)**

| | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
|---|---|---|---|---|---|
| - Science Advisor, Commander Third Fleet (COMTHIRDFLT) (C3F), coordinated and participated in S&T cell for Valiant Shield 08 exercise. Actively participated as C3F's SeaShield pillar initiatives including ASW, Mine Warfare (MIW), Anti-Terrorism/Force Protection (AT/FP), and Ballistic Missile Group (BMG). Supported development of Joint Multi-Mission Electro Optic System (JMMES) and JCTD. Coordinated C3F Sea Trial/Sea Shield Experimentation efforts for the C3F Operational Agent.<br><br>- Science Advisor, Commander SIXTH Fleet (COMSIXTHFLT) / Commander U.S. Naval Forces Europe (COMUSNAVEUR) / Commander U.S. Naval Forces Africa (COMUSNAVAF) conducted ongoing dialogs with international partners, the United States Government Interagency, and System Command (SYSCOM) principals on Maritime Domain Awareness (MDA) issues for the COMUSNAVEUR / COMUSNAVEUR operational area. These initiatives not only promote nation building but have greatly improved our Command and Control operational picture by incorporating white shipping. In addition to the Maritime Security and Safety Information System (MSSIS), other MDA tools are being incorporated to support analysis of the operational picture, including the Computer Aided Maritime Threat Evaluation System (CAMTES) which is under development.<br><br>- Science Advisor, Commanding General 1st Marine Expeditionary Force (CG I MEF), assisted in the expansion of the Infantry Immersion Trainer (IIT) and the Future Infantry Training Environment (FITE) JCTD. These efforts provided small unit infantry with the sensory inputs and stresses of the battle field in coordination with the need to make sound moral, ethical, and tactical decisions. Supported Combat Hunter development and new Joint Improvised Explosive Device Defeat Organization (JIEDDO) training to provide Marine Expeditionary Brigade - Afghanistan (MEB-A) with improved forensic awareness to enable increases in actionable intelligence. Coordinated Warfighter S&T Seminars at which major supporting commands were able to interact directly with the S&T community.<br><br>- Science Advisor, Chief of Naval Operations (CNO) Strategic Studies Group (SSG) fully partnered in the generation of revolutionary warfighting concepts for the Navy of the future. Organized the | | | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy | | DATE: February 2010 |
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**B. Accomplishments/Planned Program ($ in Millions)**

| | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
|---|---|---|---|---|---|
| CNO Fellows Tech Travel week and the Fall Program including: Researching and inviting lecturers to address the SSG, and oversaw and helped coordinate Mini Tech Travel for all SSG members. Engaged in the development of the 'Way Ahead Plan' which in SSG's annual research theme that is ultimately presented to CNO. Supported, and coordinated the Concept Teams in review of the various aspects and utility of unmanned vehicles systems. Participated in Plenary Sessions, CNO Executive Panel Sessions, and Concept Exploration Events. Aided in the development of the final brief and report of last year's focus topic to CNO and senior flag officer leadership and staffs throughout the Navy. Researched various topics related to unmanned systems, operations, deployment, and connectivity as presented by Admiral Hogg, the CNO Fellows, and Associate Fellows.<br><br>- Science Advisor, Commander, U.S. Marine Corps Forces Command (COMMARFORCOM), continued a cohesive and close teaming relationship with ONR Global Science Advisors at I MEF, II MEF, III MEF, and Marine Forces Pacific (MARFORPAC) that coordinated United States Marine Corps (USMC) operating force's voice on S&T matters. Performed continuous communication and collaboration with United States Joint Froces Command (USJFCOM) and United States Fleet Forces Command (USFFC) capability development communities to ensure development of technology-based capabilities are optimal to support naval forces. Facilitated command prioritization of JCTD, RTT, and FNC. Performed continuing coordination with Marine Corps Combat Development Command (MCCDC) and Marine Corps Warfighting Lab (MCWL) to ensure operating force needs are represented in future naval expeditionary warfare capabilities. Reviewing USMC Urgent Needs Statement (UNS) requests for applicability to ONR S&T programs.<br><br>- Science Advisor, Commander, Naval Air Forces (COMNAVAIRFOR), completed the development and installation of the North Atlantic Treaty Organization (NATO) Sea Sparrow Missile (NSSM) Electro-Optical/Infrared (EO/IR) upgrade on 2 Multi-Purpose Aircraft Carriers (CVNs), USS Dwight D. Eisenhower (CVN-69) and USS Harry S. Truman (CVN-75) for detection and identification of small boat threats to aircraft carrier strike groups. NSSM EO/IR was partially funded through ONR Code 31. Completed the design, development, and installation of the Advanced Shipboard Acoustical | | | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy | | DATE: February 2010 |
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**B. Accomplishments/Planned Program ($ in Millions)**

| | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
|---|---|---|---|---|---|
| Communications System (ASACS), a program for Anti-Terrorism/Force Protection (AT/FP) close-in perimeter surveillance, hailing and warning system onboard Navy Ships. ASACS was installed on CVN-69 prior to her deployment. Completed the development and operational testing of Mobile Cleaning, Recovery, and Recycling System (MCRRS), a stand-alone CVN flight deck cleaner project (a flight deck "Zamboni") using high pressure water. MCRRS was partially funded through ONR Code 33. Initiated 4 Tech Solutions addressing: a) Tool Room Process Management Efficiencies, b) CVN Catapult Calculator to replace manual paper lookup tables, c) Powered rope ascender device to lift men and materials during maritime helicopter extractions, and d) Injection of "Training" tracks from Ship's Self Defense System to the Carrier Tactical Support Center.<br><br>- Science Advisor, CNO Executive Panel (CEP), performed direct support activities to the CEP subcommittee on Environmental Stewardship and Navy's Industrial Base in Economic Downturn, including technology discussions with ONR. Performed as Principal Staff on the Piracy subcommittee, including Federal Advisory Committee Activity (FACA) requirements, integration and liaison with the following; CTF 151, OSD/International Security Affairs, OPNAV N3IPS (Information, Plans & Security), OPNAV N3N5L (International Law), State Department, ONR and various intelligence agencies. Coordinated and monitored the CEP Panel Member's mentoring of the CNO's SSG efforts for Cyberspace research (SSG XXVII) and Unmanned Systems (SSG XXVIII).<br><br>- Science Advisor, Commanding General II Marine Expeditionary Force (CG II MEF)assisted 2D Marine Expeditionary Brigade (MEB) S&T Officer in researching technology enablers for upcoming deployment to Afghanistan. Developed information papers for the II MEF Forward S&T Officer to support decisions on conducting two proposed Extended User Evaluations (EUE) of systems in Iraq. Met with MARFORPAC Experimentation Center (MEC) representative to discuss the Advanced Convoy Security system known as GunPACS, which is being developed for Operation Enduring Freedom. Provided comments to Marine Special Operations Command (MARSOC) on their test plan and test results for two systems designed for clearing landmines and Improvised Explosive Devices (IEDs) in an irregular warfare environment. Served as a voting member on a Source Selection Board | | | | | |

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**B. Accomplishments/Planned Program ($ in Millions)**

| | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
|---|---|---|---|---|---|
| (SSB) for a DARPA program using nano-materials for desalinization and sanitization of available water. Assisted ONR and II MEF with coordination of the Operational Adaptation Developmental Test 1 (DT-1) at Camp Lejeune. Coordinated Marine units to conduct communications checks with a Combat SkySat Tactical Satellite (TACSAT) surrogate system during Exercise Trident Warrior 09 (TW09).<br><br>- Science Advisor, Commander, U.S. Marine Corps, Pacific (COMMARFORPAC), worked with the operating forces and S&T community to improve joint warfighting capabilities as well as highlight S&T issues unique to the Pacific Area of Responsibility (AOR). A prototype Graphic Operations Order project, created using a Hawaii based company, that can significantly improve the timeliness and accuracy of the development of mission plans was successfully demonstrated. Significant strides were made in development of renewable energy experiments for Hawaii that will have a long term benefit in the execution of energy and water security strategies critical to operations in the Pacific region as well as enablers for the relocation of Marines from Okinawa to Guam. Executed two successful experiments to prove that new airborne and space based hyper-spectral imaging sensors can be used to accurately map critical coastal parameters required for planning amphibious operations. The algorithms and hyper-spectral data libraries developed as a result of these experiments will be available to the operating forces by the end of the year. Worked with Navy researchers, industry and acquisition commands to develop requirements for new fire suppression systems for armored vehicles. Personnel riding in armored vehicles are facing new risks from incendiary-enhanced IEDs and studies showed that fire suppression systems being installed were inadequate and themselves dangerous when activated. New technologies for fire suppression systems and protective equipment will be developed and fielded. Engaged Okinawa Marines in the S&T process to deal with issues unique to their missions in the western Pacific which resulted in the creation of a new science advisor position at the Third Marine Expeditionary Force (III MEF).<br><br>- Science Advisor, Commander Pacific Fleet (COMPACFLT), improved capabilities across the Pacific Fleet AOR through rapid technology pull in various mission areas including Maritime Security | | | | | |

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|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY<br>1319: *Research, Development, Test & Evaluation, Navy*<br>BA 7: *Operational Systems Development* | R-1 ITEM NOMENCLATURE<br>PE 0205658N: *Navy Science Assistance Progr* | PROJECT<br>0834: *LAB Fit Support* |

**B. Accomplishments/Planned Program ($ in Millions)**

| | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
|---|---|---|---|---|---|
| Operations, ASW and Counter-Intelligence Surveillance Reconnaissance (ISR). Engaged S&T, Acquisition, Industry, University, Other Government Agencies and Coalition Partners to emphasize our warfighting gaps and identify possible long-term solutions and collaborative efforts. Finalized three Techsolution requests to address a critical warfighting gap associated with 1) Maritime Security Operations (MSO) to provide an Enhanced Maritime Intercept Operations (E-MIO) capability to support intelligent collection, dissemination, analysis and reachback, 2) Real-time assessment of ASW operational performance during exercises to enhance operator training and 3) threat surveillance situational awareness tool. The EMIO capability was tested during Talisman Sabre and results were transitioned into PEO Command, Control, Communications, Computers, and Intelligence (C4I's) E-MIO program of record. Acted as Operational Manager and project oversight lead at COMPACFLT for a JCTD. Worked with the Navy's S&T and Acquisition communities to identify advanced technologies for PACFLT's Maritime Operations Center (MOC) to improve our capability to Command and Control associated with Joint Task Force responsibilities. Continued Shipyard Innovation, formulated a project regarding application of Nanotechnologies for coatings and paints in an effort to reduce maintenance of shipboard equipment and possibly improve anti-fouling bottom coatings. Continued to engage leadership involved in improving ASW and Surface Warfare capabilities to support Pacific AOR wartime contingency plans. Emphasis has been in non-traditional ASW technologies, Fleet Synthetic Training and Distributed Netted Sensors for ASW and Over-the-horizon targeting and improve weapons for Surface Warfare. Naval Post Graduate School (NPGS) established significant research proposals/experiments, in support of PACFLT, focused on Cooperative Operations and Applied Science & Technologies Study (COASTS), Littoral Combat Ship (LCS) Platform Logistics support and asymmetric Ballistic Missile Defense concepts.<br><br>- Science Advisor, Naval Supply Systems Command (NAVSUP) is the Research and Development manager, technology requirement and technology facilitator and Naval Research Enterprise conduit for NAVSUP. Executed two Technology Insertion Program for Savings (TIPS) funded projects, one for Modified Atmosphere Packaging System (MAPS) that will extend shelf life for Fresh Fruits and Vegetables (FFV); and the other for Retail operations management enterprise support (ROM-ES) | | | | | |

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**B. Accomplishments/Planned Program ($ in Millions)**

| | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
|---|---|---|---|---|---|
| that will automate ship retail sales and inventory. Managed Navy Logistics Program (NLP) projects to include, Navy Integrated Lifecycle Product Support Center (NILPSC), National Item Identification Number (NIIN) Validation and Correction, Defense Integrated Technical Data Center (D-ITDC) and Lead Free Solder. Managed NAVSUP's Small Business Innovation Research (SBIR) program. Served as NAVSUP representative to Virtual System (VS) SYSCOM Command Systems Engineering and Corrosion Prevention and Control Working Group. Served as coordinator for NAVSUP Technical Authority Board and as manager of internal SYSCOM documentation necessary to implement Technical Authority within the command.<br><br>- Science Advisor, U. S. Pacific Command (USPACOM), developed a Command-wide S&T strategy to address operational shortfalls and synchronize S&T engagement with the USPACOM Theater Campaign Plan. Established and executing multi-phase action plan to inform Service RDT&E enterprise of Command war fighting shortfalls and identify candidate mitigation capabilities via USPACOM S&T Integrated Priority List. Planned and executed S&T cell to support exercise TERMINAL FURY augmenting USPACOM personnel with representatives from National Agencies, Service Laboratories, and Defense Advanced Research Project Agency. Established tactics, techniques, and procedures to synchronize S&T discovery of mitigating capabilities to emerging shortfalls and insertion of disruptive technology into Command planning and execution cycle during crisis and contingency operations. Continued and extended cooperative technology development to build interoperability and coalition operational military capabilities with India, Singapore, and Korea. Extended and improved outreach to Japan, Australia, Malaysia, and Thailand by building cooperative relationships with Department of Defense S&T and International Cooperation activities located in each host nation. Developed plan to build Global Technology Awareness program for professional development of USPACOM staff, providing opportunity to ONR scientists for increased understanding of roles and relevance of S&T to Combatant Commands.<br><br>- Science Advisor, Chief of Naval Operations Code N81 (OPNAV N81), focused on disseminating the Navy's warfighting capability/risk analysis products to the broader S&T community, resulting | | | | | |

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**B. Accomplishments/Planned Program ($ in Millions)**

| | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
|---|---|---|---|---|---|
| in an improved influence of requirements pull on S&T. In addition the N81 Science Advisor led the development of a comprehensive set of warfighting capability gaps which formed the basis for the Program Objective Memorandum (POM)-12 FNC refresh. On an ongoing basis, the N81 Science Advisor synthesized products from think tanks, defense policy experts, intelligence analysts, warfighters, technologists and scientists, to frame S&T in the context of emergent warfighting capability issues, while advising N81 leadership on programmatic S&T issues of particular interest. Specific projects that the N81 Science Advisor led included getting ONR leadership directly integrated into the Navy's Strategic Planning Process, participating in the Defense Science Board Summer Study on Capability Surprise, and developing, socializing and securing funding for an innovative project that has the potential to improve how wargaming gets done.<br><br>- Science Advisor, Commander Submarine Forces Pacific Fleet (COMSUBPAC) led the test efforts on Unmanned Aerial System (UAS), culminating in a successful first-ever launch of a Unmanned Aerial Vehicle (UAV) from a submerged platform. In ASW, advanced development and test efforts on the Non-Traditional Sensor System (NTSS) demonstrating unique detection capabilities against a variety of submerged platforms. Raised the visibility of UAS and NTSS efforts within COMSUBPAC, COMSUBFOR, COMPACFLT, N87, and elsewhere to secure ongoing support for future development work. Submitted one request to TechSolutions, Voice Controlled Contact Entry (VCCE) which would utilize voice recognition technology to simplify and automate contact entry, freeing manpower for other duty. Other efforts have been focused on influencing the ONR FNC and UnderSea Enterprise S&T processes to ensure COMSUBPAC priorities are understood and funded.<br><br>- Science Advisor, Naval Mine and Anti-Submarine Warfare Command (NMAWC), served as a key member of the ASW and MIW Fleet Collaborative Teams which annually develop the Integrated Prioritized Capabilities List (IPCL) for the Navy's ASW and MIW capability gaps. Directly involved in developing the State of ASW and the State of MIW Reports to the CNO which provided valuable information to Navy leadership for warfighting and fiscal planning. Worked closely with ONR personnel to provide essential information for the FNC process to ensure the best technology options were | | | | | |

| Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy | | DATE: February 2010 |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY<br>1319: *Research, Development, Test & Evaluation, Navy*<br>BA 7: *Operational Systems Development* | R-1 ITEM NOMENCLATURE<br>PE 0205658N: *Navy Science Assistance Progr* | PROJECT<br>0834: *LAB Fit Support* |

**B. Accomplishments/Planned Program ($ in Millions)**

| | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
|---|---|---|---|---|---|
| selected. Submitted two important technology support requests to ONR-Global TECHSOLUTIONS to solve Fleet issues that otherwise would continue to be unfunded hurting operational readiness. Represented the Fleet and NMAWC at several technical forums including LCS development, Multi-static Active coordination and planning, and critical review team meetings providing necessary perspective to ensure Fleet issues were considered in these Navy decisions. Was responsible for the Technology Assessment Board (TAB) led by NMAWC which reviewed the latest science and technology projects using Distributed Netted Systems (DNS) to determine which should receive accelerated funding to meet emerging ASW requirements.<br><br>- Science Advisor, OPNAV N6 advised the Deputy Chief of Naval Operations for Communications Networks (DCNO N6) and his staff on decisions regarding critical technology issues addressed through S&T and RDT&E initiatives. Efforts focused on the development of S&T investments that increased capability and reduced costs across the Navy Information Technology (IT) Enterprise have resulted in the establishment of Enterprise IT pilots to shape the future Naval Network Environment (NNE). In conjunction with these efforts, the N6 Science Advisor worked across the Naval Network FORCENET Enterprise to develop the Navy's Command, Control, Communications, Computers, Intelligence, Surveillance, Reconnaissance (C4ISR) vision and provided the framework for future strategic, operational, and financial decisions within the NNE for the next decade and beyond.<br><br>- Science Advisor, Commander, Navy Expeditionary Combat Command (COMNECC). Updated the Command top 15 S&T objectives. Continued to develop strategic partnerships with Navy Special Warfare and the USMC requirements efforts to provide common approaches to shared gaps. Supported US Southern Command in the development of the Riverine and Intercoastal Operations (RIO) JCTD to demonstrated distributed unattended sensors for NECC forces. Continued to mature the strategic planning for execution of S&T requirements including the transition of capability to the NECC forces. | | | | | |

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|---|---|---|
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**B. Accomplishments/Planned Program ($ in Millions)**

| | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
|---|---|---|---|---|---|
| - Science Advisor, Commander, Naval Network Warfare Command (NNWC), led study to identify top five S&T issues for the Command (i.e., Computer Network Defense, Afloat Network Management, Persistent Intelligence, Surveillance & Reconnaissance /Fusion Correlation, Operational Level Command and Control, and Maritime Domain Awareness), participated in NNWC prioritization for FY10 FNCs proposals. Led effort to adapt Joint Test and Evaluation methods to measure non-material contributions from Naval experimentation efforts. Coordinated and led investigations into maritime requirements for space based laser communication and sensing capabilities.<br><br>Acquisition Workforce Fund -<br>- Funded DoD Acquisition Workforce Fund.<br><br>*FY 2010 Plans:*<br>Continue all efforts of FY 2009<br><br>*FY 2011 Base Plans:*<br>Continue all efforts of FY 2010 | | | | | |
| Accomplishments/Planned Programs Subtotals | 6.152 | 3.701 | 3.535 | 0.000 | 3.535 |

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

N/A

**D. Acquisition Strategy**

N/A

**E. Performance Metrics**

Goal: Provide leadership with timely S&T advice on issues.

Metric: Monthly reports by Science Advisors to the Office of Naval Research and senior leadership within

| Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy | | DATE: February 2010 |
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their assigned commands.

| Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy | | DATE: February 2010 |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY<br>1319: *Research, Development, Test & Evaluation, Navy*<br>BA 7: *Operational Systems Development* | R-1 ITEM NOMENCLATURE<br>PE 0205658N: *Navy Science Assistance Progr* | PROJECT<br>0834: *LAB Fit Support* |

**Product Development ($ in Millions)**

| | | | | FY 2010 | | FY 2011 Base | | FY 2011 OCO | | FY 2011 Total | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Science Advisors | WR | Space and Naval Warfare Systems Center (SPAWAR) San Diego, CA | 2.130 | 2.173 | | 2.195 | | 0.000 | | 2.195 | Continuing | Continuing | Continuing |
| Science Advisors | WR | Naval Undersea Warfare Center (NUWC) Newport, RI | 1.640 | 1.345 | | 1.118 | | 0.000 | | 1.118 | Continuing | Continuing | Continuing |
| Science Advisors | WR | Naval Research Labs Various | 2.353 | 0.183 | | 0.222 | | 0.000 | | 0.222 | Continuing | Continuing | Continuing |
| | | **Subtotal** | 6.123 | 3.701 | | 3.535 | | 0.000 | | 3.535 | | | |

**Remarks**

**Management Services ($ in Millions)**

| | | | | FY 2010 | | FY 2011 Base | | FY 2011 OCO | | FY 2011 Total | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Acquisition Workforce Fund | Various/ Various | Various Various | 0.029 | 0.000 | | 0.000 | | 0.000 | | 0.000 | Continuing | Continuing | Continuing |
| | | **Subtotal** | 0.029 | 0.000 | | 0.000 | | 0.000 | | 0.000 | | | |

| Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy | | DATE: February 2010 |
|---|---|---|
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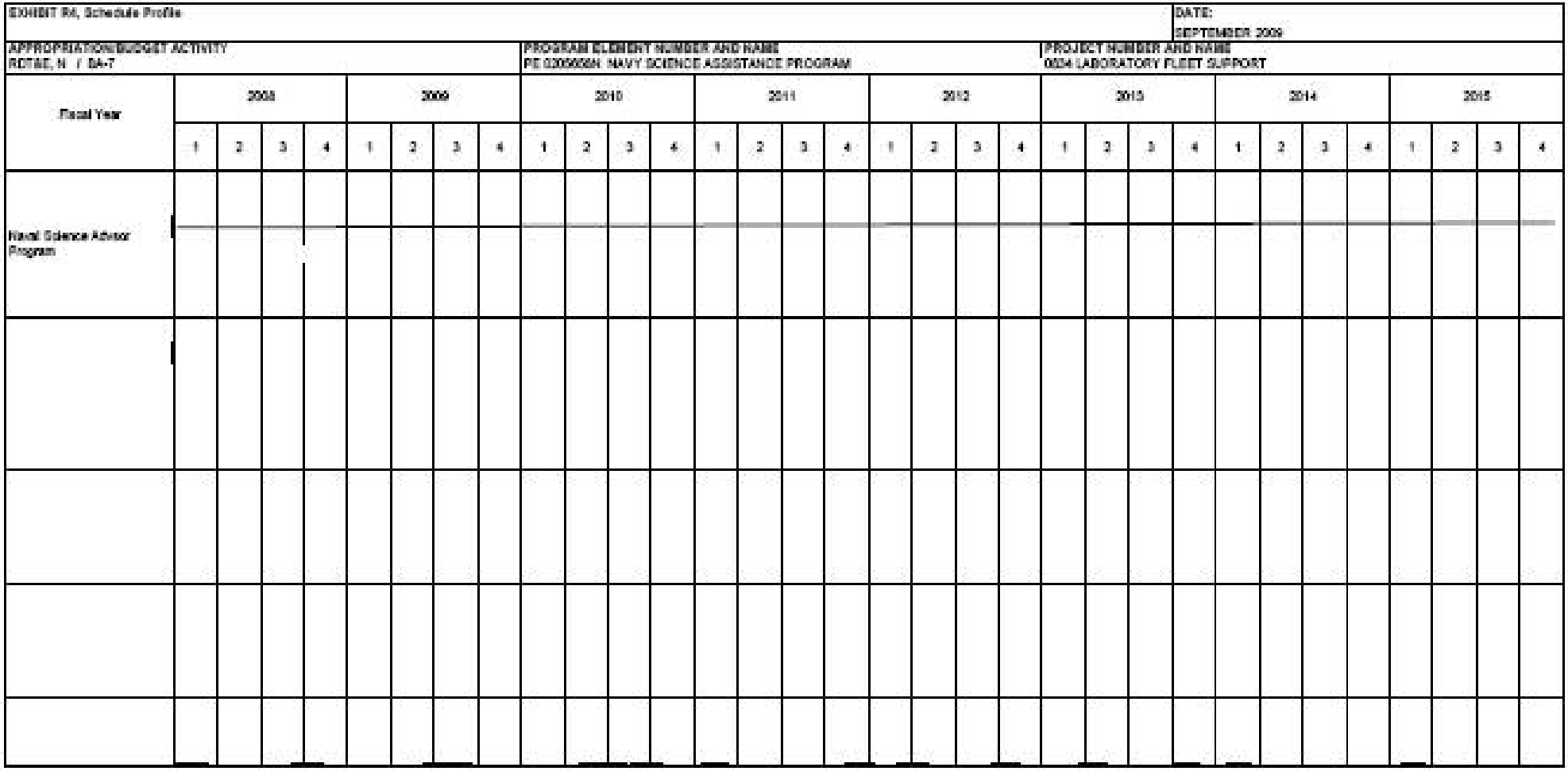
**Management Services ($ in Millions)**

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | FY 2010 Cost | FY 2010 Award Date | FY 2011 Base Cost | FY 2011 Base Award Date | FY 2011 OCO Cost | FY 2011 OCO Award Date | FY 2011 Total Cost | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Remarks** | | | | | | | | | | | | | |

| | Total Prior Years Cost | FY 2010 | | FY 2011 Base | | FY 2011 OCO | | FY 2011 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Cost Totals** | 6.152 | 3.701 | | 3.535 | | 0.000 | | 3.535 | | | |

**Remarks**

| Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy | | DATE: February 2010 |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY<br>1319: *Research, Development, Test & Evaluation, Navy*<br>BA 7: *Operational Systems Development* | R-1 ITEM NOMENCLATURE<br>PE 0205658N: *Navy Science Assistance Progr* | PROJECT<br>0834: *LAB Fit Support* |



| Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy | | DATE: February 2010 |
|---|---|---|
| **APPROPRIATION/BUDGET ACTIVITY**<br>1319: *Research, Development, Test & Evaluation, Navy*<br>BA 7: *Operational Systems Development* | **R-1 ITEM NOMENCLATURE**<br>PE 0205658N: *Navy Science Assistance Progr* | **PROJECT**<br>0834: *LAB Fit Support* |

## Schedule Details

| | Start | | End | |
|---|---|---|---|---|
| **Event** | **Quarter** | **Year** | **Quarter** | **Year** |
| Naval Science Advisor Program | 1 | 2009 | 4 | 2015 |