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

<b>APPROPRIATION/BUDGET ACTIVITY</b>				<b>R-1 ITEM NOMENCLATURE</b>							
1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				PE 0205658N: <i>Navy Science Assistance Progr</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	3.639	3.535	1.957	-	1.957	3.478	3.555	3.626	3.697	Continuing	Continuing
0834: <i>LAB Fit Support</i>	3.639	3.535	1.957	-	1.957	3.478	3.555	3.626	3.697	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.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	3.701	3.535	3.605	-	3.605
Current President's Budget	3.639	3.535	1.957	-	1.957
Total Adjustments	-0.062	-	-1.648	-	-1.648
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	-1.584	-	-1.584
• Section 219 Reprogramming	-0.061	-	-	-	-
• Rate/Misc Adjustments	-	-	-0.064	-	-0.064
• Congressional General Reductions Adjustments	-0.001	-	-	-	-

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**APPROPRIATION/BUDGET ACTIVITY**

1319: *Research, Development, Test & Evaluation, Navy*  
BA 7: *Operational Systems Development*

**R-1 ITEM NOMENCLATURE**

PE 0205658N: *Navy Science Assistance Progr*

**Change Summary Explanation**

Technical: Not applicable.

Schedule: Not applicable.

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0205658N: <i>Navy Science Assistance Progr</i>	<b>PROJECT</b> 0834: <i>LAB Fit Support</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
0834: <i>LAB Fit Support</i>	3.639	3.535	1.957	-	1.957	3.478	3.555	3.626	3.697	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.

Decrease in funding from FY 2011 to FY 2012 is due to realignment of efforts to the appropriate S&T program elements.

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

	FY 2010	FY 2011	FY 2012
<b>Title:</b> NAVAL SCIENCE ADVISOR PROGRAM	3.639	3.535	1.957
<b>Articles:</b>	0	0	0
<b>FY 2010 Accomplishments:</b>			
The Science Advisors are a conduit between the F/F, ONR and the NRE. Specific Fleet:			
- Science Advisor, Navy Warfare Development Command (NWDC), supported innovation of new warfighting strategies through the generation and development of advanced concepts to address Navy challenges and opportunities. Served as a major contributor to NWDC's pilot concept effort, Leveraging the Undersea Environment, leading formulation of concept ideas, technology solutions and associated technical analysis and studies. The Concept and associated action plan was approved and signed by CNO in Feb 2010. Provided technical support for the generation of other advanced warfighting concepts at NWDC in the areas of Irregular Warfare, Information Operations and Electro-magnetic Spectrum. Maintained an active involvement in Navy's development of undersea capabilities, including Distributed Netted Systems and Unmanned Undersea Vehicles, providing executive guidance and strategic development planning for the Command and senior leadership across key Navy and DoD organizations.			

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
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- 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), 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).

- 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.

- 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 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

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				<b>FY 2010</b>
<p>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).</p> <p>- Science Advisor, Commander Submarine Forces (COMSUBFOR), Defined the roles and responsibilities of the Undersea Enterprise (USE) Chief Technology Officer (CTO), facilitated the approval process through Commander, Submarine Forces on 09 NOV 2009. Initiated and actively supported the development of the Undersea Enterprise (USE) S&amp;T strategic plan to articulate the enterprise's future capability needs (final plan approved by Commander, Submarine Forces on 10 FEB 2010). The Science and Technology Objectives (STOs) contained in the USE S&amp;T strategic plan inform ONR's investment decisions. Evaluated, refined, and supported FY-12 FNC proposals, several were approved for new start: Sonar Automation (passive and active), Submarine Electronic Warfare, Air Independent Energy Storage System (Fuel Cell for AUV), and Corrosion. Provided TYCOM inputs to DARPA's RFP effort for the Blue Laser Communication source selection process. Coordinated TYCOM inputs to support Fleet Forces ranking of S&amp;T and R&amp;D proposals including FNC, RTT, and JCTD. Served as the TYCOM representative on the executive committee for the annual Submarine Technology Symposium (STS) sponsored by the Naval Submarine League and Commander Submarine Forces, facilitated all security aspects, reviewed and approved papers and presentations for technical contents and proper security markings.</p> <p>- 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.</p> <p>- Science Advisor, Commander Third Fleet (COMTHIRDFLT) (C3F), led the demonstration planning efforts for an Information Operations Technology Demonstration that was tasked by the Chief of Naval Operations. Also, completed a survey of game changing or disruptive Science and Technology (S&amp;T) efforts throughout the Naval Research Enterprise and the several Universities. As a result of the survey, developed a Future Capabilities Needs List, which details desired areas of future S&amp;T investment. Participated in the planning for the RIMPAC exercise, Trident Warrior 10, Terminal Fury, and C3F Sea Trial/Sea Shield Experimentation efforts. Prioritized Future Naval Capabilities (FNC), Rapid Technology Transitions (RTT), Deep Lightning Bolt Initiatives, and Joint Capability Technology Demonstrations (JCTD). Participated in Sea Shield Integrated Prioritized Capabilities List development, which focused on the areas of Anti-Submarine Warfare (ASW), Mine Warfare (MIW), Anti-Terrorism/Force Protection (AT/FP), and Integrated Air Missile Defense (IAMD). Worked with the Defense Advanced Research</p>				
				<b>FY 2011</b>
				<b>FY 2012</b>

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
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Project Agency (DARPA) on new technologies in anti-ship missiles, counter swarm weapons, counter submarine unmanned vehicles, and underwater sensors.

- Science Advisor, US Naval Forces Europe / Africa - US SIXTH Fleet managed the development of the Computer Aided Maritime Threat Evaluation System, a rules based information technology to aid SIXTH Fleet in assessing the risk of commercial shipping within the AOR. Chaired the SIXTH Fleet Science and Technology Board to conduct prioritization of ONR Future Naval Capabilities and OSD Joint Capabilities Technology Demonstration proposals. Conducted S&T engagements with the NATO Undersea Research Center (NURC) to facilitate greater interoperability and the transition of NURC technologies into Naval Forces Europe / Africa - SIXTH Fleet exercises and operations. Participated in the Command's Joint Force Maritime Component Commander (JFMCC) certification exercise onboard USS MOUNT WHITNEY during AUSTERE CHALLENGE 09, developing S&T capability needs as a result.
- Science Advisor, Commanding General 1st Marine Expeditionary Force and Marine Forces Central Command (CG I MEF/ MARCENT). Assisted in the expansion of the Infantry Immersion Trainer (IIT), helped establish the Close Combat Immersive Infantry Training (CCIIT) Working Group (WG) and the Irregular Warfare Training Community of Interest (IWT COI), and continued efforts with 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 the Persistent Intelligence, Reconnaissance, and Surveillance (PISR) Capabilities based assessment. Helped establish the Expeditionary Power and Energy Working Group. Executed combat deployment in support of MARCENT to address requirements concerns expressed by MCCDC. In conjunction with II-MEF Science Advisor, conceived of the USMC Operational Force Science, Technology, and Experimentation (ST&E) Operational Advocacy Group (ST&E OAG) to consolidate the voices of charter members, (to include the three MEFs, MFP, MARFORCOM, MARFORRES, and MARSOC), in order to provide coordinated demand signals to the Science and Technology (S&T) Community and the Expeditionary Force Development System (EFDS).
- 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 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.

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2010</b>
<p>- 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&amp;T matters. Performed continuous communication and collaboration with United States Joint Forces 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 the USMC operational force voice for 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&amp;T programs.</p> <p>- Science Advisor, Commander, Naval Air Forces (COMNAVAIRFOR), continued the development and installation efforts of the North Atlantic Treaty Organization (NATO) Sea Sparrow Missile (NSSM) Electro-Optical/Infrared (EO/IR) upgrade on 2 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 and work continues to build this system capability into the CVN version of PMS-480 Ship Protection System Program of Record. Coordinated the first-ever Naval Aviation Enterprise (NAE) Day at ONR that was well attended by NAE Air Board &amp; ONR leadership. Completed the development and installation of the Helicopter Control Officer (HCO) trainers on Naval Stations in Norfolk and San Diego. The HCO trainer is a low-cost, realistic, tower trainer for HCO operators using simulation scenarios. Completed the development and installation of the Tool Room Process Management System, an operator-level tool room process management, tracking, and accountability system. Completed the development of the non-pyrotechnic search and rescue (SAR) marker that eliminates the risk of starting brush fires when used in dry environments. Continued development efforts for the CVN Catapult Calculator to replace manual paper lookup tables. Initiated 2 Tech Solutions addressing: a) a Landing Signal Officer Database to collect landing data and evaluate pilot performance during CVN landings, b) a ALE-43 capability enhancement to improve the effectiveness of airborne electronic countermeasures.</p> <p>- Science Advisor, CNO Executive Panel (CEP), serving as a member of CNO personal staff, provided support to the CEP as an action officer for CEP subcommittee meetings, plenary sessions and intelligence briefings. Performed as Principal Staff representative for two CEP subcommittees; (1) Improved Concept Generation and Development, and (2) Technical Diversity. Served as the Secondary Staff representative for two CEP subcommittees; (1) Unmanned Aerial Vehicles (UAV) and (2) Navy Personnel Costs. Provided direct support to another CEP subcommittee, Cyber Warfare, liaising between ONR/NRL and the CEP Principal Staff representative to ensure an optimal outcome for both parties. Worked for a subcommittee occasional includes a site visit, such as the UAV subcommittee's trip to Patuxent River NAS to meet with personnel from PEO-UMW, PMA-263 and</p>			
			<b>FY 2011</b>
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<p>NAVAIR. Intelligence briefings are conducted routinely here in the CNA facilities by subject matter experts on a variety of relevant topics. However, rather than bringing a bunch of folks here, we coordinated for briefings to a majority of the CEP members at CIA headquarters. Served as Principal Action Officer on CNO staff regarding the CNO's Strategic Studies Group (SSG) which requires origination of the annual theme and preparing read-ahead materials for the CNO prior to his visits with the SSG fellows. Also served as the Principal Staff representative for the CEP subcommittee that serves as a board of advisors for the SSG fellows annually.</p> <p>- Science Advisor, Commanding General II Marine Expeditionary Force (CG II MEF) assisted 2D Marine Expeditionary Brigade (MEB) S&amp;T Officer in researching technology enablers during its deployment to Afghanistan. Developed a formal document listing II MEF Science and Technology Priorities, which was signed by the Commanding General to inform the Marine Corps S&amp;T community. Worked with other USMC Science Advisors to develop an Operational Science, Technology and Experimentation (OST&amp;E) Operational Advisory Group (OAG). The intent of the OST&amp;E OAG is to provide a unified voice in presenting USMC Operational Force needs to the Combat Development Community. Established a local Science Advisor network with Science Advisor from Marine Special Operations Command at Stone Bay, NC and XVIII Airborne Corps at Fort Bragg, NC. The network was used to share information and input on S&amp;T efforts across the Marine Corps, Army and Special Operations. II MEF Science Advisor established a working relationship with the Naval Counter Improvised Explosive Devices Knowledge Network in order to better inform them on CIED requirements coming from 2D MEB in Afghanistan. Assisted ONR and II MEF with coordination of the Operational Adaptation Developmental Test 2 (DT-1) at Bogue Field, NC.</p> <p>- Science Advisor, Commander, U.S. Marine Corps, Pacific (COMMARFORPAC), worked with the operating forces and S&amp;T community to improve joint warfighting capabilities as well as highlight S&amp;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&amp;T process</p>			
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<p>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).</p> <p>- Science Advisor, Commander Pacific Fleet (COMPACFLT), improved capabilities across the Pacific Fleet AOR through rapid technology pull in various mission areas including Maritime Security Operations, ASW and Counter-Intelligence Surveillance Reconnaissance (ISR). Engaged S&amp;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&amp;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 &amp; Technologies Study (COASTS), Littoral Combat Ship (LCS) Platform Logistics support and asymmetric Ballistic Missile Defense concepts.</p> <p>- 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. Generated NAVSUP's first listing of capability gaps, which will help to direct R&amp;D investments at NAVSUP. Developed a prioritized listing of NAVSUP R&amp;D initiatives, and executed a portion of those with NAVSUP's first allotment of discretionary RDT&amp;E funds. Initiated collaborative projects with the Defense Logistics Agency. Continued execution of a Technology Insertion Program for Savings (TIPS) funded project for Retail Operations Management Enterprise Support (ROM-ES) that will automate ship retail sales and inventory. Managed Navy Logistics Program (NLP) projects: Navy Integrated Lifecycle Product Support Center (NILPSC) and National Item Identification Number (NIIN) Validation and Correction. Managed NAVSUP's Small Business Innovation Research (SBIR) program. Served as the NAVSUP representative to the Navy SYSCOMs' Systems Engineering Stakeholders Group (SESG) and Corrosion Prevention</p>			
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0205658N: <i>Navy Science Assistance Progr</i>		<b>PROJECT</b> 0834: <i>LAB Fit Support</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				<b>FY 2010</b>		
<p>and Control (CPC) Working Group. Served as coordinator for the NAVSUP Technical Authority Board and as the manager of internal NAVSUP documentation necessary to implement Technical Authority within the command.</p> <p>- Science Advisor, U. S. Pacific Command (USPACOM), developed a Command-wide S&amp;T strategy to address operational shortfalls and synchronize S&amp;T engagement with the USPACOM Theater Campaign Plan. Established and executing multi-phase action plan to inform Service RDT&amp;E enterprise of Command war fighting shortfalls and identify candidate mitigation capabilities via USPACOM S&amp;T Integrated Priority List. Planned and executed S&amp;T board to support exercises TERMINAL FURY and NORTHERN EDGE augmenting USPACOM personnel with representatives from National Agencies, Service Laboratories, and Defense Advanced Research Project Agency. Established tactics, techniques, and procedures to synchronize S&amp;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, Indonesia, and Thailand by building cooperative relationships with Department of Defense S&amp;T and International Cooperation activities located in each host nation. Developed and implemented 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&amp;T to Combatant Commands.</p> <p>- 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&amp;T community resulting in an improved influence of requirements pull on S&amp;T. The N81 Science Advisor was the project lead on the Next Generation Naval Obscurants Study with JHU/APL, which was a Program Objective Memorandum (POM)-12 decision assessment for a CNO/N00X related tasker based on previous Naval Warfare Development Command (NWDC) experimentation. Provided N81 pillar engagement for POM-13 Future Naval Capability (FNC) gap development efforts. Other continual tasks include monitoring, interacting, and providing influence when required to the FNCs, Innovative Naval Prototype (INP), Naval Research Advisory Committee (NRAC), Defense Science Board (DSB), and Sponsor Program Proposal for S&amp;T N80/N091. In addition, the N81 Science Advisor is the owner of the S&amp;T risk/capability card in support of N81's POM-12 Front End Assessment (FEA).</p> <p>- Science Advisor, Commander Submarine Forces Pacific Fleet (COMSUBPAC) continues to expand the capabilities of the Unmanned Aerial System (UAS, aka SOTHOC, Submarine Over-The-Horizon Organic Capability). After a successful first-ever launch and control of a Unmanned Aerial Vehicle (UAV) from a submerged platform in FY09, a realistic tactical exercise is scheduled for the summer of 2010. This exercise will utilize UAS for over-the-horizon targeting of High-Valued Units (HVU) in a multi-ship formation, culminating in a weapons launch. In ASW, continued refinement and testing of the Non-Traditional Sensor System (NTSS) will culminate in deployment of the system to the Western Pacific later this year. CSP SA raised the</p>						

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2010</b>
<p>visibility of UAS and NTSS efforts within COMSUBPAC, COMSUBFOR, COMPACFLT, N87, and elsewhere to secure ongoing support for future development work. CSP SA has also been working with ONR Code 32 and NSWC Panama City to demonstrate UUV capability, using the Collection Delivery Vehicle (CDV). Other efforts have been focused on influencing the ONR FNC and UnderSea Enterprise S&amp;T processes to ensure COMSUBPAC priorities are understood and funded.</p> <p>- Science Advisor, Naval Mine and Anti-Submarine Warfare Command (NMAWC), provided continuous engagement with ONR, fellow Science Advisors, and Fleet and Systems Command senior leaders in the creation, modification, and promulgation of Anti-Submarine Warfare (ASW) and Mine Warfare (MIW) warfighting gaps used as the basis for the development of Future Naval Capabilities (FNC) Enabling Capability (EC) products. Additionally, served as the NMAWC subject matter expert for C4I systems and presented the command's mission requirements to the OPNAV-led Range of Warfare Command and Control (ROW C2) Task Force to enable command and control of ASW and MIW forces in a challenging, degraded communications environment. Created briefing materials detailing Science and Technology program transition status for the Commander that were included in the ASW Readiness brief provided to the CNO. Key participant in the Fleet Collaborative Teams' (FCT) annual assessment of ASW and MIW Integrated Prioritized Capabilities List (IPCL).</p> <p>- Science Advisor, OPNAV N2N6 advised the Deputy Chief of Naval Operations for Information Dominance (DCNO N2N6) and his staff on decisions regarding critical technology issues addressed through S&amp;T and RDT&amp;E initiatives. Efforts focused on the development of S&amp;T investments to transition the U.S. Navy to an information-centric force. In conjunction with these efforts, the N2N6 Science Advisor worked across the Navy Information Dominance Enterprise to develop roadmaps to achieve Information Dominance in the areas of Maritime Domain Awareness, Networks, Intelligence Surveillance and Reconnaissance, and Cyber for the next decade and beyond. As part of the Network roadmap development, highlighted game-changing technologies to assist in the convergence to a single Navy network and architecture. To enhance coalition partnerships, and in cooperation with OSD-Policy, developed a project agreement between the US and French Navy to collaborate on future Maritime Intelligence and Surveillance capabilities.</p> <p>- Science Advisor, Commander, Navy Expeditionary Combat Command (COMNECC). Updated the NECC Science and Technology Strategy Plan as the warfighters demand signal to the Navy Expeditionary Combat Enterprise (NECE). Initiated efforts to establish an Expeditionary Technology Group similar to SUBTECH and SURFTECH to support the NECE execution of efforts in response to the S&amp;T plan. Conducted initial requirements definition for the system in support of the Riverine and Intercoastal Operations (RIO) JCTD. Conducted successful testing of the selected suite prior to systems integration efforts. Developed a number of initiatives under the Rapid Technology Transition program in support of EOD, the Sea Bees and Maritime Civil Affairs. Continued to develop strategic partnerships with Navy Special Warfare and the USMC requirements efforts to provide common approaches to shared gaps. Developed and integrated FY 12 Future Naval Capability gaps in support of NECC mission</p>			<b>FY 2011</b>
			<b>FY 2012</b>

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p>requirements within the construct of the Naval Expeditionary Maneuver Warfare pillar. Initiated discussions for an FY 13 gap for Human Social Cultural Behavior. Developed plans for execution of NECC testing under the Sea Trial program for FY 11.</p> <p>- Science Advisor, Commander, Naval Network Warfare Command (NNWC), led study to identify top five S&amp;T issues for the Command (i.e., Computer Network Defense, Afloat Network Management, Persistent Intelligence, Surveillance &amp; 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.</p> <p><b>FY 2011 Plans:</b> Continue all efforts of FY 2010 less those noted as completed above.</p> <p><b>FY 2012 Plans:</b> Continue all efforts of FY 2011.</p>				
<b>Accomplishments/Planned Programs Subtotals</b>		3.639	3.535	1.957
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>D. Acquisition Strategy</b>				
Not Applicable.				
<b>E. Performance Metrics</b>				
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 their assigned commands.				



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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2012 Navy		<b>DATE:</b> February 2011
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FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<b>Proj 0834</b>	
Naval Science Advisor Program	

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Navy		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0205658N: <i>Navy Science Assistance Progr</i>	<b>PROJECT</b> 0834: <i>LAB Fit Support</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 0834</b>				
Naval Science Advisor Program	1	2010	4	2016