

UNCLASSIFIED

FY 2010 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET
Exhibit R-2

DATE: May 2009

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0205658N
PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM

COST: (Dollars in Millions)

Project Number & Title	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate
Total PE	5.843	3.609	3.716

0834 LABORATORY FLEET SUPPORT	5.843	3.609	3.716
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A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Naval Science Advisor Program ensures that 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 Naval Science Advisor Program enables continuous communication and collaboration between the warfighters, the technical community, and strategic development commands.

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B. PROGRAM CHANGE SUMMARY:

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
President's Budget 2009	3.451	3.625	3.748
Congressional Program Reductions	0.000	-0.010	0.000
Program Adjustments	0.000	0.000	-0.034
Rate/Misc Adjustments	0.000	-0.006	0.002
Total Reprogrammings	2.392	0.000	0.000
President's Budget 2010	5.843	3.609	3.716

PROGRAM CHANGE SUMMARY EXPLANATION:

Technical: FY 2008 and out program funds Science Advisors. Execution adjustments fund Science and Technology programs, management, execution and support costs for FY 2008 initiatives.

Schedule: Not applicable.

C. OTHER PROGRAM FUNDING SUMMARY:

Not applicable.

D. ACQUISITION STRATEGY:

Not applicable.

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 their assigned commands.

Goal: Provide the optimum technological solutions to achieve Fleet/Force capability requirements.

Metric: Number of capability gaps reduced to technology gaps.

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B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2008	FY 2009	FY 2010
NAVAL SCIENCE ADVISOR PROGRAM	5.843	3.609	3.716

The Science Advisors are a conduit between the Fleet/Force, the Office of Naval Research (ONR) and the Naval Research Enterprise (NRE): Specific Fleet Accomplishments were:

- Science Advisor, Commander Seventh Fleet (COMSEVENTHFLT) (C7F), continued engagement with the Naval Research Enterprise (NRE) and at Sea Shield, Basing, and Strike Symposia on 7th Fleet warfighting gaps. Coordinated discussions and briefings between C7F, ONR, the Navy Research Lab (NRL), and other Navy Labs in the areas of Electronic Warfare (EW), Information Operations (IO), and Anti Submarine Warfare (ASW). Two TechSolutions in the areas of EW and ASW were submitted. Requirements push was initiated to Program Executive Office C4I, Naval Network Warfare Command (NNWC), and US Pacific Command (PACOM) for areas of experimentation during the Trident Warrior and Talisman Saber exercises in the areas of C4I Systems, IO, Coalition Networks, Expeditionary Operations, and Intelligence, Surveillance and Reconnaissance (ISR). Technology and experiment prioritization was 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 Research Development Test and Evaluation (DDR&E) resourcing as follows: Led team from Operational Fleets, Force Providers and Naval Component Commands in articulation of fleet requirements to Science and Technology community. Managed prioritization of proposed technical capabilities including Future Naval Capabilities Program, Rapid Technology Transfer 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 USFF Flag Officer/Senior Executive Service (SES) voting member.

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- 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), Acquisition Managers, Defense Advanced Research Projects Agency (DARPA), Office of the Secretary of Defense (OSD), and ONR. Developed and issued four Urgent Operational Needs (UON) establishing critical warfighter requirements: 1) Counter Fast Attack Craft recommending Medusa Joint Capability Technology Demonstration (JCTD) resulting in direct influence of Medusa JCTD ranked number one by Navy in FY 2007 and Joint Requirements Oversight Council (JROC) approved for FY 2008 start; 2) Supported Maritime Security Operations (MSO) and Maritime interdiction Operation (MIO) which resulted in Green Water Boat; 3) Ballistic Missile Defense results are pending; 4) Navy Helicopter Loudspeaker results are pending. Provided oversight to two previously issued UONs: 1) Chemical, Biological, Radiological, Nuclear, Explosive and Drug Detection which resulted in a one man portable detection suite of technology being developed and acquired for USN by Naval Innovation Laboratory (NaIL); 2) Speech Translator for MSO/MIO missions which resulted in S&T work sustained. Endorsed two Rapid Technology Transitions (Seabee Ballistic Protection and Riverine Craft Rocket Propelled Grenade (RPG) Protection) resulting in FY08 funding and project initiation. Secured endorsement for High Frequency Surface Wave Radar and Active Denial System technology insertion. Provided oversight, networking, and consulting for NAVCENT S&T issues to the Naval Research Establishment.
- Science Advisor, Commander Submarine Forces Atlantic Fleet (COMSUBFOR), influenced ONR investments to improve alignment with Undersea Enterprise (USE) S&T needs. Four Future Naval Capability (FNC) proposals jointly shaped, developed and advocated by ONR and USE were subsequently approved: Corrosion, Photonics, Laser Communications, and Intelligence. Achieved projects under the Capable Manpower FNC Program for Decision Making, Displays and Manning; received FNC shift by ONR for Photonics; obtained Submerged Communications Development and Implementation (D&I) investments; stimulated ONR investment in JASONS study for submerged optical communications; influenced Rapid Technology Transition (RTT) and TechSolutions investments in submerged launch and control of Unmanned Aerial Systems and improvements to simulator/trainers; influenced Submarine CO2 scrubber investment, Submarine Battery replacement and more. Influenced Defense Advanced Research Projects Agency (DARPA), Office of the Chief of Naval Operations (OPNAV), Tactical Exploitation of National Capabilities (TENCAP) and DoD High Performance Computer (HPC) investments in areas of interest to USE, as well as focused Naval Research Providers and Industry investments.

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- Science Advisor, Commander Naval Surface Forces (SURFOR), elevated surface force input for coordinating installation, evaluation and transition of a Defense Advance Research Project Agency (DARPA)/Program Executive Office Ships (PEO-SHIPS) high efficiency lighting project. Principal in Surface Ship Technology process (SURFTECH), providing the Command's perspective to the Flag Integrated Product Team (IPT). SURFOR's advocate for Anti-Submarine Warfare (ASW) Improvement Program (ASWIP) and Surface Warfare Improvement (SUWIP). 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.
- Science Advisor, Commander Third Fleet (COMTHIRDFLT) (C3F), coordinated and participated in S&T cell for Valiant Shield 07 exercise. Actively participated as C3F's SeaShield pillar initiatives including Anti-Submarine Warfare (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 Joint Technology Capability Demonstration (JCTD). Coordinated C3F Sea Trial/Sea Shield Experimentation efforts for the C3F Operational Agent.
- Science Advisor, Commander Sixth Fleet (COMSIXTHFLT) (C6F)/Commander Naval Forces Europe (CNE), established ongoing dialogs with international partners, the United States Government Interagency, System Commands (SYSCOM) principals on Maritime Domain Awareness issues for the U.S. Naval Forces, Europe (NAVEUR) operational area, emphasizing the importance of incorporating "disadvantaged" users where "low barriers to entry" are required (primarily in the developing world). These initiatives not only promote nation building but have greatly improved our Command and Control operational picture by incorporating white shipping. The Maritime Security and Safety Information System (MSSIS) now has widespread participation in Europe and Africa; over 40 countries, along with US and NATO ships, airplanes, and submarines, now contributed to Automated Identification System (AIS) feeds resulting in the most comprehensive unclassified operational picture in history.
- Science Advisor, Commanding General 1st Marine Expeditionary Force (CG I MEF), assisted in establishing the Infantry Immersion Trainer (IIT). The IIT is an initial training capability providing 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. Also established quarterly Warfighter S&T Seminars at which major supporting commands were able to interact directly with the S&T community.

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- Science Advisor, Chief of Naval Operations (CNO) Strategic Studies Group (SSG) contributed to SSG XXVI team efforts to develop revolutionary warfighting concepts for "Convergence of Sea Power & Cyber Power." Facilitated broad technical exchanges among a variety of organizations and the SSG. Proactively identified potential sources of information sought by the Group's Concept Teams (CTs) and played an important role in the development of the introductory program by SSG. Established and expanded links with a broad spectrum of government, scientific, academic, and industrial organizations across the nation so that the SSG could benefit from an understanding of their endeavors as they might apply to naval warfare.
- Science Advisor, Commander, U.S. Marine Corps Forces Command (COMMARFORCOM), developed a cohesive and close teaming relationship with ONR Global Science Advisors at I MEF, II MEF, and MARFORPAC that coordinated USMC operating force's voice on S&T matters. Performed continuous communication and collaboration with USJFCOM and USFFC capability development communities to ensure development of technology-based capabilities are optimal to support naval forces. Facilitated command prioritization of Joint Capabilities Technology Demonstration (JCTD), Rapid Technology Transition (RTT), and Future Naval Capabilities. 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.
- Science Advisor, Commander, Naval Air Forces (COMNAVAIRFOR), completed the design, development, and installation (CVN-73) of the CVN Surveillance System (Watch Stander) for detection and identification of small boat threats to aircraft carrier strike groups. Watch Stander was initiated by the ONR TechSolutions program that provides perimeter day/night surveillance. Continued the design and development of the Advanced Shipboard Acoustical Communications System (ASACS), a program for Anti-Terrorism/Force Protection (AT/FP) close-in perimeter surveillance, communications, and warning system onboard Navy Ships. Scheduled ASACS installation on CVN-69 for July 08. Developed Naval Aviation Enterprise (NAE) S&T challenges to address Naval Aviation Force needs and socialized them with OPNAV, NAVAIR, Fleet, and ONR Leaders. Active member of the NAE Science & Technology Objectives (STOs) development team. NAE STOs provide goals for the NAE by facilitating the alignment of the Navy's applicable S&T investments to the technology requirements of Naval Aviation. Initiated four TechSolutions addressing: a) Helicopter Control Officer Trainer deficiencies, b) Helicopter decoy system, c) CVN navigation needs during underway replenishment operations, and d) Search and Rescue need for a flameless smoke for helicopter hover and landing maneuvers.

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- Science Advisor, Chief of Naval Operations (CNO) Executive Panel (CEP), performed direct support activities to the CEP subcommittees on Latin America and the Navy's Role in Missile Defense, including technology discussions with PMR-51. Led Principal Staff on Defense of the Sea Bed subcommittee, including Federal Advisory Committee Activity (FACA) requirements, integration and liaison with OPNAV N81 (Assessments), Office of the Secretary of Defense (OSD)/Net Assessment, OPNAV N25 and various intelligence agencies. Coordinating technology and strategic level briefings from Defense Advance Research Project Agency (DARPA), U.S. Strategic Command (STRATCOM) and U.S. Northern Command (NORTHCOM). Organized presenters for an Intelligence Day with topics of Anti Satellite (ASAT), Anti Ship Counter Measures (ASCM), and adversary submarine operations and technologies. Coordinated and monitored the CEP Panel Member's mentoring of the CNO's Strategic Studies Group Cyberspace research.
- Science Advisor, Commanding General 2nd Marine Expeditionary Force (CG II MEF) supported II MEF CG vision to improve II MEF ability to evaluate and introduce S&T products. Coordinated Individual Force Protection System (IFPS) User Evaluation. Assisted in establishing Town Hall Meetings to allow Marines who were recently returned from theater to exchange current information on Marine Corps and enemy Tactics, Techniques and Procedures (TTP). Met with CG II MEF and Marine Corps Warfighting Lab to plan way ahead for the Infantry Immersion Trainer and the Infantry Skills Simulation Working Group. Submitted request for a small vehicle which would carry explosive ordnance disposal (EOD) technicians to the device in a prone position. Submitted proposal on small pulse detonation engine tuned to mimic the infrared (IR) and Acoustic signatures of a helicopter. Worked with Marine Special Operations Command (MARSOC) to identify technology opportunities to enhance their operational portfolio.
- Science Advisor, Commander, U.S. Marine Corps, Pacific (COMMARFORPAC), worked with the operating forces and Research and Development community to improve warfighting capabilities in mission areas unique to the Pacific Area of Responsibility (AOR). Initiated a project to develop a graphic operations order (OPORD) which has become the catalyst for development of MARFORPAC's C2 vision as well as shape a major investment the USMC is preparing to make in the C2 systems. Worked to bring S&T alternate energy efforts into MARFORPAC's strategy for achieving energy and water security at installations throughout the Pacific. Effort is significant in USMC's move of forces from Okinawa to Guam. Instrumental in bringing new hyperspectral imaging technologies to bear on development of USMC training ranges in the Northern Marianas Islands. Contributed to renewed ONR development of new generations of counter-sniper technologies.

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- Science Advisor, Commander Pacific Fleet (COMPACFLT), improved capabilities across the Pacific Fleet Area of Responsibility (AOR) through rapid technology pull in various mission areas including Maritime Security Operations, Anti-Submarine Warfare (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. Submitted 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 E-MIO capability was tested during Talisman Sabre and results were transitioned into PEO 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. In support of 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 Area of Responsibility (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.

- Science Advisor, Naval Supply Systems Command (NAVSUP), executed two Technology Insertion Program for Savings (TIPS) funded project one for Modified Atmosphere Packaging System (MAPS) that will extend shelf life for Fresh Fruits and Vegetables (FFV); other for Wireless Blade Monitoring System (WBMS) to evaluate rotor blade strain gauges wirelessly. Managed Navy Logistics Program (NLP) projects to include, Collaborative Logistics Program (CLP), Aviation Pack-up Kits (A-PUK), Naval Operational Logistics Innovation (NOLI), Defense Integrated Technical Data Center (D-ITDC) and Lead Free Solder. Managed NAVSUP's Small Business Innovation Research (SBIR) projects. Served as the NAVSUP representative to Virtual SYSCOM (VS) Systems Engineering and Technical Authority 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. Continued working collaboratively with Navy Automated Identification Technology (AIT) Office to enable and expand use of AIT applications.

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- Science Advisor, Naval Criminal Investigation Service/OPNAV (NCIS/N34), created Research, Development Test and Evaluation (RDT&E) and transition roadmaps for Navy Physical Security systems; led efforts to rapidly create and deploy Joint Expeditionary Forensic Facilities to theater, in response to an urgent warfighting capability gap identified by the Central Command; secured resources from the Office of Secretary of Defense to rapidly develop and deploy wireless communication capability for Expanded Maritime Interdiction Operation; completed comparative testing and evaluation of commercially available desktop trace explosive detectors; hosted the third Navy BioMetrics Information Exchange Forum to coordinate Navy activities and identify leveraging/collaboration opportunities in Biometrics.
- Science Advisor, U. S. Pacific Command (USPACOM), developed strategic plan for Command engagement with the DoD wide S&T community. Developed and executed the outreach program with senior government leadership to explain priority Command operational shortfalls. Established and operated first ever S&T advisory cell to the Deputy Commander consisting of representatives from all Services and DARPA. Cell participated in the strategic exercise "Terminal Fury" and demonstrated the value of closer ties between the Command and the S&T community in solving near term operational problems. Conducted the Pacific Theater Operational Science and Technology Conference that brought together technical and warfighting participants from all over the world to build the relationship between warfighters and researchers. Developed cooperative technology activities with Singapore, Australia, Korea, Malaysia, and Thailand. Established bi-lateral Capabilities development Working Group with Singapore to stimulate cooperative projects. Facilitated approval of two new technical efforts with US Forces Korea that will enable precise counterfire response to indirect fire and rapid detection of biological agents. Developed new proposal with Singapore to weaponize an unmanned surface vessel. Initiated new relationship with Department of Energy (DOE) lab to help solve Command problems.
- Science Advisor, Chief of Naval Operations Code N81 (OPNAV N81), focused on disseminating the Navy's warfighting capability analysis products to the broader Science and Technology (S&T) community, resulting in an increased influence 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 Future Naval Capabilities (FNC) refresh. On an ongoing basis, the N81 Science Advisor synthesized products from think tanks, defense policy experts, intelligence analysts, warfighter, 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. Finally, the N81 Science Advisor led broad-based special studies focused on Directed Energy Weapons and on Unmanned Vehicles.

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- Science Advisor, Commander Submarine Forces Pacific Fleet (COMSUBPAC), developed a summary of Science and Technology needs specific to the missions and likely operational scenarios associated with the Pacific Submarine Command. The plan begins with demonstrating technical challenges and performance short-falls associated with a stressing Western Pacific (WESTPAC) campaign with an attack center crew in a simulated environment provided by the Naval Submarine Training Center Pacific (NSTCP). Submitted two requests to TechSolutions, Over the horizon target identification for submarines and Improved submarine hull mounted sensors for anti-submarine warfare (ASW) operations. Continued to evaluate the feasibility of potential implementation approaches for these solutions and coordinated with ONR and Naval Sea Systems Command (NAVSEA) program managers to develop prototypes for submarine experimentation. Other efforts have been focused upon completing projects which included installation of new bridge radios capable of Digital Selective Calling, distribution of new commercial radar reflectors for enhanced ship safety during surface transits, and monitoring the development of a custom radar reflector prototype as part of an on-going TechSolutions effort.
- Science Advisor, Naval Mine and Anti-Submarine Warfare Command (NMAWC), served as a key member of the anti-submarine warfare (ASW) and Mine Warfare (MIW) Fleet Collaborative Teams which annually developed the Integrated Prioritized Capabilities List (IPCL) for the Navy's ASW and MIW capability gaps. Directly involved in developing the Executive Information Board-CNO (EIBC) brief given by the Commander Third Fleet to report the Navy's ASW status to its leadership. Worked closely with ONR personnel to provide essential information for the Future Naval Capabilities process to ensure the best technology options were selected. Submitted four important technology support, requests to ONR-Global TechSolutions to solve Fleet issues that otherwise would continue to be unsupported hurting operational readiness. Represented the Fleet and NMAWC at several technical forums including Littoral Combat Ship (LCS) development, Multi-static Active coordination and planning, and Technology Independent Critical Recommendation Team (ICRT) meetings providing necessary perspective to ensure Fleet issues were considered in these Navy decisions. Provided direct input to the NMAWC End to End ASW Assessment for the Chief of Naval Operations (CNO) which was developed to provide him a clear picture of what action is needed to meet ASW requirements.
- Science Advisor, Deputy Chief of Naval Operations for Communications Networks (OPNAV N6) established the position of Science Advisor in December of 2007 and began advising the N6 and his staff on decisions regarding critical technology issues addressed through Science and Technology (S&T) and Research, Development, Test, and Evaluation (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 nine 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

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develop the Navy's C4ISR vision and provided the framework for future strategic, operational, and financial decisions within the NNE for the next decade and beyond.

- Science Advisor, Commander, Navy Expeditionary Combat Command (COMNECC). Newly established position provided the linkage between the Command needs and the Science and Technology communities' ongoing efforts to satisfy an underserved warfighting capability. Developed strategic partnerships with Navy Special Warfare and the USMC requirements efforts to provide common approaches to shared gaps. Established communications networks to ensure that the NECC mission set, which differs from traditional concepts, is addressed currently planned S&T effort that can be transitioned to more focused efforts.
- Science Advisor, Commander Naval Network Warfare Command (NNWC), led study to identify top five Science and Technology issues for the Command, participated in NNWC prioritization for Future Naval Capabilities (FNCs) proposals. Led effort to adapt Joint Test and Evaluation methods to measure non-material contributions from Naval experimentation efforts. Participated in Pacific Command (PACOM) Electronic Warfare workshop and Electronic Warfare Science and Technology Program Review to help bring Navy wide fleet perspective to this critical warfighting capability area. Coordinated and led investigations into maritime requirements for space based laser communication and sensing capabilities.

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C. OTHER PROGRAM FUNDING SUMMARY - NAVY RELATED RDT&E:

PE 0601152N In-House Laboratory Independent Research
PE 0601153N Defense Research Sciences
PE 0602114N Power Projection Applied Research
PE 0602123N Force Protection Applied Research
PE 0602131M Marine Corps Landing Force Technology
PE 0602235N Common Picture Applied Research
PE 0602236N Warfighter Sustainment Applied Research
PE 0602271N Electromagnetic Systems Applied Research
PE 0602435N Ocean Warfighting Environment Applied Research
PE 0602747N Undersea Warfare Applied Research
PE 0602782N Mine and Expeditionary Warfare Applied Research
PE 0603114N Power Projection Advanced Technology
PE 0603123N Force Protection Advanced Technology
PE 0603235N Common Picture Advanced Technology
PE 0603236N Warfighter Sustainment Advanced Technology
PE 0603271N Electromagnetic Systems Advanced Technology
PE 0603640M USMC Advanced Technology Demonstration (ATD)
PE 0603729N Warfighter Protection Advanced Technology
PE 0603747N Undersea Warfare Advanced Technology
PE 0603758N Navy Warfighting Experiments and Demonstrations
PE 0603782N Mine and Expeditionary Warfare Advanced Technology

OTHER PROGRAM FUNDING SUMMARY - NON-NAVY RELATED RDT&E:

Not applicable.

D. ACQUISITION STRATEGY:

Not applicable.