FY 2007 RDT&E,N BUDGET ITEM JUSTIFICATION SHEET DATE: Feb 2006
Exhibit R-2

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

COST: (Dollars in Thousands)

Project Number & Title	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
Total PE	7,060	3,858	3,376	3,496	3,661	3,760	3,851
0834 LABORATORY FLEET SUPPORT	3,782	3,858	3,376	3,496	3,661	3,760	3,851
9999 CONGRESSIONAL PLUS-UPS	3,278	0	0	0	0	0	0

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. In addition, 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). The 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. The result is that the Science Advisors provide insight into issues associated with Naval Warfighting Capabilities, thereby influencing long term S&T programs. The program develops leaders among the 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 is unique in that it enables a continuous communication and collaboration between the warfighters, the technical community, and strategic development commands.

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B. PROGRAM CHANGE SUMMARY:

	FY 2005	FY 2006	FY 2007
FY 2006 President's Budget Submission	7,151	3,917	3,405
Congressional Undistributed Reductions/Rescissions	-6	-59	0
FY 2005 SBIR	-87	0	0
Program Adjustments	2	0	-7
Rate Adjustments	0	0	-22
FY 2007 President's Budget Submission	7,060	3,858	3,376

PROGRAM CHANGE SUMMARY EXPLANATION:
Technical: Not applicable.

Schedule: Not applicable.

C. OTHER PROGRAM FUNDING SUMMARY:
Not applicable.

D. ACQUISITION STRATEGY:
Not applicable.

E. PERFORMANCE METRICS:
Goal: Leverage relevant DoD and non-DoD International Science and Technology (S&T) activities and investments to revolutionize and improve naval technology.

Metric: Number of threat/unusual technologies reported (include titles/topics and who they will be submitted to).

Goal: Ensure DoN maintains worldwide technological awareness by engaging the international S&T community (including academia, defense and commercial industries, and government agencies) in areas of naval interest.

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Metric: Number of useful contacts made by the Associate Directors (AD) (include business card information); Number of renewed contacts made by AD (include names - any updates to business cards); Number of new institutions/departments visited (include institution/department names and POC); Number of renewed institutions visited (include names - any updates to address/POC).

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

Metric: Monthly reports by Science Advisors to ONR and senior leadership.

Goal: Provide the Science Advisor, activity and ONR with feedback on the Science Advisor's accomplishments/performance.

Metric: Provide bi-annual performance reviews to ONR, the Science Advisor, and their Command.

BUDGET ACTIVITY: 07
PROGRAM ELEMENT: 0205658N PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM
PROJECT NUMBER: 0834 PROJECT TITLE: LABORATORY FLEET SUPPORT

COST: (Dollars in Thousands)

Project Number & Title	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
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B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2005	FY 2006	FY 2007
NAVAL SCIENCE ADVISOR PROGRAM	3,782	3,858	3,376

FY 2005 Accomplishments:

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

• Science Advisor, Commander Seventh Fleet (COMSEVENTHFLT)(C7F), actively supported the Undersea Dominance/Task Force Anti-Submarine Warfare (ASW) demonstrations and other ASW demonstrations (i.e. Theater Anti-Submarine Warfare Exercise (TASWEX), Ship Anti-Submarine Warfare Readiness and Evaluation Measurement (SHAREM), Navy Warfare Development Command (NWDC) ASW Wargames and others). Had ongoing discussions with the leadership of the Littoral ASW Future Naval Capability (FNC) and its prioritization of efforts. Continued ongoing efforts in Anti-Terrorism/Force Protection (AT/FP) technology.

• Science Advisor, Commander Fleet Forces Command (CFFC), established a strong CFFC presence in the Department of Defense, Deputy Assistant Secretary of Navy (DASN), Research, Development, Test and Evaluation (RDT&E), Science and Technology (S&T) assessment process, including the ONR review and the development of the S&T Vision statement. Identified and maintained a close coupling between the N8 requirements organization and the Future Naval Capabilities (FNC) Integrated Process Teams (IPTs). Improved the Sea Trials engagement with ONR, Systems Commands, Warfare Centers, and the Fleet Collaborative Teams through senior leadership briefs, updates, and leading coordination meeting. Established a new level of engagement with the Advanced Concept Technology Demonstration (ACTD) Program. Worked extensively on processes in the S&T community including Sea Trials, ACTDs, FNCs, Small Business Innovative Research (SBIRs), and N6/N7 Gap Analysis.

• Science Advisor, Joint Forces Command (JFCOM), participated in the JFCOM Joint Test and Evaluation (JT&E) arena. Led feasibility studies and participated in the JT&E Senior Advisory Council. Worked as the JFCOM Liaison to the Defense Advanced Research Projects Agency (DARPA) on a Collaborative Partnership between DARPA and JFCOM. Established a broader S&T Advisor office at JFCOM through the addition of a part-time Army Science Advisor, and worked to add an Air Force Science Advisor. Addressed technology shortfalls to support the development of an Operational Net Assessment.

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• Science Advisor, Commander U. S. Naval Forces Central Command (COMUSNAVCENT), researched Chemical Biological Radiological Nuclear and Explosives and Drugs (CBRNE+D) portable detector technologies for application in Marine Interception Operations (MIO). Developed Concepts of Operation and Operational Concepts (CONOPS) with Commander Task Force (CTFs)/Fleet. Collaborate with Office of the Chief of Naval Operations (OPNAV)/Deep Blue to complete the acquisition of technologies for use on the Oil Platforms (OPLATS) and to investigate new technologies that would be useful to NAVCENT. Addressed emergent requirements and needs, including Warning Munitions, Automatic Vessel Identification System for incorporation into Global Command and Control System-Maritime (GCCS-M), Lessons Learned from Commander Fifth Fleet (C5F) Chat. Monitored demonstrations on the deployment of a floating security barrier for the Mina Salman pier area.

• Science Advisor, Commander Submarine Forces Atlantic Fleet(COMSUBLANT), provided wide-ranging support to the COMSUBLANT staff on S&T issues. Involved with the ASW Improvement Program semi-annual meetings, and the Unmanned Underwater Vehicle (UUV) Master Plan workshop. Worked with Naval Meteorology and Oceanography Command to develop S&T programs to better understand the operational environment. Involved in development of solutions for communications at speed and depth that support war plan requirements.

• Science Advisor, Commander Naval Surface Pacific Fleet (COMNAVSURFPAC), was involved with many aspects of the Littoral Combat Ship (LCS) ASW Mission Module ranging from review of the radar periscope detection system to Sensors to Assist Visit, Board, Search & Seizure (VBSS) Teams. Maintained a strong working relationship with the Surface Ship Technology (SURFTECH) organization. Involved in developing test and experimentation plans for X-Craft which is being used as a risk mitigation platform for the LCS.

• Science Advisor, Commander Third Fleet (COMTHIRDFLT) (C3F), pursued the Collaborative Operations and Responsive Technology Experimentation (CORTEX) which is a command and control center architecture for integrating civil, DoD, and Non Government Office (NGO) responses to crisis. Worked with Tech Solutions to review line of sight communications efforts.

• Science Advisor, Commander Sixth Fleet (COMSIXTHFLT) (C6F), worked to support teams within the C6F Area of Responsibility (AOR) with biometric systems for identification of persons of interest and non-lethal weapons to be used during special operations. Worked with the C6F staff, Naval Warfare Development Center (NWDC) and other Joint/Naval Commands on Common Operating Picture experimentation. Involved with Global Maritime awareness tracking systems in support of Homeland Security/Homeland Defense missions.

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• Science Advisor, Commander U.S. Navy Europe (COMUSNAVEUR), evaluated the ACTD in the European Command (EUCOM) AOR. Led the Coalition Chat Line Project and worked to transition this demonstration project into acquisition.

• Science Advisor, Commanding General 1st Marine Expeditionary Force (CG I MEF), addressed key concerns in the Improvised Explosive Device (IED) detection, protection from IED effects, and remote sensor networks. Coordinated efforts on Fluxgate Magnetometer, water filtration, secure Global Positioning System (GPS), Vocera, and secure collaboration systems. Coordinated urgent unified need statement (Urgent UNS) for unmanned aerial vehicle (UAV) requirements for the MEF in Iraq.

• Science Advisor, Chief of Naval Operations (CNO) Strategic Studies Group (SSG), supported the research phase of SSG's key S&T study and synthesized the results of the research (i.e., Adaptive Force, Globalized FORCEnet & Decision Making, Homeland Protection, Persistent Maritime Power Projection and Sea Superiority). Continued to support each of the SSG Concept Generation teams in support of their 2005 study titled "The Future Maritime Operating Environment for the Fight Against Global Terrorism."

• Science Advisor, Joint Interagency Task Force (JIATF)-South, worked on successful testing/demonstration of the Project Q Passive Go-fast Detection System. Delivered the first two production Army Navy/Aviation Aircraft System Aircraft Infrared Search Radar (AN/AAS)-44A Forward looking Infra-red Sensors(FLIRS) for SH-60B helicopters and the transfer of the 44A's and our two AN/AAS-51A FLIRS to Helicopter Anti-submarine Squadron Light Wing, Atlantic Fleet (HSLWINGLANT) for management. Fielded the new Army Navy/ Aviation Platform Aircraft Fire Control Radar (AN/APG)-66 Radar Displays and the new Second FLIR Operator Stations on deploying P-3 Counter Drug Upgrade (CDU) aircraft. Coordinated the Installation and Test of the Air Defense System Integrator (ADSI) data link capability at JIATF. Conducted Operational Testing of the Cudjoe Key Aerostat Maritime Tracking System and the Radar Satellite (RADARSAT)/Center for Southeastern Tropical Advanced Remote Sensing (CSTARS) maritime imaging capabilities.

• Science Advisor, Commander, U.S. Marine Corps, Atlantic (COMMARFORLANT), worked on several experiments associated with Vacuum Assisted Closure (VAC) of wounds to prevent infection and allow wounded Marines to be evacuated to a field medical unit with a higher probability of retaining the damaged limb. Worked on Speech to Speech Language Translation, Iraqi Culture Training Software, and Chow Hall Protection Initiatives in support of operational Marine Forces in Iraq and Afghanistan.

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• Science Advisor, Commander Naval Air Systems Command (COMNAVAIRSYSCOM), researched anti-terrorism and force protection issues, Aircraft Carrier Situational Awareness (ACSAS) and High Output Warning Loudspeaker (HOWL). Researched total cost of ownership/maintenance issues, Mobile Cleaning, Reclaim, and Recycle System (MCRSS), maintenance issue to reduce life-cycle cost of systems.

• Science Advisor, Chief of Naval Operations (CNO) Executive Panel (CEP), supported the CEP Near Term Assessment Study with emphasis on technology issues. Worked with the Office of the Secretary of Defense (OSD) Policy sub-groups on technology issues. Coordinated with the SSG in the development of a strategy for "Accelerating FORCEnet – Winning the Information Age Study."

• Science Advisor, Commanding General 2nd Marine Expeditionary Force (CG II MEF) continuous support of Silver Fox (UAV), Project Sheriff, Counter IED Working Group, and various smaller projects in support of II MEF Operation Iraqi Freedom (OIF) 04-06 preparation. Involved with a number of force protection initiatives and coordination of demonstrations during Combined Joint Task Force Exercises (CJTFEX).

• Science Advisor, Commander, U.S. Marine Corps, Pacific (COMMARFORPAC), was involved in near-term technologies for OIF II, including counter-IED, counter-Man-Portable Anti-Defense System (MANPADS), counter-shooter, and Non-Lethal Weapons technology. Regularly interacted with other Marine Corps Science Advisors on various language translation technologies.

• Science Advisor, Commander Pacific Fleet (COMPACFLT), efforts focused on ASW. Continued as a member of Task Force ASW and interacted heavily with the leadership of the Littoral ASW Future Naval Capabilities (FNC). Coordinated the development of an ASW technologies assessment, in support of Pacific Fleet Science and Technology requirements to support Pacific AOR wartime contingency plans.

• Science Advisor, Naval Supply Systems Command (NAVSUP), researched Radio Frequency Identification (RFID) applications for NAVSUP. Worked a condition-based maintenance program to review the use of wireless networks to communicate machinery health information to a host system. Managed the Collaborative Logistics Program for NAVSUP. Working Sea Basing Logistics issues in support of Naval Force – 21.

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• Science Advisor, Navy Warfare Development Center (NWDC), explored multiple S&T-related initiatives, including the NAVAIR Decision Support System (DSS), the MOVES Institute XMSF (Extensible Modeling and Simulation Framework), the unsolicited Digital Harbor proposal, the ONR/HAI (Hydro Acoustics, Inc.) proposal, FORCEnet (FnCE) Composable Environment), and Extendable Technical C4I Framework (XTCF) Sea Trial. Coordinated special experimentation projects for Sea Trial initiatives. Represented NWDC in various forums and project planning meetings. Worked with CFFC to continue to improve the Sea Trial Information Management System (STIMS). Worked very closely with the Director, Naval Undersea Warfare Center (NUWC) in support of Anti-Submarine Warfare (ASW) littoral operations concept development (CONOPS).

• Science Advisor, Naval Criminal Investigation Service/OPNAV (NCIS/N34), oversaw the implementation of technologies at the North Island AT/FP Technology Test Bed. Continued to manage the Area Security Operations Command and Control System (ASOCC). Supported Joint Harbor Operations Center (JHOC) Prototypes. Worked with Tech Solutions to develop multiple publications on AT/FP.

• Science Advisor, U. S. Pacific Command (USPACOM), participated in counter-IED systems installation in Operation Iraqi Freedom (OIF) with the Naval Explosive Ordnance Disposal Technology Division. Worked closely with Deputy Under Secretary of Defense for Advanced Systems and Concepts (DUSD AS&C) to coordinate ACTD efforts in the PACOM AOR. Participated in the annual staff talks with Singapore. Coordinating Joint Coalition Maritime Awareness (CMA) Advanced Concept Technology Development (ACTD) effort for the Pacific AOR.

• Science Advisor, Commander Submarine Forces Pacific Fleet (COMSUBPAC), developed an action plan to establish an ongoing partnership between the Fleet, the Meteorological/Oceanographic (METOC) community, and the oceanographic research community. Involved the National Defense Center of Excellence for Research in Ocean Acoustics (CEROS) programs and worked on issues for at-sea testing events. Involved in development of solutions for communications at speed and depth that support war plan requirements.

• Science Advisor, Commander Special Warfare Command (COMNAVSPECWAR), coordinated the fielding of an optics detection system to assist the SEALs. Reviewed the Naval Surface Warfare (NSW) Technology Base program to give more direct input from the SPECWAR community. Identified sources and routes of transition funding to take capabilities under development and mature them to a point where they are ready for procurement.

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• Science Advisor, OPNAV N81, participated in a N81 initiative to assess the Navy's role in the Global War on Terror (GWOT), which extended to all aspects of the issue from technology to training to force structure. Advocated for inclusion of promising technologies into the modeling effort in support of PR07 to quantify/highlight ongoing S&T work. Leading Assymetric Technology study to assess threats to Fleet/Force elements and ensure adequate force protection initiative are undertaken to prevent technological surprise by our adversaries.

FY 2006 Plans:

Continue FY 05 efforts with 25 Science Advisors.

FY 2007 Plans:

Continue FY 06 efforts with 25 Science Advisors.

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 RF 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

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PE 0603271N RF Systems Advanced Technology
PE 0603640M USMC Advanced Technology Demonstration (ATD)
PE 0603727N Joint Experimentation
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

D. ACQUISITION STRATEGY:
Not applicable.

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PROGRAM ELEMENT: 0205658N PROGRAM ELEMENT TITLE: NAVAL SCIENCE ADVISOR PROGRAM
PROJECT NUMBER: Various PROJECT TITLE: Congressional Plus-Ups

CONGRESSIONAL PLUS-UPS:

R9999	FY 2005	FY 2006
LASH MCM/ISR	3,278	0

FY 05 Accomplishments:

Completed collection of multispectral data of mines in the surf zone and on the beach.
Completed development of real time surf zone mine detection algorithms.