### UNCLASSIFIED

**FY 2001 RDT&E, N BUDGET ITEM JUSTIFICATION SHEET**

**DATE:** February 2000

**BUDGET ACTIVITY:** 6  
**PROGRAM ELEMENT:** 0605152N  
**PROGRAM ELEMENT TITLE:** Studies and Analysis Support, Navy

(U) **COST:** (Dollars in Thousands)

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<th>FY 2001</th>
<th>FY 2002</th>
<th>FY 2003</th>
<th>FY 2004</th>
<th>FY 2005</th>
<th>TO TOTAL</th>
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<tr>
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<td>R0132 CNO Program Analysis and Evaluation</td>
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(U) **MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:** This program provides analytical support to the Secretary of the Navy and the Chief of Naval Operations as a basis for major policy, planning and acquisition program execution decisions. It supports research and development strategy development and planning. It supports studies in the areas of manpower, personnel, training, and aviation. It also develops analytical tools for evaluating effectiveness of U.S. weapons against potential foreign threat ships and submarines.

(U) **JUSTIFICATION FOR BUDGET ACTIVITY:** This program is funded under RDT&E MANAGEMENT SUPPORT because it supports the operations and installations required for general research and development use.
(U) PROGRAM CHANGE FOR TOTAL PE:

<table>
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CHANGE SUMMARY EXPLANATION:

(U) Schedule: Not applicable.

(U) Technical: Not applicable.
BUDGET ACTIVITY: 6  
PROGRAM ELEMENT: 0605152N  
PROGRAM ELEMENT TITLE: Studies and Analysis Support, Navy

(U) COST:  (Dollars in Thousands)

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A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Chief of Naval Personnel has an ongoing need for direct analyses of Navy manpower and personnel (MP) policies and program planning. This project provides an essential management tool to: (a) assess the effectiveness of existing MP policies and programs, (b) identify needs for new policies and programs, (c) determine the required manpower and training mix relative to changing demographic, societal and legislative/regulatory trends, and to evolving strategic and geopolitical factors, (d) study the impact of MP programs on Navy accession, retention, and performance, and (e) develop, validate and/or refine a broad range of MP forecasting models. The program permits Navy to more effectively utilize Research and Development expertise to respond to emergent Manpower and Personnel Training issues.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1999 ACCOMPLISHMENTS:
   - (U) ($75K) Completed a study entitled "Minority Representation in Officer Communities". Conducted a comprehensive analysis of career progression of white majority officers in selected communities against that of ethnic minorities. Career progression was measured by "survival rates" of the various demographic groups over successive promotion points along an officer's career: junior officer (O1 - O4), mid-career officer ((O5), and senior officer (O6). Multivariate models were then developed to estimate how much of the variation in career progression could be attributed to ethnic difference based on such factors as prior job performance and prior assignment, which are causally related to career progression outcomes.
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FY 2001 RDT&E, N BUDGET ITEM JUSTIFICATION SHEET

BUDGET ACTIVITY: 6    PROGRAM ELEMENT: 0605152N    PROJECT NUMBER: L2097
PROGRAM ELEMENT TITLE: Studies and Analysis    PROJECT TITLE: Manpower Personnel Support, Navy & Training

1. (U) ($118) Using standard Business Process Reengineering methods, developed a detailed functional process diagram and assessment of the current Navy Personnel Change Station and Temporary Duty Under Instruction program budgeting and execution process and designed an improved process. The new process will yield more accurate move counts in the final budget year, provide improved processes for executing planned moves and create measures of effectiveness.

2. (U) ($38K) Completed a Naval Aviator Retention Modeling study to improve upon the current method to measure retention, the Cumulative Continuation Rate. The resulting models, once validated, will be used to redesign the aviator pipeline, to predict the effects of changes in bonus policies, and to predict shortages in numbers of department head and other billets.

2. (U) FY 2000 PLAN:

• (U) ($79) Develop a Career Sea Pay Entitlement Model to address Officer and Enlisted retention incentives.
• (U) ($4K) Update and validate Navy Pay Predictor, Officer Model for effective longevity management.
• (U) ($45K) Develop Separations Pay Model for accurate Manpower and Personnel, Navy Appropriation requirements management and costing.
• (U) ($67K) Conduct an evaluation of Performance Readiness Training Performance and attrition in view of existing Navy policy.

3. (U) FY 2001 PLAN:

• (U) ($75K) Develop a requirements-based Selective Reenlistment Bonus Model.
• (U) ($70K) Study the cost, productivity, and readiness impacts of family violence.
• (U) ($75K) Conduct studies directed at personnel policies to support the reduced manning initiatives

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Budget Item Justification
(Exhibit R-2, Page 4 of 21)
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• (U) ($70K) Conduct a study of stress-related health/adjustment problems of recruiters.

B. (U) PROGRAM CHANGE SUMMARY: See Program Change For PE

C. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

D. (U) SCHEDULE PROFILE: Not applicable.
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</table>

(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides analytical support to the Chief of Naval Operations and the Secretary of the Navy in evaluation of overall balance within total Navy programs. This includes such tasks as: (a) evaluation of force capabilities and requirements; (b) analysis of effectiveness of systems under development; (c) Secretary of Defense directed independent cost and effectiveness analyses of major Navy programs; and (d) items of Congressional interest as they relate to Navy programs. Deliverables consist of formal, structured documents containing or leading to conclusions and/or recommendations as well as the development and maintenance of databases and models. The use of databases and models is driven by the need to objectively and continually assess the impact of reduced funding and/or force drawdown upon Navy programs. They provide Navy planners and decision makers with objective, empirical data with which to make determinations regarding program planning and evaluation of issues. The models funded by this account are the primary tools used to formulate program balance in the assessment process (particularly the Readiness, Support and Infrastructure Assessment and the Investment Balance Review). The analyses based on these models form the heart of the Investment Balance Review, allowing the Navy to formulate and cost-out alternative force structure, manpower, infrastructure and readiness programs.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. FY 1999 ACCOMPLISHMENTS:

   • (U) ($104) Developed techniques for analysis of Navy Readiness requirements versus capabilities and to maintain the Aviation Readiness model and the Ships Resource-to-Readiness model.
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FY 2001 RDT&E, N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 2000

BUDGET ACTIVITY: 6
PROGRAM ELEMENT: 0605152N
PROGRAM ELEMENT TITLE: Studies and Analysis
PROJECT NUMBER: R0132
PROJECT TITLE: CNO Program Analysis Support, Navy and Evaluation

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2. FY 2000 PLAN:

• (U) ($108) Develop techniques for analysis of Navy Readiness requirements versus capabilities and to maintain the Aviation Readiness model and the Ships Resource-to-Readiness model.

3. FY 2001 PLAN:

• (U) ($120) Develop techniques for analysis of Navy Readiness requirements versus capabilities and to maintain the Aviation Readiness model and the Ships Resource-to-Readiness model.

• (U) ($184) Conduct studies and analyses to support the Navy’s Assessment process.

(U) B. PROGRAM CHANGE SUMMARY: See Program Change Total For PE

(U) C. OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) D. ACQUISITION STRATEGY: Not applicable.

(U) E. SCHEDULE PROFILE: Not applicable.
UNCLASSIFIED

FY 2001 RDT&E, N BUDGET ITEM JUSTIFICATION SHEET

BUDGET ACTIVITY: 6  PROGRAM ELEMENT: 0605152N
PROGRAM ELEMENT TITLE: Studies and Analysis Support, Navy

(U) COST: (Dollars in Thousands)

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</table>

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project supports the core program for the Naval Studies Board. As agreed upon between the Chief of Naval Operations (CNO) and the President of the National Academy of Sciences and with appropriate attention to the influence of the domestic economy, national objectives, social imperatives and anticipated military requirement, the Naval Studies Board will conduct and report upon surveys, investigations, and analyses in the field of scientific research and development applicable to the operation and function of the Navy. Reports consist of a briefing to the Assistant Secretary of the Navy (Research Development and Acquisition) (ASN (RD&A)) and the CNO and staff, and written technical reports.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. FY 1999 ACCOMPLISHMENTS:

   • (U) ($1,100) Continued research efforts and investigations in areas of interest to the Navy. Continue to support annual Navy authorized activities of importance, such as the National Space Forum and the Weinblum Memorial Lecture Series.
• (U) ($842) Produced investigations of significant importance to the Navy concerning technology of the future, selected from proposals received from CNO and ASN (RD&A).

2. FY 2000 PLAN:

• (U) ($685) Continue research efforts and investigations in areas of interest to the Navy. Continue to support annual Navy authorized activities of importance, such as the National Space Forum and the Weinblum Memorial Lecture Series.

• (U) ($1,118) Produce investigations of significant importance to the Navy concerning technology of the future, selected from proposals received from CNO and ASN (RD&A).

3. (U) FY 2001 PLAN:

• (U) ($732) Continue research efforts and investigations in areas of interest to the Navy. Continue to support annual Navy authorized activities of importance, such as the National Space Forum and the Weinblum Memorial Lecture Series.

• (U) ($1,327) Produce investigations of significant importance to the Navy concerning technology of the future, selected from proposals received from CNO and ASN (RD&A).

(U) B. PROGRAM CHANGE SUMMARY: See Program Change Total For PE

(U) C. OTHER PROGRAM FUNDING SUMMARY: Not applicable.
(U) D. ACQUISITION STRATEGY: Not applicable.

(U) E. SCHEDULE PROFILE: Not applicable.
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FY 2001 RDT&E, N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 1999

BUDGET ACTIVITY: 6
PROGRAM ELEMENT: 0605152N
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</table>

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides the Chief of Naval Operations and the Secretary of the Navy direct analyses of Navy policy, strategy acquisition, and program planning in meeting the following objectives: (a) producing study results impacting upon important programs/issues; (b) identifying and evaluating policy and strategy alternatives and doctrine; and (c) evaluating the capabilities of programmed forces to accomplish missions assigned to the Navy. Deliverables consist of formal, structured documents containing or leading to conclusions and/or recommendations as well as the development and maintenance of databases and models. This project directly supports and is critical for conducting the Navy’s joint mission assessments.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. FY 1999 ACCOMPLISHMENTS:

   • (U) ($162 Conducted reviews of the Capability Resource Allocation Display (CAPRAD) database and performed econometric/statistical analyses on the impact of changes resulting from downsizing and programmatic changes. Also updated and revalidated the Integrated Program Assessment System (IPAS) and other models in order to run these programs using revised allocation displays.

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Budget Item Justification
(Exhibit R-2, Page 11 of 21)
2. FY 2000 PLAN:

- (U) ($35) Conduct reviews of the CAPRAD database and perform econometric/statistical analyses on the impact of changes resulting from downsizing and programmatic changes. Also update and revalidate the IPAS and other models in order to run these programs using revised allocation displays.

- (U) ($130) Conduct studies and provide enhancements to Integrated Theater Engagement Model (ITEM), the primary tool for campaign analysis for Assessments and perform analysis of force structure requirements.

3. FY 2001 PLAN:

- (U) ($170) Conduct reviews of the CAPRAD database and perform econometric/statistical analyses on the impact of changes resulting from downsizing and programmatic changes. Also update and revalidate the IPAS and other models in order to run these programs using revised allocation displays.

- (U) ($293) Conduct studies and provide enhancements to ITEM, the primary tool for campaign analysis for Assessments and perform analysis of force structure requirements.

(U) B. PROGRAM CHANGE SUMMARY: See Program Change Total For PE

(U) C. OTHER PROGRAM FUNDING SUMMARY: Not applicable.

(U) D. ACQUISITION STRATEGY: Not applicable.

(U) E. SCHEDULE PROFILE: Not applicable.
Budget Item Justification
(Exhibit R-2, Page 13 of 21)

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FY 2001 RDT&E, N BUDGET ITEM JUSTIFICATION SHEET

**BUDGET ACTIVITY:** 6  
**PROGRAM ELEMENT:** 0605152N  
**PROGRAM ELEMENT TITLE:** Studies and Analysis Support, Navy

(U) COST: (Dollars in Millions)

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(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides for analysis of the warfighting capability of Naval forces by examining specific selected numbers and mixes of surface combatants and other forces that are subjected to representative operational situations in a joint littoral environment. The U.S. strategic emphasis has shifted from global containment and warfighting to a global engagement and deferrence strategy with regional focus. As part of an overall effort at addressing future Naval force levels and capabilities, the Navy must assess the warfighting effectiveness of new operating concepts using different mixes of surface combatants operating in a littoral warfare environment and develop an investment strategy that supports the capabilities required. Required Operational Capabilities/Projected Operational Environment (ROC/POE) must be updated every two years or created for new ship classes. These ROC/POE's are vitally important in that mission requirements for ships drive equipment configurations, manning levels and associated shipboard accommodations, tailor ship and staff missions, capabilities, manning to new strategies, tactics, operational environments, and policies.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 1999 ACCOMPLISHMENTS:

   - (U) ($3,528) Continued analyses to identify force capabilities considering various force mixes. These studies addressed the warfighting and national security policy and strategy requirements for effective, flexible and cost-efficient Naval Surface Warfare Forces, including new operational concepts, the numbers and mixes of surface combatants and other forces that are subjected to representative operational situations in a joint littoral environment. Measures of Effectiveness were used in characterizing Naval Surface Warfare capabilities for battle space dominance and for power projection. The results were applied to campaign scenarios and operational situations to scope, focus and interpret the analyses. The results of these analyses were applied...
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FY 2001 RDT&E, N BUDGET ITEM JUSTIFICATION SHEET

DATE:  February 2000

BUDGET ACTIVITY:  6  PROGRAM ELEMENT:  0605152N
PROGRAM ELEMENT TITLE:  Studies and Analysis Support, Navy

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Budget Item Justification
(Exhibit R-2, Page 14 of 21)
2. (U) FY 2000 PLAN:

- (U) ($1,474) Continue analyses to identify force capabilities considering various force mixes. These studies will address the warfighting and strategy requirements for effective, flexible and cost-effective Naval Surface Warfare Forces focused on the challenge of continuous operations in the littoral regions. Measures of Effectiveness will be used in characterizing Naval Surface Warfare capabilities for theater air dominance and precision land attack undergirded by maritime dominance. The results will be applied to campaign scenarios and operational situations to scope, focus and interpret the analyses. The results of these analyses will be applied to strategic planning and investment strategies for future Joint Littoral Warfare Naval Forces and directly support the DoN Assessment process. Revise ROC/POE instructions. Obligations initiated October 1999 and will be complete September 2000.

3. (U) FY 2001 PLAN:

- (U) ($2,182) Continue analyses to identify force capabilities considering various force mixes. These studies will address the warfighting and strategy requirements for effective, flexible and cost-effective Naval Surface Warfare Forces focused on the challenge of continuous operations in the littoral regions. Measures of Effectiveness will be used in characterizing Naval Surface Warfare capabilities for theater air dominance and precision land attack undergirded by maritime dominance. The results will be applied to campaign scenarios and operational situations to scope, focus and interpret the analyses. The results of these analyses will be applied to strategic planning and investment strategies for future Joint Littoral Warfare Naval Forces and directly support the DoN Assessment process. Revise ROC/POE instructions. Obligations will initiate October 2000 and complete September 2001.
UNCLASSIFIED

FY 2001 RDT&E, N BUDGET ITEM JUSTIFICATION SHEET

DATE: February 2000

BUDGET ACTIVITY: 6
PROGRAM ELEMENT: 0605152N
PROGRAM ELEMENT TITLE: Studies and Analysis Support, Navy
PROJECT NUMBER: S2233
PROJECT TITLE: Naval Surface Warfare Studies

(U) D. ACQUISITION STRATEGY: Not Applicable

R-1 Line Item 136

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Budget Item Justification
(Exhibit R-2, Page 16 of 21)
BUDGET ACTIVITY: 6  PROGRAM ELEMENT: 0605152N
PROGRAM ELEMENT TITLE: Studies and Analysis Support, Navy

(U) COST: (Dollars in Millions)

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(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project provides for analysis of the warfighting capability of Expeditionary forces, with emphasis on the joint littoral environment, by examining specific selected numbers and mixes of amphibious combatants, mine warfare forces and other forces that are subjected to represent operational situations in a joint littoral environment. The U.S. strategic emphasis has shifted from global containment and warfighting to a global engagement and deferrence strategy with regional focus. As part of an overall effort at addressing future Naval force levels and capabilities, the Navy must assess the warfighting effectiveness of new operational concepts using different mixes of expeditionary combatants operating in a littoral warfare environment and develop an investment strategy that supports the capabilities required.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. FY 1999 ACCOMPLISHMENTS: Not applicable.

2. (U) FY 2000 PLANS:

   - (U) ($373) Initiate efforts for dedicated analyses of Expeditionary Warfare Studies. Continue analysis to identify force capabilities considering various force mixes. These studies will address the warfighting and national security policy and strategy requirements for effective, flexible and cost-efficient Naval Expeditionary Warfare Forces, including the numbers and mixes of expeditionary combatants, to include mine warfare forces and other forces that are subjected to represent operational situations in a joint littoral environment. Measures of Effectiveness will be used in characterizing Naval Expeditionary Warfare applied to strategic planning and investment strategies for future Joint Littoral Warfare Naval Forces. Obligations initiated in October 1999 and will be complete in September 2000.
3. (U) FY 2001 PLANS:

- (U) ($478) Continue analysis to identify force capabilities considering various force mixes. These studies will address the warfighting and national security policy and strategy requirements for effective, flexible and cost-efficient Naval Expeditionary Warfare Forces, including the numbers and mixes of expeditionary combatants, to include mine warfare forces and other forces that are subjected to represent operational situations in a joint littoral environment. Measures of Effectiveness will be used in characterizing Naval Expeditionary Warfare applied to strategic planning and investment strategies for future Joint Littoral Warfare Naval Forces. Obligations will initiate in October 2000 and complete in September 2001.

(U) B. PROGRAM CHANGE SUMMARY: See Program Change Total For PE

(U) C. OTHER PROGRAM FUNDING SUMMARY: Not Applicable

(U) D. ACQUISITION STRATEGY: Not Applicable
(U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This project supports studies over a wide range of naval aviation issues that support the ongoing Joint Strike Assessment (JSA) guidelines. Results provide a basis for recommendations to the Chief of Naval Operations concerning major policy, planning, and acquisition program decisions. This effort is a management initiative, which will allow allocation of study resources in a timely manner according to priorities. This ongoing program will continue to leverage more detailed program specific analysis in order to gain insight in acquisition of various weapon systems and their impact on force structure, manning levels, operational readiness and Carrier Air Wing effectiveness. This program will also support various Analysis of Alternatives (AOA) Studies.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. FY 1999 ACCOMPLISHMENTS:
   - (U) ($375) Continued analyses of Tactical Air (TACAIR) modernization alternatives. Developed a prioritized list of alternatives to determine which technologies offer the best promise for improving safety of flight
for naval aircraft. Completed a study to investigate the technology required to marinize a Medium Endurance UAV for carrier based operations. Developed a draft roadmap for TACAIR high speed weapons.

- (U) ($50) Continued studies to support JSA issues. Developed updated naval aircraft warfare attrition and utilization factors.

- (U) ($850) Completed the Multi-Mission Maritime Aircraft Study. Developed six concept designs and the corresponding force levels and cost analyses. Completed prioritized technology plan.

- (U) ($300) Continued Carrier Air Wing (CVW) capabilities analysis effort. Developed the scenarios and gathered the fleet data to conduct tradeoffs of the limiting factors and potential capacity in projecting combat capability from the CVW.

- (U) ($890) Provided support for general aviation related AOAs and studies within Naval Air Systems Command (NAVAIR) and Office of the Chief of Naval Operations (OPNAV).

2. FY 2000 PLAN:

- (U) ($216) Prepare a naval aviation developmental plan that will provide for the future operational capabilities required to support network centric warfare including future vertical lift requirements.

- (U) ($499) Conduct studies to explore the potential utilization of high speed weapons with initial operating capability in FY 2010 to FY 2015. Study is to establish operational requirements and conduct preliminary analysis for this family of weapons.

- (U) ($500) Complete studies to support JSA issues for the current and follow-on cycle

- (U) ($200) Begin studies to evaluate concepts of operations for strike missions.

- (U) ($427) Provide support for general aviation related AOAs and studies within NAVAIR and OPNAV.
3. FY 2001 PLAN:

- (U) ($500) Expand the CVW capabilities analysis effort. Utilizing the information developed in FY 2000 for a single CVW, expand the tradeoffs for a Battle Force consisting of three carrier battle groups in three scenarios. Evaluate the limiting factors and synergy of tasking, limiting factors and potential in projecting combat capability.

- (U) ($300) Develop techniques for analysis of naval aviation warfare requirements versus current system capabilities.

- (U) ($277) Expand the studies to evaluate future concepts for strike concepts of operations.

- (U) ($200) Continue the studies to investigate alternatives for advanced weapon initiatives.

- (U) ($928) Continue the study to develop requirements for the EA-6B follow-on.

- (U) ($75) Provide support with general aviation related AOAs and studies with NAVAIR and OPNAV.

(U) B. PROGRAM CHANGE SUMMARY: See Program Change Total For PE

(U) C. OTHER PROGRAM FUNDING SUMMARY: Not applicable

(U) D. ACQUISITION STRATEGY: Not Applicable

(U) E. SCHEDULE PROFILE: Not Applicable