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National Security and
International Affairs Division

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November 30, 1990

The Honorable Daniel K. Inouye
Chairman, Subcommittee on Defense
Committee on Appropriations
United States Senate

The Honorable John P. Murtha
Chairman, Subcommittee on Defense
Committee on Appropriations
House of Representatives

In response to your requests, we reviewed the Navy's fiscal year 1991 funding request for Research, Development, Test, and Evaluation (RDT&E). We also reviewed associated fiscal year 1990 appropriations. In July 1990, we provided the preliminary results of our review to your offices. The results of our final review are summarized below and discussed in more detail in appendixes I and II of this report.

We identified potential reductions in RDT&E of $777.614 million—$534.910 million for fiscal year 1991 and $242.704 million for fiscal year 1990, as summarized in table 1. below.

Table 1: Potential Reductions in the Navy's Fiscal Year 1991 Budget for Research, Development, Test, and Evaluation

Dollars in Millions

Program Element Title	Element Number	R-1 Line	Fiscal Year 1990	Fiscal Year 1991	Total
Surface Ship Torpedo Defense	0603506N	70	$9.000		$9.000
Ship Development	0603564N	84		$11.598	11.598
MK-48 Advanced Capability	0603691N	98	4.600	60.300	64.900
V-22 Osprey	0604262N	134	62.786		62.786
Helicopter Development	0604213N	125		51.000	51.000
Sea Lance	0604309N	141	49.900		49.900
Submarine Sonar Improvements	0604503N	154		3.100	3.100
Combat Information Center Conversion	0604518N	161		4.798	4.798
Surface ASW System Improvement	0604713N	184	39.900	122.610	162.510
Fixed Distributed System	0604784N	193		46.604	46.604
P-3 Modernization	0604221N	130		234.900	234.900
Undistributed Deferrals and Excess Funds	various	N/A	76.518		76.518
Total			**$242.704**	**$534.910**	**777.614**

Although the scope of our work consisted mainly of projects and programs in RDT&E, we did analyze the effects of RDT&E changes on systems funded in more than one appropriation account. We identified potential reductions in fiscal year 1991 funds of $4.663 million in the Navy's Shipbuilding and Conversion budget and $10.2 million in its Other Procurement budget account.

This review is one of a series that examines defense budget issues. Our objectives were to (1) review the Navy's RDT&E budget account for fiscal year 1991 for selected program elements and individual programs and systems to determine whether the funding levels requested were justified and (2) examine selected aspects of the current and prior year budgets to determine whether unused funds could be reduced.

In conducting our evaluation, we interviewed budget and program officials and reviewed pertinent program documents and budget support data obtained from many installations and commands. Our work was performed at Navy Headquarters in Washington, D.C.; and at Naval Laboratories located in Newport, R.I.; Warminister, PA.; and San Diego, CA.

We conducted our review from January 1990 to July 1990 in accordance with generally accepted government auditing standards.

As requested, we did not obtain written agency comments on this report. However, we discussed the contents with officials from the Office of the Secretary of Defense and the Department of the Navy, and have incorporated their comments as appropriate. Major contributors to the report are listed in appendix III.

If we can be of further assistance, please call Martin Ferber, Director, Navy Issues, on 275-6504.

Frank C. Conahan
Assistant Comptroller General

Contents

Abbreviations

ACDS	Advanced Combat Direction System
ADCAP	Advanced Capability
ASW	Antisubmarine Warfare
CNO	Chief of Naval Operations
DAB	Defense Acquisition Board
GAO	General Accounting Office
MLR	Medium Lift Requirement
NAVSEA	Naval Sea Systems Command
OPN	Other Procurement, Navy
OSD	Office of the Secretary of Defense
RTD&E	Research, Development, Test, and Evaluation
SCN	Shipbuilding and Conversion, Navy
SSTD	Surface Ship Torpedo Defense

Potential Reductions to Navy's Research, Development, Test, and Evaluation Budget

We identified potential budget reductions of $777.614 million from the Navy's Research, Development, Test, and Evaluation (RDT&E) budget: $242.704 million for fiscal year 1990 and $534.910 million for fiscal year 1991. In this appendix, we discuss these potential reductions and the programs to which they apply.

Surface Ship Torpedo Defense (SSTD)

Brief Description of Program

The SSTD program, comprised of a U.S. National SSTD program and a joint U.S./United Kingdom SSTD project, is being implemented to provide naval ships protection from Soviet-built torpedoes. Specific program information is classified.

Results of Analysis

We identified a potential rescission of $9 million from the fiscal year 1990 SSTD program.

The Congress approved an additional $9.0 million in fiscal year 1990 funds, subsequent to the fiscal year 1990 appropriation of $51.515 million. This amount includes funds for the U.S. National SSTD Program and the Joint U.S./U.K. SSTD Project, $38.214 million and $13.301 million, respectively. The Office of the Secretary of Defense (OSD) is withholding the $9.0 million for reprogramming. A Navy program official stated that the $9.0 million is in excess of fiscal year 1990 program requirements.

Ship Development

Table I.1: Projects Included in the Ship Development Program Element (0603564N)

Dollars in millions

Project Number	Title	FY 1990 request	FY 1991 request
S0408	Ship Development (Advanced)	$3 442	$14 702
S2043	Sub Tender Development	0	4 162
S2087	Fast Sealift Ship Technology Development	15 000	0
	Totals	**$18.442**	**$18.864**

Brief Description of Program

The Ship Development program element consists of three independent projects aimed at (1) enhancing the Navy's ability to design more capable ships at reduced costs, with reduced manning, and increased producibility, and (2) allowing for greater utilization of the latest technology during this process. The overall program supports the Navy's shipbuilding plans by developing the expertise needed and performing the early stage ship design work through concept studies, feasibility studies, and preliminary design work. The program also develops investment strategies for new concepts and technology and evaluates new technologies and unconventional hull form concepts suitable for future acquisition.

Results of Analysis

A potential reduction of $11.598 million to the fiscal year 1991 budget for RDT&E, Navy, has been identified.

We concentrated our efforts on one of the three projects in the Ship Development program element, the Fast Sealift Ship Technology Development project. The funds for this project were included in the fiscal year 1990 authorization bill by the Congress. The Naval Sea Systems Command (NAVSEA), the program's sponsor, did not request these funds, nor does it have program requirements for the project. Also, no funds are budgeted for this project in fiscal year 1991. OSD withheld the entire $15.000 million in a deferred or reserve account, pending approval of an overall fast sealift development plan.

The Congress rescinded $3 million from this project in fiscal year 1990. Additionally, $402,000 of the fiscal year 1990 funding has been identified as a potential source for Coast Guard and Department of Energy programs.

According to Navy officials, until they are provided direction and requirements for the Fast Sealift Ship Technology Development Project, they cannot initiate work. Therefore, the Navy does not have any plans to use the remaining $11.598 million appropriated for the project in fiscal year 1990.

As shown in table I.1, NAVSEA requested $14.702 million for its fiscal year 1991 Advanced Ship Development Project. If OSD does not provide direction to the Navy for the fiscal year 1990 Fast Sealift Ship Technology Development Project, that project could be deleted and the remaining $11.598 million could be transferred to the Advanced Ship Development Project in fiscal year 1991.

MK-48 Advanced Capability (Advanced Development)

Brief Description of Program

The ongoing MK-48 Advanced Capability (ADCAP) Torpedo product improvement program consists of a software upgrade and the development of an improved propulsion system. It is designed to upgrade the basic MK-48 ADCAP torpedo. The program recently experienced testing problems with the propulsion system and is in the process of being restructured. These problems resulted in the delay of full-scale development by about 1 year and increased estimated RDT&E costs by about $66 million over the $122 million the Navy initially planned to spend on the improvement.

In March 1990, NAVSEA submitted a program management proposal to the Chief of Naval Operations to restructure the program. The proposal reflects the additional work deemed necessary before the program can proceed to full-scale development. As of June 1990, this proposal was still being evaluated by the Chief of Naval Operations. When completed, the proposal must be sent to the Secretary of the Navy for review and approval. Meanwhile, the MK-48 ADCAP program office is continuing development efforts under the restructure plan proposal.

Results of Analysis

Two potential reductions totaling $64.900 million have been identified.

Due to earlier testing problems with the fast deep target, which uses propulsion technology similar to that in the MK-48 product improvement program, the Navy Comptroller withheld $13 million of the fiscal year 1990 appropriation that was to be applied to the full-scale development contract. The Navy has reprogrammed $8.4 million of this amount to 21 other Navy programs. The $8.4 million falls below the threshold for reprogramming limits required for congressional approval. The Comptroller may reprogram the remaining $4.6 million to other Navy programs.

The fiscal year 1991 RDT&E budget request for $60.3 million reflects the proposed restructured program. According to program officials, this request was based on the premise that the $13 million withheld by the Navy Comptroller's Office would be released for use in fiscal year 1990.

However, since the Navy has reprogrammed some funds and plans to reprogram the remaining funds, the program could experience further delays. The fiscal year 1991 RDT&E budget request reflects a restructured program that has yet to be approved by the Secretary of the Navy. Since the Navy is planning to reprogram $4.6 million of the program's fiscal year 1990 funds to other Navy areas, these funds could be withdrawn and applied to the Navy's fiscal year 1991 RDT&E budget request.

Additionally, since the restructured program has not yet been approved by the Navy, the $60.3 million requested for fiscal year 1991 could be appropriated, but obligational authority on the use of these funds should be restricted until after the Navy reports to the Congress on the restructured program and the amount of RDT&E funds it will actually need to carry out the approved fiscal year 1991 program.

V-22 Osprey

Brief Description of Program

The V-22 program is designed to provide an aircraft to meet the amphibious/vertical assault needs of the Marine Corps, the combat search and rescue needs of the Navy, and the special operations needs of the Air Force. The V-22 will replace the CH-46 in the Marine Corps, the HH-3A in the Navy, and supplement the H-53, H-60, and C-130 in the Air Force. The V-22 will be capable of flying over 2,100 nautical miles without refueling, giving the Services the advantage of an aircraft that can rapidly self-deploy to any location in the world.

Results of Analysis

A potential reduction of up to $62.786 million in fiscal year 1990 funds may exist in the V-22 program if this aircraft is not funded by the Congress in fiscal year 1991.

The Navy Comptroller is withholding $62.786 million of the fiscal year 1990 RDT&E program approved for the V-22. The funds withheld are related to long-term engineering development. The Navy curtailed work related to V-22 production and chose to delay certain long-term engineering development efforts, such as modifications to government furnished equipment, design work, and selected developmental items. The Navy indicated that this delay would not effect current RDT&E work.

If the V-22 program is continued, the Navy has tasks and modifications to contracts planned for the $62.786 million. The Navy has submitted a plan to the Navy Comptroller requesting release of these funds for items such as developmental engines, engine test cell adapters, auxiliary power units, proposed engine upgrades, and a first article maintenance trainer.

If the V-22 program is not funded in fiscal year 1991, part of the $62.786 million will be earmarked for items such as closing out financial documents and completing contracts on small pieces of hardware. The remaining funds could be reprogrammed to support other RDT&E efforts in fiscal year 1991.

Helicopter Development

Brief Description of Program

The Helicopter Development program funds two separate projects —the upgrade and modernization of certain weapon systems on the AH-1 Cobra helicopter and the development of a Medium Lift Requirement (MLR) aircraft to replace the CH-46 helicopter. We concentrated our analysis on the MLR aircraft since this program's development in fiscal year 1991 will occur only if the V-22 Osprey program is not funded, as now proposed by the Navy.

The MLR aircraft's primary mission will be to provide assault transport of combat troops during amphibious operations and subsequent operations ashore. As part of this mission, MLR aircraft will provide a capability to operate at night and deliver combat assault troops beyond current CH-46 distances, under extreme environmental and operational conditions, into a high threat environment.

Results of Analysis

A savings of $51 million in fiscal year 1991 helicopter development funding could accrue if the V-22 program is funded in fiscal year 1991.

The Navy requested $51 million in its fiscal year 1991 RDT&E budget for the MLR project. The Navy is using the lift requirements previously established under the V-22 program as the basis for future helicopter development. The Navy has not yet established a program office to

manage the MLR aircraft project; however, the Assistant Chief of Naval Operations for Air Warfare is currently conducting the general planning on this project. As of June 15, 1990, no RTD&E funds had been spent on the project.

Currently, the Navy is refining the V-22 operational requirements and proceeding with a general plan to upgrade or modify an existing airframe to meet the Marine Corps' needs if the V-22 is cancelled. According to the Navy, if the V-22 is not funded in fiscal year 1991, the Navy will establish a program office to conduct studies, using field activities, to begin preliminary design development.

However, if the V-22 program is funded in fiscal year 1991, the need for the MLR aircraft project under the Helicopter Development program element will no longer exist. Therefore, $51 million could be deleted for the MLR aircraft project in the fiscal year 1991 budget.

Sea Lance

Brief Description of Program

The Sea Lance weapon system is designed to provide surface ships and submarines with a quick reaction, conventional, antisubmarine warfare (ASW) tactical weapon capable of countering hostile submarines at long ranges. The MK-50 torpedo is planned to be the conventional payload for Sea Lance. The program, which, through fiscal year 1989, has cost the Navy about $518 million, has been under development for almost 10 years, and has experienced many changes. On December 29, 1989, the Secretary of the Navy announced that the Deputy Secretary of Defense had approved the Navy's proposal to terminate the Sea Lance program and deleted funding starting in fiscal year 1991.

Results of Analysis

Potential exists to rescind $49.900 million in the fiscal year 1990 budget for this program.

For fiscal year 1990, the Congress appropriated $127.8 million of RDT&E funds for Sea Lance program development. This appropriation was made prior to the Navy's decision to terminate the program.

Of the total amount appropriated, the Secretary of the Navy authorized the expenditure of $81.5 million to close out the program. The Navy

planned to reprogram $46.3 million for other purposes—$42.9 million for military personnel and $3.4 million to the Department of Energy for a Savannah River facility. However, these reprogramming actions were rejected by the Congress. OSD and the Navy are currently reassessing possible uses for these funds.

Despite a decision to terminate the program, the Navy plans to expend $3.6 million of the $81.5 million authorized to conduct air drop tests. The series of tests, scheduled for June through August 1990, concern the release and separation of the MK-50 torpedo from the Sea Lance. According to a Sea Lance official, the tests are being conducted to validate MK-50 torpedo concepts. This data, along with prior test data, will be available for use in future Navy programs, including the MK-50 torpedo and Vertical Launch Antisubmarine Rocket.

A total of $49.9 million of fiscal year 1990 RDT&E funds could be withdrawn and used to offset the Navy's fiscal year 1991 budget request. This amount includes $46.3 million planned to be reprogrammed for purposes other than what was originally intended by the Congress, plus $3.6 million planned to be expended for air drop tests for a program that is being terminated.

Submarine Sonar Improvements (Engineering)

Brief Description of Program

The AN/BQS-24 sonar system, one of the improvement programs funded under this program, is being designed to improve SSBN 726 Trident class and SSN 688 class submarine under-ice navigation and obstacle avoidance capabilities. This system is an enhancement to the AN/BQQ-5 sonar system and has been in development for about 3 years. The Navy planned to award a full-scale development contract for the AN/BQS-24 system in early fiscal year 1991.

Results of Analysis

The fiscal year 1991 budget request for this program could be reduced by $3.10 million.

On April 2, 1990, the Chief of Naval Operations (CNO) terminated the Trident portion of this program. The CNO also suspended the SSN 688 portion of the program pending review of the AN/BQS-24 system or a suitable substitute that would satisfy SSN 688 requirements.

The CNO has terminated the AN/BQS-24 program and is currently developing a new operational requirement for a high frequency sonar system to replace the current system on the SSN 688 class submarine. According to a Navy program official, the CNO hopes to issue this requirement by the end of fiscal year 1990 and to award a contract for a follow-on system in late fiscal year 1991.

Of the $42.36 million requested for the Submarine Sonar Improvement program element for fiscal year 1991, $3.10 million is for AN/BQS-24 RDT&E efforts on the Trident and the SSN 688 class submarines.

The fiscal year 1991 RDT&E budget request for this program element could be reduced by $3.10 million until the CNO informs the Congress of (1) his decision regarding the 688 class submarine and (2) the exact amount of RTD&E funds needed for fiscal year 1991.

Combat Information Center Conversion Advanced Combat Direction System

Brief Description of Program

The Advanced Combat Direction System (ACDS) program is an upgrade to the Navy Tactical Data System. The program is the Navy's project to design and deploy a family of combat direction systems with new equipment and computer programs. The ACDS is a multi-step program with the steps designated Block 0, Block 1, and Block 2. The Block 1 software is currently under development for carriers.

Results of Analysis

A budget reduction of $4.798 million in fiscal year 1991 funding has been identified.

The Navy's request for $29.961 million in fiscal year 1991 includes $4.798 million to initiate the Block 1 program for cruisers. The Block 1

program for cruisers is about a $16-million option to the current Block 1 carrier contract.

The cruiser contract option, if exercised, is scheduled to start at the beginning of fiscal year 1991. However, program officials stated that they will decide when to exercise the contract option based on the maturity of the Block 1 carrier program. It is questionable whether the Navy can demonstrate the maturity of the carrier program in order to exercise the contract option as scheduled. Tests demonstrating that the carrier program meets specifications regarding performance, reliability, survivability, and vulnerability are not scheduled to start until the second quarter of fiscal year 1991. Also, program documentation in November 1989 indicated that the fiscal year 1990 funding reductions in the carrier program may result in the Navy delaying the cruiser contract option until fiscal year 1993 or beyond.

In addition, the Navy is developing alternatives to the cruiser contract option that may be more capable and less expensive. According to a program official, the Navy will evaluate the merits of these alternatives before deciding whether to exercise the contract option.

Fiscal year 1991 funding of $4.798 million for the contract option could be deleted. Alternatively, the Congress could hold the funds until the Navy (1) demonstrates that the maturity of the carrier software development warrants a contractual commitment for the contract option and (2) completes the cost and performance evaluations of alternatives to the contract option. A program official states that the Navy could demonstrate the carrier program's maturity through other tests scheduled in July and October of 1990, allowing the Navy to exercise the contract option as scheduled.

Surface ASW Systems Improvement

Brief Description of Program

The AN/SQQ-89 Improved (AN/SQQ-89I) Surface Ship Antisubmarine Warfare Combat System is intended to support the surface ship ASW mission by improving the integrated detection, location, tracking and fire control system capabilities currently provided under the AN/SQQ-89 Basic program. The AN/SQQ-89I program began design definition in

1986. In February 1987, the Navy restructured the program into blocks— 1, 2, and 3 —in response to funding constraints and congressional concerns.

By June 1989, the Navy concluded that the program was still not executable within current budget limitations and again restructured the program. Block 1 was eliminated as a separate software upgrade and incorporated into Blocks 2 and 3. Changes in Blocks 2 and 3 occurred as well. These program restructures have resulted in existing battle-force-capable ships to be provided with Block 2 systems having less active performance capability than originally planned. Block 3 modifications are scheduled for installation in fiscal year 1995 and beyond. The total estimated RDT&E cost of the restructured program, as of July 1990, was about $1.6 billion.

Results of Analysis

Potential funding reductions totaling $162.510 million—$39.900 in fiscal year 1990 and $122.610 in fiscal year 1991—have been identified for the AN/SQQ-89I program. In fiscal year 1990, the Congress appropriated $69.142 million for full-scale development of the AN/SQQ-89I program. The Navy Comptroller's Office has reprogrammed about $11.8 million, which is below congressional threshold review requirements, and has withheld an additional $1.851 million, primarily for a contribution to the Small Business Innovation Research Program.

After deducting the amounts reprogrammed and withheld, the program has an available balance of about $55.5 million. Of this amount about $25.8 million is planned for the Block 2 full-scale development contract; approximately $15.6 million has been released by the Navy Comptroller to Navy laboratories and the Military Sealift Command for program engineering support; and about $14.1 million, deemed in excess of fiscal year 1990 needs, is planned to be reprogrammed to other Navy programs.

The program has experienced a number of Defense Acquisition Board (DAB) program review delays. The DAB, initially planned for January 1990, is now scheduled for November 1990.

Although the DAB is planning to review both Blocks 2 and 3, Block 3, the system for battle-force-capable ships, is not ready to go forward with a total full-scale development effort. Accordingly, the Navy plans to continue preliminary development of Block 3. For example, it plans to continue funding two contractors to develop the Block 3 critical design and

to test selected items submitted by the competing contractors. The Navy then plans to perform an internal program review prior to competitively awarding the follow-on development and test contract in early fiscal year 1992.

The Navy has been reevaluating the planned use of fiscal year 1991 funds. Fiscal year 1991 planning adjustments, made between April and May 1990, and the DAB delay raise questions concerning the need for the $122.610 million requested for fiscal year 1991. In all, about $8.01 million has been realigned among various program accounts. As shown in table I.2, the major change is in the amount of money planned for the Block 2 contractor.

Table I.2: Planned Expenditures in the An/SQQ-89 Improved Combat System

Dollars in Millions

	Planned FY 1991 Expenditures		
Activity	**April**	**May**	**Difference**
Contractor-Block 2	$68 59	$62 00	−6 59
Long Lead Items/GFE	26 05	24 63	−1 42
Contractors-Block 3	13 50	18 00	+4 50
Field Activities	12 20	15 66	+3 46
Travel	03	07	+ 04
Support	2 24	2 25	+ 01
Total Requested	**$122.61**	**$122.61**	**−0-**

In addition, the Navy plans to acquire six Acoustic Video Processor units at $2.4 million in fiscal year 1991. The Acoustic Video Processor program is experiencing development problems, and the full-scale development program will not be completed until August 1991. The Navy plans to award the production contract for Acoustic Video Processor units for the AN/SQQ-89I program in fiscal year 1992 instead of fiscal year 1991. Therefore, the program's budget includes $2.4 million in excess of the program's fiscal year 1991 needs.

A Navy program official stated that fiscal year 1990 and 1991 funds are needed if the program is to maintain its present development schedule.

Because the DAB review has been delayed, and issues raised by the DAB must be resolved before funds can be obligated, the following actions are appropriate.

- Withdraw $39.9 million from the fiscal year 1990 appropriation, and use these funds to offset the Navy's fiscal year 1991 budget request. Of this amount, $14.1 million is not needed to execute the fiscal year 1990 plan, which leaves $25.8 million for the Block 2 contract. Since the Block 2 contract will not be awarded until fiscal year 1991, funds appropriated for that fiscal year could be used to award this contract.
- Reduce the program's fiscal year 1991 RDT&E requested appropriation by $10.41 million from $122.610 million to $112.200 million. This $10.41 million reduction consists of $8.01 million in cost realignment and $2.4 million for Acoustic Video Processor units that the Navy will not be ready to acquire until fiscal year 1992.
- Appropriate $112.200 million in fiscal year 1991 funds for the AN/SQQ-89I program, but include language that would withhold or limit obligational authority until the program has been thoroughly reviewed by DAB and officially approved by the Secretary of Defense, and the review results have been reported to the Congress.

Fixed Distributed System

Brief Description of Program

The Fixed Distributed System is a component of the Navy's comprehensive new architecture of acoustic and nonacoustic sensors for underwater surveillance. The system includes shore processors and underwater sensors connected by cables. Specific details of the program are classified.

Results of Analysis

Potential reductions totaling $46.604 million were identified.

The Navy's request of $210.176 million for fiscal year 1991 includes an estimate of $20.686 million for initial spares and repair parts for the underwater segment of the program. However, the current contract for the underwater segment already includes initial spares and repair parts. The contract also provides allowances for repairs and replacements needed during the manufacturing and installation process. Therefore, the $20.686 million requested by the program office for spares and repair parts duplicates efforts already included in the underwater segment contract.

The Navy's request also includes an estimate of $25.918 million to fund the award of a shore segment contract in June 1991. The amount is based on a 1989 independent estimate of the total price of the contract, which was judgementally allocated over the contract's anticipated 5-year period of performance. The program office did not provide details on the work to be accomplished during the period of performance for fiscal year 1991 because it is partially dependent on the scope of work to be proposed by the competing contractors. A more accurate cost estimate can be prepared once the proposals are received in the first quarter of fiscal year 1991. The $25.918 million estimate is questionable given the current lack of reliable support.

The program manager stated that the $20.686 million identified for initial spares and repair parts in fiscal year 1991 is now being planned for greater up-front development costs in the underwater segment contract and to account for the effects of reprogramming actions levied by the Navy in fiscal year 1990. Additionally, in response to our findings, the program manager provided documentation on the shore segment contract estimate of $25.918 million. While the documentation provided a rationale for the estimate, the program manager commented that the estimate is still subject to a great degree of variance.

The fiscal year 1991 budget request could be reduced by $20.686 million because that amount identified for spares and repairs duplicates efforts already included in the project's request.

Also, the funds for the fiscal year 1991 budget request of $25.918 million could be withheld for the shore segment contract until the Navy can provide a more reliable estimate.

P-3 Modernization Program P-7A Long-Range Air ASW Capable Aircraft

Brief Description of Program

The P-7A project was intended to develop an aircraft for the Navy's land-based ASW mission to replace 73 P-3A and P-3B aircraft reaching the end of their service life in the 1990s. The P-7A aircraft was to provide greater payload and range/on station time with fewer personnel

and lower operating and support costs (versus the existing P-3C capabilities). Improvements included new mission avionics to correlate navigation, acoustic and non-acoustic sensors, armament, and communicated data to improve tactical performance. The P-7A was also intended to be more survivable than the P-3 through the addition of the Navy common missile detection system, 360-degree coverage missile countermeasure dispensers, and other planned enhancements.

Results of Analysis

A potential reduction of as much as $234.9 million is possible in the fiscal year 1991 P-7A program.

In January 1989, the Navy awarded a $600 million fixed-price incentive contract to design, develop, fabricate, assemble, and test two prototype P-7A aircraft. In late 1989, the contractor estimated a $300-million overrun in development costs. In addition, the aircraft design was 10,000 pounds overweight.

In December 1989, the contractor restructured the program to address the cost and weight issues. Under the revised cost estimate, the contractor focused on using robotics to make the aircraft easier to produce. This change resulted in less tooling commonality between the P-3 and the P-7A aircraft. At the time of the award, the contractor proposed that 30 percent of the tooling would be common; now less than 5 percent of the tooling would be common. Also, an independent engineering design team evaluation of the program reported that the P-7A's weight could be reduced to 3,000 pounds over the specifications. Even with this excess weight, Navy officials believed the P-7A could meet operational requirements.

The Navy requested $234.9 million in fiscal year 1991 to continue developing the P-7A program. The P-7A program sponsor in the ASW Warfare Branch informed us that on July 20, 1990, DAB held an informational meeting on the program. Subsequently, the Navy decided to terminate the P-7A contract, because the contractor failed to make adequate progress toward completion of all contract phases.

According to both the program sponsor and the program manager, the Navy is proposing to replace the P-7A with a P-3H remanufacture program. Under this program, the Navy will select P-3B and P-3C aircraft for remanufacture. The Navy then plans to award a contract to replace the P-3s' wings and engines. Also, the Navy will consider extending the

fuselages 3 to 4 feet or some other measure to overcome the P-3's center of gravity weight limitation.

The Navy program manager estimates that about $89 million in research and development funds will be needed in fiscal year 1991 for the P-3H remanufacture program. If the P-3H program is funded, the fiscal year 1991 request of $234.9 million for the P-7A could be reduced by $145.9 million. If the Congress decides against funding any P-3 replacement or upgrade program, the total fiscal year 1991 request of $234.9 million could be withdrawn.

Undistributed Deferral and Excess Funds in Fiscal Year 1990 RDT&E Appropriation

Brief Description of Program

Table I.3 shows funds that were deferred or unobligated in the Navy's RDT&E account for fiscal year 1990 by the Office of the Assistant Secretary of Defense and Navy Comptroller, as of June 1990. They have not been previously reported in other sections of this report.

Table I.3: Undistributed Deferral and Excess Funds Found in the Navy's RDT&E Account for Fiscal Year 1990

Dollars in Millions

Program	Amount
Undistributed Deferral	$59 383
Skipper Enhancements	2 500
Advanced Air-to-Air Missile	1 500
IFF Systems Development	9 800
Surface ASW System Improvements	1 500
Industrial Preparedness	1 835
Total	**$76.518**

Results of Analysis

Deferred and excess funds of $76.518 million could be reduced, transferred, or rescinded from the fiscal year 1990 appropriation. The undistributed deferral represents the anticipated transfer out of RDT&E, Navy, for the Coast Guard and the residual balance of the Department of Energy transfer from sources that were denied. As of June 1990,

$59.383 million of fiscal year 1990 RTD&E, Navy funds were still undistributed by the Navy Comptroller. Skipper Enhancement funds are deferred because they were appropriated but not authorized, and the program is not expected to require the funds before fiscal year 1991. IFF Systems Development funds will not be required before 1991. The Advanced Air-to-Air Missile, Surface ASW Systems Improvements, and Industrial Preparedness program funds are excess, according to program documents.

Potential Reductions to Other Navy Budget Accounts

In performing our reviews of program elements within the Navy's RTD&E budget account, we analyzed the effects of changes in RDT&E on other budget accounts for projects funded in more than one budget. In two cases, we found that our work in RDT&E required that we report potential reductions in those other budget accounts. In the Shipbuilding and Conversion budget, we identified a potential reduction of $4.663 million and in the Navy's Other Procurement budget, we identified a potential reduction of $10.2 million.

Shipbuilding and Conversion, Navy Trident Electronics Equipment

Brief Description of Program

The AN/BQS-24 sonar system is being designed to improve SSBN 726 Trident class and SSN 688 class submarine under-ice navigation and obstacle avoidance capabilities. This system is an enhancement to the AN/BQQ-5 submarine sonar system and has been in development for about 3 years.

Results of Analysis

Because there is no longer an operational need for the AN/BQS-24 system to be installed on the Trident class submarine, the Trident fiscal year 1991 SCN electronics budget request could be reduced by $4.663 million.

On April 2, 1990, the Chief of Naval Operations deleted the requirement for the AN/BQS-24 system to be installed on the Trident class submarine. This decision was based on the Trident's operational requirements and the program's high projected acquisition costs.

Trident program Shipbuilding and Conversion, Navy (SCN) funding for the AN/BQS-24 system was scheduled to begin in fiscal year 1991. Of the $132.292 million of SCN funds requested, $4.663 million was planned to be used for the AN/BQS-24 system.

A Trident program spokesman stated that the funds planned for the AN/BQS-24 system would be used for unfunded Trident requirements

and will be reallocated during the fiscal year 1990 SCN ship cost adjustment review.

Other Procurement, Navy Strategic Platform Support Equipment (Electronics)

Brief Description of Program

The AN/BQS-24 sonar system is being designed to improve SSBN 726 Trident class and SSN 688 class submarine under-ice navigation and obstacle avoidance capabilities. This system is an enhancement to the AN/BQQ-5 submarine sonar system and has been in development for about 3 years.

Results of Analysis

On April 2, 1990, the Chief of Naval Operations deleted the requirement for the AN/BQS-24 system to be installed on the Trident class submarine. This decision was based on the Trident's operational requirements and the program's high projected acquisition costs.

Trident program Other Procurement, Navy (OPN) funding for the AN/BQS-24 system was scheduled to begin in fiscal year 1991. Of the $147.851 million of OPN funds requested, $10.2 million was planned to be used to backfit the AN/BQS-24 system on Trident submarines.

A Trident program official stated that the funds planned for the AN/BQS-24 system would be used for unfunded Trident requirements. These requirements are enhancements to the torpedo detection, radar emission detection, and spectrum analyzer systems.

Because there is no longer an operational need for the AN/BQS-24 system to be installed on the Trident class submarine, the Trident fiscal year 1991 communication and electronics budget request could be reduced by $10.2 million.

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