

MANPOWER FOR A 600-SHIP NAVY:
COSTS AND POLICY ALTERNATIVES

Congress of the United States
Congressional Budget Office

PREFACE

The Administration is planning to expand U.S. Navy battle forces from 509 ships in 1983 to over 600 ships by the end of this decade. To support this growth, the Navy is planning to add significant numbers of active, reserve, and civilian personnel. The planned expansion raises issues about the pay and recruiting policies necessary to support it. In addition, the manpower increases come at a time when the Congress is actively pursuing ways to limit growth in defense manpower costs. At the request of the House Committee on Armed Services, this study examines the key manpower issues surrounding the 600-ship Navy and presents options that would reduce costs. In accordance with the mandate of the Congressional Budget Office (CBO) to provide objective and impartial analysis, the study offers no recommendations.

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SUMMARY

The Administration has proposed a rapid expansion of U.S. naval forces as part of its plan to revitalize U.S. defense capacity. The Navy believes that this higher force level--often referred to as a 600-ship Navy--is necessary to meet the growing threat posed by the Soviet navy and to respond to potential crises in areas such as the Middle East.

This report focuses on the key manpower issues surrounding the buildup:

- o How many military and civilian personnel will be required during peacetime to support a 600-ship Navy?
- o What are the key factors affecting the recruitment and retention of personnel? What effect does the level of civilian unemployment have on the supply of enlisted personnel? What will be the pay and retirement costs of the expanded Navy?
- o If the pressure to hold down defense spending leads to a ceiling on manpower costs, what alternative strategies can the Navy pursue to reach its long-run objectives?

FORCE OBJECTIVES AND MANPOWER REQUIREMENTS

Today's Navy is manned by 560,000 active-duty personnel supported by 109,000 reservists and 309,000 civilians. (Civilians include direct and indirect hire government employees but not contract personnel.) By 1990 the Navy aims to have over 600 deployable ships--that is, ships capable of extended overseas service. That force will require an increase in active-duty personnel of about 66,000 (see Summary Table 1).

This report focuses on requirements--measured as authorized billets--for the years 1984-1988, which can be accurately projected on the basis of the current five-year fleet plans provided by the Navy. By the end of 1988 the Navy estimates that 47,000 more active-duty personnel will be needed to accomplish the planned expansion. Some increases in reserves and civilian personnel will also be necessary, as shown in Summary Table 1.

SUMMARY TABLE 1. NAVY FLEET OBJECTIVES AND MANPOWER REQUIREMENTS, FISCAL YEARS 1983-1990 (In numbers of ships and thousands of personnel)

	Budget 1983	1984	1985	1986	1987	1988	1989	1990
Number of Ships								
Deployable forces	509	527	546	556	569	582	600	608
Other	50	50	50	50	50	47	47	33
Total Ships	559	577	596	606	619	629	647	641
Personnel (in thousands)								
Active duty	560	572 <u>a/</u>	585	597	602	607	617	626
Selected Reserve	109	119 <u>a/</u>	126	133	141	143	143	143
Civilians	309	313	317	319	319	319	321	321
Total Personnel	978	1,004	1,028	1,049	1,062	1,069	1,081	1,090

NOTE: Figures for 1984 through 1988 are based on the current Navy plans for active and reserve force operations. The projections for 1989 and 1990 are CBO's estimates based upon the fiscal year 1984-1988 shipbuilding plans announced by the Administration. Selected Reserve numbers include Inactive Drilling Reservists, trainees, and full-time support personnel (TARS).

- a. These figures represent the Navy's estimated requirements--measured as authorized billets--as of January 1983. However, it appears that the 1984 DoD authorization conference report will allow fewer active and reserve personnel. Chapter IV of this report suggests ways to achieve such reductions.

For the seagoing forces, CBO verified these projections and made estimates for 1989 and 1990 assuming that the Navy will use the same size ship and air squadron crews, or billet authorizations, for its operations in the future as it does today. For shore-based jobs--which are filled by military, civilian, and reserve personnel--the projections assume that the Navy holds

constant its "sea/shore" rotation, or the relative amounts of time enlisted personnel spend at sea and ashore. At present, the ratio averages about 3:2--that is, three years of sea duty followed by two years of shore duty. CBO's estimates show that beyond 1988, an additional 19,000 active-duty personnel will be required to support the Navy's buildup through 1990.

SUPPLY OF CAREER PERSONNEL AND RECRUITS

In providing manpower for a larger fleet, the Navy's recruiting efforts will be primarily concerned with the supply of enlisted personnel. Increasing the number of officers, reserve personnel, or civilians does not appear to present a major problem at this time, although selected groups--such as engineers and aviators--may require higher compensation over a full career to provide them with incentives to remain in the Navy. This report deals with the supply of enlisted personnel, including both career personnel (those with over four years of service) and recruits. Its projections assume that military personnel receive a 4 percent pay raise in January 1984 and "comparability raises"--that is, raises that keep pace with those in the private sector--in the years 1985 and beyond.

Under these assumptions, the Navy should be able to obtain adequate numbers of career personnel. Although the upswing in the economy will reduce civilian unemployment and so make retention of military personnel more difficult, CBO estimates that the number of Navy career enlisted personnel will grow from 219,000 by the end of 1983 to 259,000 by the end of 1988, meeting the Navy's objective for that year (see Summary Table 2).

The near-term outlook for recruiting is also favorable, despite a forecasted decline in the youth population through the mid-1990s. Recruiting success is often measured by the percentage of male recruits without previous military service who hold high school diplomas. Assuming that enough total numbers are recruited, this percentage is expected to exceed 80 percent in each year through 1987, falling to 79 percent in 1988 (see Summary Table 2). For comparison, the percentages in the last three years ranged from 73 to 77 percent. These recruiting projections are in part a reflection of the favorable outlook for career personnel discussed above, since higher career retention means that fewer recruits are needed.

Even if recruiting high-quality manpower should prove more difficult than these projections indicate, the Navy could increase the number of female recruits or recruits with previous military service--neither of whom is now in short supply. There are disadvantages to these policies: the number of female recruits might exceed the present limits on the number of

women who serve in nontraditional skills; and accepting higher numbers of previous service members would make promotion of today's enlisted members more difficult. Nevertheless, these changes in personnel policy would enable the Navy to keep the quality levels of its male recruits equal to those achieved in recent years even if recruiting conditions prove worse than CBO estimates.

SUMMARY TABLE 2. ESTIMATED SUPPLY OF NAVY CAREER PERSONNEL AND THE PERCENTAGE OF MALE RECRUITS WITH HIGH SCHOOL DIPLOMAS, FISCAL YEARS 1983-1988

	1983	1984	1985	1986	1987	1988
Number of Personnel (in thousands)						
Career Enlisted Personnel with Over Four Years of Service						
Estimated number <u>a/</u>	219	233	244	247	255	259
Navy objective	239	244	249	254	257	259
Percentages						
Estimated Percent of Male Recruits without Prior Military Service Who Hold High School Diplomas <u>a/</u>						
	82	87	82	81	81	79

- a. Assumes that the civilian unemployment rate falls from 8.6 percent in 1984 to 6.9 percent in 1988 and military pay raises equal 4 percent in January 1984, 5.4 percent in 1985, 5.3 percent in 1986 and 5.2 percent in 1987 and 1988.

Added Costs

Meeting increased Navy manpower needs will, of course, add to costs. Under the Administration's plan, Navy military personnel costs (excluding retirement payments) would rise from \$12.5 billion in 1984 to \$16.7 billion in 1988 and would total \$73 billion over the five-year period 1984 to 1988 (see Summary Table 3). These estimates are in current fiscal year dollars. Retirement costs would also increase. Under an accrual accounting system--which records retirement obligations as they are incurred--the costs of future Navy retirees would rise from \$3.9 billion to \$5.3 billion during the 1984 to 1988 period, and total \$23.1 billion for the five years.

Navy civilian personnel costs would increase from \$7.9 billion in 1984 to \$10.0 billion in 1988 and total \$45.0 billion over the five years, under the same pay raise assumptions as for military personnel.

Recruiting and Retention Problems by Skill

During the buildup, recruiting and retention problems may be encountered for some of the roughly 100 occupational groups required to man the Navy. The Navy currently uses selective enlistment and reenlistment bonuses to help alleviate such manpower shortages. These payments may rise as the buildup proceeds, but the costs are likely to be modest relative to the total increase in Navy personnel costs.

WAYS OF REDUCING NAVY MANPOWER COSTS

While the Congress seems committed to a Navy buildup to over 600 ships, it is also seeking ways to hold down defense spending by limiting the growth in active-duty manpower costs. These competing goals might be reconciled in several ways. One way would be to limit pay raises in future years while increasing bonuses paid to those skills that experience shortages. Another would be to restrict the number of authorized personnel on active duty below that requested by the Administration. This latter approach could be implemented by transferring more missions to the Naval Reserve Force or by increasing the level of sea pay to encourage longer sea tours, thus reducing the need for enlisted shore rotation jobs.

Substituting Bonuses for Pay Raises

The Congress might choose to limit the size of the annual pay raise for military personnel below that projected for private-sector workers. This

policy was adopted last year and continued in the First Concurrent Resolution on the Budget for Fiscal Year 1984 covering 1984 through 1986. If the pay raise limits are extended to future years, the Navy would suffer a decline in reenlistments and in accessions of "high-quality" recruits. Such manpower shortfalls could be partially offset by giving larger cash bonuses for enlistment and reenlistment which target the increases toward occupations where shortages exist. The Navy has used these incentives successfully in the past to alleviate selected manpower shortages.

This approach would eventually save substantial sums. If annual pay raises were limited to 4 percent in 1985 through 1988 (and Navy bonuses increased to offset the negative enlistment and reenlistment effect in occupations that have received bonuses in the past) the savings in 1985 would be \$125 million, and over the period 1985 to 1988 would total \$1.4 billion (see Summary Table 3). Savings would be substantially larger if these pay limits were applied to military personnel in the other services, and to civilians, as would likely be the case.

Substituting bonuses for part of a pay raise would have certain disadvantages, however. Not all Navy occupations are eligible for bonuses. Those that do not receive bonuses--because they are adequately manned--would not grow as quickly. CBO estimates that the size of the Navy's career force would total 255,000 in 1988 under this option, compared to 259,000 assuming full pay raises. Most of the decline, however, would be in skills that are not short of trained manpower, even at the lower numbers.

This policy would also substantially increase the average reenlistment bonus, which some believe would be inappropriate. By 1988, the average Navy bonus in today's dollars would be about \$15,000. Today the average is \$11,100. (The present ceiling of \$16,000 for most Navy bonuses would also need to be raised so as to maintain the same incentive in constant dollars.) Critics point out that for the roughly 50 percent of all Navy personnel who receive them, bonuses mean substantially higher pay, and that such a differential is inconsistent with the common hazards faced by all personnel in wartime. It is worth noting, however, that even under this option bonuses would make up less than 4 percent of total Navy military personnel costs by 1988.

Increasing Sea Pay to Reduce Enlisted Shore Requirements

Another way to hold down costs without cutting manpower requirements would be to reduce the need for enlisted shore jobs. These provide a rotation base for personnel completing sea tours. At present, there are about three sea billets for every two shore billets in the Navy's enlisted

SUMMARY TABLE 3. NAVY MANPOWER COSTS AND POTENTIAL SAVINGS, FISCAL YEARS 1984-1988
(In millions of current dollars)

Personnel Category	1984	1985	1986	1987	1988	Total 1984-1988
Costs for Navy Manpower under the Administration Plan						
Military	12,460	13,650	14,700	15,720	16,710	73,230
Civilian	7,900	8,500	9,000	9,500	10,000	45,000
Total	20,400	22,150	23,700	25,200	26,700	118,250
Savings from:						
4 percent pay raise, 1984-1988, and increased bonuses <u>a/</u>	0	125	185	455	640	1,405
Increases in the Naval Reserve Force <u>b/</u>	20	50	75	100	145	390
Longer enlisted sea tours with additional sea pay <u>c/</u>	30	110	210	275	295	920

NOTE: All costs represent budget authority.

- a. Assumes that military pay raises are limited to 4 percent in 1984-1988 and enlistment and reenlistment bonuses are increased.
- b. Assumes that the reserve force is increased from 43 ships in 1988 (the Administration's plan) to 63 ships.
- c. Assumes that enlisted sea duty tours are increased (with higher sea pay) and shore billets are eliminated from the active force.

manpower plans. If this ratio was increased from 3:2 to 3.5:2, so that on average each sailor spent about three months more of a tour assigned to a ship or carrier air squadron, by 1988 14,500 fewer active-duty personnel would need to be assigned to shore duty. This estimate assumes that those already serving more than 70 percent of their tours at sea would be exempt from increases.

Simply increasing sea-duty time would increase the time Navy personnel spent on arduous duty and reduce the time spent with families ashore. This could worsen morale and cause an exodus of career personnel. Offering higher sea pay, however, could offset the negative effect on retention. (Sea pay is special compensation paid monthly to career personnel for extended time served at sea.) Indeed, studies suggest that an average 18 percent increase in sea pay (which now accounts for only 1.1 percent of the Navy's personnel budget) would fully offset the adverse effects on retention of a shift to sea/shore rotation of 3.5:2.

The savings from reducing shore personnel by 14,500--even when offset by the added costs of more sea pay--would still amount to about \$30 million in 1984 and \$295 million in 1988. Savings would total \$920 million over the five-year period (see Summary Table 3). Nor should these reductions prevent the Navy from accomplishing its tasks at shore facilities. Over 500,000 active-duty and civilian personnel now work ashore. This reduction would be less than 3 percent of the total Navy manpower ashore. Although some additional civilian or contractor support might be required, this decrease should not cause a backlog in maintenance or any other shore-based activity, especially since some shore jobs are maintained solely as rotation billets.

Increasing the Size of the Naval Reserve Force

To provide additional ships and air squadrons for wartime mobilization, the Navy maintains a reserve force. Increasing the number of ships in the reserve force would cut the numbers of active-duty personnel and their costs, though at the expense of peacetime operating capability. The Navy currently plans to build the reserve force up from 33 to 43 ships between 1984 and 1988. Most of the additions will be escort ships of the small frigate-class size. If the Navy transferred 20 additional ships to the reserves (and manned these ships with 50 percent active-duty and 50 percent reserve crews, as the Congress has directed for frigates), additional manpower reductions ranging from 2,325 in 1984 to 9,500 in 1988 would be possible. Requirements for reserve personnel would grow by similar amounts. But it seems likely that the Naval Selected Reserve (Inactive Drilling)--which will increase in size from 92,000 in 1983 to 124,000 in 1988--could accommodate some of the increases.

An increase in the size of the reserve force would reduce the ships available to deploy in peacetime, since reserve ships deploy only for the few weeks a year when their reserve crews are all aboard. (At other times, reserve ships remain in port or participate in short training exercises.) A transfer of 20 more ships would mean about 4 percent fewer active-duty ships available for deployment. Such a reduction could be accommodated by deploying fewer ships to overseas operating areas in peacetime, rather than by reducing overseas commitments, and might be acceptable in light of the need to hold down costs.

The reduction might be more acceptable if accomplished by transferring older ships that are numerous, so that adequate numbers would still be available in peacetime, or that have missions primarily needed only in wartime. For example, one way to transfer 20 additional ships to the reserves would be to transfer ten of the older DDG-2 class of destroyer (15 percent of all destroyers now in the active fleet) and six older amphibious ships of the LST and LSD classes (20 percent of all such active ships), together with all four of the battleships that are now in service or scheduled to be reactivated.

If the Navy increased the size of the reserve force by 20 ships by 1988 (beyond the currently planned number of 43 ships), manpower savings would range from \$20 million in 1984 to \$145 million in 1988 and total \$390 million over the five-year period (see Summary Table 3). These estimates include the costs of additional reserve personnel above the number planned by the Administration. However, it may be possible to meet some of the increase in reserve requirements with the increases already planned by the Administration. If this were done, the savings would be greater than those calculated above.

Savings would also be larger if they included reductions in costs of operating the ships at the reduced tempo characteristic of the reserves. Additional savings in the operation and maintenance appropriation could amount to \$72 million in 1984, increasing to \$350 million in 1988 and totaling over \$1 billion over the five-year period.

CHAPTER I. INTRODUCTION

The Administration has initiated a major expansion of U.S. naval forces over the next ten years as part of its defense buildup. For fiscal year 1983, the Congress appropriated \$16.1 billion to buy 14 new ships and convert 3 others. The Navy's five-year shipbuilding plan for 1984-1988 includes 124 new ships with a projected cost of \$93 billion (in current dollars). The majority of these ships would be "deployable" combatants--that is, capable of wartime service at overseas locations--built to support or add to the Navy's carrier battle groups, the predominant naval force structure used today. 1/ By 1988 the Navy would have 14 deployable carrier battle groups--one less than the long-run goal of 15--and a total of 582 deployable ships. If additional ships were authorized for 1989-1990, the Navy could reach its long-term objective of 610 deployable ships in the early 1990s.

A larger fleet will require more manpower. For the active-duty force, the Navy estimates that an additional 40,000 enlisted personnel and 6,500 officers will be required by the end of fiscal year 1988. For the career enlisted force--those with over four years of service--the Navy projects a total requirement that year of 259,000 personnel as compared to an estimated 219,000 at the end of fiscal year 1983. Thus, most of the growth in enlisted personnel will consist of career service members. In addition to these active force increases, the Navy also plans to add 27,000 Inactive Drilling Reserve personnel, 5,000 full-time Reservists, and 10,000 civilians by 1988. 2/

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1. The Navy divides its ships into "deployable" versus "nondeployable" categories. Deployable ships are those that would be used in wartime at overseas locations. Carrier battle groups are the primary wartime forces. Each carrier battle group is comprised of one aircraft carrier, attack submarines, surface combatants, and support ships. During peacetime, the Navy normally deploys two carrier battle groups to both the Mediterranean Sea and the Western Pacific. The recent turbulent conditions in the Middle East have now given rise to a requirement for naval forces in the Indian Ocean as well. Thus, there are currently five deployed carrier groups sustained by a force of 13 deployable carriers.
 2. In this report, the term "civilians" refers to federal direct and indirect hire personnel. It does not include contract personnel.

This study first presents estimates of increased manpower requirements under current manning policies and the cost increases involved. Since these added manpower requirements come at a time when the Congress is attempting to place limits on the growth in numbers of military personnel in order to hold down costs, the study then considers alternative manpower policies the Navy might employ to reduce those costs. The study focuses on active-duty manpower, and particularly on enlisted manpower, but also considers the costs of reserve and civilian manpower.

Background

Today's Navy is manned by 560,000 active-duty personnel, with support from 309,000 civilians and 109,000 Selected Reserve personnel. Altogether, outlays for Navy manpower in 1983 is estimated to total \$18.3 billion, excluding payments to retirees.

Because the active force is managed as a closed personnel system--that is most enter the Navy as new recruits and gain experience while on active duty--the Navy must plan well ahead to ensure that it will have enough experienced manpower to support the buildup. The current size and distribution of active-duty manpower is the result of many decisions made over the last two decades. For example, during the Vietnam war the number of personnel choosing to reenlist at the end of their initial enlistment dropped to low levels, with the result that a series of relatively small groups entered the career force--the senior enlisted petty officers of today. The problem of retaining skilled personnel was further aggravated by limits set on military pay raises between 1976 and 1979, which further reduced the supply of experienced sailors choosing to remain in the Navy. Although offsetting measures were introduced--for example, the number of cash bonuses paid to personnel reenlisting was more than doubled--by the end of 1979 the number of petty officers in pay grades E-5 to E-9 had declined by over 20,000, or 10 percent, since the end of the Vietnam war. 3/

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3. The majority of Navy enlisted personnel have an initial obligation to serve four years. Petty officers serve in grades E-4 to E-9 after completing recruit training and achieving job proficiency in their designated skills. However, most E-4 grade petty officers have fewer than four years of active service and thus are not necessarily committed to a Navy career. In this report, the enlisted career force is defined to include personnel with five or more years of service. Except for nuclear trained personnel who usually enlist for six years and are promoted at a faster pace, this group will normally include the majority of E-5 to E-9 grade personnel.

Thus the Navy began the 1980s with shortages in many skills and a much less experienced enlisted force than a decade earlier. The supply of officers was generally adequate, although some shortages existed in fields with attractive civilian alternatives—for example, aviation and engineering. In 1981 and 1982, the Congress increased military pay, relative to pay in the private sector, by about 10 percent and also increased reenlistment bonuses. This, together with increasing unemployment in civilian life, helped the Navy retain more career personnel and supported its recent expansion in operations. Nevertheless, between two and three years of training and on-the-job experience are needed to make a new recruit fully productive. Thus, the new naval forces planned for the second half of this decade will require several years of manpower buildup.

Plan of the Study

This report discusses the Navy's long-run manpower requirements (Chapter II) and the prospects and costs of meeting those requirements (Chapter III). In both chapters it is assumed that the Administration's plan to expand the Navy to 610 ships is achieved using current personnel and pay policies. Chapter IV examines alternative policies that could hold down costs while meeting most of the Navy's manpower objectives.

CHAPTER II. MANPOWER REQUIREMENTS FOR THE 600-SHIP NAVY

This chapter presents the Navy's projections of its requirements for manpower under current five-year plans for fleet expansion. The projections for active-duty personnel are based on peacetime, rather than wartime, requirements. For ship- and sea-based air squadrons, the Navy has developed detailed manpower requirements for wartime conditions. ^{1/} Since these requirements are rarely met during peacetime, this study uses the lower active-duty manpower levels defined in the billet allowance system--the Navy allocation plan that is consistent with the personnel levels included in the five-year defense plan for 1984-1988 and authorized each year by the Congress.

This chapter also presents the Navy's estimates of requirements for reserve and civilian personnel. Reserve personnel would be used in the event of a mobilization to fill out active ship and squadron crews. Thus, reserve requirements in this study are based on wartime plans. Civilian personnel requirements, on the other hand, are determined primarily by shore support workloads--such as ship overhauls--which, in this report, are related to peacetime operations only.

BACKGROUND ON NAVY MANPOWER REQUIREMENTS

The Navy requirements for military manpower are determined both by the size of the operating fleets and by the missions to which the various

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1. The Navy maintains detailed manning requirements for each ship and air squadron in the active fleet. The ship requirements are listed in Ship Manning Documents (SMDs) and the air crew requirements in Squadron Manning Documents (SQMDs). Both types of requirements are developed for a wartime scenario under assumptions of full mission capability and high operating tempo. To support these plans, selected reserve billets are also included where necessary. During peacetime, however, the fleet manning objectives are defined by the billet allowance system. This system allocates all of the authorized Navy manpower among ships and squadrons as well as the shore support and training establishment. Thus, it is a more complete statement of the manpower needs and reflects budget constraints faced by the Navy during peacetime.

ships, squadrons, and support groups are assigned. Ships are organized in three groups: active and reserve forces and the Military Sealift Command. Those in the active fleet--which deploy regularly overseas--are manned and maintained by active-duty personnel. In the event of a wartime mobilization, their crews would be augmented by reserve personnel. During peacetime, the Naval Reserve Force provides training for reserve personnel as well as performing a wide range of support missions that do not require overseas deployment. At present, the crews of most reserve ships are about 65 percent active and 35 percent reserve personnel, although the Congress has directed a 50/50 mix for the frigate-class ships assigned to the Reserves. A third class of ships, grouped under the Military Sealift Command, includes vessels--such as oil tankers--that provide direct support to the active and reserve forces. These are normally manned by civilians during peacetime, but would be converted to military status in the event of a mobilization.

In addition to its seagoing forces, the Navy maintains a large number of shore facilities where personnel perform ship and aircraft maintenance, training, medical, engineering, and research functions. Shore jobs that can provide additional combat capability during wartime are normally filled with military personnel, while civilians are used for noncombat-related positions. For example, minor repair and maintenance of ships is usually done by military personnel since this work would probably be performed overseas during a conflict, whereas major ship overhauls are conducted in U.S. shipyards with civilian personnel.

Civilian and reserve personnel generally work in one location, while active-duty military personnel rotate between sea and shore duty assignments. The latter do not always perform the same jobs on shore and at sea. For example, ship boiler technicians have no directly comparable job at shore facilities and so are generally assigned other duties. By contrast, aviation repair and maintenance personnel are required at naval air stations as well as aboard aircraft carriers; thus their skills are directly transferable.

Navy Fleet Plan

The growth in Navy manpower requirements will follow closely the path of fleet expansion. Navy planning focuses on the "deployable forces"--those ships that would be used in combat situations overseas. Its long-run objective is to build and sustain a deployable 610-ship fleet--including 15

carrier battle groups. ^{2/} The Administration claims to be well along toward accomplishment of these goals. The deployable forces will number 509 ships at the end of fiscal year 1983 (see Table 1), of which 35 ships will be

TABLE 1. PROJECTED TOTAL DEPLOYABLE SHIPS UNDER THE NAVY'S PLANNED BUILDUP, 1983-1990 (End of fiscal year)

Ship Class	1983	1984	1985	1986	1987	1988	1989	1990
Deployable Forces								
Strategic forces								
Submarines (SSBN)	34	35	37	39	39	39	41	42
Support	7	7	7	7	7	7	7	7
Battle forces								
Carriers	13	13	13	13	14	14	14	15
Submarines (SSN)	91	93	96	97	99	98	96	97
Cruisers	28	29	30	32	35	38	42	46
Destroyers	69	69	69	69	69	69	70	65
Frigates	93	102	107	111	113	113	113	113
Battleships	1	1	2	2	2	3	4	4
Amphibious	63	61	61	62	62	64	67	67
Mobile logistics	52	53	53	53	53	55	58	60
Mine warfare	3	3	4	5	10	14	22	25
Other	12	12	12	12	12	12	8	7
Support forces	43	49	55	55	54	56	58	60
Total Deployable Forces	509	527	546	556	569	582	600	608

SOURCE: U.S. Navy.

- For a complete discussion of the Navy's long-run fleet objectives, see Congressional Budget Office, Building a 600-Ship Navy: Costs, Timing, and Alternative Approaches (March 1982), Chapter III.

assigned to the Naval Reserve Force or the Military Sealift Command (see Table 2). By 1990, the force is projected to reach 608 ships--of which all but 81 are planned for the active fleet. At that time the fleet will have 15 carrier battle groups available for deployment.

In addition to the deployable forces, the Navy currently operates 50 ships not intended for wartime deployment, to perform training and routine port operations (see Table 2). These are manned by active-duty, reserve, and civilian personnel. Under current plans, the number of ships in this category will decline from 50 to 33 by 1990.

TABLE 2. PROJECTED SHIPS ASSIGNED TO NAVAL RESERVE FORCE AND SEALIFT COMMAND, 1983-1990 (End of fiscal year)

Ship Class	1983	1984	1985	1986	1987	1988	1989	1990
Deployable Forces								
Battle forces								
Destroyers	1	1	1	1	1	1	1	1
Frigates	6	9	11	15	19	24	24	24
Mobile logistics	16	17	17	17	20	22	25	26
Amphibious	2	2	2	2	2	2	2	2
Support forces	10	13	21	22	22	24	26	28
Total Deployable Forces	35	42	52	57	64	73	78	81
Other Sealift, Auxiliary, and Reserve Ships	50	50	50	50	50	47	47	33
Total, All Reserve and Sealift Command Ships	85	92	102	107	114	120	125	114

SOURCE: U.S. Navy.

This study assumes that the buildup will be carried out. Even if shipbuilding budgets in the next several years were to be curtailed, the Navy could still reach its goal by retaining older ships in active service longer than previously planned.

REQUIREMENT PROJECTIONS

Active-Duty

If the fleet expands as planned, the Navy projects a requirement for over 600,000 active-duty personnel by 1988 (see Table 3). Although Navy estimates are not available beyond 1988, CBO estimates that an additional 19,000 active-duty personnel would be required by the end of 1990. (CBO verified Navy estimates for 1984-1988, and made estimates beyond 1988, assuming the same crew sizes for ships and squadrons as in prior years and the Navy's fleet plan through 1990.) At that level--626,000--the Navy would have 66,000 more persons on active duty than today. This would be slightly below the level of the early 1960s--a period when the active fleet included over 900 ships, but when average ship and crew sizes were well below those of today.

More than half of the growth in active-duty personnel is in sea-going billets required to man the larger numbers of ships and squadrons. The fastest growth would occur in 1984-1986, and again in 1988-1990, the periods preceding the introduction of new aircraft carriers.

The requirements for active-duty shore-billets--the military jobs located at land-based facilities--are not as easy to project as the sea billet requirements, since either military or civilians can perform many of these jobs. Moreover, shore billet requirements for active-duty enlisted personnel are influenced by the sea/shore rotation policies followed by the Navy. Since long, uninterrupted periods on sea duty can have a negative influence on retention, the Navy tries to maintain a balance between time at sea and ashore; this is accomplished in part by reserving jobs at shore facilities for sailors finishing their sea tours. For the last several years, the average sea/shore rotation ratio for all Navy enlisted personnel has been three years of sea duty and two years of shore duty. The Navy's manpower estimates for 1984 through 1988 imply that this ratio will be maintained and, thus, this study assumes the same policy will be followed for years beyond 1988.

The final category of active-duty requirements include overhead billets or "individuals," used primarily for recruit training. As Table 3 indicates, this requirement is projected to remain fairly constant over the 1984 to 1986 period and then rise slightly. In order for this pattern to be

TABLE 3. ACTIVE-DUTY PERSONNEL REQUIREMENTS BY TYPE OF BILLET UNDER THE NAVY PLAN, FISCAL YEARS 1983-1990 (In thousands)

Type	1983	1984	1985	1986	1987	1988	1989	1990
Ship/Squadron a/								
Enlisted	241	247	256	263	264	267	270	274
Officer	19	19	20	21	21	21	22	23
Total Sea	<u>260</u>	<u>266</u>	<u>276</u>	<u>284</u>	<u>285</u>	<u>288</u>	<u>292</u>	<u>297</u>
Shore b/								
Enlisted	164	167	171	173	174	174	180	183
Officer	38	39	39	40	40	40	40	41
Total Shore	<u>202</u>	<u>206</u>	<u>210</u>	<u>213</u>	<u>214</u>	<u>214</u>	<u>220</u>	<u>224</u>
Overhead c/								
Enlisted	83	84	82	83	85	88	88	88
Officer	15	16	17	17	17	17	17	17
Total Overhead	<u>98</u>	<u>100</u>	<u>99</u>	<u>100</u>	<u>102</u>	<u>105</u>	<u>105</u>	<u>105</u>
Total Enlisted	488	498	509	518	523	529	538	545
Total Officer	72	74	76	79	79	78	79	81
Total Active Navy	<u>560</u>	<u>572</u>	<u>585</u>	<u>597</u>	<u>602</u>	<u>607</u>	<u>617</u>	<u>626</u>

SOURCE: Department of Defense and CBO estimates.

NOTE: Fiscal year 1984 requirement represents the Navy's request of January 1983. At the time of publication it appears that fewer personnel will be authorized in the 1984 DoD Authorization approved by the Congress.

- a. Includes billets for carrier-based air squadrons only. Estimates for 1989-1990 are based on continuation of current ship/squadron sizes and projected fleet size.
- b. Includes 25,000 personnel assigned to shore-based air squadrons. The estimates for 1989-1990 are based on a ratio of sea to shore billets of 3:2 for enlisted and 1:1.8 for officers.
- c. Includes cadets, students, trainees, patients, prisoners, and personnel in transit (permanent change of station).

consistent with the overall growth planned for this decade, the Navy must reenlist larger numbers of sailors than in the past, so that the size of the career force will grow and the demand for new recruits--who require six to twelve months of training--will not need to rise as rapidly.

Reserve and Civilian Personnel

Although ships assigned to the Naval Reserve Force do not deploy at sea for long periods, they steam regularly for training exercises and would be deployed during a mobilization. Most have active-duty crews equal to at least 65 percent of the full crew requirement. The remaining billets are filled with Selected Reservists who spend one weekend a month, plus a two-week summer period, training with the active crew. In addition, approximately 12,000 reserve personnel work full-time providing support to the active forces.

The planned increase in Selected Reserve billets shown in Table 4 will support a growth in reserve fleet ships from 33 at present to 43 in 1988. The largest portion of this growth is scheduled for ship maintenance, an area where current reserve manpower is felt to be inadequate.

Requirements for Navy civilian personnel are concentrated in depot-level maintenance activities for the repair of ships, aircraft, and associated equipment. A relatively small number of civilians work as crew members on board ships assigned to the Military Sealift Command. Direct- and indirect-hire civilians--the latter employed primarily overseas--will increase from 309,000 in 1983 to 319,000 in 1988 (see Table 5).

TABLE 4. NAVY SELECTED RESERVE REQUIREMENTS, 1983-1988
(In thousands)

Type of Billet	1983	1984	1985	1986	1987	1988	Total Increase Fiscal Years 1983-1988
Ship/ Squadron	70	72	74	76	79	80	+10
Shore	37	41	46	52	56	57	+20
Overhead	<u>2</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>+4</u>
Total	109	119 <u>a/</u>	126	134	141	143	+34

SOURCE: Office of the Secretary of Defense.

NOTE: Figures include Inactive Drilling personnel, trainees, and full-time reservists (TARS).

- a. Consistent with Navy request of January 1983. At the time of publication, it appears that the 1984 DoD Authorization Bill will allow fewer reserve personnel.

TABLE 5. NAVY CIVILIAN MANPOWER REQUIREMENTS, FISCAL YEARS 1983-1988 (In thousands)

Type	1983	1984	1985	1986	1987	1988
Ship/Squadron	10	10	10	10	10	10
Support	<u>299</u>	<u>303</u>	<u>307</u>	<u>309</u>	<u>309</u>	<u>309</u>
Total	309	313	317	319	319	319

SOURCE: U.S. Navy.