HEARINGS
BEFORE THE
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COMMITTEE ON APPROPRIATIONS
HOUSE OF REPRESENTATIVES
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FIRST SESSION

SUBCOMMITTEE ON DEPARTMENT OF THE NAVY APPROPRIATIONS
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(II)
GENERAL STATEMENTS

WITNESSES

HON. CHARLES S. THOMAS, SECRETARY OF THE NAVY
ADM. ROBERT B. CARNEY, CHIEF OF NAVAL OPERATIONS
GEN. LEMUEL C. SHEPHERD, COMMANDANT, MARINE CORPS
REAR ADM. EDWARD W. CLEXTON, DIRECTOR OF BUDGET AND REPORTS

Mr. MAHON. The committee will come to order. We are pleased, Secretary Thomas, to have you present this morning with many of your top people from the Navy, including Assistant Secretary Franke.

We are pleased to have you, Admiral Carney and members of your staff, and we are pleased to have you, General Shepherd.

We will take whatever time is necessary to get the overall picture of the Navy program for the fiscal year 1956.

I think it would be a good idea to hear first from you, Mr. Secretary, and then after you have made your general statement we will hear Admiral Carney. Then we will have a period of questioning.

You may proceed.

General Statement of the Secretary of the Navy

Secretary Thomas. As you know, no greater problem faces our country than the one of determining the proper size and balance of our military forces. In this period of world tension today, if the threat of a global war is assessed as immediate, then obviously we should go into full mobilization.

If, on the other hand, we decide that the danger is one of extended tension—one to test our patience and to destroy our economy—I submit
Mr. Sheppard. Now, we are about to consider the appropriation requirements for the fiscal year 1956 for the Bureau of Ships. We have with us Admiral Leggett, Chief of the Bureau. I presume that you have a general statement that you wish to present to the committee?

Admiral Leggett. That is correct, sir.

Mr. Sheppard. You may present your statement, and we will not interrupt you until you have completed it.

GENERAL STATEMENT OF ADMIRAL LEGGETT

Admiral Leggett. Mr. Chairman and members of the committee, I appreciate the opportunity of appearing before you today to explain the programs that it is planned to finance during fiscal year 1956 under the "Shipbuilding and maintenance" appropriation estimates prepared by the Bureau of Ships. The need for every dollar in these estimates has been carefully reviewed, and I believe you will find that the Bureau has cut its budgetary requirements to the bare minimum necessary to execute these programs properly.

The Bureau of Ships is one of the largest bureaus in the Navy Department and is responsible for the construction, conversion, overhaul, repair, and alteration of all the ships and craft in the Navy. We also procure the equipment necessary to support these ships and craft. Broadly speaking, the estimates which we are prepared to justify will support two major program areas. The first is new construction and conversion of ships, accomplished under the appropriation "Shipbuilding and conversion, Navy." The estimate for this purpose is $1,317 million.

The second major program is maintenance and operation of the fleets, under the appropriation "Ships and facilities, Navy." Funds requested for this purpose amount to $786,700,000, an increase of $32,641,000 over the request for fiscal 1955. This increase is due to the fact that for 2 years we have been using more repair parts than we have been buying, thus depleting inventories built up from funds appropriated in 1951, 1952, and 1953. We have now reached the point where our procurement of repair parts must approximate our consumption, lest our inventories fall below the danger point. Therefore, the amount budgeted for this purpose has increased by $30 million this year. Otherwise, the estimate is very similar to the estimate for 1955. Although the number of ships in the fleet will decrease during fiscal 1956, the cost of inactivating the ships to be
removed from the active fleet will be approximately the same as it would cost to operate these ships during fiscal year 1956. Therefore, no savings will be realized during this year because of inactivations.

Within the Bureau of Ships, perhaps the most serious challenge with which we have been confronted in recent years is the effective utilization of nuclear power. To the Navy, nuclear power brings great opportunities for better and more effective ships. It also makes necessary a constant reevaluation of present vessels to determine their ability to cope with new weapons and techniques of war. We must be sure that all of the possibilities and dangers inherent in atomic energy are given adequate consideration.

The first practical use to which we have put atomic energy is in submarine propulsion. Early this year the world’s first atomic-powered submarine, the *Nautilus*, underwent its sea trials. A second atomic submarine, the *Sea Wolf*, is under construction and will be launched this summer. These submarines use uranium for fuel. They will be capable of cruising around the world without resurfacing, at speeds in excess of 20 knots. Last year funds for 2 more nuclear submarines were appropriated and the budget request for fiscal 1956 includes funds for 3 additional atomic-powered submarines.

The Bureau of Ships is also engaged in an intensive research program in the field of nuclear propulsion. In coordination with the Atomic Energy Commission and the Chief of Naval Operations, we now have under development five different types of reactors designed for shipboard use, both submarine and surface ships.

Defensively, several new techniques are being developed to protect ships against the hazards of atomic attack. One atomic defense countermeasure, known as the washdown system, is designed to deluge the weather surfaces of the ship with salt water in a matter of seconds. During recent thermonuclear explosions at Eniwetok in the Pacific, the efficiency of this system was proven. It was found that the hazard from lethal radioactive contamination resulting from atomic attack had been eliminated. By the use of this washdown system, any ship can rapidly decontaminate itself of radioactive materials, maintain normal battle stations and continue its mission uninterrupted by any atomic fallout. You may recall that after the 1946 atomic tests there was some talk of the Navy’s ships being “floating atomic ovens,” if caught in an atomic fallout. I can state today that for any ship with the washdown system, this threat no longer exists.

The second challenge with which we are confronted is the constantly changing demands of air power. We must provide ships capable of handling larger and faster planes. These ships must be able to launch and recover planes faster and with greater safety. Yet the ships must be maneuverable and have relatively high speeds at sea.

To meet this need, we have developed the *Forrestal* type carrier. This is the largest warship in the Navy. It will be capable of launching planes at a rate twice as fast as our present fleet carriers and of sustaining a maximum recovery rate twice as long. Perhaps most important, simultaneous launching and recovery will be possible aboard the *Forrestal*. The *Forrestal* was launched last December at Newport News, Va. Other ships of this type are now under construction and are planned for the future. These carriers are an extremely important part of the Navy’s long-range planning.
The *Forrestal* type carriers are constructed with angled decks to enable planes to take off and land at an angle of about 10 degrees from the axis of the ship, thus providing for faster operations and greater safety. The principle of the angled deck makes present fleet carriers much more useful for handling jet aircraft. We are therefore engaged in a program for converting several of the fleet carriers to incorporate this principle. Funds in the 1956 budget are provided for six conversions of this type.

The fiscal year 1956 budget also includes funds for conversion of a light cruiser to a guided-missile ship capable of launching the Talos guided missile. The 1952 program provided for conversion of two cruisers to launch the smaller Terrier missile, and these conversions are approaching completion. The 1956 conversion will provide for launching the larger missile from a cruiser. In addition, we are planning to convert a destroyer to a guided-missile ship capable of launching the Terrier missile.

Generally speaking, procurement of ships and craft under the fiscal year 1955 shipbuilding program is proceeding according to plan. There have been a few problems which have caused delays in getting construction started on certain vessels. For example, the preparation of contract plans and specifications for the nuclear submarines has been delayed to permit studies and evaluation of a new configuration of the atomic reactor and its component units. Modification of these units would result in a different arrangement of the reactor space from that employed in the *Nautilus* and the *Sea Wolf*, and gives promise of considerably improving the accessibility of these components in the submarine. These studies have delayed the plans for several months; however, this delay is not expected to slow down materially the overall 1955 program.

There is one administrative problem in connection with our shipbuilding and conversion programs with which we have been troubled for some time and which we believe can be remedied. This problem involves late delivery of certain long-lead-time items which has prevented completion of ships on earliest schedules. It is therefore proposed that we be allowed to initiate advance procurement of these critical items so that when funds are appropriated for the entire vessel the work may proceed without delay. This practice would follow the present procedures in effect with regard to aircraft procurement by the Air Force and by the Bureau of Aeronautics for the Navy. Further details regarding this proposal will be supplied later.

Three of the conversions included in the 1956 budget have been started during fiscal year 1955 with the approval of the President and with advice in advance being furnished to the House Appropriations Committee and Armed Services Committee. Two of these conversions are the CVA-9 and the CVA-15. In order to accomplish these two conversions during the regularly scheduled overhaul periods which begin in early August 1955, it has been necessary that advance planning including procurement of essential materials and certain prefabrication work be undertaken prior to the overhaul. The other conversion is a cable repairing and laying ship for which urgent requirements exist. The financing of this advance work with currently unobligated 1955 funds is a temporary expedient to make these ships available to meet urgent operational commitments.
After ships have been built and delivered to the fleet, they do not cease to be the responsibility of the Bureau of Ships. All the ships of the active fleet are maintained and operated with funds allotted by the Bureau of Ships. These funds are used, as you know, in supporting the Seventh Fleet operating in Far East waters, the Sixth Fleet, operating in the Mediterranean area, and the remainder of the Atlantic and Pacific Fleets which operate throughout the world. Special expeditions such as the current exploratory work being carried out by the icebreaker Atka around the rim of Antarctica, are financed by the Bureau of Ships. Such expeditions provide valuable information on cold-weather operations and on the ability of our equipment to operate effectively under such conditions.

New types of equipment are continually required by the Navy's ships. We are constantly testing and evaluating new equipment which may serve the Navy's purposes more effectively than the items currently in use. For instance, new plastic materials have been developed which hold promise of being extremely useful. One of the items that is currently under test is a plastic minesweep float which weighs only one-third as much as the stainless steel float which it will replace. This is very important for a float which must be handled by the crew constantly in hauling on and off the vessel. In addition, the plastic float costs less and is easier to repair. Another place where plastics are being tested with good results is in construction of small boats.

We also have a vigorous program in effect at the present time for development and production of sonar equipment for the ships. Sonar detection ranges available from World War II equipment are inadequate to cope with modern high-speed submarines and the long-range torpedo. The Bureau of Ships has in production an echo-ranging sonar for surface ships which will yield significantly increased ranges over that of the World War II equipments. In addition, we have under procurement listening sonar for submarine use which extends detection ranges severalfold over the average World War II performance. Current operational requirements of ships in the active fleet necessitate continuation of developmental efforts along these lines.

In addition to the ships in the active fleet, we maintain an even larger number of ships in the reserve fleet. At 16 berthing areas on the Atlantic, Pacific, and gulf coasts, we are keeping reserve ships in a state of preservation and readiness which will enable them to join the fleet with minimum delay, should their services be required. The usefulness of these ships in the reserve fleet was proven following the outbreak of the Korean conflict. In a period of only 12 months, over 400 ships were added to the active fleet, something which would, of course, have been impossible without the reserve fleet.

We are using several unique techniques in preservation of the reserve fleet ships. On deck, the intricate mechanisms, such as guns, are provided with cocoon, which like the interior of the vessels, are kept dehumidified to prevent rusting. We are also using a system of cathodic protection which prevents pitting of metals exposed to salt water on the hull. We hope to provide cathodic protection to all ships in the reserve fleet as quickly as possible. Tests have recently been completed which also indicate the usefulness of cathodic protection aboard active fleet vessels. Several of the submarines in the active fleet have had cathodic protection for some time and the results of this type of protection have been good. We plan to extend this
to other vessels as tests prove its usefulness. Use of cathodic protection aboard active and reserve fleet ships should result in less work being required on the hulls of these ships during scheduled overhauls.

In addition to support of the fleets, the Bureau of Ships maintains a Shore Establishment which exists only to support the operating forces. Our Shore Establishment consists of naval shipyards, laboratories, and various other activities within the United States and overseas. In controlling these activities the Bureau must direct the drive and incentives for increased productivity and lower costs. I should like to mention one of the methods we have used to promote this end.

Much of our present administrative effort is directed toward developing management improvements at the various activities. We have recently completed the installation of the industrial fund system of budgeting and accounting at all 11 of the naval shipyards. This system puts the shipyards in a position to analyze and control costs more effectively and provides better management reports to the Bureau. At the present time we are engaged in making a survey to develop an industrial accounting system for the Bureau's laboratories. We believe that by the end of fiscal 1956 this accounting system will be installed in all our laboratories. At that time, some of the management techniques we have developed for the shipyards may be applied to the labs.

Employment of civilian personnel at the Bureau's field activities is scheduled to drop. Employment on June 30, 1954 was 130,895. It is anticipated that by June 30, 1956, total civilian employment will have dropped to 125,886. In spite of this decline, we are currently participating in the Department of Defense policy of replacing military personnel with civilians. For example, at the submarine base, Pearl Harbor, it is planned that 100 civilians will replace military personnel currently on duty.

The coordination and administration at departmental level of the major programs areas I have discussed is provided by the Bureau of Ships in Washington. Engineers, scientists, and management experts work in the fields of hull design, nuclear power, turbines, propellers, electrical, interior communication, work analysis, and labor relations, to mention only a few of the great many sections of the Bureau. These are the people who make it possible for the Bureau to carry out its mission.

There is one program that I have initiated recently within the Bureau that you might be interested in. For some years now, I have been greatly concerned with the rising cost of building ships and buying equipment. As new technical advances are made, the price of equipment rises, and the net result has been greatly increased costs for the Bureau. Yet if the United States Navy is to remain an effective fighting instrument, this equipment must be aboard its ships. In an attempt to hold the line against ever higher prices resulting from these technical advances, I have been in close touch with industry's efforts in the direction of cost reduction. I found that industry has been taking this problem very seriously. Some industries have developed active programs for analysis of equipment with a view to insuring that maximum value is received for every dollar spent. I was convinced that a similar program would be very promising within the Bureau of Ships.
As a result, in April 1954 we established a Value Engineering Office in the Bureau to handle this type of analysis for us. It is staffed with dollar-conscious engineers whose job it is to see that no unnecessary trimmings are included in our ships and our equipments. They seek out suppliers who have developed special processes and techniques for building good equipment at low cost. In addition, they are responsible for influencing our engineers to think in terms of dollars when they design an equipment. We have already begun to realize savings similar to those which have developed in private industry. To date, these ideas in value engineering have influenced decisions which have generated significant savings.

Let me give you just two examples of what is being done. We have been procuring flashing identification lights for minesweeping gear at a rate of about 5,000 a year. These lights were designed quite a few years ago and were rather expensive, costing about $175 apiece. Guided by our value-engineering approach, we were able to locate a company which produced commercial flashing lights for use in sewers and other damp areas. By incorporation new manufacturing techniques, this company is able to sell the commercial model for only $15. This model is now under evaluation for Navy use. If it proves suitable, it should bring savings of $800,000 a year.

Another example is a cable-strap support costing us over a dollar, used to secure electrical cables throughout all types of ships. A cheaper cable strap which we think will do the job just as well is now being tested. It costs only 30 cents. The savings do not appear impressive until it is realized that a single aircraft carrier requires approximately half a million of these straps. I can assure you that this is a program in which we are very interested.

In addition to the questions already discussed, I should like to mention one other which is of great concern to the Bureau of Ships. We have a keen interest in maintaining the private shipbuilding industry in a condition which will make it available upon mobilization for work on the Navy's ships. Commercial ship construction is presently at a low ebb and commercial yards are finding it hard to make ends meet. During fiscal year 1955 the Bureau assigned a major proportion of its new construction work to private yards and a large number of naval vessels went into commercial yards on both the east and west coast for repair and overhaul. We will continue this policy in fiscal 1956 and thereby help maintain a ready additional source of shipbuilding facilities and know-how for the Nation should an emergency arise.

As I mentioned earlier, the estimates for two separate appropriations have been prepared by the Bureau of Ships. The estimates for each of these appropriations have been rigorously screened many times during repeated and exhaustive reviews within the Bureau of Ships and at higher levels. We believe that the funds requested represent the minimum amount necessary to enable the Bureau to carry out its mission in support of the Navy. We are here to assist you in every way possible in carrying out your examination of our proposed programs.

Mr. Sheppard. Thank you, Admiral.

With reference to your statement, Admiral Leggett, there are a few policy aspects involved. I am not going into the details now. We will take them up when we come to the presentation of your justifications.