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NAVY SHIPBUILDING
PROGRAMS

Nuclear Attack Submarine
Issues

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Mr. Chairman and Members of the Subcommittee:

We appreciate the opportunity to be here today to discuss issues associated with continued production of nuclear attack submarines. I will summarize our three main points and then discuss the specifics.

- First, there are less costly alternatives than the approach the Navy has chosen to maintain the required SSN force structure. As we recently reported,¹ these alternative approaches would save billions of dollars and meet the Navy's force structure and threat requirements. The SSN-23 is not needed to satisfy force structure requirements or to provide the 10 to 12 SEAWOLF quiet submarines required by the Joint Chiefs of Staff by 2012, because of the New Attack Submarine. Instead, the Navy's justification for its two nuclear capable shipbuilder strategy was to preserve the benefits of competitive leverage and the option for future competition when production rates are stable, to provide a hedge against future uncertainties, and to prevent the irreversible consequences of losing a shipbuilder.
- Second, there is agreement within the Intelligence Community that Russia's frontline submarines are for the first time as quiet or quieter in some respects than the SSN-688I and Russia plans to continue reducing radiated noise level on its submarines. However, there is disagreement about a number of issues including Russia's ability to operate the new quieter systems effectively, Russia's defense spending priorities, Russia's ability to maintain its operating tempo and readiness and maintenance levels, and the future Russian force structure levels and production programs.
- Third, we agree with Newport News Shipbuilder's basic economic concept that consolidation of work at one shipyard rather than operating two shipyards at less than production capacities should result in savings. However, because of the lack of time and adequate information, we could not validate Newport News Shipbuilding's analysis of the cost benefits of consolidating submarine and aircraft carrier construction at one shipyard compared to the Navy's two shipyard building program. Moreover, we noted several questionable assumptions and computational errors in Newport News' analysis that result in higher estimates of efficiency savings than the Navy would realize from consolidating construction at one shipyard.

¹Attack Submarines: Alternatives for a More Affordable SSN Force Structure (GAO/NSIAD-95-16, Oct. 13, 1994).

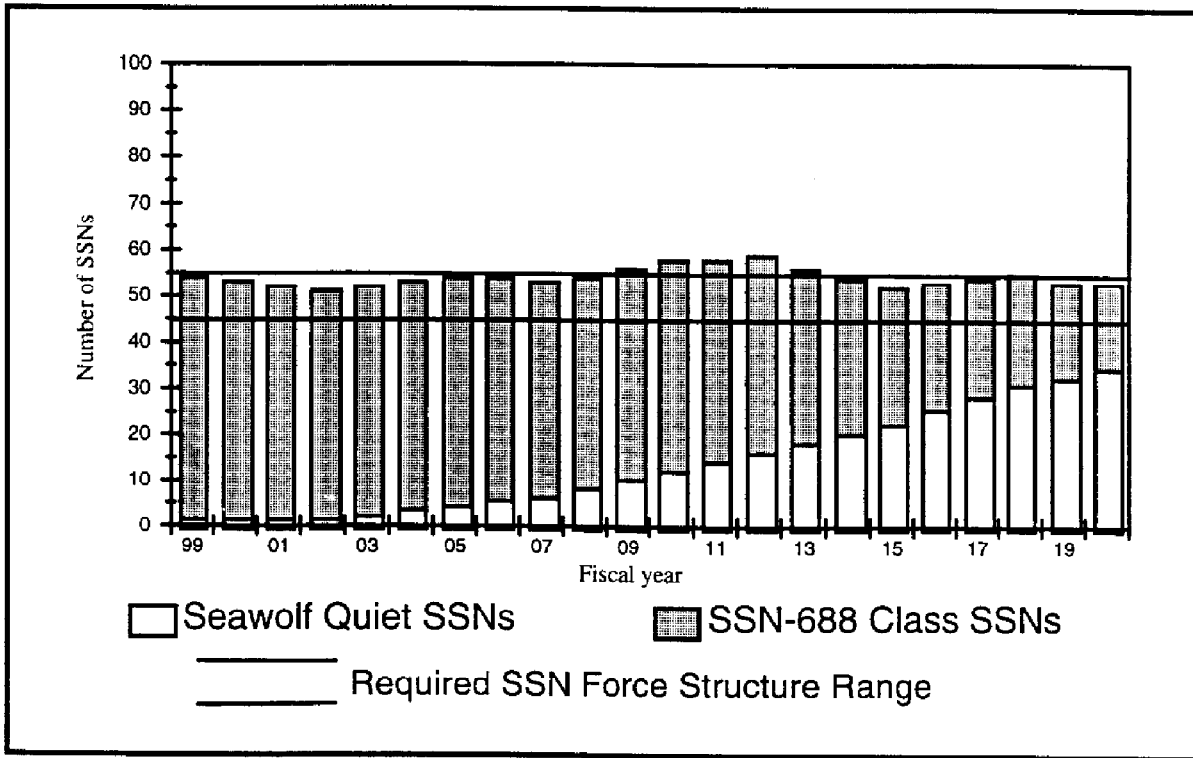
BACKGROUND

In October 1993, the Department of Defense (DOD) issued its bottom-up review--an assessment of U.S. defense needs in the post-Cold War security environment. According to the report, the threat that dictated the U.S. defense strategy, doctrine, force structure, weapons, and defense budgets is gone.

As for the Navy's attack submarines, the review decided that (1) a force of 45 to 55 submarines would be needed to meet the requirements of the U.S. defense strategy, for both regional conflicts and peacetime presence operations; (2) Electric Boat Shipyard in Groton, Connecticut, would build the third SEAWOLF submarine (SSN-23) to bridge the projected gap in submarine production; and (3) the Navy should develop and build a new, more cost-effective attack submarine than the SEAWOLF beginning in fiscal year 1998 or 1999 at the Electric Boat Shipyard. DOD believed that with this approach, it would maintain two nuclear-capable shipyards and mitigate the risk to the industrial base.

To reduce its SSN force of about 85 submarines to the maximum of 55 by 1999, the Navy plans to retire its pre-SSN-688 class submarines and 10 of its older SSN-688s, while taking delivery of the 7 SSN-688Is and 2 SEAWOLF submarines currently under construction. To maintain an SSN force of 45 to 55 submarines, the Navy plans to begin building 31 SSNs between 1996 and 2014 at an estimated procurement cost of \$48 billion. This approach allows the Navy to maintain an SSN force structure close to the maximum of 55 SSNs through 2020, as shown in figure 1.

Figure 1: Effects of Navy's SSN Shipbuilding Plan on SSN Force Levels (1999-2020)



ALTERNATIVES TO THE NAVY'S SHIPBUILDING PLAN ARE LESS COSTLY AND MEET DOD'S NEEDS

In October 1994, we reported that there were less costly alternatives than the Navy shipbuilding plan for maintaining DOD's approved attack submarine force structure of 45 to 55 submarines. Under two of the three alternatives, the Navy could maintain a sustained low-rate production, and under the third, the Navy could defer SSN construction until early in the next century.

Under our first alternative, the Navy would build only 25 SSNs through 2014--6 fewer than planned. This alternative saves the Navy \$9 billion in procurement costs and allows a force structure of close to 55 submarines through 2014, before declining to 45 SSNs in 2020. This alternative would never require funds for more than two SSNs per year through 2014. Beyond 2014, it would require managed procurement of no more than three SSNs per year.

Under our second alternative, the Navy would extend the service of 9 refueled SSN-688s and build 14 fewer submarines than planned. This approach saves about \$17 billion in procurement costs after accounting for the third overhaul of 9 submarines. It also allows

the Navy to maintain a force structure of about 55 SSNs through 2015, before declining to about 45 in 2020.

Under our third alternative, the Navy would defer new SSN construction. This reflects the Secretary of Defense's February 1994 testimony that DOD has no force structure need to build new submarines until after the turn of the century. New SSN construction could be deferred because the Navy can maintain the minimum 45 SSN force structure with its current fleet until 2012. This deferral could free up billions of dollars in the near term. We also analyzed an alternative which deferred construction until 2003 and reduced the number of SSNs built by 6. This again saves about \$9 billion in procurement costs through 2014 and also defers an additional \$9 billion in planned construction funding from 1996 to 2002. However, these deferred savings would be offset somewhat by reconstitution costs, which have been estimated by Rand² and the Navy to range from \$800 million to \$6 billion.

The JCS wants 10 to 12 submarines as quiet as the SEAWOLF by 2012 for the anti-SSBN and presence missions anticipated in that timeframe. With either of our first two alternatives, the Navy could meet that need without building the SSN-23, but if the Navy deferred attack submarine construction to 2003, it would not have 10 to 12 SEAWOLF submarines before 2014.

INTELLIGENCE COMMUNITY VIEWS ABOUT RUSSIAN SUBMARINE ISSUES DIFFER

The Office of Naval Intelligence (ONI) recently issued a report, entitled Worldwide Submarine Proliferation in the Coming Decade, which discusses the improvements in and growing numbers of foreign submarines.

There is agreement within the Intelligence Community that Russia's frontline submarines are for the first time as quiet as or in some respects quieter than the SSN-688I and Russia plans to continue reducing the radiated noise level on its submarines. However, there is disagreement about a number of issues including Russia's defense spending priorities, Russia's ability to maintain its operating tempo and readiness and maintenance levels, and the future Russian force structure levels and production programs.

While there is agreement about the technical capabilities of fourth generation Russian submarines and their components and subsystems, there is disagreement on the extent to which these technical capabilities can be incorporated into the operational force and on the ability of Russian crews to operate these new systems

²The U.S. Submarine Production Base: An Analysis of Cost, Schedule, and Risk for Selected Force Structures, RAND (Santa Monica, CA., 1994).

effectively.

The ONI report does not address other factors that should be considered in determining the overall superiority of U.S. and Russian submarines, such as sensor processing, weapons, platform design, tactics, doctrine, and crew training. This omission is significant, because, according to the Navy, considering these factors along with acoustic quieting is essential to determine the overall qualitative advantage of U.S. versus Russian submarines.

Public reports, news accounts, and more importantly other DOD publications--including the annual Director of Naval Intelligence Posture Statement--present other information on some of the factors that affect submarine superiority. For example, these reports note a decline in the operating tempo of Russian submarines, order of battle, and construction programs. They also note that morale and discipline have deteriorated, personnel shortages are serious, and the frequency and scope of naval operations, training, readiness, and maintenance have declined.

**NEWPORT NEWS' CONSOLIDATION SAVINGS
ESTIMATES ARE QUESTIONABLE**

At the request of the Chairman, Subcommittee on Military Procurement, House Committee on National Security, we provided comments on Newport News Shipbuilding's analysis which was designed to demonstrate the cost benefits of constructing future submarines at their shipyard versus the costs of the Administration's two shipyard strategy. The analysis basically compared the costs of two options: (1) Electric Boat (which builds submarines) and Newport News Shipbuilding (which builds carriers) would both remain open but operate at less than their production capacities, and (2) the construction and maintenance of submarines and carriers would be consolidated at Newport News. The analysis presents cost benefits from consolidation ranging from \$8.1 billion to \$10.9 billion for the projected 30-submarine construction program.

Our assessment of the analysis was hampered by a lack of time and adequate information. For example, we lacked input from Electric Boat, data to verify the Newport News model's assumptions, and backup data to determine the accuracy of Newport News' estimated overhead costs, labor hours, labor rates, and the cost of materials. Nonetheless, we agree that the Navy should save money if its shipbuilding work is consolidated at one shipyard. The Navy also agrees that a consolidation would reap savings and recently estimated the savings at \$1.3 billion. While there may be agreement that consolidating submarine and aircraft carrier construction at one shipyard could save money, there is no similar consensus on how much could be saved.

We noted several questionable assumptions and computational errors

in Newport News' analysis that change the estimates of efficiency savings the Navy would realize in each of the alternatives. Several of the Newport News model's assumptions concerned us because we believe they skewed the projected savings.

1. Estimates of efficiency savings from the consolidation were based on assumptions about Electric Boat's costs--material, labor, and overhead--that may not accurately reflect true costs.
2. Estimates of labor hours required to build 30 new attack submarines at Electric Boat and Newport News Shipbuilding were based on several assumptions that may not be valid.
3. Estimates of certain cost savings or avoidances may be overstated.

By consolidating the construction of nuclear carriers and submarines at one shipyard, the Navy could realize budgetary savings Newport News did not account for in its analysis. The Navy could accrue such savings by adopting a ship construction strategy that considers the timing of maintenance and construction of these vessels to maximize production efficiencies. In essence, the Navy could build carriers when needed to maintain the force structure rather than to provide Newport News Shipbuilding with a minimum sustaining workload. For example, under this option, construction starts may vary anywhere from 3 to 10 years apart. Savings would result from such factors as improved workload efficiencies and the avoidance of premature carrier retirement costs.

This concludes my statement. I will be happy to answer any questions you may have.

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