United States General Accounting Office

GAO

Testimony

Before the Subcommittee on Military Procurement, Committe on National Security, House of Representatives

For Release on Delivery
Expected at
2.00 p.m., EDT
Thursday,
March 16, 1995

NAVY SHIPBUILDING PROGRAMS

Nuclear Attack Submarine Requirements

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Mr. Chairman and Members of the Subcommittee:

We appreciate the opportunity to be here today to discuss the requirements for continued production of nuclear attack submarines. I will summarize our two main points on this issue 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 recently reported, these alternative approaches would save billions of dollars and meet the Navy's force structure and threat requirements.[1]

-- Second, the SSN-23 is not needed to satisfy force structure requirements or to counter a threat. Instead, the Department of Defense (DOD) justification for building the submarine is to preserve competition and to meet industrial base and national security needs. We believe DOD's justification is inadequate as a basis for building the SSN-23 because there currently is no competition to build nuclear attack submarines and DOD has not made clear what it means by long- term industrial base and national security needs.

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

BACKGROUND

In October 1993, 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 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.

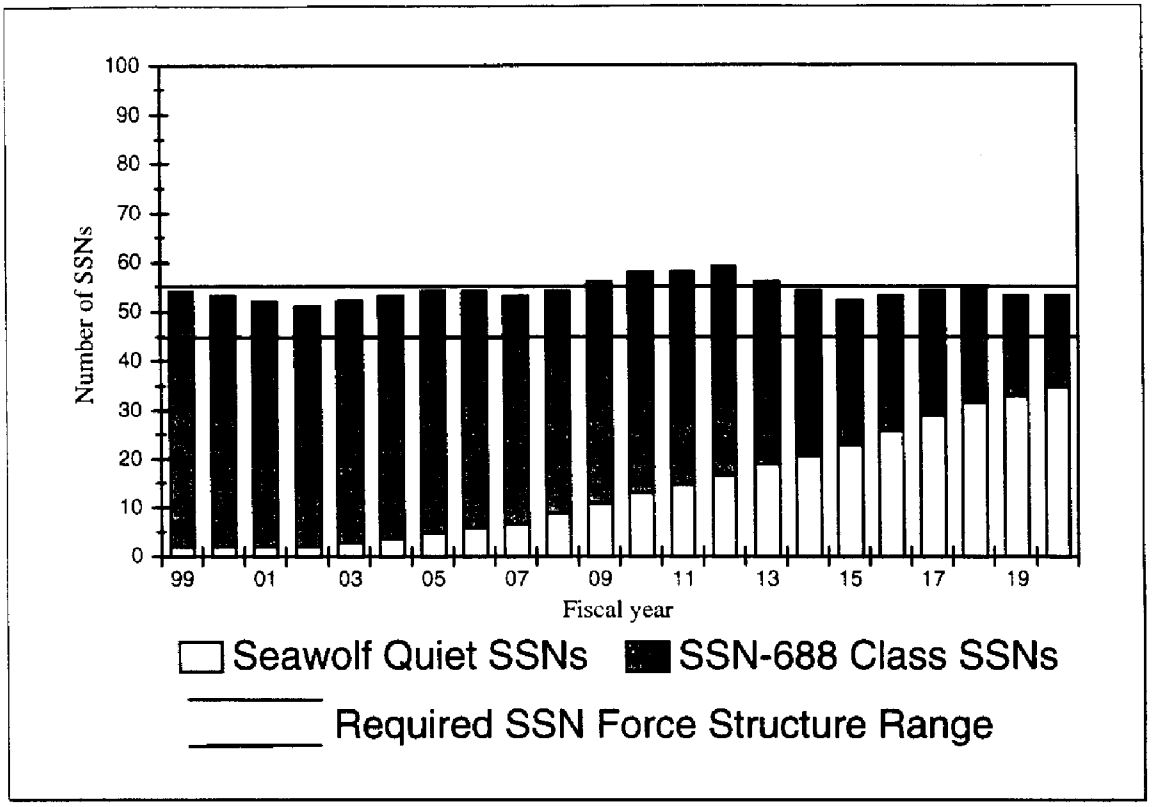
DOD's report on its bottom-up review states that before it decided on a force of 45 to 55 attack submarines, detailed analyses of various options were performed by the Joint Staff,

the Navy, and the Office of the Secretary of Defense. The analyses of a 55 submarine force indicate that it would meet all wartime requirements for regional conflicts, as well as fulfill peacetime needs. The analyses of a 45 submarine force indicate that it could also fulfill wartime requirements, but it imposes a greater degree of risk to peacetime operations than a 55 SSN force.

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 class submarines currently under construction. The 10 SSN-688s will be retired at about the midpoint of their 30-year design life, or the time a refueling overhaul would be required; therefore, each of these submarines will have as much as 14 years of their design service life remaining. The Navy believes that retiring the SSN-688s prior to their mid-life refueling is the lowest cost means of reducing the SSN force.

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 (see 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

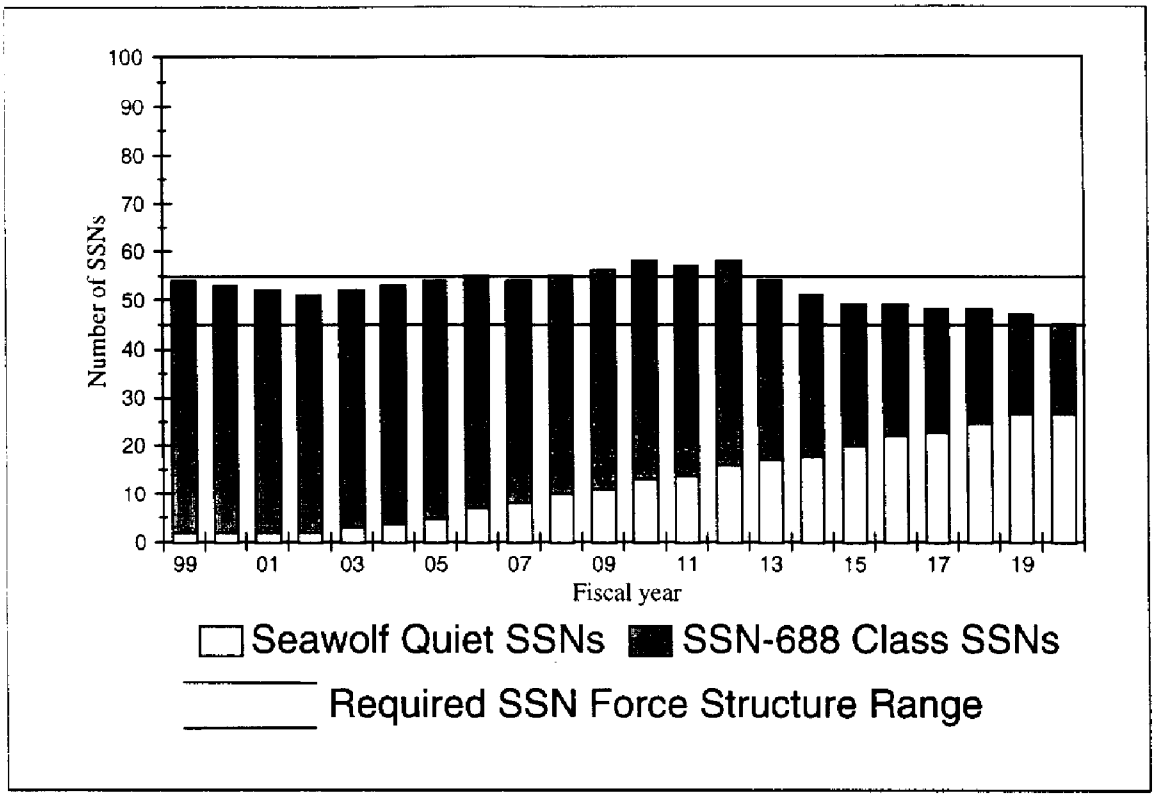
In October 1994, we reported that there were less costly alternatives to the Navy's shipbuilding plan for maintaining DOD's approved attack submarine force structure of 45 to 55 submarines. Under two of the three alternatives we discussed, the Navy could maintain a sustained low-rate production, and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

early in the next century.

Acquire Fewer Attack Submarines

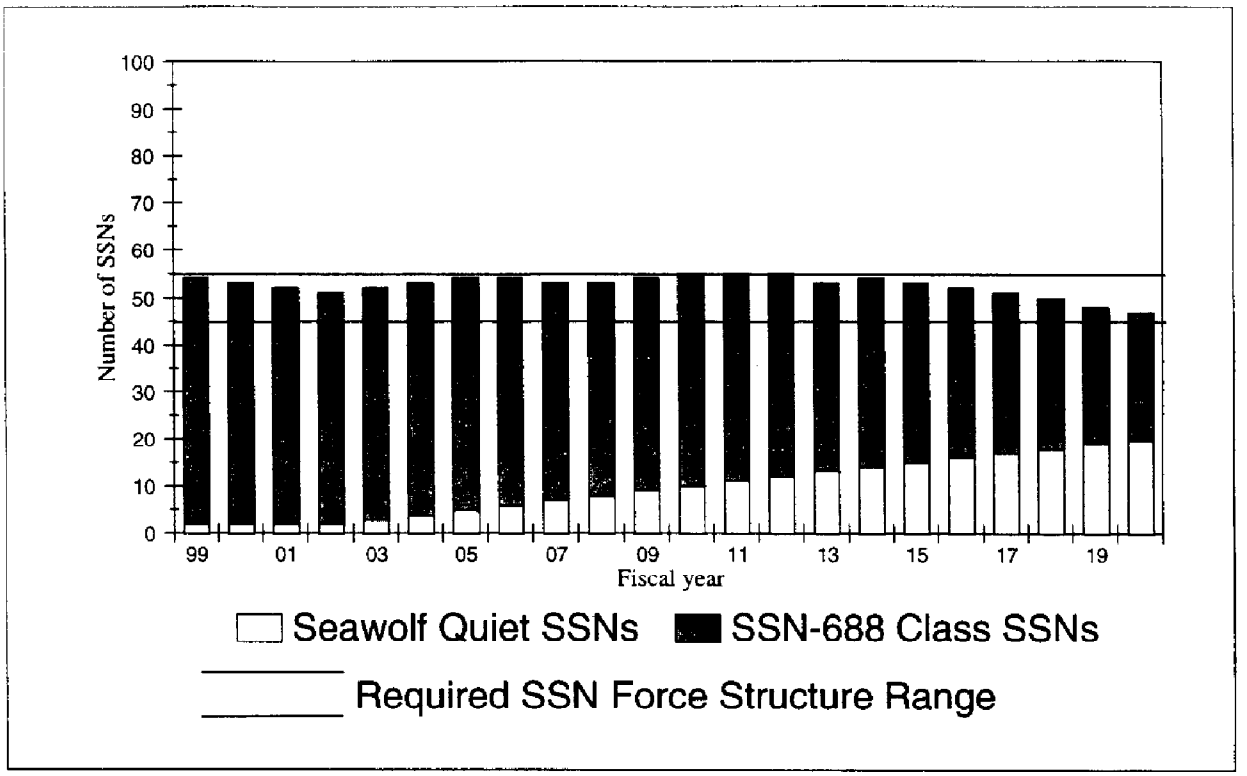
Under one alternative, if the Navy begins to build only 25 SSNs through 2014--6 fewer than planned--it could save $9 billion in procurement costs. It could also maintain close to 55 submarines through 2013, before declining to 45 SSNs in 2020 (see figure 2). This alternative would never require funds for more than two SSNs per year through 2014. Beyond 2014, this alternative would require managed procurement of no more than three SSNs per year.

Figure 2: SSN Force Level Projections Through 2020 if the Navy Buys 25 SSNs Through 2014 (1999-2020)



Under a second alternative, the Navy could extend the service life of 9 refueled SSN-688s and buy 14 fewer submarines than currently planned. This approach saves about $17 billion in procurement costs after accounting for the third overhaul of 9 submarines. This alternative also allows the Navy to maintain a force structure of 45 to 55 submarines (see figure 3).

Figure 3: Effects on SSN Force Levels of Extending the Service Life of Nine Refueled SSN-688s (1999-2020)



The nine refueled SSN-688s will receive nuclear cores of the same design as those installed in newer SSN-688s. With these new nuclear cores, the nine submarines will have sufficient fuel to operate for an additional 120-month operating cycle at the end of their 30-year design life. Furthermore, officials from both SSN shipbuilders stated that SSN-688 class submarines could operate for much longer than 30 years; one of the shipbuilders stated that 10 to 20 years of additional service would not be unreasonable.

Past Navy actions indicate that extending a submarine's service life may be feasible. After a 5-year study was completed on the SSN-637--the predecessor of the SSN-688--the design life was extended from 20 years to 30 years, with a possible extension to 33 years on a case-by-case basis.[2] According to Navy officials, a similar study could be the basis for extending the SSN-688's service life. Navy officials said, however, that (1) it would be premature to begin a study before 1998 at the earliest, when the SSN-688s near the end of their design life, and (2) the Navy plans no such study of the SSN-688. The Navy has begun to study an extension from 30 to 40 years of the service life of its Nuclear-Powered Ballistic Missile Submarine (SSBN)-726 Ohio class (Trident) submarine, which entered the fleet 5 years later than the SSN-688.

Defer Attack Submarine Construction

Under a third alternative, the Navy could defer new SSN construction. In February 1994, the Secretary of Defense testified that DOD has no force structure need to build new submarines until after the turn of the century. New SSN construction can be deferred because the Navy can maintain the minimum 45 SSN force structure with its current fleet until 2012.

[2]In 1989 the Navy accelerated the retirement of the SSN-637 class so that most will be retired by 27 years of service.

A deferral of new construction can free up billions of dollars in planned construction costs in the near term. As an illustration of the potential for deferring SSN construction, we analyzed an alternative in which construction is deferred until 2003. We assumed that construction of the submarines would take 5 years, which is how long the Navy estimates new attack submarine construction will take. However, we lengthened construction time for the first two SSNs to 7 and 6 years, respectively, to account for the additional time needed to build the first submarine of a class and any extra effort required to restart production after a hiatus. We believe that using 7 and 6 years is reasonable because RAND recently reported[3] that 6 years would be required to deliver the first submarine after restarting submarine production at Newport News Shipbuilding, assuming construction of the funded aircraft carrier, CVN-76. Although SSN unit costs would vary based on the number of SSNs bought, we used the same procurement costs as the Navy's current estimates for the new attack submarine program.

Compared to the Navy's September 1993 SSN shipbuilding plan, this alternative would save about $9 billion in procurement costs through 2014. Also, this alternative defers as much as $9

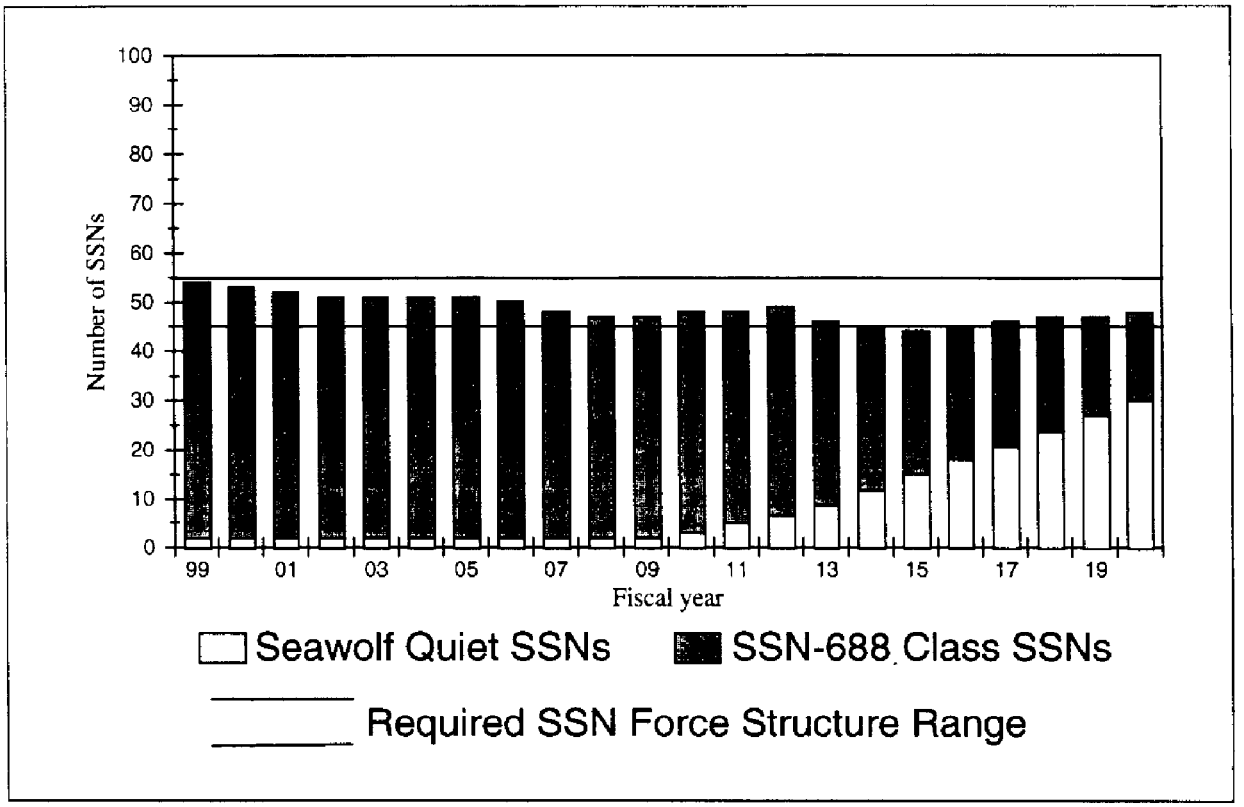
[3]The U.S. Submarine Production Base: An Analysis of Cost, Schedule, and Risk for Selected Force Structures, RAND (Santa Monica, CA., 1994).

billion in planned SSN construction funding from 1996 to 2002. However, savings would be offset by reconstitution costs.

The 1994 RAND report, which evaluated the U.S. submarine production base, shows that reconstitution costs are highly dependent on assumptions regarding closing, maintaining, and restarting shipbuilder facilities; hiring and retraining personnel; and shipbuilder workloads. According to the report, shipbuilder facilities and personnel reconstitution costs are estimated at $800 million to $2.7 billion.[4] The $800 million estimate is based on the Navy's beginning to build CVN-76 at Newport News Shipbuilding in 1995 and then restarting submarine production in 2003. The $2.7 billion represents RAND's estimate to restart submarine production at Electric Boat in 2003. Further, Navy officials cited a Navy industrial base study estimate of $4 billion to $6 billion for reconstitution costs, including vendor costs. Figure 4 shows the force structure implications of deferring SSN construction to 2003.

[4]The RAND report used fiscal year 1992 dollars.

Figure 4: SSN Force Structure Under a Deferred Acquisition Scenario (1999-2020)

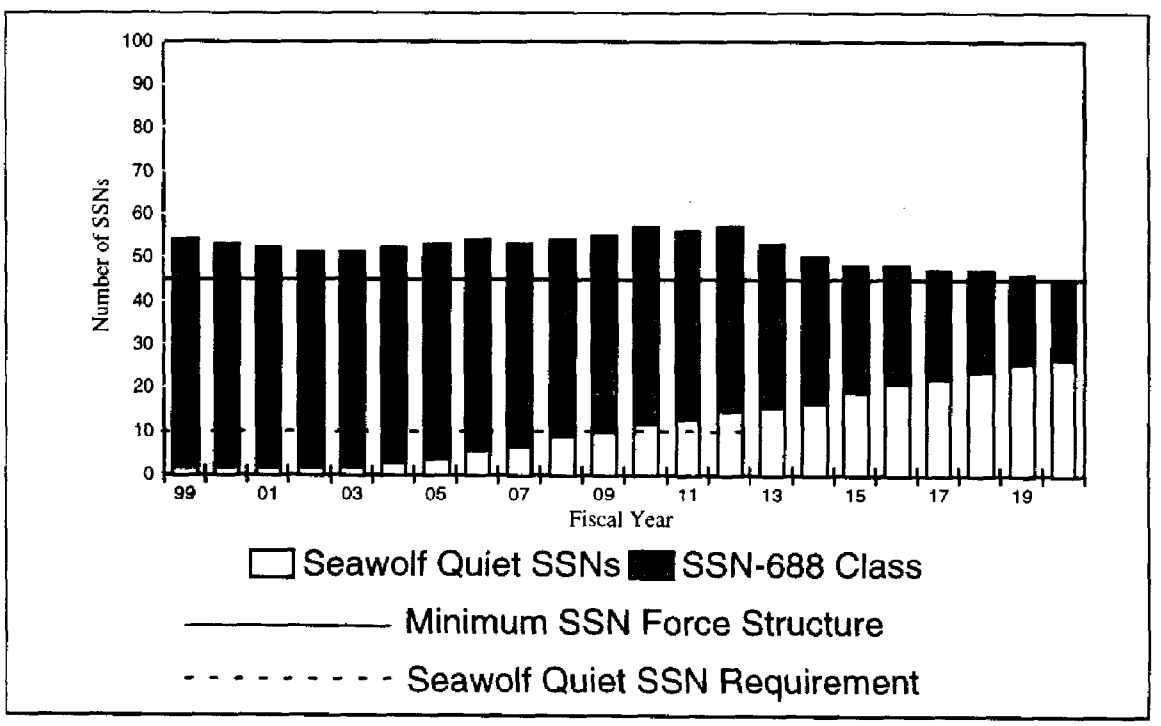


These three alternatives demonstrate that the Navy can maintain its approved force levels by acquiring fewer than 31 SSNs through 2014 as currently planned. Furthermore, if the Navy defers construction to 2003 it would not build the third Seawolf in 1996. The Navy could still achieve its approved force levels without building the third Seawolf if it chose either one of the first two alternatives by either consolidating submarine construction at Newport News Shipbuilding or finding another way to bridge the production gap at Electric Boat.

ALTERNATIVES TO THE NAVY'S SHIPBUILDING PLAN CAN MEET THE SUBMARINE THREAT

The Navy wants 10 to 12 submarines as quiet as the Seawolf by 2012 for the anti-SSBN and presence missions anticipated in that time frame. By implementing either of our first two alternatives, the Navy can have 10 to 12 Seawolf quiet submarines by 2012 without building the third Seawolf. If the Navy does not buy the SSN-23 and builds 24 new attack submarines, it can maintain its minimum force level and exceed its goal for Seawolf quiet submarines (see figure 5).

Figure 5: SSN Force Structure Without SSN-23 and 24 New Attack Submarines (1999-2020)



By deferring attack submarine construction to 2003, the Navy would not have 10 to 12 Seawolf quiet submarines before 2014.

Now let me turn to the recent Office of Naval Intelligence report, "Worldwide Submarine Proliferation in the Coming Decade," which discusses improvements in and growing numbers of foreign submarines. According to the report, Russia's frontline submarines are for the first time, as quiet or quieter in some respects than the SSN-688Is and Russia plans to continue reducing radiated noise on its submarines.

However, the report does not address other factors that should be considered to determine the overall superiority of U.S. and Russian submarines, such as sensor processing, weapons, platform design, tactics, doctrine, and training. This omission is significant since, according to the Navy, it is essential that these factors be considered in addition to acoustic quieting 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 information on some of the other

factors that affect submarine superiority. These reports note a decline in Russian submarines' operating tempos, 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.

It is also important to note that the intelligence community disagrees about the course of the future Russian submarine threat. For example, based on our preliminary work, we are aware of differences within the community concerning such issues as Russia's defense spending priorities, Russia's ability to maintain its production schedules, and future threat scenarios.

BUILDING SSN-23 FOR INDUSTRIAL BASE REASONS HAS NOT BEEN JUSTIFIED

DOD decided to build the SSN-23 in 1996 and commence with new SSN construction in 1998 at Electric Boat to support the nuclear shipbuilding industrial base. The United States has two builders of nuclear ships: Electric Boat, which builds submarines, and Newport News Shipbuilding, which builds aircraft carriers and submarines. In its bottom-up review, DOD considered several options to avoid the potential consequences of a gap in submarine construction. A key option considered was the consolidation of

all carrier and submarine construction at one shipyard. DOD reported that, under this option, $1.2 billion would be saved after accounting for about $625 million in shutdown and reconstitution costs from fiscal years 1995 through 1999. DOD rejected this option because of its concern about the resulting loss of competition and other long-term defense industrial base and national security needs.

In April 1994, we testified that DOD had not provided the basis for its position.[5] It was not clear what DOD meant by "loss of competition." For example, only one shipyard currently builds nuclear aircraft carriers, but DOD has not expressed concern about lack of competition in that program. Moreover, DOD has directed future nuclear submarine work to be done at the other nuclear-capable shipyard, virtually eliminating competition. It is not clear why DOD determined that two nuclear-capable shipyards are needed to protect "the long-term defense industrial base and national security."

Mr. Chairman, this concludes my prepared remarks. I would be happy to answer any questions you may have.

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[5]Navy Modernization: Alternatives for Achieving a More Affordable Force Structure (GAO/T-NSIAD-94-171, Apr. 26, 1994).