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COMPTROLLER GENERAL'S REPORT TO THE CONGRESS

THE EFFECTIVENESS OF THE ATTACK SUBMARINE IN THE DIRECT SUPPORT ROLE
Department of the Navy

D I G E S T

The major threat to the successful completion of the Navy's sea control mission is the Soviet general purpose submarine force equipped with long range antiship missiles and torpedoes. The Navy considers the nuclear powered attack submarine to be one of its most effective antisubmarine warfare weapons and has developed a new role for its use--the direct support role. In this role, the attack submarine is intended to perform antisubmarine warfare operations in support of U.S. surface ship formations.

GAO found that in the direct support role, the nuclear attack submarine does add to the capability of other systems in the surface force by being able to detect enemy submarines at long ranges. The results of studies and exercises indicate, however, that operational limitations exist which have a severe impact on its effectiveness. As a result, the question is raised as to whether direct support could be more effectively provided by other systems in development such as the Light Airborne Multipurpose System or ships equipped with the tactical towed array sonar. (See ch. 4.)

The Navy plans to achieve and maintain a force level of 90 nuclear attack submarines, a large part of which is justified for its direct support role. (See ch. 3.) The remainder of the force is justified on the basis of two other roles, the blockading of enemy submarines (the barrier role) and the searching out and destroying of submarines patrolling shipping areas (the surveillance aided intercept role). If the submarine is only marginally effective in the support role, the question arises whether such a force level is required. (See ch. 2.)

The trend in the design of the nuclear attack submarine is toward larger, faster, more

costly and improved platforms despite indications that there may be potential advantages in conventionally powered and smaller nuclear powered designs. It is not certain to what extent such improvements as (1) the higher speed achieved in the current SSN-688 class submarines at a cost of $97.6 million per ship and (2) the proposed inclusion of a new wide aperture array sonar in the SSN-688 at a cost of about $50 million per ship, will provide increases in antisubmarine warfare effectiveness over its predecessor the SSN-637 class submarine. (See ch. 5.)

In response to a previous copy of this report, Defense stated that the role of the nuclear attack submarine in direct support of surface ships is still under study and that it has not yet developed a firm position on its effectiveness in the direct support role or its impact on nuclear attack submarine force levels. Despite this, procurement of SSN-688 class submarines is continuing. (See app. V.)

The Congress, in reviewing budget requests for additional nuclear attack submarines, should carefully evaluate Defense's force level plans of which a significant part is justified in direct support of surface forces. Specifically, Defense should be required to demonstrate the effectiveness of the nuclear attack submarine in the direct support role and determine whether more cost-effective alternatives are or will be available. The Congress should also, in reviewing budget requests for the next generation nuclear attack submarine and the new wide aperture array sonar for the SSN-688 class, require that Defense demonstrate that the costs to achieve the desired design improvements are commensurate with expected gains in mission effectiveness.