United States General Accounting Office

GAO

Testimony

Before the Committee on Governmental Affairs
United States Senate

For Release
on Delivery
Expected at
9:30 a.m. EDT
Thursday
June 10, 1993

THE U.S. NUCLEAR TRIAD

GAO's Evaluation of the Strategic Modernization Program

Statement of Eleanor Chelimsky
Assistant Comptroller General
Program Evaluation and Methodology Division

GAO/T-PEMD-93-5

Mr. Chairman and Members of the Committee:

Mr. Chairman, I am pleased to be here today to present some of the results of GAO's evaluation of the U.S. strategic triad. My statement is based on a set of eight classified reports, issued in September 1992, that assessed the cost-effectiveness of the principal weapon system upgrades in the triad's air, land, and sea legs. First, I would like to review the most important findings and conclusions of our study, and then briefly summarize our recommendations.

BACKGROUND

In April 1990, the House Committee on Foreign Affairs asked GAO to assess the major strategic modernization programs of the Carter, Reagan, and Bush administrations. In particular, the Committee wanted a comprehensive evaluation of the strengths and weaknesses of these programs, and a determination of which proposed upgrades appeared to be the most cost-effective. This required us to make analytic comparisons between deployed and proposed weapon systems, and across strategic programs in all three legs of the triad, taking into account the threat they were intended to address and the arms control agreements that would likely constrain or curtail them. In conducting our literature search for prior similar studies, we found that no Department of Defense (DOD) evaluation had examined U.S. strategic forces in this comprehensive way for at least 3 decades.

The nuclear weapon systems and proposed upgrades included in our evaluation were, for the air leg: the B-52G and B-52H, B-1B and B-2 bombers; the ALCM, ACM, SRAM A, and SRAM II missiles; for the land leg: Minuteman II and Minuteman III ICBMs; the Peacekeeper, Peacekeeper Rail Garrison, and the small ICBM; and for the sea leg: the C-4 and D-5 SLBMs on Lafayette and Ohio-class nuclear-powered ballistic missile submarines (SSBNs). We assessed all systems under a full range of threat scenarios, moving from total surprise attack to strategic warning.

To compare system costs across strategic program upgrades, our unit of analysis was the 30-year life-cycle (that is, we included not just R&D and procurement, but also operations and support costs for every system). To compare system effectiveness, we used seven different measures: (1) survivability against both offensive and defensive threats, for both platforms and weapons (for example, submarines and their ballistic missiles; bombers and their missiles); (2) delivery system performance (that is, accuracy, range, and payload); (3) warhead yield and reliability (that is, the probability that the warhead will detonate as intended); (4) weapon system reliability (that is, the combined reliability of all the component processes from platform launch to warhead detonation); (5) flexibility across a number of dimensions, including retargeting, recall, and

impact on arms control; (6) communications (for example, connectivity between command authority and platforms); and (7) responsiveness (that is, alert rate and time-to-target).

Establishing these comparisons required a good deal of test, performance, and cost data. In the great majority of cases, we benefited from the able assistance of the Defense Department. However, in one very important instance, we were denied access to data critical to establishing the reliability of the Peacekeeper warhead.

We organized our comparisons around seven policy questions, each presented in a separate volume of the triad series, along with a summary report. The questions are as follows:

(1) How vulnerable are U.S. SSBNs?

(2) How vulnerable are silo-based ICBMs?

(3) What is the relative effectiveness of ICBMs versus SLBMs?

(4) What improved capabilities do the air leg's proposed upgrades provide, relative to existing systems?

(5) What are the comparative costs of the proposed upgrades?

(6) What capabilities exist within the triad for addressing a threat posed by strategic relocatable targets (SRTs)?

(7) What strategic capabilities exist in France and the United Kingdom?

Our evaluative approach was thus designed to analytically compare the major strategic weapon system delivery platforms, missiles, and warheads, incorporating arms control, threat, cost, and performance considerations. It was also intended to provide a comprehensive framework that would permit ongoing and future calculations of the number and structure of strategic forces likely to be the most cost-effective under differing arms control and threat configurations. We believe this latter capability is important in view of continuing arms reduction agreements, evolving uncertainties in the Commonwealth of Independent States (CIS), a changing set of threats to our security, and consequent requirements for potentially different mixes of weapon systems. In addition, the high cost of new procurement in a period of diminishing resources, and the recurring need to decide which weapon systems are most desirable to retain, make it critical for policymakers to know with confidence which weapon systems operate as intended, which actually possess the performance

characteristics commonly attributed to them, and how they compare on a variety of measures.

It goes without saying that this short statement can present only highlights of GAO's eight reports. Also, because much of the data and many details of the issues we examined are classified, both this statement and my responses to your questions are constrained by security requirements. (I would, however, welcome the opportunity to respond to questions on classified issues in executive session.)

Now let me turn to our findings.

MAJOR GAO FINDINGS

Findings on the Air Leg

First, in examining the flight-test performance of the B-2, we found problems involving the all-important stealth characteristics intended to reduce the bomber's detectability. These problems have also been reported by the Air Force: that is, the B-2 did not perform in 1991 tests as required. More recently, however, the Air Force reports that testing has progressed far enough to satisfy the various certification requirements imposed by the Congress on the B-2, in light of the 1991 test problems. Nonetheless, only one quarter of the B-2's flight testing hours had been flown as of May 1993, and past experience has been that important and costly problems have emerged, not only at late stages of flight testing, but also after deployment. Further, as we reported to the Congress in December 1992, the certification to be made would be issued without benefit of actual B-2 flight tests of integrated offensive and defensive avionics. Given the limited number and nature of the tests held to date, it is difficult to have a high degree of confidence in overall B-2 performance at the present time.

Indeed, the history of the less technologically ambitious B-1B reinforces the principle that final evaluation of weapon system performance should be reserved until all operational testing is completed. For the B-1B, we found that although DOD has reported success in reducing its radar cross section (RCS), the measurement cited by DOD is questionable from the viewpoints of both representativeness and accuracy. First, even though the B-1B's RCS has been measured from all angles, only the head-on RCS measurement was reported. That is, the side and rear measurements, both of which are very much larger, have not been publicly presented. Since radar intercepts can occur at any angle, head-on data alone cannot be a representative measure of detectability. Second, we found that even the head-on measurement reported did not correspond to actual test results.

In other performance areas, the B-1B has had a long history of test and operational shortcomings. It has been grounded numerous times; its electronic countermeasures continue to be a major problem; its flight controls have needed significant modifications; and we found its reliability and range to be areas for serious concern that require further testing. These persistent deficiencies may not be easily or quickly resolvable, and substantial additional costs may be involved.

Because of this B-1B history, the cost of the B-2 program is of particular concern, especially given the paucity of data on operational and support costs. Currently, the projected cost to acquire the 20-aircraft program is $44.4 billion. Of this total, $2.8 billion was authorized but "fenced" by the Congress for the last five B-2s requested by the Bush Administration. It is important to note that the five aircraft together would be able to deliver only about 2.3 percent of the total number of strategic warheads permitted under the START II agreement, and, as discussed below, the B-2's lifecycle cost per arriving warhead substantially exceeds that for weapon systems in either of the other legs.[1]

On the other hand, we found that the B-52, whose obsolescence has been widely reported and cited as a rationale for developing both the B-1B and B-2, is still a viable aircraft that performs a great deal better than is generally understood. Air Force flight hour data show that, as of 1990, the airframes and other key structural components of both the B-52G and the B-52H had reached only about half their life expectancies. In addition, the Air Force has been performing numerous modification programs over the life of the B-52 to assure its continuing effectiveness; these include new offensive and defensive avionics, new communications equipment, new missile launcher racks to provide cruise missile compatibility, and various programs to enhance reliability and maintainability. Further, comparisons of data on multiple measures of effectiveness show that the B-52 compares favorably to the newer B-1B, which has shown deficiencies on a number of important performance dimensions (for example, reliability or electronic countermeasures). Both models of the B-52 have continuing

---

[1]Our analysis of the B-2 focused on its originally intended strategic-nuclear mission; however, since the breakup of the Soviet Union, the Air Force has articulated a conventional role for the aircraft. This newer rationale for the bomber is addressed in our February 1993 report, Strategic Bombers: Adding Conventional Capabilities Will Be Complex, Time-Consuming, and Costly, (GAO/NSIAD-93-45). In this report, we found that, given the very incomplete nature of the flight test program, it is premature to confirm the actual operational capabilities of the aircraft in a conventional role.

capability--the B-52G as a cruise missile carrier and the B-52H as a strategic penetrating bomber--and both should remain usable aircraft for many years to come, in both conventional and strategic roles. Indeed, the entire B-1B force was grounded for the duration of the Gulf War, while the B-52s were major participants.

Also, in further examining the rationales supporting the need for the B-2, we found that the Soviet air defense threat, like the B-52's obsolescence, had been overestimated.[2] Evaluation of the data over the period 1972-1991 showed this clearly with regard to both the number and the effectiveness of Soviet air defenses against existing U.S. bombers and their weapons. Today, the breakup of the Soviet Union, the rivalries among the CIS states, and economic conditions within the Commonwealth suggest that current air defenses are more likely to degrade than improve. In short, the Soviet air defense threat that the B-2 had been created to address was never in fact deployed.

With regard to air leg armaments, we found that the actual range of the Air Launched Cruise Missile (ALCM) was better than what had been reported. This means that the improvement in range to be brought by the ALCM upgrade, that is, the Advanced Cruise Missile (ACM), was only slightly greater than the older ALCM's demonstrated capability. We also found that the improvement in accuracy offered by the ACM appears to have little real operational significance.

Findings on the Land and Sea Legs

We found that the Soviet threat to the weapon systems of the land and sea legs had also been overstated. For the sea leg, this was reflected in unsubstantiated allegations about likely future breakthroughs in Soviet submarine detection technologies, along with underestimation of the performance and capabilities of our own nuclear-powered ballistic missile submarines. The projected threat to the sea leg was, however, used frequently as a justification for costly modernizations in the other legs to "hedge" against SSBN vulnerability. Our specific finding, based on operational test results, was that submerged SSBNs are even less detectable than is generally understood, and that there appear to be no current or long-term technologies that would change this. Moreover, even if such technologies did exist, test and operational data show that the survivability of the SSBN fleet would not be in question.

---

[2]Indeed, our analysis revealed a fairly large number of areas in which the available data did not support many conventionally-held beliefs. (See appendix I for a display of these issues.)

In the case of the land leg, we found that the claimed "window of vulnerability" caused by improved Soviet missile capability against our silo-based ICBMs was overstated on three counts. First, it did not recognize the existence of sea and air leg deterrence--that is, the likelihood that the Soviets would hesitate to launch an all-out attack on the ICBM silos, given their inability to target submerged U.S. SSBNs or on-alert bombers and their thousands of warheads that could be expected to retaliate. Second, the logic behind the claim assumed only the highest estimates for such key Soviet missile performance dimensions as accuracy, yield, and reliability, while at the same time discounting very substantial uncertainties about performance that could not have been resolved short of nuclear conflict. Third, it ignored the capabilities of U.S. early warning systems to detect a Soviet ICBM attack and, thereby, allow a reasonably rapid response.

With respect to ICBM performance, we found much more uncertainty on a number of dimensions than expected. Within the triad, the land leg's ICBMs have long been perceived as having the highest reliability of any weapon system, as well as the greatest accuracy. But we found, using test data, that accuracy estimates for the Peacekeeper--the lead ICBM system--were based on a very limited number of test shots, some using operationally unrepresentative software or hardware. As of early 1992, accuracy estimates were based on data from fewer than 25 launches, of which the first 18 combined developmental and operational elements. This alone creates considerable uncertainty in accuracy claims derived from these results. Second, because DOD refused to release critical data on Peacekeeper warhead reliability, we cannot validate DOD's high estimates for it. Third, to lower costs, SAC reduced the Peacekeeper's test rate from 8 to 3 shots per year, which further diminishes confidence in any future estimates of the system's performance. (Similarly, the test rate of the Minuteman III system was also reduced--from 7 to 4 shots per year--thereby also decreasing, over time, the credibility of performance estimates.) In sum, uncertainty in the estimates for the Peacekeeper is created by a combination of inadequate evidence, insufficient test rates, and gaps in the data.

In contrast, we found that the sea leg's performance has been understated (or poorly understood) on a number of critical dimensions. Test and operational patrol data show that the speed and reliability of day-to-day communications to submerged, deployed SSBNs are far better than widely believed, and about the equal in speed and reliability of communications to ICBM silos. Yet conventional wisdom gives much higher marks to ICBM command and control responsiveness than to that of submarines. In point of fact, SSBNs are in essentially constant communication with national command authorities and, depending on the scenario,

SLBMs from submarine platforms would be almost as prompt as ICBMs in hitting enemy targets.

Other test data show that the accuracy and reliability of the Navy's D-5 SLBM are about equal to DOD's best estimates for the Peacekeeper. Further, its warhead has a higher yield than the Peacekeeper's. In short, we estimate that the D-5 has a hard target kill capability about equal to the Peacekeeper's, while its platforms remain virtually undetectable, unlike easily located silos.

Findings on Triad System Costs

We compared the 30-year life-cycle costs of the major triad system upgrades, taking into account the whole range of attack scenarios, and using DOD's own estimates for the performance of each major upgrade, whether or not the current test data supported these (high/best) estimates. Measured in terms of life-cycle costs per arriving warhead, the B-2 would cost between 2-1/2 and 5 times more than the D-5/Ohio system under any attack scenario, depending on the number of warheads on the D-5. (These estimates are conservative in that they assume the B-2 will be as effective as planned by DOD and that costs will not grow, whereas the cost, test, and operational performance data on the D-5/Ohio system are considerably more reliable and complete.) When we compared the upgraded/de-MIRVed Minuteman III system--now being proposed by the Air Force--to the life-cycle cost-to-go per arriving warhead for the D-5/Ohio system, we found they were almost identical, but with the significant performance advantage for the latter of being based on submerged, essentially invulnerable submarines.[3]

Findings on DOD's Evaluations of Its Strategic Programs

In comparing performance and cost across the legs and weapon systems of the triad, we were concerned to find little or no prior recent effort by DOD to do what we were doing--that is, evaluate comprehensively the relative effectiveness of similar weapon systems. Yet such agency evaluation is critical if

---

[3]This comparative cost estimate is biased against the D-5/Ohios, since the Air Force has informed us that the Minuteman III cost estimate on which it is based--and which they had provided to us--actually understated lifecycle costs by nearly 40 percent, for maintaining the Minuteman III force through the year 2020. Further, even the revised Minuteman III cost estimate may be overly optimistic, in that it assumes that maintenance costs do not increase over the 2010-2020 decade, compared to the previous one.

limited budget dollars are to be concentrated on programs that are both needed and effective.

With regard to proposed upgrades, we found many instances of dubious support for claims of their high performance; insufficient and often unrealistic testing; understated cost; incomplete or unrepresentative reporting; lack of systematic comparison against the systems they were to replace; and unconvincing rationales for their development in the first place. Where mature programs were concerned, on the other hand, we often found that their performance was understated and that inappropriate claims of obsolescence had been made.

Specifically, we found that the vulnerability of our B-52s, submarines, and silo-based ICBMs to a Soviet threat had been overstated; that performance claimed for the B-2 is as yet unproven; that B-1B, ACM, and Peacekeeper capabilities were often inflated; that costs for strategic systems generally were incomplete (operating and support costs having typically gone unreported); and that the performances of B-52s and SSBNs were consistently understated.

We looked for assessments systematically comparing proposed upgrades against the weapon systems they were intended to replace and found none in the cases of the B-2, the B-1B, and ACM; we found insufficient test samples for the B-1B, ALCM, ACM, SRAM A, and Peacekeeper; and we found many examples of unrealistic testing for the B-1B, ALCM, ACM, and Peacekeeper.

Perhaps the most important point here is that comparative evaluation across the three legs of the triad--and between individual weapon systems and their proposed upgrades--has been signally lacking. This is unfortunate because it deprives policymakers in both the executive branch and the Congress of information they need for making decisions involving hundreds of billions of dollars. (The life-cycle costs for triad modernization stood at about $350 billion in 1990.) Examples of generic areas in which we found significant knowledge gaps are given in appendix II.

This is not to argue that narrower evaluation should not also be done, and done realistically and rigorously. Indeed, we have seen some examples of excellent work of this type, including the evaluations of SLBM and SSBN performance produced for DOD by the Johns Hopkins University Applied Physics Laboratory. But examining whether a weapon system meets its specifications cannot get at larger evaluative questions like (1) whether the mission to be addressed by a proposed new system is already adequately handled by capabilities existing elsewhere in the triad, or (2) whether that new system has the capability to improve significantly on existing performance, and at what relative cost.

MAJOR GAO CONCLUSIONS

Based on the comparative findings presented above and the analysis conducted for our studies, we conclude that, on balance, the evidence shows the sea leg to be the strongest, most cost-effective component of the triad under a range of scenarios.

A second conclusion concerns the role of the air leg in the context of the triad. Because strategic bombers are recallable (as missiles are not), and because they are virtually incapable of effecting a surprise attack, they add a critically important stabilizing character to the overall nuclear force. This is not to argue the case for any particular bomber, but rather to draw attention to the contribution of the air leg as such.

Finally, on the subject of evaluation, we are, of course, concerned by the multiple individual flaws and failures we found in areas like threat forecasting, testing, and reporting. However, we are even more concerned by the dearth of comparative studies that are needed to show whether a proposed system is justified in terms of the threat it faces, its performance capabilities vis-a-vis other systems, and its relative costs.

GAO RECOMMENDATIONS

Based on these findings and conclusions, we make the following six recommendations to the Congress.

- With respect to whether five more B-2s should be procured, we find no strategic grounds for acquiring them. Regarding the more recent justification that the program is needed to fill a conventional role, we find that adding such capability to the B-2 strategic bomber design will be complex, time consuming, and extremely costly. In addition, its capability to perform either of its intended conventional and strategic missions remains unproven, and other alternatives exist.

- More operational testing of the B-1B is needed to verify that scheduled improvements in reliability and electronic countermeasures are achieved, and to remove remaining uncertainties concerning range performance.

- On Minuteman III, we question the advisability of funding extensive major life-service upgrades for this force because the cost-effectiveness of such an effort is not obvious. There are three reasons for this: the Air Force's estimated $23 billion as the price tag for upgrading and maintaining it through the year 2020; the fact of a reduced-threat environment, now and in the foreseeable future; and the likelihood that substantive

modifications would require robust flight test programs that would quickly use up limited test assets.

- Given the importance of the D-5 missile to the sea leg of the triad, and given the importance of flight testing to achieve an understanding of missile performance, adequate D-5 SLBM flight testing should continue. The D-5 test rate should not be cut from levels required to confidently assess weapon system capability, as has occurred with the Peacekeeper and Minuteman forces.

- On the ACM, we concurred with the September 1991 decision to cap production at 520 missiles, rather than funding an additional 120, given that ACM provides little operationally significant improvement over the older ALCM. We would also concur with a decision to cap the program at an even lower level. However, to ensure the effectiveness of the cruise missile inventory, we see a need to hold more realistic flight tests of ALCM's survivability and of both ALCM's and ACM's performance over terrain that has not been pretested.

- On evaluation, we would reiterate the Comptroller General's recent suggestion that the Congress consider setting aside hearing time each year for federal agencies--in this case, DOD--to present the results of requested evaluations, studies, and audits. We believe that more frequent congressional hearings on weapons performance, combined with regular congressionally-mandated evaluations, would provide more of an incentive to DOD both to emphasize the quality and usefulness of its analyses, and to undertake the critically needed comparative evaluations.

The Defense Department's response to our series of reports is to "partially concur" on some of our findings, and to disagree with others. Where appropriate, we modified our language based on DOD's comments or on new data they supplied. In other areas, however, we must continue to disagree. For example, one DOD concern centers around our reanalysis of their estimates of the Soviet air defense threat: they point out that past intelligence projections will invariably show divergences from more current ones.

While it is true that projection errors are always to be expected, they normally occur in both directions, either overstatement or understatement. What we found, however, is that DOD's threat projections were rarely if ever understated, but rather, in the vast majority of cases, greatly overstated. Because the error was always in one direction, this undermines the explanation of random divergence; in particular, the effect was to make the threat loom larger than the data could support.

We would agree with the Defense Department that the international atmosphere of our time is greatly altered and that the strategic threat has changed, but we would also note that because nuclear weapons remain in force in many places in the world, our new defense posture must take these realities--and especially the realities of performance and cost--into account. The fact that the threat has changed does not mean that sound information is no longer needed on the triad and its component parts. Indeed, decisions on procurements, appropriations, and budgetary realignments will continue to require the very best possible evaluative analysis.

It may be worth noting that while DOD differed with us on some findings, the Bush administration's actions in fact mirrored some of our major recommendations in early drafts of our triad capping report. For example, we questioned the need for either SICBM or Peacekeeper rail garrison; both were cancelled by President Bush. We found no need for even four more B-2s; that force was cut from 75 to 20 by President Bush. We also questioned the need for the ACM, and noted that insufficient tests of the Minuteman IIs precluded any confidence in estimates of the missile's reliability; President Bush cut the ACM buy from 1,000 to 520, and decommissioned the entire Minuteman II force.

We hope the findings we have presented here on weapon system and cross-leg cost-effectiveness will assist both DOD and the Congress in deliberating and determining the future size and structure of a nuclear force that (1) integrates our most effective weapon systems into a leaner, less costly whole, and (2) meets the nation's strategic security requirements for many years to come.

Mr. Chairman, that concludes my remarks. I would be happy to answer any questions you or the Committee may have.

Table I.1: The Air Leg: Beliefs Versus Findings[1]

BELIEF	FINDING
1. On Air Base Survivability	
Bombers at bases have been vulnerable to surprise Soviet attack.	The data show surprise attack to have been extremely unlikely.
2. On Penetration Survivability	
Soviet air defenses have grown dramatically.	High growth did not occur.
Soviet SAMs and interceptors are very effective.	Combat experience and intelligence assessments indicate lesser capabilities.
B-2 is needed to preserve the penetrating bomber role.	Data show B-1B and B-52H can continue to be survivable penetrators.
ACM is needed to overcome low ALCM survivability.	Tests did not demonstrate low ALCM survivability.
3. On Target Coverage	
Detectability and slowness make the air-leg "stabilizing."	Available data support this belief.
B-1B and B-2 have sufficient range for their strategic mission requirements.	Insufficient evidence to support this belief; reliable test data are lacking.
Bombers are readily recallable and retargetable under any scenario, including nuclear war.	Nuclear effects and jamming are likely to degrade C3, thus limiting recallability and retargeting.
B-2 is needed for SRT missions.	Analysis shows that no special capability exists or is foreseen.
4. On Obsolescence	
B-52 age mandates replacement.	Air Force data show B-52G & H viability for many years to come.

[1]Only selected material on beliefs versus findings is presented here; classified information has been deleted.

Table I.2: The Land Leg: Beliefs Versus Findings[2]

BELIEF	FINDING
1. On ICBM Base Survivability	
Silo-based ICBMs have been highly vulnerable to massive, surprise Soviet attack.	Claims for high vulnerability were based on worst-case estimates of Soviet ICBM capabilities, as well as other questionable assumptions.
2. On Penetration Survivability	
ICBMs face no effective ABM defenses.	Available data support this view.
3. On Target Coverage	
ICBM C^3 is prompt, reliable, and has great redundancy.	Available data generally support this perception.
ICBMs can launch promptly after receipt of orders for attack.	Available data support this conclusion, but are based on launches from test silos and simulated electronic launch tests.
Peacekeeper is very accurate and very reliable.	DOD's refusal to provide critical reliability data and insufficient operational tests reduce the level of confidence in Peacekeeper's performance estimates.
Rail garrison Peacekeepers and mobile SICBMs would have the same accuracy and reliability as ICBMs in silos.	Insufficient data to support this belief.

[2]Only selected material on beliefs versus findings is presented here; classified information has been deleted.

Table I.3: The Sea Leg: Beliefs Versus Findings[3]

BELIEF	FINDING
1. On Survivability	
While submerged SSBNs are currently hard to detect, a breakthrough in detection technology that will threaten them is possible in the future.	No current, near- or far-term submarine detection technologies, potential applications, or Soviet capabilities would be effective in reliably locating a single submerged, deployed U.S. SSBN, much less the entire fleet.
2. On Penetration Survivability	
SLBMs face no effective ABM defenses.	Available data support this assumption.
3. On Target Coverage	
C^3 to SSBNs is much slower and much less reliable than to ICBM silos.	Data show C^3 to SSBNs is **about** as prompt and as reliable as to ICBM silos, under a range of conditions.
SLBMs cannot be used against time urgent targets due to a combination of slow C^3 and launch procedures.	Compared to ICBMs, no operationally meaningful difference in time to target was found. Arms control agreements will severely reduce the number of "time-urgent" Soviet ICBM targets.
SLBMs cannot effectively attack the hardest category of Soviet targets due to insufficient accuracy.	Test data show that D-5 SLBMs do in fact have this capability.
Range and deployment area limitations may weaken sea leg accuracy and survivability.	SSBN patrol areas and D-5 range and estimated accuracy impose no such limitations.

[3]Only selected material on beliefs versus findings is presented here; classified information has been deleted.

Table II.1: GAO's Findings on Significant Knowledge Limitations Vis-a-Vis Three Dimensions of Strategic Weapons System Assessment

	Air			Land		Sea
	B-2	B-1B	B-52	Peace-keeper	MM III	D-5/ Ohio
Threat[a]	X	X	X	X	X	X
Performance[a]	X	X	X	X		
Testing[b]	X	X		X	X	

[a]Threat or performance has been incorrectly reported on at least one significant dimension.

[b]Operational testing has experienced a significant qualitative or quantitative problem or limitation.

Ordering Information

The first copy of each GAO report and testimony is free. Additional copies are $2 each. Orders should be sent to the following address, accompanied by a check or money order made out to the Superintendent of Documents, when necessary. Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

Orders by mail:

U.S. General Accounting Office
P.O. Box 6015
Gaithersburg, MD 20884-6015

or visit:

Room 1000
700 4th St. NW (corner of 4th and G Sts. NW)
U.S. General Accounting Office
Washington, DC

Orders may also be placed by calling (202) 512-6000
or by using fax number (301) 258-4066.

United States
General Accounting Office
Washington, D.C. 20548

Official Business
Penalty for Private Use $300

First-Class Mail
Postage & Fees Paid
GAO
Permit No. G100