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Bernard Kauderer

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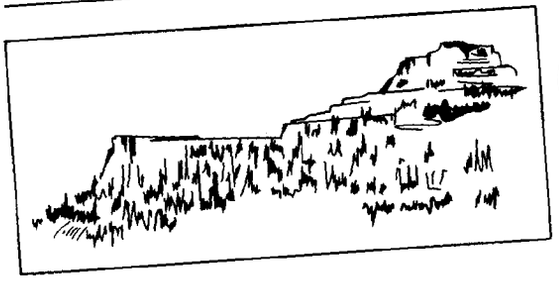

CNSS
Center for National Security Studies
Los Alamos National Laboratory

VICE ADMIRAL BERNARD KAUDERER, a native of Philadelphia, is a graduate of the U.S. Naval Academy. His early service in a destroyer, a mine sweeper, and a diesel-electric submarine was followed by nuclear power training and a succession of assignments in nuclear submarines. Command of a nuclear attack submarine, command of the Nuclear Power Training Unit, Idaho, and command of a submarine tender led to service as Chief of Staff to the Commander of the Atlantic Fleet Submarine and Force. As a Rear Admiral, he served as Commander of a Submarine Group; as Deputy Director, Research, Development, Test, and Evaluation in the Office of the Chief of Naval Operations; and as Commander, Submarine Force, U.S. Pacific Fleet. In 1983 he was promoted to Vice Admiral, serving as Commander Submarine Force, U.S. Atlantic Fleet, and as Commander Submarines, Allied Command Atlantic, a NATO post. He retired in 1986 and is currently a consultant to government and industry.

POSSIBLE ROLES OF TACTICAL NUCLEAR WEAPONS IN MARITIME CONFLICT

Bernard Kauderer

SUMMARY

Although much attention has been given to land-based nuclear weapons in recent arms control talks and agreements between the United States and the Soviet Union, sea-based tactical nuclear weapons present different issues of long-term significance. In this paper the author re-examines the possible roles that tactical nuclear weapons might play in future U.S.-Soviet naval warfare. Ambiguities and uncertainties are evident in the literature concerning naval forces and nuclear weapons, and the author presents a sample of the many studies that have been done. He does point out, however, that there is a consistent theme throughout the studies in the sample. After presenting a review of the at-sea nuclear war-fighting capabilities of the two superpowers, the author discusses the possible first use of nuclear weapons at sea, specifically, the circumstances and motivations for initial use by either the United States or the Soviet Union. The paper concludes with implications for U.S. maritime strategy.

ABSTRACT

The possible roles that tactical nuclear weapons might play in future U.S.-Soviet naval warfare are re-examined. Previous studies are reviewed as are the at-sea nuclear war-fighting capabilities of the two superpowers. Implications for U.S. maritime strategy are also presented.

POSSIBLE ROLES OF TACTICAL NUCLEAR WEAPONS IN MARITIME CONFLICT

by

Bernard Kauderer

INTRODUCTION

Recent developments in arms control agreements between the United States and the Soviet Union portend continuing change in the status of nuclear weapons. On the one hand, land-based weapons in the sensitive European arena and strategic weapons of all varieties have been given, and will continue to be given, great attention. On the other hand, sea-based tactical nuclear weapons present a set of different issues that have been less discussed, but for which critical decisions could have equally vital long-term implications. Some analysts have speculated that the sea is where nuclear weapons might be used first because of the remoteness of some potential areas of conflict, thus posing a reduced possibility that the use of nuclear weapons there would lead to a general nuclear exchange. As if to support that thesis, the Soviet Navy is armed, trained, and ready for nuclear war at sea. By contrast, the U.S. maritime strategy is firmly based upon the belief that the use of nuclear weapons at sea is improbable, and U.S. naval forces have been structured with this as a central theme.

The objective of this study, then, is to re-examine the possible roles that tactical nuclear weapons might play in future U.S.-Soviet naval warfare. The question of either the United States or the Soviet Union first using nuclear weapons at sea is important both from the perspective of a general nuclear exchange and from the narrower consideration of the survival of U.S. naval forces in any future nuclear conflict, however such a conflict might be initiated.

PREVIOUS STUDIES

It is clear from the work to date that the ambiguities and uncertainties that pervade every aspect of this subject make the precise determination of specific policies, of either side, elusive. There are many studies, intelligence assessments, professional papers, doctoral theses, books, magazine articles, and lectures on the subject. For example, a study by the BDM Corporation in 1977, still considered valid and authoritative, notes that in the key elements of Soviet theater nuclear warfare doctrine, "first use, preemption, and thresholds, . . . the literature leaves them ambiguous."[1]

More recently, James J. Tritten has written that "it is impossible to make conclusions about the Soviet view of limited tactical nuclear war at sea." Although he sees "strong support for avoiding nuclear war, . . . if the political decision is made to initiate armed conflict, then we should expect Soviet use of nuclear weapons based upon the military advantages of doing so." We "cannot conclude that a nuclear war would be fought only at sea." Tritten notes further that, "from the evidence of hardware, we find a match in Soviet Navy capability to actually fight a nuclear war at sea."[2]

Donald C. F. Daniel has written that "nuclear weapons will certainly be released against NATO ships and submarines at sea if the Soviet Union, for whatever reason, decides to use such weapons against land targets or if NATO itself initiated nuclear war with either land- or sea-based weapons." He further concludes that "the benefits to NATO of initiating nuclear use on land would have to be overwhelming, for the naval war would probably be lost."[3]

Gordon H. McCormick and Mark E. Miller state that "Soviet military planners have considered nuclear munitions to be a fundamental component of a larger war-fighting capability," that "nuclear munitions have become an essential component of the Soviet naval arsenal," and that "as evidenced by Soviet military literature and naval exercises, nuclear weapons have been closely integrated with a general strategy of sea denial and with a set of battle tactics predicated upon winning at sea with less." They further assert that "in contrast to NATO . . . the evidence suggests that the Soviet Navy has made nuclear weapons a primary capability in its inventory," that "the ability to employ nuclear weapons in the maritime theater . . . might be considered the type of combat for which the Soviet Navy is best prepared," and that "U.S. surface forces stand singularly vulnerable to nuclear attack." In sum, "it is clear that the U.S. Navy has been remiss in preparing for the day when the Soviet Union might employ nuclear weapons in a future naval war."[4]

In her treatise on Marshall Ogarkov, Mary C. Fitzgerald draws the conclusion that the Soviet consensus "on the viability of nuclear war is so unpromising and dangerous that it remains an instrument of policy only in theory, an instrument of policy that cannot be used," and that Moscow has "designated an independent conventional war option as its long-term military development goal." Further, "western analysts are documenting more and more changes in Soviet strategy, operational art, force structure and weapons modernization that point clearly to a conventional high-tech option."[5]

In tracing the cyclical shifts in Soviet views on the proper focus of military development to what he believes is the current objective, an option for protracted conventional warfare, James M. McConnell notes that Moscow's theater nuclear option has only been modified. With regard to the stated Soviet no-first-use policy, McConnell states that "the Soviets have the full panoply of nuclear weapons and will use them if they feel it necessary, to their advantage, and worth the cost."[6]

F. J. West, Jr., in "The Maritime Strategy: The Next Step," argues that "the U.S. threat of first nuclear use is becoming less and less credible," that "the essence of the Maritime Strategy is planning for a protracted conventional conflict," and that it is necessary to "develop and game conventional warfighting plans which are not based upon the early use of nuclear weapons."[7]

In his "Western European and NATO Navies," Norman Friedman states: "Since 1981, the U.S. Government has come closer and closer to the assumption that, in the event of war within NATO territory, the conflict probably would be protracted, and that nuclear weapons might well *not* be used." He writes, "the United States considers its evolving position more realistic than earlier ones; it has never been clear that, once executed, the threat of tactical (or even strategic) nuclear attack would actually improve the military situation in Europe."[8]

At a recent NATO Sealink Symposium, Admiral Sir James Eberle stated:

> The theology of the tactical use of nuclear weapons at sea has received sparse attention from nuclear theorists in comparison with the use of intermediate and short range nuclear weapons on land. It is, however, argued that the use of nuclear weapons against targets at sea is more likely to be accepted on the neutral and unpopulated territory of the oceans, and with less danger of escalation, than on land. I have some problems in accepting the political implications of this thesis of nuclear war fighting at sea. But in military terms, any naval commander in a sea battle at the conventional weapon level must make a judgment as to whether his resort to the use of nuclear weapons would leave him militarily in a better or worse

> situation, if his opponent responded with the use of his nuclear weapons. I have always found it very difficult to foresee a situation in which the balance of military advantage lies in the first use of nuclear weapons at sea, other than as a form of 'demonstration,' provided that both sides possess an equivalent nuclear capability. I therefore believe in the requirement for a modest tactical nuclear capability at sea as a deterrent to the possible Soviet use of such weapons.[9]

Dennis Ross, writing in the Adelphi Papers, notes that "the expectations about the inevitability of escalation from nonnuclear to nuclear warfare have been modified." The change may be largely a result of "the Soviet recognition of the difficulty of managing nuclear wars successfully." But, "one must also note that the traditional Soviet emphasis on preemption has not been tempered," and Soviet military leaders believe "that they can ill-afford to be the second to use nuclear weapons in the theater."[10]

In the same issue of the Adelphi Papers, Dennis M. Gormley writes that "the emergence of nuclear parity between the superpowers at the strategic and theater levels challenges the credibility of an early resort to nuclear weapons by NATO as a substitute for sufficient conventional forces." Further, "for NATO's part, the promise of emerging conventional technologies offers hope of exploiting Warsaw Pact vulnerabilities and thereby raising the nuclear threshold."[11]

The inherent ambiguities and the lack of specific declaratory policies foster uncertainties upon which analysts of various persuasions thrive. It is significant, however, that the overall conclusion which may be drawn from a sampling of previous studies is that there is a consistent thread concerning

- the constant readiness of Soviet naval forces to use nuclear weapons when and as directed
- the incorporation by the Soviets of nuclear warfare in their operational doctrine to an unusual degree
- the lack of differentiation by the Soviets between the conduct of theater naval warfare at the conventional or nuclear level
- the range and depth of in-service Soviet theater nuclear weapons covering every naval warfare mission area.

THE CURRENT PERSPECTIVE

The Political Scene

On 8 December 1987 in Washington, D.C., President Reagan and General Secretary Gorbachev signed a historic agreement eliminating short- and medium-range nuclear-armed missiles. Despite reservations based on the continuing imbalance in conventional forces now exacerbated by loss of the tactical nuclear deterrent, our North Atlantic Treaty Organization (NATO) allies somewhat grudgingly accepted the INF Treaty. It was an opportunity, they thought, toward stability — an opportunity not to be missed. There is some hope now within NATO that an improving international political atmosphere might lead to a productive forum for the mutual reduction of conventional forces. In the interim there is a heightened awareness of the need for modernization of the short-range battlefield nuclear weapons, a need that lacks consensus. In parallel with the negotiations that culminated in the INF Treaty, serious discussions are ongoing to frame a dramatic reduction in strategic nuclear weapons for the two superpowers. The initial goal is a 50 per cent cut, with complete elimination of those weapons in ten years.

To many military and civilian observers the INF Treaty symbolizes the beginning of the "post-nuclear" era. A giant snowball of denuclearization appears to be rolling, slowly at first, but with the potential to gain momentum rapidly, for it is a concept with great public appeal both here and abroad. As if to give another nudge to the moving body, halfway around the world the commander of U.S. forces in South Korea stated

recently that he cannot imagine any scenario in which the United States would use nuclear weapons in that theater.

Although the several arms control initiatives will reduce the total number of nuclear warheads deployed by the United States and the Soviet Union, it would be naive to believe that those weapons will be eliminated. Nuclear weapons are here to stay. As with all revolutionary weapons before them, they will eventually be accommodated in the calculus of war. Therefore, it is appropriate to consider the issue of initial use of those weapons by either the Soviet Union or the United States, and some possible implications of such use, as one facet of an overall look at theater nuclear warfare at sea.

Soviet Naval Missions

To place this discussion in proper perspective, a review of the at-sea nuclear war-fighting capabilities of the potential adversaries is in order.

The Soviet Navy is a relative newcomer to the exclusive list of world-class fleets. Without benefit of a long and glorious maritime tradition, the Red Banner Fleet burst onto the scene during the post-World War II era. With the support of Josef Stalin, and then Nikita Krushchev, Admiral of the Fleet S. G. Gorshkov transformed the coastal defense force he inherited into a formidable blue water navy, capable of carrying the Soviet naval ensign to every ocean of the world.

Despite that dramatic postwar expansion and its emerging position as a major element in the execution of the global ambitions of the Soviet Union, the navy clearly stands last in the armed forces order of precedence. The Soviet defense establishment is dominated by the ground forces, with the navy serving in a secondary role as the seaward arm and adjunct to the commander of each combined theater of operations.

Two principal missions of the Soviet Navy were defined during the Gorshkov era: strategic strike ("attack against the shore") and defense of the homeland. The former task now includes the multiplatform defense in depth of nuclear-powered, ballistic-missile-carrying submarines (SSBNs). The latter mission includes surveillance and detection of enemy naval forces attempting to penetrate defended areas and the marshalling of a superior force for coordinated attack and destruction of the intruding threat. The Soviet Navy is also tasked to seek out and destroy enemy nuclear forces, specifically SSBNs and aircraft carrier battle groups. The most recent missions to emerge are interdiction of sea lines of communications (SLOCs) and power projection, in the classical sense of amphibious operations and tactical strike against land targets.

During his three decades as Commander-in-Chief of the Fleet, Admiral Gorshkov modernized and greatly expanded a ship-building industry that is now producing very capable nuclear submarines (in large numbers), major surface combatants, and a wide variety of small combatants and supporting auxiliaries. Soviet naval aviation, both land and sea based, is capable of long-range strike and antisubmarine operations. A space-based ocean surveillance system provides detection and targeting data for long-range, tactical missiles. And an extensive communications system supports a monolithic command structure of four fleets (Northern, Baltic, Black Sea, and Pacific) and provides a connection between naval headquarters in Moscow and all activities ashore and afloat.

At sea the current generation of Soviet SSBNs can patrol in protected areas close to home waters and still reach any target in the United States with their missiles. The attack submarine force (SSNs) is tasked to protect those SSBNs, but is also capable of open ocean interdicting of SLOCs, attacking aircraft carrier battle groups, and searching for enemy SSBNs. Guided missile submarines (SSGNs) whose mission is to seek out and destroy opposing major surface groups could also be fitted, as are the latest SSNs, with long-range land attack weapons. In addition, Soviet high-performance diesel-electric submarines pose a special threat that further complicates the antisubmarine warfare (ASW) problem. It is significant that Gorshkov's

successor, N. I. Chernavin, is a submariner. His first published writing as commander-in-chief of the navy restated the basic policy that the main striking force of the fleet will be nuclear-powered submarines of various designations.

The large and formidable Soviet surface fleet is led by four vertical and/or short takeoff and landing (VSTOL) aircraft carriers of the KIEV class. Two nuclear-powered carriers are under construction and are expected to support some variation of conventional takeoff (CTOL) aircraft. Two helicopter aircraft carrier/ASW cruisers of the MOSKVA class could form the nucleus of a battle group escort force or could provide a layer of defense for SSBN bastions. The heavy cruiser force includes the nuclear-powered KIROV class, which is several times larger than any comparable U.S. ship, and the antiship SLAVAS. Seven guided missile cruisers of the KARA class and ten of the Kresta II class round out a modern, heavily armed force, which is complemented by new classes of destroyers, SOVREMENNYY and UDALOY, and by the older KASHINS. Add to this fleet a plethora of frigates, patrol and missile craft, mine layers, mine sweepers, torpedo boats, amphibious assault ships, logistics support ships, long-range strike aircraft (BACKFIRE, BEAR H), and long-range ASW aircraft (BEAR F), all supported by an extensive base infrastructure, and you have a navy worthy of consideration. Because the Soviets do not throw anything away, force levels continue to increase even as the quality of the fleet improves.

The Soviet Navy arsenal of tactical nuclear weapons is large and varied. The menu includes antisurface and antisubmarine torpedoes, surface-to-surface missiles, surface-to-air missiles, antisubmarine missiles, antisubmarine depth bombs, antiship air-to-surface missiles, land attack cruise missiles, and mines. This intimidating array of weapons is deployed in the normal loadout of operational aircraft, surface ships, and submarines. The Soviets perform exercises in the use of nuclear weapons and are in constant readiness to employ them. Tactical nuclear weapons are accepted as an integral part of their war-fighting capability. Their ships are designed and built to afford personnel protection and to provide for continuity of operations in a contaminated environment. For the Soviets there is little, if any, distinction between the conduct of theater naval warfare at the conventional or the nuclear level.

Although there is evidence that tactical nuclear weapons are in place with operational units, and that implementing procedures and tactics are ready, the Soviet policy for the use of those weapons is not at all clear. Writings on the subject are ambiguous, supporting no definitive conclusions. It is clear, however, that the decision to use nuclear weapons at sea is not within the purview of authority of a naval commander, but has been reserved unto the supreme high command. As with all other aspects of Soviet wartime strategy, the potential contribution of such use to the course of the land battle will greatly influence the decision-making process. It may be assumed, however, that the Soviet Union will resort to the use of tactical nuclear weapons when it would be clearly to their advantage to do so.

The United States Navy and Nuclear Weapons

The United States Navy is capable of sustained, worldwide power projection. Aircraft carrier battle groups, with the attendant array of surface escorts, supported by a mobile logistics chain of fast replenishment ships, are the relocatable "bases" from which foreign policy can be reinforced. A technologically superior but largely outnumbered submarine force provides the most reliable and survivable leg (SSBNs) of the strategic deterrent triad, and the 100 nuclear attack submarines represent the most credible threat to the Soviet fleet and the homeland coastal regions. In addition to that powerful sea-based strike capability, an amphibious task force is deployed in each theater, capable of vertical assault or conventional landing of

Marines over the beach. To protect the carrier battle groups and the amphibious forces, SSNs and land-based maritime patrol aircraft, cued by networks of acoustic sensors, comprise the outer barrier to attack by Soviet missile and torpedo-firing submarines.

Clearly, the United States Navy enjoys an advantage in conventional war-at-sea capability. It is not until tactical nuclear forces are compared that the U.S. Navy and Soviet Navy begin to diverge in firepower. The American navy tactical nuclear weapons magazine has been sadly neglected and has been reduced to an array of old and aging missiles, bombs, ASW rockets, and depth bombs. The nuclear version of the TOMAHAWK Land Attack Missile (TLAM/N), newly deployed in SSNs and in surface ships, has restored some punch to the theater nuclear weapons arsenal, but suffers an unpredictable life expectancy in the hands of arms reduction negotiators. The nuclear variant of sea lanes, the ASW standoff weapon, has had several false starts, each aborted early in development.

Only minimum consideration has been given to equipment and personnel protection in the design and construction of ships for operations in a nuclear contaminated environment. Tactics for existing weapons are adequate and are exercised sufficiently to maintain proficiency. Missing is the professional commitment and constant readiness to use tactical nuclear weapons so thoroughly ingrained at all levels of the Soviet naval leadership. Based on the apparent asymmetries in weaponry, training, and attitude, the U.S. Navy appears ill-prepared to fight a nuclear war at sea.

POSSIBLE FIRST USE OF NUCLEAR WEAPONS AT SEA

With the above discussion as background, the circumstances and possible motivations for initial use of nuclear weapons at sea by either the United States or the Soviet Union can be explored.

Use by the United States Navy

For the U.S. Navy, authorized initial use of tactical nuclear weapons, except as a consequence of a major nuclear exchange, is not credible. With regard to unauthorized use by a naval commander, it is assumed that it is physically possible for the commander to execute a launch without receiving additional vital data from the National Command Authority (NCA), and that any transmission from the NCA consists only of authorization for use. Several authors express concern that conventionally fought battles may reach situations where a commander would be faced with the loss of his ship or even of a major task force on a key mission unless nuclear weapons were used against opposing Soviet forces. They then postulate that collusion among the several personnel in the independently structured channels could lead to a launch of nuclear weapons without NCA authorization.

This postulate is rejected on two counts. First, the potential hazard of collusion between individuals for unauthorized launch has been recognized from the very first deployment of nuclear weapons. Monitoring of personnel involved in nuclear weapons and in the command and control structure is exceedingly stringent in order to reduce this risk to very low proportions. The naval ethic reinforces this adherence to duty, and there can be no one in these positions who has not fully accepted that it is extreme dereliction of duty to agree to such a course.

Secondly, adherence to duty would have to be overcome in a battle situation where decisions to be derelict would, of necessity, have to be made in a very short time to allow effective use of nuclear weapons. Furthermore, this would require that all the personnel involved be of like mind. These circumstances further reduce the probability that this unauthorized use scenario would be credible unless there had been collusion

by all parties well in advance to the specific situation that caused the stress, thereby rendering the parties liable to prior detection.

Use by the Soviet Navy

For the Soviets, unauthorized use is not credible under any circumstances because of their well-attested insistence on complete, centralized, and fully effective control of all actions associated with nuclear weapons. This mode of operation is consistent with the Soviet NCA, which exercises physical control of launch, beyond merely authorizing such action. If this assumption is correct, then unauthorized launch is physically impossible.

Four cases have been identified wherein the Soviets might authorize initial use of nuclear weapons at sea without association with a general nuclear exchange. The scenarios are not associated with specific support of a land-based operation, which has been deemed by some authors to be a necessary condition for initial use. The scenarios are hypothetically possible in that they do not contradict what can be inferred about Soviet policies and modes of operation. In the first two cases, the risk of nuclear retaliation against the Soviet homeland is not negligible, but it is accepted because of the great potential changes in the strategic balance. In the other two cases, the risk is judged to be minimal because the collateral damage is negligible and the homelands of the West are not attacked.

The first case is based upon a U.S. attack on Soviet ballistic missile submarines. These ships, particularly the newer classes carrying very long-range missiles, are considered to constitute the naval portion of the Soviet strategic reserve. Thus, their survival is one of the key elements in the ability to threaten the United States and control or limit damage to the Soviet homeland. The protection of this reserve is probably the principal mission of the Soviet Navy (at least at present). The SSBN forces are deployed in sea "bastions," for example, the Barents Sea and the Sea of Okhotsk, which are immediately adjacent to the Soviet Union and are largely land-locked, and where they can be best defended against U.S. attack submarines. United States maritime strategy calls for attack upon Soviet naval forces "wherever they are located." Soviet SSBNs are prime targets. United States attack submarines are designed to be exceedingly stealthy and to have exceptional detection capabilities against other submarines. Attacking Soviet SSBNs in the bastions, using nonnuclear weapons, is a major task for U.S. naval forces. The probability for success of such a U.S. attack, now and in the future, must always be uncertain, but the quality of U.S. technology is sufficiently high that Soviet leaders cannot have complete assurance that the U.S. forces would not be highly effective.

Should other Soviet forces, for example, the new land-mobile missiles, be deemed survivable, and thus provide an alternative secure strategic reserve, the threat of destruction of a large part of the Soviet SSBN force might be accepted by the Soviet leaders. However, if Soviet SSBNs continue to constitute an essential fraction of the reserve, then extreme measures would become acceptable to Soviet leaders.

If this chain of argument is accepted, then first use of nuclear weapons at sea by Soviet forces would be accepted as essential, despite any risk of retaliation with nuclear weapons, even against the Soviet homeland. However, it is not clear that the employment of nuclear weapons would be of such benefit that their use would be the deciding factor against U.S. attack submarines operating inside the Soviet sea bastions. Indeed, such use might even threaten the Soviet SSBN force because the attackers and the targets could be intermingled and the principal difficulty would be the detection of the attacking submarines, whatever weapons were used against them.

Although the importance of Soviet SSBNs would seem to justify first use of nuclear weapons (if they could provide a successful defense), as long as an absolute operational need for nuclear weapons is not met their use would not be credible, even to respond to successful attacks against key Soviet nuclear targets.

Clearly, in this case it is vital to recognize that the operational inability of current Soviet nuclear weapons to produce a specific result would be the determinant, and this condition, not Soviet policies, would inhibit nuclear weapons use.

The second case is founded on the premise that simultaneous destruction of a major portion of the American SSBN force would alter the strategic balance strongly in favor of the Soviets.

The primary problem for the Soviets would be locating the majority of SSBNs deployed at sea. The use of (possibly large) nuclear weapons, however, might allow a successful attack with less accurate locating data and, perhaps, with a greater variety of delivery vehicles. For example, although coordination could be a considerable problem, it might be possible to use ballistic missiles, possibly even ICBMs. If this attack were operationally feasible, the risk of nuclear retaliation against the homeland might be accepted by the Soviet leadership partly because the loss of the force would weaken the U.S. strategic position. The issue, thus, is not primarily whether this first nuclear use at sea is one that would be considered by the Soviet leadership, but whether such an attack could be executed.

Targeting information, even the less accurate locations required with nuclear weapons, is not achievable at present and may never become so because methods of concealing submarines will continue to be improved even while methods of detection are being further developed. Therefore, this first use of nuclear weapons at sea is not now considered credible. Nevertheless, the relative standings of the technologies for concealment and location of submarines must be examined regularly to assess whether or not this conclusion will continue to hold in the future.

The third case may be illustrated by considering a U.S. task force, which includes one or more large aircraft carriers, pressing a nonnuclear attack towards or in the Norwegian Sea. Such an attack could include a nonnuclear attack upon Soviet air and sea nuclear assets in and near the Kola Peninsula.

Assuming that a successful ASW campaign had reduced the submarine threat to an acceptable level, such an attack would have a good probability of success against the inferior Soviet naval sea and air forces. If the nonnuclear battle progressed in favor of the Soviets, then no nuclear weapons would be used by either side. However, if the U.S. were succeeding, for the following reasons, there could be a clear case for Soviet first use of nuclear weapons:

(a) Most importantly, the probability of U.S. nuclear retaliation against the Soviet homeland could be judged to be minimal because there would be no attack on any Western home territory, there would be no collateral damage, the battle would take place in international waters, and only military targets and personnel would be involved. Thus, the Western leadership would be faced with the dilemma of responding with a nuclear attack that would not run the risk of escalating to a general nuclear exchange without further clear provocation by the Soviets.

(b) The Soviets would be defending their own nuclear assets and retaining what they regard as key to successful termination of a conflict. This is perhaps particularly true if the Soviet SSBNs were threatened.

(c) The U.S. task force, and particularly the U.S. aircraft carriers, would present a particularly lucrative target for Soviet nuclear weapons.

There are no clear, overriding reasons why this Soviet first nuclear use at sea would not be probable. It is, after all, probably less provocative than NATO first use of nuclear weapons to counter a successful Soviet nonnuclear attack in Western Europe, and that option has been repeatedly enunciated by a succession of Supreme Allied Commanders, Europe.

The fourth and final case is based on the observation that in recent Soviet naval ship construction, investments are being made that are difficult to understand unless it is assumed that the Soviet Navy has long-range plans to confront the U.S. Navy on its own grounds and to emulate the U.S. Navy's strategy of worldwide power projection.

If Soviet construction continues along this line, in the long run it is possible that the Soviets would be able to fight a nonnuclear naval war with reasonable prospects of winning. However, until and unless this happens, there is the hazard that a head-to-head confrontation will occur but that the Soviet Navy will continue to be inferior in conventional naval arms and will be defeated unless it resorts to nuclear weapons. Certainly, the Soviet naval deployment of nuclear weapons is massive in terms of both types of weapons and the number of ships that can, and probably do, carry them as a routine matter. Then, given the conventional weapons inferiority of the Soviet Navy and its massive capability in nuclear weapons, the question arises if there is acceptance of the need to avoid massive head-to-head naval warfare or a belief that the use of nuclear weapons will be authorized when required to turn the tide of battle.

A prerequisite for general Soviet naval first use, without the threat to important Soviet nuclear assets, might be that the probability of nuclear retaliation against the Soviet homeland must be even less than postulated in a previous case. Therefore, it would appear to be possible only if the conflict were quite remote from both homelands or remote from any major inhabited countries. The Pacific, Antarctic, and Southern Indian Oceans might satisfy these requirements. Another requirement would surely be that the stakes would be high and that major U.S. or Soviet forces would be involved so that the balance of forces would be significantly affected by the outcome. It is improbable that the Soviet leadership would resort to the first use of nuclear weapons in this case. Unfortunately, the postulated circumstances could arise, particularly if a nonnuclear war became prolonged and where a specific confrontation reached the necessary level in Soviet eyes. Thus, this case cannot be excluded from U.S. naval planning.

To summarize, the first two cases indicate possible considerable incentives for Soviet first use in principle but, at present, nuclear means do not appear practicable. The practicability could change and these cases need to be reconsidered as circumstances change. The third case offers considerable Soviet advantage because it would probably influence the nuclear balance to a significant degree. The risk of retaliation would probably be small and would be limited in any event. The last case offers the smallest Soviet advantage, and the need for the use of nuclear weapons could disappear if the Soviet Navy continues to develop its conventional weapons capabilities. Thus, it is currently the weakest case and should become even weaker in the future; it does not deserve intense examination. Hence, only one of these cases, the third, indicates that the possibility of Soviet first use cannot be dismissed at the present time.

IMPLICATIONS FOR U.S. MARITIME STRATEGY

If the postulated conclusions are valid, what might be the impact on U.S. maritime strategy? That strategy is based largely on the assumption that should deterrence fail, the Navy would be involved in a prolonged, conventional war, and that, based on analysis, the Soviets would be unlikely to initiate nuclear war at sea under any circumstances. That assumption is probably supportable, but inevitably contains a strong element of judgment that cannot be verified unequivocally.

Even if the odds in favor of the basic assumption were so overwhelming as to create a high degree of confidence, should not the bet be hedged by reducing the fraction of U.S. naval power that is dependent on its correctness? The stakes are much too high to gamble so completely on an analysis that is far from a consensus. The U.S. Navy could be seriously at risk in a nuclear war at sea. Prudence would dictate a more conservative "belt and suspenders" stance.

Two initiatives appear to be fundamental:

- First, independent of any other actions, U.S. naval ship design should provide the best chance of surviving a nuclear attack and retaining a fighting capability. In addition to robust hulls, effective decontamination features, personnel "citadels," and the like, combat systems and weapons must be

capable of withstanding electromagnetic pulse bombardment and be sufficiently rugged to survive shock and still function.

- Second, and perhaps more important, the steady slide away from development and deployment of naval tactical nuclear weapons should be reversed. Restoration of a credible U.S. naval theater-nuclear-weapon deterrent is essential and might very well provide incentive for arms control reductions in these weapons. Currently, the gross imbalance provides no incentive for the Soviets to negotiate. A commitment by the national leadership, and thus, U.S. nuclear commanders, would be necessary to reinforce the perception that the deployment was real and not simply another drain on naval resources to no useful end.

It is time to assess the posture and readiness of the U.S. Navy to support national objectives in a nuclear war, should such a conflict occur. Despite the current climate of "denuclearization," a re-examination of this sensitive and emotional issue may raise the level of concern and apprehension. Initiatives to correct what appears to be de facto unilateral nuclear disarmament will run counter to the current trend and will require courage to propose and support.

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