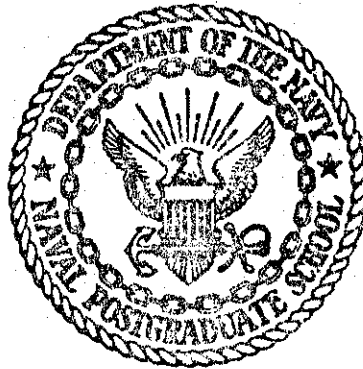


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## THESIS

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 NAVAL OBJECTIVES IN  
 SALT I, SALT II, AND START  
 by  
 Beth Harrell Papworth  
 March 1984

Thesis Advisor: D. Yost

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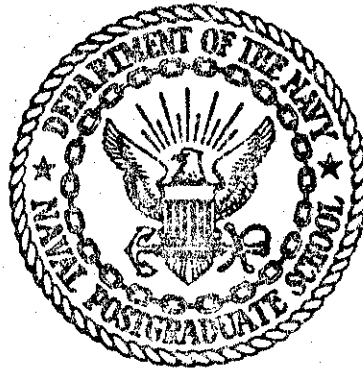
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An Evaluation of Soviet Strategic Naval Objectives  
in SALT I, SALT II, and START

by

Beth Harrell Papworth  
Lieutenant, United States Navy  
B.S., James Madison University, 1977

Submitted in partial fulfillment of the  
requirements for the degree of

MASTER OF ARTS IN NATIONAL SECURITY AFFAIRS

from the

NAVAL POSTGRADUATE SCHOOL  
March 1984

Author:

Beth H. Papworth

Approved by:

David Yost

Thesis Advisor

[Signature]

Second Reader

Sherman W. Rader

Chairman, Department of National Security Affairs

Vernon T. Marshall

Dean of Information and Security Sciences

## ABSTRACT

This thesis evaluates probable Soviet naval strategic objectives in SALT I, SALT II, and START by examining Soviet arms control proposals and naval strategic force levels during each negotiation. Naval-related provisions of the SALT treaties and subsequent Soviet arms control proposals are examined at length. Additionally, Soviet naval writings are analyzed to identify U.S. strategic forces that were perceived by the Soviets as especially threatening. The thesis concludes that, while the Soviet Navy's strategic strike role is secondary to the role played by the Strategic Rocket Forces, the Soviet Navy nonetheless fulfills unique strategic missions. Soviet negotiators have repeatedly sought arms control treaties that allow for maximum modernization and expansion of the Soviet strategic navy, while imposing maximum restrictions on the U.S. strategic forces.

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## I. INTRODUCTION

In June 1971, almost a year before the Interim Agreement on Limitation of Strategic Offensive Arms and the Treaty on the Limitation of Anti-Ballistic Missile Systems were signed, Leonid Brezhnev stated,

The decisive factor for the success of these talks is strict observance of the principle of equal security for both sides, renunciation of attempts to secure any unilateral advantages at the expense of the other side. [Ref. 1: p. 240]

The phrase "equal security" has become a perennial Soviet catchword in U.S.-Soviet arms control (and general East-West) negotiations, and apparently applies to much more than mere numerical limits established in a treaty. John Erickson writes that the Soviet strategic build-up prior to the completion of the 1972 agreements were necessary to attain "rough strategic parity" with the United States [Ref. 2: p. 23] and therefore negotiate force levels that allowed Marshal Grechko to declare in 1973,

The Soviet Army and Navy have the requisite number of all modern means of warfare. In terms of their qualitative indicators the majority of them are not only equal to but in a number of cases surpass the weapons and equipment used by the armies of the imperialist states. [Ref. 3: p. 552]

Erickson writes that "'equal security' must mean exactly what it says, so that a build-up of military capabilities is not inconsistent with this stance." [Ref. 2: p. 23] The

military policy that guarantees Soviet security seeks to deter war, and "should deterrence fail--to survive (and even, conceivably, to win) a nuclear war." [Ref. 2: p. 24] Therefore, the Soviets seek arms control agreements that allow the U.S.S.R. to maintain adequate defensive, as well as offensive forces to ensure such security, and U.S. analysts of arms control must be mindful of Soviet strategic doctrine. [Ref. 4]

Soviet spokesmen have indicated that unequal numbers in an arms control agreement are not inconsistent with "equal security." In response to U.S. Congressional displeasure at the unequal force levels established in the Interim Agreement, a prominent Soviet writer stated,

...many experts in the United States acknowledge that the concept of equal security certainly does not imply equal numbers of individual nuclear missile delivery systems... [Ref. 3: pp. 551-552]

A Soviet radio commentator stated that the 1972 agreements

...do not give the one or the other state military superiority. In setting the number of ICBMs [intercontinental ballistic missiles] and submarines, they take into careful consideration the geographic position of both countries and some other factors. [Ref. 5: pp. 19-20]

Several "factors" which supposedly favored the U.S. were repeatedly raised by Soviet negotiators during the Strategic Arms Limitation Talks (SALT) of the 1970's, and continue to plague arms controllers in the 1980's. These issues included U.S. medium range bombers based in Europe, U.S. nuclear powered ballistic missile submarine (SSBN) bases overseas,

U.S. aircraft carriers operating within striking range of the Soviet Union, strategic forces operated by U.S. allies in Europe (specifically, French and British SSBNs), and U.S. technological leads. Each of these issues will be examined briefly in this thesis.

Understanding the basic Soviet demand of equal security will facilitate analysis of Soviet goals in arms control negotiations. This thesis represents an attempt to predict the treaty provisions concerning strategic naval weapons that the Soviets will be most likely to accept in the Strategic Arms Reductions Talks (START); these proposals will be a function of Soviet strategic naval programs deployed and under development, the internal Soviet strategic division of labor, and U.S. strategic systems which the Soviets perceive as especially threatening, and many other factors.

In order to understand present and future arms control negotiations, it is necessary to examine the SALT negotiations from 1969 to 1979 and the resulting agreements. The SALT I process culminated in May 1972 with the Anti-Ballistic Missile Treaty and the Interim Agreement for the Limitation of Strategic Offensive Arms. The SALT II negotiations produced a treaty, a protocol, and a statement of principles for SALT III. The SALT II treaty was to limit strategic arms through 1985; despite the fact that neither the U.S. Senate nor the Supreme Soviet ever ratified the

treaty, its provisions still influence strategic decisions in the United States and the Soviet Union. The negotiation processes that resulted in these treaties may be helpful in understanding the Strategic Arms Reductions Talks in the 1980's, and analysis of previous Soviet military and diplomatic actions and negotiating proposals should contribute to realistic predictions of Soviet behavior in the 1980's.

This thesis will examine SALT I and SALT II negotiations in detail, as well as Soviet and U.S. naval developments during this period. A comparison of U.S. and Soviet strategic force levels, construction and modernization programs, and technological developments during the negotiations will help to explain the final numerical limitations imposed by the agreements.

The Soviet Navy's strategic role has changed considerably since the time SALT I negotiations began in Helsinki in November 1969. The navy's evolving strategic role, and its position vis a vis the Strategic Rocket Forces, must be considered when analyzing naval objectives in arms control. Additionally, Soviet naval concern over certain U.S. strategic systems, revealed in Soviet naval writings throughout the 1970's and early 1980's, highlights which U.S. systems the Soviet Navy has been most interested in constraining through arms control.

The methodology used in this thesis has at least one obvious flaw. The Soviet Navy had only a few obscure advisors serving with the Soviet SALT delegations, so Russian proposals concerning naval systems may well represent compromises worked out within the Soviet General Staff or Ministry of Defense instead of accurately reflecting Soviet naval preferences. The final provisions of the SALT I Interim Agreement and the SALT II treaty can nevertheless be examined for their impact on the Soviet Navy and significant restraints they place on the U.S. Navy.

SALT II included a Statement of Principles that set guidelines for future negotiations, and Soviet proposals in START have followed many of the same patterns exhibited in SALT negotiations. Specifically, several systems which were briefly constrained through the SALT II Protocol were also candidates for restraint in early Soviet proposals in START. A comparison of U.S./Soviet strategic force levels in the early 1980's and a projection of force levels for the next five years, combined with Soviet naval and General Staff writings on U.S. strategic systems and arms control priorities, provide the framework for the final objective of this thesis--a projection of Soviet objectives in START, specifically concerning strategic naval systems. Such a projection is essential in formulating U.S. proposals in START.

## II. EVALUATION OF SALT I

In early 1967, President Johnson and Prime Minister Kosygin exchanged their first official correspondence reflecting their intentions to limit "the arms race in offensive and defensive nuclear missiles." [Ref. 6: pp. 90-91] SALT I was not to gain momentum until several months after President Nixon's inauguration, however, and the first official meeting between the U.S. and Soviet SALT delegations was not held until November 1969 [Ref. 7: p. 75]. These negotiations were not to be completed until May 1972.

### A. STRATEGIC FORCE LEVELS

In November 1969, the Soviets were believed to have the following force levels (each figure refers to a single launcher):

- 1140 ICBMs operational
- 380 ICBMs under construction
- 185 SLBMs operational
- 175 SLBMs under construction [Ref. 8: p. 24]

In contrast, the United States had 1054 intercontinental ballistic missile launchers and 656 submarine launched ballistic missile launchers operational, with no new units under construction [Ref. 9: p. 10]. The Soviet Union had embarked on a qualitative and quantitative strategic force build-up following the Cuban missile crisis in 1962; the

evidence of this effort was obvious by the late 1960's, and was to continue through the late 1970's [Ref. 10: pp. 50-53]. The United States, on the other hand, had completed a numerical increase in its strategic forces which had begun in 1960-61, and would remain at these figures for the next decade. A qualitative modernization of U.S. forces was just beginning, however, with the replacement of MINUTEMAN I ICBMs with MINUTEMAN III missiles equipped with multiple, independently targetable reentry vehicles, or MIRVs, and POLARIS SLBMs with MIRVed POSEIDON missiles. [Ref. 7: p. 79]

The Soviet Union's first generation SLBM, the SS-N-4, was deployed on ZULU V class diesel submarines in 1958; this missile had to be fired with the submarine surfaced, and had the relatively short range of 350 nm. The SS-N-4 was also deployed on GOLF SSBs and HOTEL SSBNs in the late 1950's and early 1960's. [Ref. 10: pp. 93-94] By the time the SALT I Interim Agreement was signed in 1972, the ZULUs were out of operation, and seven HOTELS and about half the GOLFs had been equipped with the SS-N-5 SLBM; this improved missile could be fired with the submarine submerged and had a 750 nm range [Ref. 11: p. 582, and Ref. 12: p. 107]. GOLFs and HOTELS began regular open ocean patrols in 1966 with normal patrol areas in the Atlantic west of the Azores and east of Nova Scotia, and in the Pacific west of Hawaii [Ref. 10: pp. 95-96].

The most modern naval strategic platform in the Soviet inventory during the SALT I negotiations was the YANKEE SSBN which was armed with 16 SS-N-6 launch tubes. This missile was first tested in 1967, had a range of 1300 nm, and the first YANKEE patrol in the Atlantic along the U.S. coast occurred in late 1969. YANKEEs commenced continuous patrols in the northeast Pacific in 1970. [Ref. 10: pp. 96, 106-107] By May 1972, 29 YANKEEs were believed to be operational [Ref. 6: p. 22]. A modified GOLF, designated the GOLF IV and equipped with four launch tubes, served as the SS-N-6 testbed [Ref. 13: p. 92].

During 1969 a new naval missile, later designated the SS-N-8, was test fired to a range in excess of 3000 nm [Ref. 10: pp. 106-107, and Ref. 14: p. 52]. By the time this missile was deployed on the first DELTA I SSBN in 1973, it was confirmed that the SS-N-8 actually had a range of 4200 nm; some analysts have speculated that the Soviets deliberately held testing of the missile to a shorter range prior to the signing of the treaty in order to gain maximum concessions from the U.S. in naval limitations [Ref. 15: p. 33]. A modified GOLF, designated the GOLF III, and a modified HOTEL, designated the HOTEL III, were each equipped with six launch tubes and apparently served as test-beds for the SS-N-8 [Ref. 16: pp. 90, 92].

In comparison, U.S. naval strategic forces in the early 1970's consisted of five GEORGE WASHINGTON SSBNs and five



ETHAN ALLEN SSBNs, each armed with 16 POLARIS A-3 SLBMs (equipped with three multiple reentry vehicles, or MRVs, and having a range of 2500 nm), and 31 LAFAYETTE SSBNs. The LAFAYETTES were in the process of being converted from POLARIS SLBMs to the POSEIDON SLBMs; ten were scheduled to have completed conversion by the end of 1972, with the remaining 21 expected to be converted by the mid-1970's. [Ref. 11: p. 411, and Ref. 17: p. 42] The POSEIDON C-3 SLBM was equipped with 8-10 MIRVs, and had a range in excess of 2000 nm [Ref. 17: p. 118].

Although other NATO countries were not constrained by or represented in SALT I, the Soviets were quite mindful of the potential threat posed by French and British SSBNs. By 1972, Britain had four RESOLUTION SSBNs operational, each equipped with 16 POLARIS A-3 missiles, and France had completed one of five planned SSBNs. The operational SSBN was armed with 16 French M-1 SLBMs with a range of 1900 nm. [Ref. 11: pp. 103, 341]

#### B. SOVIET NAVY'S STRATEGIC ROLE

The Commander in Chief of the Soviet Navy, Admiral Sergei Gorshkov, stated in 1967 that

Along with the Strategic Rocket Troops, the Navy has become a most vital means of the Supreme High Command capable of exerting a decisive influence on the course of armed conflict in theaters of operations stretching over vast areas. [Ref. 18: p. 53]

As this statement coincides with the first successful tests of the SS-N-6, it appears that the YANKEE, rather than previous platforms with shorter range missiles, enabled Gorshkov to make this claim.

While it is undisputed that the YANKEE significantly enhanced the strategic role of the Soviet Navy, there is some question as to the original mission of this submarine. The research of at least two strategic analysts, Berman and Baker, suggests that

Strategic defense was the Navy's main mission when the YANKEE class SSBN was developed and it continued to be a very high priority into the 1960s. As a result the submarine may have been intended as a platform for launching tactical ballistic missiles. The SS-N-6 is similar to the experimental SS-NX-13 tactical SLBM, which the USSR may have intended to deploy on the YANKEE class submarine. This missile...would have presented a severe threat to the survivability of Western aircraft carriers....The SS-NX-13, however, was never deployed... [Ref. 10: p. 129]

Whatever the original intentions were for the YANKEE, it provided the Soviet Navy with its first modern intercontinental strike capability, and allowed the older GOLF and HOTEL class ballistic missile submarines to be returned to the mission for which they were best suited--regional patrols.

When the YANKEE first became operational, however, Berman and Baker write that "institutional resistance," presumably by the Strategic Rocket Forces, "to the growing strategic role of the Navy appears to have limited its coverage to coastal areas." [Ref 10: p. 130]

From there it could strike U.S. SSBN support and communication facilities; major U.S. home fleet centers such as New London, Mayport, Norfolk, and San Diego; and most important, the U.S. SSBN base at Charleston. Such strikes would be an extension of the Navy's traditional priority of combating the enemy's fleet, and attacks on major American ports would be a direct means of disrupting the enemy's sea lines of communications. (emphasis added) [Ref. 10: p. 130]

Berman and Baker continue that another, less traditional strategic target for the YANKEE may have been "various American command-and-control centers...particularly those [Strategic Air Command bases] capable of launching and re-targeting the MINUTEMAN ICBMs." [Ref. 10: p. 130]

James McConnell has researched Soviet writings and has arrived at a slightly different interpretation of the Soviets' early strategic "division of labor." He writes that

In the early 1960's, when intercontinental ballistic missiles were first introduced, a division of labor was planned for land- and sea-based strategic launchers. Both the strategic missile troops and the navy's missile submarines would hit coastal targets. However, only the missile troops, supplemented by long-range aviation, would take part in the initial strikes against the interior. A portion of the sea-launched missiles capable of these strikes would be withheld as a strategic reserve.

This decision was very shortly reversed; after 1962 the doctrine of withholding forces was scorned, perhaps on the grounds of the poor survivability of early submarine platforms, coupled with the urgent demand for initial-strike (first-echelon) forces...Criticism was voiced of "attempts to protect forces for the future, while rejecting their correct use in the present." [Ref. 19: pp. 45-46]

McConnell also writes that, "At the beginning of 1966, on the eve of the deployment of the Soviet navy's YANKEE class,

strategic operations against the interior, were, for the first time, declared first-priority..." [Ref. 19: p. 45] This interpretation would suggest that the navy was allowed a strategic strike role beyond traditional naval, coastal targets.

Norman Friedman provides yet another interpretation of the YANKEE's strategic role. Writing about the 1960's when the YANKEE was under development, Friedman states

It seems noteworthy that, at the time, Admiral Gorshkov referred to these submarines as a reserve force, to be used in late-war bargaining after the expenditure of the land-based weapons, i.e., as a supplement to the SRF.... The YANKEEs would be retained in holding areas for most of the war, and would face greatly weakened U.S. ASW [anti-submarine warfare] defenses once they had to reach operational areas. Indeed, the SRF might see in the modest range of the YANKEE missile a guarantee of continuing supremacy as the primary arm of Soviet "strategic" warfare. [Ref. 20: p. 170]

Commander Robert Herrick conducted extensive analysis of Soviet military writings between 1955 and 1980 in order to "determine if the U.S.S.R. had a protracted SSBN withholding strategy." [Ref. 21: p. v] His findings for the period between 1961 and 1971 include the following observation:

...20 pieces of data...appeared to indicate that the Navy had been given a modest share in the initial "mass nuclear strikes" but only against major naval combatants that might be surprised in port. In addition, the SSBN force were to serve as a reserve, [a] backup to the SMF [Strategic Missile Forces] for deferred-strikes if the latter required help. The very fact of the SSBN force not having been given a major share in the deep strike indicated, at least, that any SSBNs not used for deferred strikes would remain in a protracted-withholding mode. [Ref. 21: p. 101]

While the exact strategic role of the YANKEEs in the late 1960's and early 1970's can never be known for sure, it seems likely that the following scenario was envisioned: during the initial strike, any YANKEEs on station in the western Atlantic or eastern Pacific would attack strategic, coastal targets (U.S. naval surface and SSBN bases, and possibly SAC bases and command and control sites); any YANKEEs remaining at Northern Fleet or Pacific Fleet home-bases would be deployed for safety, and could participate in coastal strikes against Europe or Asia (especially forward U.S. bases) or be withheld as strategic reserves; if Western ASW defenses were sufficiently weakened, YANKEEs could attempt to reach forward stations off the U.S. coast and conduct follow-up strikes.

The introduction of the longer-range SS-N-8 into the Soviet fleet in the early 1970's would strengthen the navy's strategic role and exacerbate any dispute which may have existed between the SRF and the navy in the 1960's concerning intercontinental strategic responsibility. This will be dealt with in the chapter concerning SALT II.

#### C. SOVIET NAVAL REPRESENTATION IN SALT

Throughout SALT I and SALT II, the only designated naval representatives involved in the negotiations were three naval officers that served as advisors to the primary Soviet delegation. These officers were Vice Admiral Petr V.

Sinetskiy, a former submariner; Rear Admiral Mikhail A. Kovaleskiy; and Captain First Rank Anatoly N. Mazerkin. All three presumably represented the navy's interests concerning ballistic missile submarine limitations. [Ref. 22: p. 241]

Although SSBNs are subordinated to the navy in peacetime, for strategic operational purposes, at least those submarines equipped with intercontinental range missiles probably fall under the control of the General Staff [Ref. 22: p. 30, and Ref. 10: p. 11]. Consequently, General Staff officials involved in SALT probably spoke for the Soviet Navy. As Thomas Wolfe writes, "Presumably, one of the functions of the delegation principals and advisers from the General Staff has been to watch over the corporate interests of the Soviet military." [Ref. 5: p. 69]

First deputy chief of the General Staff Colonel General Nikolai V. Ogarkov was "clearly the most important figure of the Soviet delegation" during initial SALT I negotiations, though he was officially ranked second behind the Foreign Ministry representative, Vladimir Semenov [Ref. 6: pp. 52, 212]. Ogarkov had previously served as an Army Engineer and military commander, and his political and further military advancement to become Chief of the General Staff necessitated his absence from negotiations after 1971 [Ref. 7: p. 46]. Colonel General Nikolai Alekseyev, also representing the General Staff, participated in four SALT I sessions

before becoming Deputy Minister of Defense; his specialties apparently included weapons research and development and electronics [Ref. 7: p. 48].

Lieutenant General Konstantin Trusov replaced Ogarkov and Alekseyev as the defense representative in 1971. His General Staff responsibilities apparently included weapons research and development, as well as strategic early warning. [Ref. 7: p. 49] Additionally, Alexandr Shchukin, the Soviet scientific representative, was an authority on defense research, "had worked on missile accuracy and guidance systems...and submarine communications problems." [Ref. 7: p. 47] Petr Pleshakov, the defense-industry representative, was a specialist in radar and radio engineering [Ref. 7: p. 48]. Military advisors were also present from the strategic branches (SRF, Long-Range Aviation, and PVO-Strany Air Defense, as well as navy) of the Soviet military [Ref. 22: p. 241].

In May 1972 Deputy Prime Minister Smirnov played an active role in the negotiations during the Moscow summit when the final limitations of SEBNs and SLBMs were agreed. Smirnov was chairman of the Military-Industrial Commission, "a Party-state organization in charge of all defense industries," particularly defense production capabilities. [Ref. 23: pp. 1233-34, and Ref. 22: p. 176] While the most important issues concerning naval limitations were discussed

between high ranking officials, including President Nixon or Henry Kissinger for the United States and General Secretary Brezhnev and Foreign Minister Gromyko for the Soviet Union, Raymond Garthoff believes that "the key Soviet decisions on entering SALT and all major positions in SALT are determined by the Politburo," and not by any one individual [Ref. 8: p. 29]. The degree of consultation with naval officials is unknown.

In summary, Garthoff concludes,

Soviet military participation in SALT planning and decision-making, and in the actual negotiations, has been active and vigorous at all levels. The effect of this active role has probably been to exert a conservative and cautious influence on Soviet positions, but it has not precluded reaching a number of significant agreements. [Ref. 8: p. 29]

#### D. U.S. NAVAL SYSTEMS TO BE CONSTRAINED IN SALT I

By the early 1970's, U.S. naval planners were moving quickly ahead with plans for the development and deployment of the MIRVed TRIDENT SLBM and a TRIDENT SSBN which could fire 24 of the new missiles. The new SLBM was credited with a potential range of 4500 nm, doubling the range of the then-current POLARIS A-3 and new replacement POSEIDON SLBMs, and vastly increasing the ocean area in which the SSBNs could hide from Soviet ASW efforts. [Ref. 6: pp. 23-24] In the early 1970's, there was a campaign underway, headed by the U.S. Navy, to accelerate the development of the TRIDENT system, either through the deployment of the new SLBM on



existing or new POLARIS/POSEIDON type SSBNs or moving the TRIDENT SSBN construction program ahead, enabling the first TRIDENT to join the fleet in 1978 [Ref. 6: p. 239].

This new U.S. system was to cause problems throughout the negotiations; according to Gerard Smith, head of the U.S. SALT I delegation,

Apparently the Soviet leadership did not at all like the prospect of an agreement which limited the Soviet SLBM force while the Americans started construction of TRIDENTs. It was reported that a number of Politburo meetings were devoted to this issue. [Ref. 7: pp. 412-413]

He continues that Moscow was concerned about the TRIDENT SLBM regardless whether it was "deployed on POLARIS-type boats or on a wholly new submarine" as U.S. SLBMs were already vastly superior to similar Soviet systems [Ref. 7: p. 239].

A review of Soviet naval writings in the 1970-72 time period reveals extensive concern over modernization of the U.S. SSBNs with the MIRVed POSEIDON and the development of the longer range, MIRVed TRIDENT, as well as the increasing strategic role the SSBNs were receiving in the U.S. For instance, Rear Admiral Andreyev, a naval scientist, wrote in 1972,

At the beginning of the 1970's, a trend was evident towards a growth in the relative role of the Navy within the system of strategic nuclear forces...By 1975-76, the U.S. strategic nuclear forces will have 1,000 MINUTEMAN missiles with a total of 2,000 nuclear warheads, and 656 missiles aboard nuclear-powered submarines, including 496 POSEIDON missiles and 160 POLARIS A-3 missiles

carrying 5,440 nuclear warheads; that is, about 73% of the total number of nuclear warheads on strategic missiles. [Ref. 24: pp. 91-92]

Here, Andreyev apparently credited the POSEIDON with 10 reentry vehicles and the POLARIS with three RVs, even though the POLARIS triple warhead was not composed of independently targetable reentry vehicles.

Naval Engineer Yerofeyev also wrote in 1972 that the advantages of the TRIDENT's extended range (reported as between 4300 and 7000 nm) would allow American submarines

...to operate in the broad expanses of the Atlantic, Pacific, and Indian Oceans, reliably concealed from ships and aviation at a considerable distance from the shores of a probable enemy. The missiles could be launched from these submarines both when transiting the sea and when exiting from [their] own bases and even from points located along the shores of the American continent...The expansion of the operational zones of guided [ballistic] missile submarines sharply reduces the possibility of their detection and requires the enemy to devote a large number of ASW defensive forces and means to combat them. [Ref. 25: p. 51]

In addition to the Soviet Navy's problem of locating American SSBNs armed with these long range missiles, Admiral Stalbo also points out that sea-based missiles, fired from unknown locations, could "sharply reduce the capability" of Soviet anti-ballistic missile defenses [Ref. 18: pp. 54-55]. Naval Engineer Yerofeyev adds that MIRVs can also defeat ABM defenses; in addition to the maneuvers performed by each of the 10-14 reentry vehicles found on the POSEIDON, Yerofeyev explains that "upon separation of the last warhead, the vehicle housing again changes its trajectory to complicate

the work of the ABM means, and then explodes (thereby creating several false targets)." [Ref. 25: p. 53]

#### E. THE MIRV PROBLEM

Gerard Smith comments that "the most important asymmetry" during the period of SALT I negotiations "was in MIRVs....We were actually deploying MIRVed missiles during the negotiation. The Soviet Union had not even started to test them." [Ref. 7: p. 155] Thomas Wolfe amplifies this viewpoint by including the important consideration of American advantages in anti-ballistic missiles at this time.

...the fact that the United States seemed to be moving closer toward both ABM and MIRV capabilities while the Soviet Union itself had as yet only an inadequate ABM system and no MIRV at all, probably provided a strong incentive for Soviet readiness to begin strategic arms talks; to try to keep the United States from widening the advantages it might derive from these two salient strategic technologies. [Ref. 5: p. 8]

To underscore the technological asymmetry at that time between the U.S. and the Soviet Union concerning multiple warheads, developmental milestones can be compared. For instance, the U.S. Navy deployed three multiple re-entry vehicles, which disperse to strike a single target, on the POLARIS A-3 in 1964 [Ref. 17: p. 53]. The first U.S. MIRV tests, where multiple independently targeted warheads can be released at different times and angles to strike individual targets, were conducted in August 1968 [Ref. 5: p. 8]. The USS JAMES MADISON conducted its first operational SSBN patrol carrying the MIRVed POSEIDON in February 1971 [Ref.

11: p. 411]. In contrast, the Soviets did not begin testing MRVs until 1968, and the first Triplet SS-9 ICBM (so-named for its three MRVs) was not deployed until 1971 [Ref. 10: pp. 104-105]. A multiple warhead (MRV) version of the SS-N-6 was not tested until 1973 [Ref. 10: pp. 106-107], and similarly, Soviet MIRV testing was not to occur until August 1973, after SALT I was completed.

Because of this asymmetry over MIRV technology, it proved impossible to control multiple warheads through SALT I. As Thomas Wolfe phrased it in 1970, "One objective of Soviet policy presumably would be to steer clear of agreements which could have the effect of terminating Soviet efforts to overtake the United States in areas of military technology where the USSR still lags behind, such as MIRV..." [Ref. 27: p. 4] John Newhouse made the same point in 1973, "The record of thirty months of negotiation doesn't reflect the collateral Soviet concern about the American MIRV; Moscow was determined to develop the MIRV, not to talk about it." [Ref. 6: p. 167]

Henry Kissinger, in testimony before the Senate Committee on Armed Services concerning SALT I, summed up MIRV negotiations as follows:

Now, we have made two proposals...one is a ban on the testing of MIRV...and second, a ban on deployment of MIRV for which we asked for spot-checks on on-site inspection...The Soviet Union, for not understandable reasons, because they are behind in MIRV technology, refused a test ban. They also refused a deployment ban as such. What they proposed was a production ban but

without inspection. A ban on production is totally unverifiable in the Soviet Union while they could verify ours through our budget and other methods... [Ref. 14: pp. 136-137]

Gerard Smith summarized the Soviet position on a MIRV ban as not wanting to "appear to be opposing" it, but "if there was one, it must allow them to develop and test MIRV technology." [Ref. 7: p. 125]

#### F. SPECIFIC NAVAL ASPECTS OF SALT I

In order to fully understand the naval related negotiations that resulted in the SALT I Interim Agreement, it is helpful to examine the applicable provisions of the completed document. These can be summarized as follows:

Article III of the Interim Agreement: Modern ballistic missile submarines and SLBM launchers will be limited to the numbers operational and under construction as of May 26, 1972.

Protocol: The U.S. is limited to 710 SLBM launchers and 44 modern ballistic missile submarines. The Soviet Union is limited to 950 SLBMs and 62 modern ballistic missile submarines. Additional SLBM launchers over 656 for the U.S. and over 740 for the U.S.S.R. on SSBNs operational and under construction may become operational as replacements for equal numbers of older ICBM launchers deployed prior to 1964 or SLBM launchers on older submarines.

The deployment of modern SLEMs on any submarine, regardless of type, will be counted against the total level of SLBMs permitted.

Agreed Interpretations: For the duration of the treaty (five years) there will be no significant increase in the number of SLBM test and training launchers.

Dismantling or destruction of older ICBM or SLBM launchers in compensation for new SLBM launchers will be initiated at the time of the beginning of sea trials of a replacement submarine.

Unilateral Statements: Soviet Minister Semenov stated in May 1972 that, since the U.S. and its NATO allies had 50 SSBNs with 800 SLBM launchers operational or under construction (including 41 U.S. SSBNs with 656 launchers), these numbers would be acceptable during the interim freeze period. If the NATO allies exceeded the number of submarines operational or under construction as of May 26, 1972, however, the Soviet Union reserved the right to a corresponding increase in the number of its submarines.

Additionally, the Soviets believed that the question of strategic imbalance in the deployment of U.S. and Soviet SSBNs, especially the question of destroying American SSBN bases outside of the U.S., should be resolved in follow-on negotiations.

U.S. Ambassador Smith rejected the validity of this Soviet statement. [Ref. 7: pp. 503-515]

U.S. criticism of the Interim Agreement frequently focused on the unequal SSBN/SLBM allowances for the Soviet Union and the United States (as well as an unequal number of ICBMs operational and under construction at the time the freeze went into effect). At the time that the agreement was signed, U.S. intelligence estimates credited the Soviet Navy with 29 operational YANKEE SSBNs, in addition to the eight older HOTEL SSBNs and 22 diesel GOLF SSBs; an additional 13 platforms (later discovered to include the first of the DELTA SSBNs) were believed to be under construction [Ref. 5: p. 123]. Most U.S. critics argued that these 42 newer SSBNs (YANKEEs and DELTAs), especially when combined with the older HOTELS and GOLFS, evened out the U.S. and Soviet navies. The Soviets, however, argued that they should be compensated through higher forces for such factors as U.S. forward SSBN bases at Rota in Spain, Holy Loch in Scotland, and at Guam; geographical imbalances which allowed

U.S. SSBNs to transit relatively neutral waters, while Soviet submarines had to transit NATO-controlled choke points to reach their missile patrol areas; superior U.S. operating characteristics, such as MIRV; and finally, British and French SSBNs which also targeted the Soviet Union. [Ref. 7: p. 323]

The subject of U.S. forward bases plagued not only the naval negotiations, but also discussions on bomber force levels (which were ultimately excluded from the SALT I agreement) as numerous U.S. medium range bombers were stationed in Europe within striking range of the Soviet Union. This issue was so important to the Soviets that an entire article in the naval journal Morskoy Sbornik was devoted to condemning the U.S. forward base at Rota in 1971 (during the SALT I negotiations). Captain First Rank Knitnitskiy reminded his comrades that

In a statement by the Soviet government to the U.S. government on 27 October 1970 it was pointed out that "the maintenance of military bases on the territories of other states represents a most serious source of danger." [Ref. 28: p. 60]

He continued that "Since 1964, nine FBM [fleet ballistic missile] submarines of the 16th squadron, which patrols in the Mediterranean Sea and in the Atlantic, have been based in Rota." [Ref. 28: p. 61] Also in the naval journal, Rear Admiral Andreyev wrote in 1972 that "more than 7,000 U.S. nuclear weapons (bombs, missiles, and artillery

projectiles) and more than 3,000 nuclear weapons delivery vehicles are concentrated in Western Europe." [Ref. 24: p. 90]

The forward deploy ' threat is also extended to include the forces of other NATO countries. In 1971, Morskoy Sbornik started an information series on the capitalist navies. In an article on "guided-missile submarines", the ballistic missile threat is clearly portrayed as including not only the 41 American SSBNs, but also the four British units and the evolving French SSBN force [Ref. 29: p. 46]. Similarly, in an article on aircraft carriers, it is stated "there are 19 attack carriers in the navies of the NATO member countries (and France)." [Ref. 30: p. 70] The article also acknowledges that

Although the aircraft carrier forces were taken from the strategic category and added to the general-purpose naval forces as a result of the extensive deployment of the POLARIS submarine nuclear-missile system, they are regarded as highly trained strategic reserve [to be used] in an all-out nuclear war. [Ref. 30: p. 70]

In Vienna during round two of SALT in 1970, the Soviets tabled a proposal that clarified their feelings about U.S. forward based systems. According to Smith,

It called for limitations on strategic offensive armaments, defined as those capable of striking targets within the territory of the other side, regardless of where these armaments were deployed. Forward-based delivery systems in a geographical position to strike such targets should be destroyed or moved out of range. [Ref. 7: pp. 123-124]



This last provision apparently applied to the withdrawal of U.S. aircraft carriers and SSBNs from patrol areas within striking distance of the Soviet Union and the destruction of American overseas bases near the Soviet Union [Ref. 7: p. 127]. After the U.S. rejected this proposal, the next Soviet suggestion called for "partial withdrawal plus compensation in the form of a higher ceiling on ICBMs and SLBMs for the Soviet Union." [Ref. 7: p. 128]

The Soviet suggestion to identify "all nuclear delivery systems which could be used to hit targets in the other country...regardless of whether their owners called them strategic or tactical" as subject to SALT control was obviously a self-serving one [Ref. 7: p. 91]. Soviet MR/IRBMs "trained on Western Europe" would not be subject to control, while U.S. forward bases and forward deployed naval units would be forbidden or controlled under the SALT agreement [Ref. 7: p. 91]. Soviet efforts to force U.S. troops and nuclear weapons out of Europe appear to be part of an overall Soviet plan to dominate Europe. As James Dougherty phrased it in 1973, "Their long-range goal undoubtedly is still to reorient Western Europe away from the United States and bring it under the sway of their own socialist system." [Ref. 31: p. 773]

Meanwhile, Soviet enthusiasm for even discussing the limitation of SLBMs and SSBNs was decidedly lacking throughout most of SALT I. As late as 1971 during a discussion

between Kissinger and Soviet Ambassador Dobrynin, it was revealed that "the Soviets were prepared to discuss sea-based systems but preferred not to." [Ref. 7: p. 229] For the rest of that year, whenever a U.S. negotiator would mention SLBM limitations, a Soviet delegate would mention FBS. According to Smith, the Soviet position was that

FBS and SLEMs were linked and both issues should be deferred for later negotiations. SLBMs, they argued, were just another type of mobile missile. SLBM submarines had different strategic significance depending on whether they were based in national territory or at overseas bases. So deployment restrictions must enter into consideration of SLBM limitations. Semenov again proposed withdrawal of SLBM submarines and attack carriers from agreed-upon areas....We heard again that SLBMs were related to FBS because the total megatonnage the U.S. FBS could deliver was greater than the megatonnage of Soviet SLBMs. [Ref. 7: p. 330]

These discussions persisted in spite of a later claim by Kissinger that the Soviets had dropped the FBS issue as a result of a "back-channel" (conducted outside normal SALT delegation channels) agreement with Dobrynin in May 1971; in Kissinger's words, the Soviets "in effect dropped their claim that our aircraft based abroad be counted" in SALT I as a result of this May discussion [Ref. 23: p. 820].

Throughout his account of SALT I negotiations, Gerard Smith bemoans the Soviet preoccupation with FBS and attempts to uncover the real Soviet motive in pursuing the issue. He explores the possibility of Soviet efforts to divide the U.S. and its allies by contemplating the withdrawal of U.S. nuclear forces from Europe, but eventually concludes,

As the Soviet position evolved, it appeared that they considered FBS a real American strategic advantage.... There was a certain logic about his [Semenov's] position, from the Soviet perspective, faced as they were by thousands of U.S. nuclear warheads deployed outside the United States. [Ref. 7: p. 92]

The FBS issue was not to be resolved (for the SALT I treaty) until the final days of the negotiations. Nineteen days before the Interim Agreement was signed, the latest Soviet proposal stated that

The U.S.S.R. had now decided in principle to include submarines, but agreed levels had to take account of U.S. forward submarine bases and allies' submarines, and therefore the numbers could not be equal for both sides. [Ref. 7: p. 391]

Obviously, the unequal numbers in the final agreement reflected this Soviet requirement.

The issue of SLBM limitation in SALT I was so thorny that negotiations were essentially turned over to Kissinger in the "back channel" and were not finally resolved until the last day of the Moscow summit in May 1972 [Ref. 6: p. 238]. In an effort to "induce the Soviets to stop a program" of SSBN construction when the U.S. had no similar construction program and "could not have one for five years," Kissinger writes that Defense Secretary Laird came up with an "ingenious solution" in January 1972. Laird's proposal would permit "the Soviets to continue building SLBMs--if at a slower rate--provided that they dismantled older ICBMs and SLBMs on a one-to-one basis as a trade-in." Defense department calculations suggested that the Soviets

had enough SS-7 and SS-8 ICBM launchers and HOTEL SLBM launchers to allow the construction of 240 additional, modern SLBM launchers. Kissinger suggested this approach to Dobrynin in March, but the Soviet reaction was noncommittal. [Ref. 23: pp. 1130-1131]

The next SLBM-related discussion occurred during Kissinger's secret visit to Moscow in April when Brezhnev presented a proposal based on Laird's suggestion. Kissinger provides few details of this discussion, merely noting that

My April trip had settled that the Soviets would be permitted 950 SLBMs on sixty-two submarines, but it had left open which missiles and submarine types would be included. The Soviets took the position that some thirty missiles on older nuclear H-class submarines as well as some sixty missiles on the even more ancient diesel-powered G-class submarines were not "modern", and hence should not count against the total.

It had also been agreed with Brezhnev in April--following Laird's scheme of January--that to expand from their current numbers to reach the permitted total of 950 the Soviets would have to dismantle older ICBMs and SLBMs. But the point where this dismantling would begin...--the baseline--had been left to the negotiators at Helsinki. Predictably, the Soviets wanted the baseline at as high a number as possible, which would have required a minimum of dismantling; we wanted it as low as possible, so as to get rid of all older ICBMs and SLBMs. [Ref. 23: p. 1219]

Gerard Smith had the agreement explained to him by Secretary of State Rogers. He writes that Brezhnev's "SIBM paper" was rather lengthy, and included a justification for the Soviet Union being allowed a numerical advantage in SSBN and SLBM launcher numbers for all the familiar reasons--U.S. forward SSBN bases, SSBNs deployed by U.S. allies, and the

difficulty of the Soviet SSBNs' transits to patrol areas. In addition to the figures of 62 SSBNs and 950 SLBM launchers for the Soviets, this proposal also set numerical limits for the U.S. and its allies. According to Smith, "The U.S.S.R. agreed that the United States and its allies should have during the freeze up to 50 modern submarines with up to 800 SLBM launchers (including 41 U.S. submarines with 656 launchers.)" [Ref. 7: pp. 370-371] The nine SSBNs allocated for American allies apparently allowed for the four operational British SSBNs and the five planned French SSBNs, two of which were scheduled to be operational in 1972. Smith continues that Brezhnev noted the need to resolve the "issue of dismantling U.S. submarine bases outside the territory of the United States" during "subsequent negotiations," and that the "Soviet Union reserved the right to a corresponding increase in submarines if the U.S. NATO allies exceeded the number then operational or under construction." [Ref. 7: p. 371]

The next major negotiating obstacle, which was not to be cleared until the Moscow Summit, was to center on the baseline--the maximum number of SLBMs the Soviet could build before beginning the trading-in process. The Soviets initially claimed that they had 48 modern SSBNs (either YANKEES or the as yet unidentified DELTAs) operational or under construction for a total of 768 missile launchers

(even though the first DELTAs could carry only 12 missiles). [Ref. 6: p. 253] U.S. intelligence estimates placed the number of Soviet SSBNs operational or under construction at 42, with 640 SLBM launchers; in Helsinki, Smith argued that the baseline should be placed at 740 to include the modern launchers as well as nearly 100 SLBM launchers on the GOLF and HOTEL class submarines [Ref. 7: p. 394].

The final agreement was to compromise on a baseline of 740 launchers which included those on the HOTELS but excluded those on the GOLFs [Ref. 23: p. 1237]. The GOLFs were finally dealt with through a U.S. proposal stipulating that, if the sixty old missiles on the 20 GOLFs (the remaining two SSBs--carrying 10 missiles--were testbeds and apparently excluded from the treaty) were equipped with modern missiles, they would then count in the 950 modern SLBM launcher limit [Ref. 23: pp. 1238, 1241].

The only other issue that differed from the Brezhnev proposal of April was the number of U.S. SSBNs and SLBMs that were allowed under the Interim Agreement. Smith deals extensively with this issue; he writes that the U.S. had retained 54 TITAN ICBMs in its strategic inventory as "a bargaining chip, to see if some concession for their retirement might be obtained. We claimed the right to replace them with three submarines carrying 16 SLBMs apiece." He continues that the U.S. Navy "had no interest in such a switch," but should "have a right" to the same sort of

modernization and trade-in scheme that the Soviets had.  
[Ref. 7: p. 396]

The issue was finally resolved at the Moscow summit when Kissinger presented a written assertion that "the U.S. does not have plans for nor does it intend to exercise the right" to replace the TITANs with SLBMs "during the five-year freeze." [Ref. 7: p. 428] Thus, the Interim Agreement allowed the U.S. 710 SLBM launchers on 44 modern SSBNs, instead of the earlier Brezhnev proposal of 656 launchers on 41 submarines. Nevertheless, the Soviets still recorded a unilateral statement that limited the United States and its allies to 50 SSBNs with 800 SLBM launchers (including 41 U.S. submarines with 656 launchers); beyond this limit, the Soviets intended to compensate with additional submarines on a one-for-one basis [Ref. 7: p. 514]. This statement contains a strong incentive for the U.S. not to exceed the initial 41 SSBN ceiling.

#### G. CONCLUSIONS--SOVIET OBJECTIVES IN SALT I

Obvious Soviet objectives in SALT I included the limitation of the technologically advanced U.S. Navy to those submarines operational at the time negotiations began, while allowing the Soviet Navy maximum flexibility in building a modern SSBN/SLBM force. In Gerard Smith's words, "The Soviets must have considered the U.S. programs to MIRV land- and sea-based missiles as a dynamic addition which they

could only match, at least for some years, by having substantially larger numbers of missile launchers." [Ref. 7: p. 125] Numerous statements by high-ranking Soviet officials, including Brezhnev's SLBM proposal in April 1972, repeatedly spelled out Soviet concern over U.S. strategic advantage in forward submarine bases, less difficult transits to SSBN patrol areas (shorter, and through non-hostile waters), and additional forces available from U.S. European allies. Minister Semenev's unilateral statement, which was affixed to the Interim Agreement, ensured that these issues would resurface in SALT II negotiations.

As to SALT I's impact on Soviet naval programs, Smith writes the following impression.

The Soviet delegation seemed to have two objectives in the final SLBM exchanges: to defer scrapping older ICBM launchers for a time while its submarine construction program continued; and to limit the freeze to modern Y-class submarines and exclude the older G- and H- class boats. [Ref. 7: p. 382]

Some accounts suggest that the limitation of GOLFs and HOTELS may have been acceptable to the Soviets under the proper provisions. For instance, the HOTEL launch tubes were ultimately included in the SLBM baseline, after much haggling; Kissinger's account relays that the Soviets finally conceded on this point during the Moscow summit when "Smirnov innocently stated that he had always meant those to be counted in the baseline." [Ref. 23: p. 1237]



Gerard Smith also recalls talks with the Soviet SALT delegation in late 1970 when the Soviet team "agreed that missile launchers on diesel-powered submarines should be included in any SLBM limitations." [Ref. 7: p. 189] Following Brezhnev's 62 SSBMs/950 SLBM launchers proposal in April 1972, the Soviets strenuously objected to the inclusion of GOLFs in this ceiling, and the U.S. finally conceded the point, as long as the GOLFs were not equipped with modern missiles [Ref. 23: pp. 1238-1241]. The U.S. concession apparently went so far as to exempt from SALT I provisions the two GOLFs which were already equipped with modern missiles--the GOLF III (SS-N-8) and the GOLF IV (SS-N-6). According to Smith, these two units were "so-called test-beds," and for this reason were apparently exempt from SALT I restrictions. [Ref. 7: p. 382]

The status of the GOLF-class became more complex, however, as a result of post SALT-I "clarifications." According to Kissinger, on June 14, 1972, "the Soviet Union sent us an oral note...neatly reversing the position it had taken in Moscow." The Soviets now decided that they wanted the seventy missiles on the GOLFs to count in the 950 limit so they could be "traded-in" on modern SLBMs, thereby leaving the Soviets "with the seventy SS-7 intercontinental missiles in hardened silos." Kissinger states that a note from the U.S. upholding the previous agreement set the record

straight and the Soviets "accepted our interpretation"; a final written clarification was signed in July. [Ref. 32: p. 1146]

This "clarification" confusion was originated by the Soviets and probably indicated a genuine effort to demand further concessions from the United States through the "trading-in" of the GOLFs; it may have originated with the naval leadership as an effort to "save" the nuclear-powered HOTELS from dismantlement, or with the leadership of the Strategic Rocket Forces reflecting their displeasure at sacrificing ICBMs for new SLBMs. On the other hand, the continued controversy over the matter of GOLF modernization was fueled by the U.S. Senate, specifically Senator Jackson from Washington, not by the Soviets. The interpretation signed by Dobrynin and Kissinger in July 1972 again specified that arming the GOLF class with a modern SLBM would necessitate its inclusion in the 950 SLBM limit; "modern" SLBM was defined as "a missile of the type which is deployed on nuclear powered submarines commissioned in the U.S.S.R. since 1965." [Ref. 32: p. 1146]

Senator Jackson became concerned that the Soviets could develop a new missile, one not previously deployed on a Soviet SSBM, deploy it on the GOLF, and argue that it was not accountable under the Interim Agreement. This "loop-hole" was not officially closed until June 1974. [Ref. 33: p. 179] There is no evidence to suggest that the Soviet

Navy embarked on a plan to modernize the GOLFs once the loophole was created in 1972; lead time to develop a new system could encompass 10-15 years [Ref. 22: p. 175], and a possible candidate missile, the SS-NX-13, which was incompatible with the SS-N-4 or SS-N-5 tubes, was last tested in 1973 [Ref. 34: p. 69]. Any Soviet interest in exploiting this loophole probably reflected opportunism rather than a calculated Soviet naval objective in SALT I.

It is difficult to try to estimate what Soviet strategic naval force levels would have looked like in May 1977 without a SALT I Interim Agreement; but, since Brezhnev proposed the 62 modern SSBN/950 modern SLBM launcher limit, one can assume that these numbers fairly accurately reflected the planned and desired force levels at that time. In actuality, the Soviets had reached these limits by 1978 [Ref. 5: p. 124].

Throughout Kissinger's account of the SLBM/SSBN negotiations, he repeatedly refers to U.S. estimates that Soviet SSBN construction "could exceed eighty" YANKEE/DELTA SSBNs "by 1978", and that the final limit of 950 SLBM launchers for the Soviets was "nearly 200 below what Admiral Moorer estimated their potential program was", indicating a significant restraint on the Soviet construction program [Ref. 23: pp. 1130-1131, 1149, 1231]. John Newhouse doubts the objectivity of these intelligence estimates, however, pointing out that the SSBN projections for 1978 placing "the figure

of 62 boats...squarely in the mid-range of possibilities" were produced after Brezhnev had proposed this figure to Kissinger in the secret April 1972 meeting. Additionally, Admiral Moorer's support for the upper edge of this projection, "at least eighty" submarines, was reportedly strongly linked to the promise of White House backing for the acceleration of the TRIDENT SSBN program. [Ref. 6: pp. 245-247]

Kissinger's support for the higher SSBN estimates apparently was based on unexpectedly high Soviet SSBN production first evident in 1971. As Kissinger describes his meeting with Brezhnev in April 1972, he includes the stark fact that "the Soviets were starting about eight new submarines a year." [Ref. 23: p. 1129] The 1969 National Intelligence Estimate had raised earlier production estimates from four to eight SSBNs a year, to six to eight a year; but by 1970, even this estimate appeared modest [Ref. 35: pp. 154-156]. Michael McGwire explains that this increased production probably did represent a deliberate and unprogrammed escalation.

SSBN production appears to have been boosted in the run-up to SALT, eight units being delivered in 1972. In consequence, the programme overran the normal 5-year production run of 30 units. (Production at Severodvinsk appears to have increased to deliver an extra four SSBNs during the period 1971-73. It seems likely that they could not bring the DELTA programme forward and therefore built more YANKEEs.) [Ref. 12: p. 78]

The purpose of this increased production, of course, is not absolutely clear. It may have been to produce as many hulls

as possible before a freeze could be initiated, or if MccGwire's logic is correct, it may reflect Soviet reasoning that four YANKEEs were necessary to compensate for a lesser number of more-efficient DELTAs that were to be delayed. At any rate, the U.S. overreaction (although an understandable reaction) probably enhanced the Soviets' negotiating position; they had demonstrated an incredibly high production capability, and could conceivably produce eighty SSBNs by 1978.

MccGwire makes it clear, however, that the Soviets set their own limits (62 SSBNs and 950 SLBM launchers) based on expected production capabilities, and that SALT did not constrain their SSBN programs. Soviet defense planning is based on fairly rigid five-year economic plans, and longer-range development plans are known to exist for naval systems. According to Edward Warner,

Because of the developmental lead times involved, plans on the order of 10 to 15 years in length are likely to guide the design and procurement of Soviet strategic offensive and defense missiles. [Ref. 22: p. 175]

MccGwire's research, based on a projected 10-year production run of SSBNs commencing in 1967 with the first YANKEE (and previously demonstrated production of six YANKEEs per year), suggested that "a total of 60-62 YANKEEs and DELTAs... [would] have been delivered" by 1977, coincidentally the date specified by Brezhnev for treaty expiration during his SLBM talk with Kissinger in April 1972 [Ref. 12: p. 79, and Ref.

23: p. 1149]. As McGwire sums it up, "At the time that SALT was signed, the first DELTA was nearing completion and the Soviets knew exactly the number of hulls they had programmed for construction during the remainder of the production run." [Ref. 12: p. 79] Thus, the idea that SALT I significantly constrained Soviet SSBN construction appears bogus. The most that can be argued is that SALT I supplied greater predictability as to probable Soviet behavior during the period 1972-77.

### III. EVALUATION OF SALT II

In November 1972, six months after signing the SALT I Interim Agreement, SALT II officially began. Strobe Talbott writes that "the objective of both sides was to replace the five-year interim agreement on offensive systems with a more comprehensive treaty of indefinite duration." [Ref. 36: p. 31] When it became obvious in early 1977 that no treaty would be completed by the expiration of the Interim Agreement, "it was decided that the U.S. and the Soviet Union should issue simultaneous but unilateral statements, each declaring its intention not to violate the terms of the interim agreement so long as the other side exercised similar restraint." [Ref. 36: p. 122] The SALT II treaty was finally signed by President Carter and General Secretary Leonid Brezhnev at a summit in Vienna on June 18, 1979 and was to last through December 31, 1985; however, the treaty was never ratified by the U.S. Senate or the Supreme Soviet.

#### A. STRATEGIC FORCE LEVELS

On June 18, 1979, the SALT II treaty recorded the following force levels for the Soviet Union:

1398	ICBM launchers
608	MIRVed ICBM launchers
950	Modern SLBM launchers
144	MIRVed SLBM launchers
156	Heavy bombers
0	Long range cruise missile-equipped heavy bombers

The following force levels were recorded for the U.S.:

1054	ICBM launchers
550	MIRVed ICBM launchers
656	modern SLBM launchers
496	MIRVed SLBM launchers
573	Heavy bombers
3	Long range cruise missile-equipped heavy bombers

[Ref. 37: p. 49]

More specifically, the treaty indicates that, as of June 18, 1979, the following Soviet SLBM launchers were accountable under SALT II:

HOTEL II/SS-N-5	18 launchers
YANKEE I/SS-N-6	480 launchers
GOLF IV/SS-N-6	4 launchers
YANKEE II/SS-NX-17	12 launchers
DELTA I/SS-N-8	216 launchers
DELTA II/SS-N-8	64 launchers
GOLF III/SS-N-8	6 launchers
HOTEL III/SS-N-8	6 launchers*
DELTA III/SS-N-18	144 launchers
TOTAL:	950 launchers

\* The HOTEL III SSBN, equipped with 6 SS-N-8 launchers, was not included in the published list of accountable launchers, but apparently was included in the Soviets' count of 950 launchers. [Ref. 37: p. 10, and Ref. 38: pp. 503-506]

The following US SLBM launchers were also accountable under SALT II:

ETHAN ALLEN/POLARIS A-3	80 launchers
GEORGE WASHINGTON/POLARIS A-3	80 launchers
LAFAYETTE/POSEIDON	480 launchers
LAFAYETTE/TRIDENT	16 launchers

[Ref. 38: pp. 655-668]

The Soviet strategic navy had made considerable advances since the days of SALT I. The SS-N-6 Mod 2, deployed on the YANKEE, became operational in 1973; this modification extended the missile's range from 1,300 to 1,600 nm. The



third modification to the SS-N-6 also reached initial operational capability in 1973; while maintaining the extended range of Mod 2, this variation gave the Soviet Navy its first multiple warhead capability (up to three MRVs). [Ref. 10: pp. 106-107] A more significant advance was the development of the extended range SS-N-8 for deployment on the DELTA I (in 1973) and the DELTA II (in 1977); the DELTA I SSBN carries 12 missiles, while the DELTA II is equipped with 16 launch tubes. The SS-N-8, with a single warhead, has a range of 4200 nm. [Ref. 10: pp. 106-107, and Ref. 5: p. 124]

The SS-N-18, the Soviet Navy's first MIRVed SLBM, was first deployed on the DELTA III in 1978; like the DELTA II, this SSBN is equipped with 16 launch tubes. The original version of the SS-N-18 carried three MIRV warheads to a range of 3500 nm; the second modification employed a single warhead, and extended the range to 4300 nm. A third modification carries seven MIRV warheads, but only to a range of 3500 nm. [Ref. 10: pp. 106-107] By 1974, DELTAs had commenced regular patrols in waters near the Soviet homeland in the northern Norwegian/western Barents Seas and in the western Pacific. [Ref. 10: p. 18]

One other Soviet SLBM, the SS-NX-17, completed the new developments. This missile was deployed on a single modified YANKEE designated the YANKEE II and equipped with 12 launch tubes. The SS-NX-17 was first flight-tested in 1976,

and demonstrated a range of 2100 nm; apparently the experiment was not successful enough to merit deployment of the missile on any additional YANKEEs. [Ref. 10: pp. 106-107]

In addition to these newly deployed systems, by the mid-1970's the TYPHOON SSBN construction program was well under way. Although the U.S. did not know much about this new class of submarine until the lead unit was launched in 1981, the Soviet negotiators were, no doubt, fully cognizant of the huge new submarine's potential capabilities, as well as those of the new long-range, MIRVed SS-NX-20 that was being developed for deployment on the TYPHOON.

The SALT I Interim Agreement limited the Soviets to 62 modern SSBNs; by 1978, the 28th DELTA had joined the fleet, becoming the 62nd accountable platform [Ref. 5: p. 124]. Apparently, three additional DELTAs became operational before SALT II was signed, and three YANKEEs were dismantled in compensation.

The U.S. Navy had completed the conversion of 31 POLARIS-equipped SSBNs to POSEIDON missile submarines by the mid-1970's. Additionally, the first TRIDENT C-4 flight test was conducted in 1977 [Ref. 37: p. 30], and USS FRANCIS SCOTT KEY, a POSEIDON-equipped SSBN, was converted to carry the 4000 nm range-TRIDENT I SLBM in December 1978. The first TRIDENT patrol commenced after the SALT II treaty was signed, in October 1979. Twelve additional POSEIDON-

equipped SSBNs were scheduled to be converted to the TRIDENT by December 1982. [Ref. 38: p. 656] The TRIDENT I doubled the range provided by the POSEIDON, while maintaining the advantage of the MIRVed warhead (the TRIDENT is normally equipped with 8 MIRVs) [Ref. 17: p. 118].

USS OHIO, the first SSBN specifically built to carry the TRIDENT missile, was funded by Congress in the fiscal year 1974 shipbuilding program. The OHIO, equipped with 24 launch tubes, was scheduled to be completed no later than 1979, and ideally, by December 1977. [Ref. 17: pp. 104-105] In actuality, the OHIO was launched in 1979 but not commissioned until 1981, and the remaining construction program (ten submarines were originally planned) fell behind schedule [Ref. 56: p. 62]. The OHIO class submarines were to be rearmed with the 6,000 nm range TRIDENT II D-5 SLBMs in the late 1980's; although President Carter decided in 1979 to indefinitely postpone this program, the decision was probably too late to significantly affect Soviet bargaining in SALT II. (President Reagan later reinstated the TRIDENT II program.) [Ref. 17: pp. 104-105]

As in SALT I, the British and French navies were not constrained by the SALT II treaty, but the Soviets remained very conscious of the overall NATO SLBM strength. The British force level remained unchanged from 1972--four RESOLUTION SSBNs equipped with POLARIS A-3 SLBMs. The French, however, had expanded their fleet to four operational SSBNs

...constantly growing ability of nuclear fleets to achieve ever more decisive objectives in a modern war. This particularly applies to the operations of the forces of the fleet aimed at wrecking the military-economic potential of the enemy, which may have a direct impact on the course, and even on the outcome of a war. [Ref. 40: p. 223]

Also in 1976, Gorshkov was beginning to boast that the SSBNs were uniquely suited for strategic strike, and could outperform the Strategic Rocket Forces (SRF).

Scientific and technical progress has produced submarines as the most perfect carrier of modern weapons, the launching site of which is, in effect, the whole World Ocean. The fleet concentrates in itself numerous mobile carriers of strategic weapons, each of which may carry a very large number of long-range missiles and is capable of maneuvering with launching sites over an area exceeding many times the area which land-based missile troops can use....In the course of the scientific-technical revolution, naval forces have assumed the significance of one of the most important strategic factors, capable by direct action on enemy groupings of troops and vitally-important objectives on his territory, of exerting a very considerable and sometimes decisive influence on the course of a war. (emphasis added) [Ref. 40: p. 279]

It has been speculated that one way the navy could "have a decisive influence on the course" or the "outcome of the war" would be in its role as a strategic reserve. The relative invulnerability of deployed SSBNs (compared to land-based missiles), combined with the DELTA patrol areas, which are very near the Soviet Union and consequently easier to defend from Western ASW forces than the distantly deployed YANKEEs, made the DELTAs an ideal choice for a strategic reserve. James McConnell, who argued that the idea of a strategic reserve was abandoned during the 1960's, believes

that SSBN withholding became policy in the early 1970's "when strategic parity had been largely attained and submarine security was satisfied." He writes that "the strategic missile troops now have the most important first word in war, and the navy apparently the important last word." [Ref. 19: p. 46]

Robert Herrick's extensive research has also indicated that during the 1971-1980 timeframe "the bulk of the SSBN force" was not assigned to share "with the SMF [Strategic Missile Forces] in the deep strike mission," but was part of a "protracted withholding strategy." He also refers to a remark made by Gorshkov in 1973 indicating that "the Navy was 'objectively' capable of deep strike, suggesting that the objections preventing SSBNs from being assigned a major share with the SMF were subjective." [Ref. 21: p. 168] Obviously, parochial friction continued to exist between the SRF and the strategic navy in the 1970's.

The necessary protection of the strategic reserve has apparently developed into a broad pro-SSBN role for numerous ASW surface ships and aircraft, as well as general purpose submarines. The development of three ASW platforms in the early 1970's--the KARA CG, KRESTA II CG, and KRIVAK FFG, all of which are armed with SS-N-14 ASW missiles--seems to parallel the development of the DELTAs, and supports the theory of pro-SSBN operations during wartime. Describing

pro-SSBN operations and SSBN withholding, James McConnell describes comments made by a Soviet theoretician (N. Aleshkin writing in Morskoy Sbornik in 1972) as follows:

He pointed out that, if ballistic-missile submarines are held back from a strategic strike, they will have to be in the reserve, since they have a narrowly specialized mission that precludes their use for nonstrategic tasks. To survive in the reserve, they will have to be protected; this requirement has accelerated the development of general-purpose forces, especially submarines. [Ref. 19: pp. 60-61]

The increasing number of DELTAs, which could target large parts of the United States from their home ports, enabled some of the YANKEEs to be reassigned to regional strike roles. For example, Berman and Baker describe an exercise in 1975 when YANKEEs were deployed to the Sea of Japan to supplement Soviet land-based missiles targeting China [Ref. 10: pp. 12-13]. Similarly, YANKEEs deployed to the relatively secure Norwegian Sea could be employed in a theater role in support of ground troops in Europe. In 1976, six GOLF II SSBs were transferred to the Baltic Fleet where they will apparently support theater operations in wartime [Ref. 41: p. 138]. During the SALT II negotiating period (1972-1979), HOTEL SSBNs remained attached to Northern Fleet and Pacific Fleet bases, apparently confined to regional strike roles.

Meanwhile, the continued deployment of YANKEEs to patrol areas off the U.S. east and west coasts, despite the increasing number of long-range SLBM-equipped DELTAs, suggests

that the deployed YANKEEs will play an important role in any nuclear first strike against the United States. The short flight time of the SS-N-6 continues to make this missile an effective weapon against U.S. strategic bomber and SSBN bases, in addition to strategic command and control installations.

### C. U.S. NAVAL SYSTEMS TO BE CONSTRAINED IN SALT II

A review of Morskoy Sbornik between 1973 and 1978 revealed at least three articles detailing the TRIDENT SLBM threat and two describing the dangers of the strategic cruise missile. These two subjects were the main Soviet naval concerns during SALT II.

In 1973, Morskoy Sbornik noted that the OHIO could become operational by 1978, "2-3 years earlier than originally planned." [Ref. 42: p. 43] The chief concerns about the new submarine appeared to include its increased quieting which would hinder detection, the large number of missiles it could carry, and the longer range of the missile, which would increase the OHIO's patrol area and make Soviet ASW efforts even more difficult. In 1976, a Soviet author noted that the OHIO class SSBN would have "a total noise level...2 to 3 times lower than that of the quietest of the existing classes of nuclear submarines." [Ref. 43: p. 63] It was also noted that the longer-range TRIDENT II SLBM could enter the fleet "by the mid 1980s". [Ref. 43: p. 66]

In 1976, the Soviets predicted that the TRIDENT I SLBM would carry between 10 and 14 warheads [Ref. 43: p. 66]; in a 1977 article, it was clarified that the missile would carry only 8 warheads in order to maximize its range at about 4000 nm [Ref. 44: p. 105]. In 1976, the circular error probable (CEP) of the TRIDENT I was reported as about 755 feet [Ref. 43: p. 66]; the following year, it was clarified that the TRIDENT I was expected to have a CEP of about 1300 feet, about the same as the POSEIDON [Ref. 44: p. 106]. A 1976 article also noted Soviet concern over "the possibility of rearming the U.K. SSBNs" with TRIDENT I missiles [Ref. 45: p. 72].

Although Soviet concern over the threat associated with the TRIDENT I was gradually decreasing, the TRIDENT II was depicted as an ominous threat. According to Soviet writings in 1977, the TRIDENT II, which was capable of an estimated range of about 6,000 nm, was equipped with a

...Mk 500 maneuvering warhead of the MARV type....Warheads of the MARV type are capable of executing a pre-programmed maneuver to overcome an ABM system and homing on a target in the terminal sector of the trajectory. (Ref. 44: pp. 106-107]

A 1976 article in Morskoy Sbornik linked the increasing accuracy of SLBMs (especially TRIDENT II) to Defense Secretary Schlesinger's "retargeting" policy, which essentially called for a U.S. counterforce capability. The article, written by a Soviet Rear Admiral, continued that Schlesinger's "limited nuclear war" concept admitted



...the possibility of employing underwater nuclear forces not only to deliver strikes against cities, but also (with due regard for future increases in missile accuracy) to make "counterforce strikes," including against point targets. [Ref. 46: p. 79]

Soviet concern over the TRIDENT SLBM was evident not only in the naval journal, but also in such diverse publications as Red Star, Kazakhstanskaya Pravda, and the Journal of the USA [Ref. 47].

Soviet efforts to constrain the TRIDENT I, and especially the TRIDENT II, during SALT II were numerous. Henry Kissinger writes that, in August 1973, Soviet Ambassador Dobrynin suggested the "United States and the Soviet Union should take a 'big step' and agree not to deploy any new missiles for ten years." Kissinger continues, "In reply to my question, Dobrynin suggested that this, of course, applied to TRIDENT." [Ref. 32: p. 1015] In 1977 when Soviet and U.S. officials were trying to negotiate a ban on the testing of new strategic missiles, Talbott writes that the TRIDENT was again singled out for extinction.

While the Russians had tried since early 1977 to use the new-types ban against the TRIDENT program, they also wanted to upgrade their own submarine-launched rockets. Therefore they sought an exemption in the ban for a new Soviet SLBM....The Soviets argued that their advanced SS-NX-18 was operational and therefore should be classified as an "existing type," comparable to the American POSEIDON....Moscow's candidate for its one allotted new type of SLBM was the even more advanced TYPHOON [SS-NX-20], which the Russians maintained was a counterpart to the U.S. TRIDENT I, scheduled for deployment in 1979. [Ref. 36: p. 162]

Obviously, U.S. negotiators resisted this logic, which would have banned the TRIDENT II SLBM, and it was finally decided that the new-types ban would not apply to SLBMs. It is interesting to note that the Soviets were not willing to sacrifice the TYPHOON missile (the SS-NX-20) in order to ban the TRIDENT II. They may have concluded that it was not worth the expense of scraping or extensively modifying the advanced TYPHOON program in order to ban a missile that President Carter or the Congress was likely to unilaterally discontinue.

The TOMAHAWK sea-launched cruise missile was apparently of equal concern to the Soviets in SALT II. In 1976, an article appeared in Morskoy Sbornik briefly describing the TOMAHAWK. It was explained that the missile would be deployed on U.S. submarines and surface warships, that the strategic version of the TOMAHAWK had a range of about 1500 nm, and that the missile flew at low altitude "with a speed of around Mach 1." The author continued his bleak forecast:

In the opinion of American specialists, radar detection of the missile is hindered by its small reflective surface, and detection of the heat trail from the engine flame is hindered by heat insulation of heated surfaces and paint with a low coefficient of reflection. [Ref. 48: p. 89]

It was also noted that deployment of strategic cruise missiles could immeasurably complicate arms control. One year later, a much more detailed article was written on the TOMAHAWK. The missile was credited with an accuracy of

about .11 nm at maximum strategic range [Ref. 49: p. 94] with the comment that a new, improved guidance system was under development which would further enhance the missile's accuracy [Ref. 49: pp. 99-100].

The cruise missile issue was to permeate every facet of SALT II negotiations. According to Raymond Garthoff,

Underlying the Soviet response is a rising Soviet political and military concern since the late 1970s that the United States is seeking to reacquire strategic superiority. Although cruise missiles are not seen as the principal or driving element, they are viewed in the context of a broad U.S. arms buildup including MX, TRIDENT I and II...SLBMs, the MINUTEMAN III Mark 12A warhead, ALCMs, and the NATO long-range theater nuclear forces... [Ref. 50: p. 343]

Soviet writings in naval and other military journals have reflected their concern that U.S. cruise missiles will defeat Soviet air defenses [Ref. 50: pp. 346-347]. Additionally, Garthoff notes,

In the Soviet view, deterrence is based on war-fighting capability, and the established mutual deterrence will be weakened if cruise missiles (and other new weapon systems) disturb the military balance. [Ref. 50: p. 349]

#### D. THE CRUISE MISSILE PROBLEM

U.S. interest in the strategic cruise missile was sparked by concern over the rapidly increasing Soviet strategic arsenal in the early 1970's, and U.S. defense spokesmen soon linked their support for the SALT I accords to Congressional support for cruise missile funding. Charles Sorrels writes that

Congress approved the initial funding for the SLCM in the summer of 1972, in the context of considering the SALT I agreements. The principal, though not the sole, rationale for the SLCM in 1972 was to provide some increased momentum in U.S. strategic programs, as a "bargaining chip" to gain Soviet agreement to restraint in SALT II. [Ref. 51: p. 4]

Initially, the nuclear-warhead, strategic SLCM was to be deployed only on a few platforms, possibly the ten remaining POLARIS-equipped SSBNs, and the TOMAHAWK was designed to be fired from an ordinary submarine torpedo tube. This compatibility with an ordinary torpedo tube may have aided the decision made in 1977 to equip "virtually all attack submarines" and some surface ships with the missile, and use it in a theater support role. [Ref. 51: pp. 4, 80] Sorrels has speculated that the change in role, from long-range strategic to theater-support, may have been prompted by concerns over strategic arms control [Ref. 51: p. 80]. Regardless of the shortened range, however, the missiles were to be one of the main stumbling blocks in SALT II negotiations.

The Soviets were also concerned over the air-launched cruise missile program. Begun in 1974, the ALCM program took on new impetus in 1977 when President Ford switched the emphasis to a longer-range version (about 1,350 nm range) of the ALCM [Ref. 51: p. 4]. The Ford Administration also initiated the ground-launched cruise missile program in 1977, and President Carter later emphasized the role that these missiles would play in the defense of Western Europe [Ref. 51: p. 5]. All of these cruise missile programs were

scheduled to become operational in the early to mid 1980's  
[Ref. 51: p. 6].

Although the Soviets possessed a large inventory of cruise missiles in the 1970's, none were considered to have a long-range, land-attack capability. Their inventory consisted mainly of submarine-, surface-, and air-launched anti-ship missiles, as well as surface-to-air and air-to-air missiles. Any land-based cruise missiles were of relatively short-range, either for coastal defense or tactical use. [Ref. 50: p. 340] All of these launchers have been exempt from SALT restrictions, as have Soviet intermediate- and medium-range ballistic missiles targeted against Eurasia and North Africa.

The first Soviet efforts to constrain U.S. cruise missiles occurred after the Vladivostok summit in 1974. At Vladivostok, it was agreed that air-to-surface missiles with a range in excess of 600 km (about 325 nm) would be counted in SALT II numerical launcher limits. The U.S. chose to interpret this restriction as applying to air-to-surface ballistic missiles (which neither side had), while the Soviets claimed that the restriction applied to air-launched cruise missiles. Furthermore, the Soviets voiced their opinion that all long-range GLCMs and SLCMs should be completely banned. [Ref. 36: p. 35]

The first real step towards resolving the cruise missile problem occurred in April 1977 when it was decided that the Soviets would accept some constraints on their "heavy" (large throw-weight) ICBM force if the U.S. would accept restrictions on cruise missiles. Talbott explains that

Dobrynin said in April that Moscow could live with a SALT II agreement that permitted the U.S. to have long-range ALCMs as long as there were no ground-launched cruise missiles "within striking distance" of Soviet targets from American forward-based systems. The proposed protocol, therefore, would ban the deployment of long-range GLCMs and SLCMs. Any cruise missile with a range greater than 600 km would be considered long-range. [Ref. 36: p. 84]

It was also decided that ALCMs would be restricted to a range of about 2500 km (1350 nm) [Ref. 36: p. 84], and it was eventually determined that long-range ALCM-equipped heavy bombers would count in the MIRV sublimit of 1320 launchers [Ref. 36: pp. 125, 131].

In September 1978, the Soviets agreed to abolish all limits on the ALCMs upper range if the U.S. would agree to limit the range of long-range ground- and sea-launched cruise missiles during the Protocol period to a strict 600 km odometer reading [Ref. 36: p. 211]. Earlier, the U.S. had argued that cruise missile ranges should be defined as the distance from launch point to the target, thereby allowing the missile to take evasive maneuvers (to avoid air defenses and follow prescribed, mapped routes) which could add as much as 50 percent to its odometer range [Ref. 36: p. 183]. The September Soviet offer eventually became part of

the Protocol to the SALT II treaty; the Second Agreed Statement to Article II, Paragraph 3 states that "the range of which a cruise missile is capable is the maximum distance which can be covered by the missile in its standard design mode flying until fuel exhaustion". [Ref. 37: p. 47]

Some U.S. officials were angered by Soviet efforts to limit the range of U.S. cruise missiles. Admiral Holloway testified before the House Committee on Appropriations in 1976 that

...if a limit of 600 kilometers or 1,000 kilometers is placed on strategic cruise missiles of both sides...then we are going to suffer because more of the industrial and urban areas in the United States are closer to the coasts than as applies to the Soviet Union. So I believe that we would have to put the...range limit on strategic cruise missiles, out at about 3,000 kilometers before we would be approaching the same target coverage by both forces. [quoted in Ref. 51: p. 162]

Indeed, as Sorrels points out, when the "5500 km [about 3000 nm] threshold for classifying ballistic missiles as ICBMs" is compared to the 600 km threshold for classifying strategic cruise missiles, there is quite an imbalance [Ref. 49: p. 162]. As Holloway pointed out, the 600 km range definition definitely favors the Soviets; although their existing anti-ship cruise missiles could be used in a land attack role against coastal targets in the U.S. or Europe, they were exempt from SALT II limitations because of their limited range. The SS-N-19 anti-ship cruise missiles then under development for deployment on the OSCAR SSGN and KIROV CGN,

as well as the SS-N-3 and SS-N-12 anti-ship cruise missiles, have reported operational ranges between 500 and 550 km.

Another version of the SS-N-3, designated the SS-N-3c, is believed to have been developed in the late 1950's as a submarine-launched, strategic land-attack missile; according to U.S. analysts, it reached initial operational capability in 1960, about the same time as the SS-N-4--the first Soviet SLBM. The SS-N-3c has a range in excess of 400 nm (740 km)--well beyond the 600 km limit set in SALT II. The status of this missile was discussed during SALT II negotiations. The following represents the official record concerning the status of the SS-N-3c in 1979.

In response to the issue raised by the United States, the Soviets responded in a Chiefs of Delegation meeting that in the first half of the 1960s the Soviet Union carried out experimental work for development of a cruise missile which was to be sea-based. They stated that in this connection several launches were made to a range of 600 to 900 kilometers and that this work was terminated, the missile was not put into production and was not made operational. They further stated that at present the Soviet armed forces have no operational cruise missiles which have been tested to a range in excess of 600 kilometers.

The United States responded that while the U.S. was not prepared to confirm the accuracy of the Soviet statement regarding deployment of the SS-N-3C, it would close out the issue for now. It stated that...the U.S. would continue to watch closely Soviet SLCM activities, and in the event ambiguities or doubt arose as to the status of the SS-N-3C, the U.S. would reopen this matter in the SCC. [Ref. 71: p. 52]

Firing platforms associated with anti-ship versions of the SS-N-3 must remain surfaced to provide guidance updates throughout the missile's flight; however, the land-attack



version of the missile could rely solely on inertial guidance. It would then follow a pre-planned route, thus eliminating the need for mid-course guidance, reducing the submarine's time on the surface (though it would still have to surface to fire), and reducing the firing platform's vulnerability. As Norman Polmar writes, "these submarine missiles, with their low flight profile" if operationally employed, would "strain US detection and defense capabilities." [Ref. 17: pp. 43-44, and Ref. 16: p. 363]

At Vladivostok, the Soviets reportedly agreed that U.S. forward based systems in Europe would not be subject to constraints in SALT II as long as the United States gave up its efforts to reduce the number of Soviet "heavy" ICBMs [Ref. 36: p. 33]. Despite this "concession", however, many U.S. critics of SALT II, such as William Van Cleave, argue that cruise missile constraints effectively limited U.S. forward based systems. According to Van Cleave,

The restraints on SLCM and GLCM in effect limit what would be U.S. and/or NATO theater systems, and without corresponding limits on what the U.S.S.R. allows to be its modern theater systems, the BACKFIRE and SS-20. Even though these limitations are in the Protocol and will presumably expire after 1981, the principle is established and the precedent set. [Ref. 52: p. 18]

Indeed, the Soviets also knew that actual deployment of the GLCM and SLCM was not planned until after the Protocol expired; however, they still bargained furiously for the limitations in the Protocol. The most likely reason for the

Soviet behavior is, first, as Van Cleave testified, to set a precedent for later negotiations, and second, to get these negotiations started as quickly as possible after SALT II was ratified, thereby essentially extending the provisions of the Protocol.

West European allies, understandably, reacted strongly to signs that U.S. European-based GLCMs, as well as SLCMs deployed in theater support roles, would be subject to SALT control. According to Talbott, West German Chancellor Helmut Schmidt charged the U.S. "of shoring up its own, narrowly defined security at the expense of its allies' interests." [Ref. 36: p. 142] Talbott continues that U.S. critics charged that "the Soviet Union was seeking to use the negotiations 'as a way of dividing us from our allies,' particularly on the issue of cruise missiles." Talbott concludes, "Regardless of whether the Soviets had any such deliberate design, they seemed, during the winter of 1977-78, to be reaping precisely that benefit." [Ref. 36: p. 142]

Even after both sides agreed to place some limitations on cruise missiles, certain aspects of these weapons were to aggravate verification. For instance, Talbott explains that

Cruise missile range was bound to be one of the hardest aspects of SALT to verify....If its flight profile (i.e., the altitude and speed), its fuel or the payload is changed, a cruise missile that had been tested at 600 kilometers could fly much farther....If any or all of these variables--notably, preprogrammed flight profile and payload--are adjusted, the range can be extended without any change in the external appearance of the cruise missile. These adjustments cannot be monitored

by the other side's national technical means, and the range cannot always be verified with certainty. [Ref. 36: p. 185]

Similarly, overhead photography can not distinguish between a nuclear warhead and a conventional warhead on a cruise missile; consequently, at the Soviets' insistence, SALT II limitations were to apply to all long-range cruise missiles [Ref. 36: p. 186].

#### E. SPECIFIC NAVAL ASPECTS OF SALT II

Several ambiguities that troubled verification of the SALT I provisions were cleared up in SALT II. For instance, Article II of the SALT II treaty defined accountable SLBM launchers as "launchers of ballistic missiles installed on any nuclear-powered submarine or launchers of modern ballistic missiles installed on any submarine, regardless of its type." For the Soviet Union, this included SS-N-5 launchers on HOTEL II's, SS-N-6 launchers on YANKEE I's and the GOLF IV, SS-N-8 tubes on DELTA I and II's and the GOLF III, SS-NX-17 tubes on the YANKEE II, SS-N-18 launchers on DELTA III's, and any "future SLBM whether installed on a nuclear or a non-nuclear-powered submarine." [Ref. 37: p. 10] (Although not listed, apparently the SS-N-8 tubes on the HOTEL III were also accountable.)

Article II also specified that

SLBMs equipped with MIRVs are...SLBMs of the types which have been flight-tested with two or more independently targetable reentry vehicles, regardless of whether or not they have also been flight-tested with a single

reentry vehicle or with multiple reentry vehicles which are not independently targetable.

This meant that the SS-N-18 which was deployed in three modifications--two with MIRVs and one without--would always be considered as a MIRVed missile, and launchers associated with the missile would be counted as MIRVed launchers.

This distinction was critical to the limits set under SALT II; for the first time, MIRVed SLBM and ICBM launchers would be subject to sublimits under the overall launcher ceiling. Articles III and V of the treaty specified the following limits:

- 2,400--Overall ceiling for number of ICBM and SLBM launchers, heavy bombers, and air-to-surface ballistic missiles (ASBM)
- 2,250--New overall ceiling to be in effect on January 1, 1981
- 1,320--Sublimit for launchers of MIRVed ICBMs, MIRVed SLBMs, MIRVed ASBMs, and long-range cruise missile-equipped heavy bombers
- 1,200--Sublimit for launchers of MIRVed ICBMs, MIRVed SLBMs, and MIRVed ASBMs
- 820--Sublimit for MIRVed ICBMs

Article IV stipulated that construction of offensive arms must be "consistent with a normal construction schedule," a provision that would prohibit the building of large numbers of SSBNs with construction stopped just short of the unit becoming operational, thereby threatening "break-cut" of the treaty. Article IV also limited operational SLBMs to the maximum number of reentry vehicles flight-tested; the SS-N-18 and TRIDENT I were limited to seven RVs (although U.S. government sources such as Soviet Military Power report

that the TRIDENT I currently carries 8 RVs). New SLBMs were limited to 14 RVs, the maximum number tested by either side.

Article VI specified that an SLBM launcher became accountable under SALT II restrictions once the associated submarine commenced sea trials, and it would continue to count while the submarine was operational, "in reserve, in storage, or mothballed." Article VII exempted "SLBM test and training launchers" from the treaty limits, but stipulated that there be "no significant increase in the number of...SLBM test and training launchers." For the purposes of SALT II, "test and training launchers" were defined as follows:

...these are launchers of...SLBMs used only for test and training purposes....Test and training launchers may be replicas or partial launchers without an actual launch capability, or they may be launchers used to launch missiles for test and training purposes. [Ref. 37: p. 54]

Article VII also includes the use of these launchers for research and development. The treaty did not specify individual platforms which were considered to be testbeds; two units which had been exempt from SALT I limitations, the GOLF IV and GOLF III (SS-N-6 and SS-N-8 testbeds, respectively), as well as the HOTEL III (a second SS-N-8 testbed) apparently counted as operational launchers under SALT II. One unit that may have been considered a non-operational testbed was the GOLF V, a GOLF modified to test the SS-NX-20 [Ref. 16: p. 93].

Two other treaty provisions applied to SLBMs; Article IX prohibited the deployment of long-range, sea-based ballistic missiles on other than submarines, and also limited the throw-weight of a future SLBM to that of the SS-19, the heaviest "light" ICBM deployed by either side. The Protocol to SALT II, which was to remain in force through December 31, 1981, reflected Soviet concern over U.S. cruise missiles, and prohibited the deployment (though not the testing) of ground-launched or sea-launched cruise missiles with ranges in excess of 600 km.

Additionally, the Joint Statement of Principles enumerating basic guidelines for subsequent negotiations was also signed on June 18, 1979. The guidelines stated that the U.S. and U.S.S.R. would continue negotiations with the purpose of reducing the number of strategic weapons on each side, as well as seeking qualitative controls on new weapons. It was also acknowledged that verification of future arms control agreements might have to go beyond national technical means and involve cooperative procedures. [Ref. 37]

#### F. CONCLUSION--SOVIET OBJECTIVES IN SALT II

It has already been shown that major Soviet objectives during SALT II included the limitation of, if not the prohibition of, U.S. cruise missiles (especially GLCMs and SLCMs)

and the TRIDENT II SLBM. In addition to these goals, however, this section will examine how SALT II provisions would have affected the Soviet naval strategic forces.

During SALT II hearings before the Senate Committee on Foreign Relations, Carter Administration officials testified that the treaty would significantly restrain Soviet strategic forces. Secretary of Defense Brown presented a table predicting that the Soviets would dismantle a variety of ICBM and SLBM launchers, as well as heavy bombers, in order to meet the January 1981 launcher limit of 2,250. For instance, under SALT II limitations, the Administration believed that the Soviets would have only 900 SLBM launchers in 1985; without the treaty, it was estimated that they could have between 1,100 and 1,200 SLBM launchers. [Ref. 53: p. 148]

Examining the SALT II limitations more closely, however, the Administration's predicted decrease of 50 SLBM launchers could be more than offset in terms of warheads if the maximum allowable MIRVed SLBM ceiling was reached; under the SALT II limitations, continuing deployment of the most threatening Soviet SLBMS--the MIRVed SS-N-18s and new SS-NX-20's--was not effectively constrained. Under the treaty, if the Soviets were to deploy their upper limit of 820 MIRVed ICBM launchers by 1985, they would still be allowed 380 MIRVed SLBM launchers.

By March 1983, with only two years left in the proposed SALT II period, the Soviets had launched their 14th DELTA III (with additional units expected to be built) and their second TYPHOON SSBN (with this production run just beginning) [Ref. 54: pp. 21-22]. With the addition of these units, the Soviet MIRVed SLBM inventory equalled 264 launchers. According to the U.S. Defense Department, "By the mid-1980's, the Soviets are expected to complete their current ICBM modernization programs for fourth-generation systems." At this time, they are expected to have 818 MIRVed ICBM launchers deployed--"150 SS-17s, 308 SS-18s, and 360 SS-19s"--almost exactly matching the ceiling of 820 MIRVed ICBM launchers specified in SALT II. [Ref. 54: p. 19] The SALT II provisions, if the treaty had been ratified, would have still allowed for 882 MIRVed SLBM launchers. This could equate to 16 DELTA IIIs and 6 TYPHOONS, or 18 DELTA IIIs and 4 TYPHOONS. At any rate, it appears that, even without SALT II ratification, the Soviets will complete their planned ICBM modernization by 1985, remaining within SALT II guidelines, while allowing for the maximum possible modernization of the SSBN/SLBM force.

During the Senate SALT II hearings, William Van Cleave testified that

We know very well by now that the only relationship between SALT agreements and what the Soviets will do in SNF [Strategic Nuclear Forces] programs is that those agreements reflect what the Soviets want to do. They do not prevent the Soviets from doing something they have



otherwise planned, because the Soviets clearly plan first what they wish to do and then accept only those SALT limitations consistent with those plans. Limitations that would interfere are either rejected outright or so ambiguously worded that they will not interfere. Moreover, Soviet programs, set in a very rigid Five Year Defense Plan, are not much subject to major change and will not be much influenced by SALT or NO-SALT. [Ref. 52: pp. 22-23]

Paul Nitze agreed with Van Cleave, and testified that

When they put together the 5-year plan, it is a very detailed and interrelated kind of a process of allocation of equipment, of time and of manpower. To modify that in midstream except for minor adjustments is a difficult thing to do.

I would be surprised if they would make major modifications in their programs by virtue of ratification or non-ratification of the treaty. They could....One of the things that they might do would be not to phase out the 250 SS-7, SS-8, and SS-11 launchers that they would have to phase out in order to get down to the figure of 2,250 launchers... [Ref. 53: p. 150]

Mr. Nitze's analysis was probably very close to the truth. Most likely, the only difference between Soviet strategic behavior without ratification of SALT II and what that behavior would have been with ratification of the treaty is the fact that the majority of the obsolete bombers and land-based missile systems which would have been dismantled under the treaty provisions are still operational. (The SS-7 and SS-8 ICBM launchers have been dismantled in accordance with SALT I SLBM modernization provisions.)

Strobe Talbott notes that throughout SALT II negotiations, the Russians strongly opposed the idea of "having to dismantle any weaponry at all", even if the weapons were obsolete [Ref. 36: p. 90]. He speculates that a criterion

for Soviet agreement to launcher ceilings that forced such dismantlement on their side, while allowing U.S. strategic forces to remain untouched, was U.S. agreement to what amounted to unilateral restraints on their cruise missile force. Similarly, after much discussion the Soviets agreed to another SALT II limitation that affected only their strategic forces. The so-called "booster-type counting rule" that stated once a missile had been tested with MIRVed warheads, all versions of that missile would be counted as MIRVed, only affected the Soviet missile force. Their most modern and effective weapons--the SS-N-18, as well as the SS-17, SS-18, and SS-19--were all deployed in single and multiple warhead versions, and thus were all counted as MIRVed launchers. [Ref. 36: pp. 110-111]

The SALT II sublimits for MIRVed ballistic missile launchers would potentially constrain the most powerful part of the Soviet strategic arsenal--their MIRVed ICBMs--but the limit for combined MIRVed ICBM and SLBM launchers (plus ALCM-equipped bombers and the non-existent MIRVed ASBMs) allowed both sides the "freedom to mix", thus protecting the strong U.S. lead in MIRVed SLBMs. Because the Soviets have traditionally given priority to the modernization and numerical strengthening of their land-based ICBMs over their sea-based forces, this Soviet concession to the "freedom to mix" provision needs to be examined more closely.

Because of the decreased accuracy of SLBMs (due to the mobility of the SSBNs) as well as the relative invulnerability of deployed SSBNs, the U.S. has always considered sea-based weapons to provide a more stable deterrent, thus decreasing the benefits of a surprise first strike. Consequently, the U.S. has always had an underlying goal in SALT to "push the Soviets to sea." [See, for instance, Ref. 36: pp. 207-208] Thomas Wolfe writes that, throughout SALT I negotiations and the early part of SALT II talks, the Soviets rejected "U.S. suggestions to reduce land-based missiles in favor of greater reliance on SLBM forces." Wolfe continues, however, that Soviet agreement to the "freedom to mix" provision in SALT II MIRVed limits "may have presaged a shift in Soviet thinking on the issue." [Ref. 5: p. 125]

Indeed, a proposal made by Brezhnev to Kissinger in 1974 to "extend the Interim Agreement through 1980" and allow each side 1,000 MIRVs with a "freedom to mix between the land-based or sea-based missiles" can be interpreted several ways [Ref. 32: pp. 1022-1023]. Since the SS-N-18, the first Soviet MIRVed SLBM, was not to be operationally deployed until 1978, with a total of 144 MIRVed SLBM launchers deployed by June 1979, one could argue that the Soviets planned to maintain a vast inequality between MIRVed ICBMs and MIRVed SLBMs. A proposed treaty expiration date of 1980, however, combined with the rapid addition of SS-N-18's to the fleet once the missile was developed, kept open the

possibility of a higher subsequent limit, and suggested that the strategic role of the Soviet Navy was very definitely growing.

Perhaps most important, however, is the fact that the Soviet-approved SALT II agreements allowed for a greater expansion in strategic naval forces (especially MIRVed missiles) than in land-based forces. Indeed, with long-range SLBM-equipped DELTAs and TYPHOONS now capable of destroying targets in the U.S. while firing from pier-side, the Soviet Navy may soon assume a limited counterforce role. With the trend towards increasingly accurate SLBMs, and with the submarine firing from a known, fixed position (rather than being dependent on navigational fixes at sea), SLBM accuracy could be approaching that of ICBMs. If this is the case, the SSBN is capable of multiple missions--counterforce, countervalue, or strategic reserve (if a credible at-sea reload capability is developed)--exceeding the capabilities of land-based missiles, especially in the area of survivability. ICBMs would still have throw-weight advantages, but command and control could be of roughly equivalent reliability for SSBNs at pier-side and ICBMs.

A shift to increased reliance on sea-based forces could switch superpower arms control emphasis to strategic ASW--a field in which the Soviets have traditionally trailed the U.S. [Ref. 5: p. 193]. Soviet interest in ASW restraints was

demonstrated during SALT II negotiations. According to Talbott, the Soviets suggested ASW limitations in response to U.S. interest in banning depressed trajectory tests for ballistic missiles. Talbott explains that

A depressed trajectory missile [with its decreased flight time], especially if fired from a submarine in a staging area off the coast of the target country, would be an effective instrument of surprise attack. It would increase the capability of one side to destroy the other's bombers before they could take-off from their runways and its submarines before they could leave their ports....However, no such thing existed in 1978... [Ref. 36: p. 207]

Although this U.S. suggestion (which occurred rather late in the SALT II negotiations) caught the Russians off-guard, Talbott continues that

...after considerable haggling, the Soviets said they might consider a ban on depressed-trajectory missiles-- if it was part of a comprehensive treatment of the problem of sneak attack, including severe limits on antisubmarine-warfare. At one point, the Russians floated the idea of "ASW-free zones," a sort of underwater version of the ABM treaty, and perhaps a submarine-free zone too. The U.S. Navy was far ahead of the Soviet Union in both ASW and submarine technology and was determined to hold that edge, so the Carter administration eventually withdrew the depressed-trajectory ban from its SALT II position, and it was agreed instead to deal with the problem of sneak attack in SALT III. [Ref. 36: pp. 208-209]

The SALT II negotiating timeframe (1972-1979) overlapped with a very significant period in the development of the Soviet strategic navy. The deployment of the long-range SLBMs on the new DELTA class SSBN, along with the development of the TYPHOON/SS-NX-20 system, provided the Soviet Navy with its first true intercontinental strike capability.

At the same time, however, the U.S. Navy was developing its own long-range platform--the OHIO SSBN armed with the TRIDENT SLBM--as well as a long-range strategic cruise missile. Soviet concern over these U.S. naval developments was expressed through Soviet efforts to ban the TRIDENT II SLBM and all SLCMs. Neither effort was entirely successful; by the time either system would be ready for deployment, no SALT II constraints would remain in effect. Soviet efforts to incorporate a "one new SLBM" rule into the SALT II treaty were completely unsuccessful, and SLCM constraints would expire by the end of 1981.

The increasing accuracy of U.S. ballistic missiles, combined with the cruise missile's potential ability to evade Soviet air defenses, may have prompted the Soviets to consider an increased role for their most survivable strategic platforms--the SSBNs--in the 1980's. In SALT II, the U.S.S.R. avoided any meaningful constraints on its strategic naval modernization and expansion; SALT II ceilings constraining MIRVed SLBM launchers were set well above the number that will likely be deployed by 1985, and new type SLBM development/deployment was virtually unconstrained. However, while SALT II met some Soviet objectives by allowing for maximum Soviet strategic naval expansion, it did little to constrain the most threatening U.S. naval strategic forces. The Soviet Union was no doubt pleased with the

clear numerical superiority (in terms of SSBNs and SLBMs) granted to its navy in the SALT I Interim Agreement, but it may have been less jubilant when the SALT II treaty failed to stop any planned U.S. naval expansion.

#### IV. BACKGROUND ON START

In June 1982, American and Soviet negotiators met in Geneva to commence the Strategic Arms Reduction Talks--START. Since then, the START negotiations have been inextricably intertwined with the Intermediate-range Nuclear Forces (INF) reduction talks, centering on medium-range nuclear weapons in Europe. The Soviets indefinitely discontinued the most recent round of INF talks in November 1983 when the U.S. began its scheduled deployment of PERSHING II IRBMs and TOMAHAWK GLCMs in Western Europe, and two weeks later when Round V of the START negotiations adjourned for a scheduled break, the Soviets refused to set a resumption date, also in protest of the U.S. deployment.

This chapter will describe the strategic naval developments between 1979 (the signing of SALT II) and December 1983 (the completion of the last round of START negotiations) and preliminary proposals advanced by both superpowers during this period of the negotiations. Of necessity, this chapter must also mention other strategic developments, specifically bombers, ICBMs, ALCMs, and ballistic missile defense programs under development in the early 1980's, as well as the impact of INF deployments and negotiations on START.



## A. NAVAL STRATEGIC FORCE LEVELS

The most significant strategic addition to the Soviet fleet in the early 1980's was the TYPHOON class SSBN. By late 1983, the second unit of this class had probably commenced sea trials, and the first unit had joined the operational fleet [Ref. 54: p. 21]. YANKEE I and HOTEL II SSBNs continued to be dismantled as new units of the TYPHOON and DELTA III classes began sea trials. The following probably represents the Soviet strategic naval order-of-battle at the end of 1983:

2 TYPHOON	40 SS-N-20 launchers
14 DELTA III	224 SS-N-18 launchers
4 DELTA II	64 SS-N-8 launchers
18 DELTA I	216 SS-N-8 launchers
1 YANKEE II	12 SS-N-17 launchers
23 YANKEE I	368 SS-N-6 launchers
(1 HOTEL III)*	6 SS-N-8 launchers
(3 HOTEL II)*	9 SS-N-5 launchers
(1 GOLF V)*	(1 SS-N-20 launcher)*
(1 GOLF III)*	6 SS-N-8 launchers
(12 GOLF II)*	(36 SS-N-5 launchers)*
62 modern SSBNs	945 modern SLBM launchers

\*not accountable under SALT I/II  
[Ref. 55: p. 14, and Ref. 16: p. 93]

Two new SLBMs were either introduced into the Soviet strategic fleet or under development in the early 1980's--the SS-N-20 and a possible follow-on to the SS-N-18--as well as a strategic cruise missile--the SS-NX-21. Little is known about each of these missiles at the unclassified level. The TYPHOON SSBN has 20 launch tubes for the SS-N-20; this newly deployed MIRVed missile has a range of about 4480 nm, and probably carries between six and nine RVs [Ref. 54:

pp. 21-22]. The second new missile, an SLBM with improved accuracy and possibly a larger yield than its predecessor, was expected to begin flight tests in 1983, and eventually replace the SS-N-18 [Ref. 54: p. 23]. The SS-NX-21 was also tested in 1983, and is believed to represent the first modern long-range, land-attack sea-launched cruise missile in the Soviet fleet. (A version of the SS-N-3 was probably designed for land-attack over two decades ago, but has a much shorter range than the SS-NX-21--about 400 nm for the SS-N-3c as compared to about 1600 nm for the SS-NX-21.) The SS-NX-21 appears similar to the U.S.-built TOMAHAWK, and may be compatible with a standard submarine torpedo tube. If so, the Soviets could deploy the missile on a variety of SSNs and station the units within firing range of the U.S. or its allies around the world. [Ref. 54: p. 23, and Ref. 17: p. 43]

The U.S. strategic fleet was also undergoing modernization in the early 1980's. The ten POLARIS-equipped SSBNs (GEORGE WASHINGTON and ETHAN ALLEN classes) were converted to SSNs; five were decommissioned by the end of 1983, and the remaining units were used for training [Ref. 55: p. 7]. USS OHIO was commissioned in November 1981, and three units of the new class SSBN were in the fleet by December 1983. Each OHIO SSBN carries 24 TRIDENT I C-4 SLBMs with a range of 4230 nm, a CEP of under 1000 ft, and a normal load of eight 100 KT RVs. [Ref. 56: pp. 62, 65; and Ref. 57: p. 41]

Thirty-one LAFAYETTE/DEN FRANKLIN class SSBNs remained in the fleet; twelve had been refitted with TRIDENT I missiles, and 21 retained POSEIDON missiles.

The TRIDENT II D-5 SLBM remained in research and development; the missile is expected to possess increased accuracy, possibly with a CEP of 480 ft, in order to have counterforce capabilities. The missile is not expected to become operational before 1989, and the Mk 500 MaRV warhead, which could maneuver after reentry to evade Soviet ballistic missile defenses, is not expected to be available for operational use on the D-5 until the 1990's. [Ref. 56: pp. 67-68, and Ref. 58: p. 25]

The conventional land-attack version of the TOMAHAWK SLCM was tested by the battleship USS NEW JERSEY and a SURGEON class SSN, USS GUITARRO, in 1983, although wide deployment of the missile was delayed until 1985. The range of the conventional-warhead missile is about 700 nm while the nuclear land-attack TOMAHAWK has a range of about 1350 nm. The latter version will most likely be deployed on LOS ANGELES class SSNs and some classes of destroyers and cruisers. Initial testing of the missile is being conducted on USS MERRILL, a SPRUANCE class destroyer. [Ref. 59: pp. 23, 40; and Ref. 60: p. 674]

The French strategic navy was also entering a modernization phase in the early 1980's. France launched its sixth SSBN, L'INFLEXIBLE, in June 1982, and the submarine is

scheduled to join the fleet in 1985. This SSBN will carry the newly developed M-4 SLBM; the M-4 has a range in excess of 2160 nm when carrying its maximum of 6 MIRVs. Four of the five currently operational SSBNs, presently equipped with M-20's, will be refitted with the M-4. Additionally, the first of a new class SSBN is scheduled to be laid down in 1989 and commissioned in 1994; France's first SSBNs were commissioned in the early 1970's, and this new class will provide timely replacements. [Ref. 61: p. 36, and Ref. 62: p. 17]

British plans for fleet modernization are also projected for the 1990's. Four units of a new TRIDENT class SSBN are planned to replace the aging RESOLUTION class SSBNs, which were built in the late 1960's. The new SSBNs will each be equipped with 16 TRIDENT II D-5 SLBMs. The first unit is scheduled to be laid down in 1986 and join the fleet in 1993. [Ref. 63: p. 75] Meanwhile, the aging RESOLUTION SSBNs will be kept active through a modernization of the POLARIS SLBMs. Through a project named "Chevaline," the missiles will be updated with a "new warhead system which will allow manoeuvring in space, but will fall short of a true...MIRV [system]." [Ref. 63: p. 259]

#### B. NON-NAVAL STRATEGIC FORCES

To an arms controller in the 1980's, an analysis of the role of the Soviet Navy in the overall strategic plan is

impossible without examining additional strategic assets. In the early 1980's, the Soviets were developing ground- and air-launched versions of a long-range strategic cruise missile, two new ICBMs, and a new strategic bomber designated the BLACKJACK. The ground-launched cruise missile, designated the SSC-X-4, is believed to be mobile and have a range of about 1600 nm [Ref. 55: p. 12]. The ALCM, designated the AS-X-15, also has an estimated range of about 1600 nm and will probably be deployed on the BACKFIRE, BLACKJACK, and/or BEAR bombers. According to the U.S. Defense Department, ALCMs could be operational by the mid-1980's, and the bomber/ALCM combination "would provide the Soviets with greatly improved capabilities for low-level and standoff attack in both theater and intercontinental operations." [Ref. 54: p. 26]

The development of two new ICBMs by the Soviets has caused the United States to accuse the Soviet Union of violating the "one new ICBM" limitation contained in the SALT II treaty. The SS-X-24 is a solid-propellant ICBM, about the size of the U.S. MX ICBM, probably intended for silo-deployment. The second missile, a smaller, solid propellant ICBM designated the SS-X-25, if indeed a "new" missile, is the one that may violate the SALT II treaty. [Ref. 64: p. 34] The Russians reportedly state that the SS-X-25 is merely a modernization of the SS-13 ICBM, and is

therefore allowed under the treaty. As a British weekly summarizes, however,

It [the SS-X-25] bears as much resemblance to the SS-13 as a skyscraper to a log cabin. The propellant is entirely different; the new missile has a completely new guidance system; and it can carry a much bigger payload. The Russians' argument...hangs on the fact that "modernisation" is not defined in the treaty. [Ref. 64: p. 34]

Other reports indicate that the Soviets have encrypted so much of the missile test telemetry that the U.S. can not accurately judge the missile's payload [Ref. 65: p. 60]. At any rate, the Soviets are continuing to modernize all aspects of their strategic forces.

Another area that has prompted the U.S. to accuse the Soviets of treaty violation is that of ballistic missile defense. In signing the 1972 ABM treaty and its 1974 protocol, the United States and the Soviet Union each agreed to limit ABM defenses to 100 launchers at only one site, and to refrain from developing a nationwide ABM defense network [Ref. 7: pp. 487-493]. Since the 1960's, the Soviets have maintained an ABM system around Moscow, and in the early 1980's, they began to significantly upgrade this system. The Soviets recently introduced the Pushkino-class phased-array battle management radars with 360 degree coverage; these radars are deployed or under construction at several sites surrounding Moscow. Also, in addition to three Pechora-class ballistic missile detection and tracking radars built along the periphery of the Soviet Union, a similar radar has

been identified at Abalakova in central Siberia--near three SS-18 ICBM fields. [Ref. 66: pp. 14-16, and Ref. 67: pp. 19-20] Article 6b of the ABM treaty states that

...each Party undertakes...not to deploy in the future radars for early warning of strategic ballistic missile attack except at locations along the periphery of its national territory and oriented outward. [Ref. 7: p. 490]

The Abalakova radar is believed to be oriented to the northeast, possibly to detect incoming U.S. SLBMs launched from the northern Pacific. The Soviets state that the Abalakova radar is a space-tracking radar, not an early warning radar, and therefore does not violate the ABM treaty. [Ref. 67: pp. 19-20, and Ref. 64: p. 34]

Two nuclear-armed interceptor missiles provide a layered defense; the SH-04 is an exoatmospheric missile and the SH-08 provides endoatmospheric defense. The U.S. Defense Department has reported that the Soviets are developing and testing a rapid reload capability for the SH-08 (two launches were conducted from the same missile launcher within two hours, and no exterior reloading equipment was observed), and has questioned Soviet compliance with Article 5 of the ABM treaty which prohibits such a capability [Ref. 68: p. 19]. The 100 launchers allowed under the 1972 treaty would be inadequate to counter a full-scale nuclear attack; however, a true rapid reload capability could double or triple the effectiveness of each launcher.

Additionally, the SA-12 surface-to-air missile system has reportedly been tested against ballistic reentry vehicles. While the use of a SAM system to counter tactical reentry vehicles such as the PERSHING II is probably allowed under the ABM treaty, any capability of the SA-12 against an ICBM or SLBM would give the Soviets a greatly expanded ABM capability and, if operationally deployed outside the Moscow area or in excess of 100 launchers, would violate the 1972 agreement. [Ref. 66: pp. 15-16] All of these Soviet advancements in ballistic missile defense cause at least some U.S. officials to fear a Soviet break-out of the ABM treaty. An extensive Soviet ABM capability would especially impact on U.S. strategic naval plans as the shorter range, steeper reentry angle and slower reentry speed makes an SLBM warhead more vulnerable to ABMs than an ICBM RV [Ref. 10: p. 148].

Meanwhile, since taking office in 1981, President Reagan has proposed numerous strategic programs for the U.S.; mostly, these plans parallel the April 1983 recommendations made by the President's Commission on Strategic Forces, chaired by Air Force Lieutenant General Brent Scowcroft. These recommendations can be summarized as follows:

1. Continuation of the OHIO SSBN construction program and rapid development and deployment of the TRIDENT II SLBM with some capability against hardened targets.
2. Begin research on a smaller SSBN which carries fewer missiles than the OHIO class to diversify and multiply U.S. naval strategic assets.



3. Continuation of the bomber and ALCM programs.
4. Vigorous research and development of ABM technologies.
5. A four-pronged ICBM modernization program:
  - a. Develop and deploy a single-warhead small ICBM to reduce target value and provide flexibility in basing (including mobile basing);
  - b. Continue to seek arms control agreements designed to enhance strategic stability;
  - c. Immediate deployment of MX missiles in existing MINUTEMAN silos to enhance deterrence, improve the U.S. negotiating position, and reduce the strategic lead held by the Soviets;
  - d. Continue research on hardening silos and shelters. [Ref. 69]

Present U.S. strategic bomber programs include development of the B-1 and the so-called STEALTH Advanced Technology Bomber. The first squadron of 15 B-1Bs is expected to be operational in 1986, and the deployment of 100 bombers is expected by 1988. The B-1B will have a radar cross section about one-hundredth that of the B-52. This reduced visibility to radar, in addition to extensive electronic countermeasures (ECM) capabilities, is expected to enable the bomber to penetrate Soviet air defenses into the 1990's. Long-range ALCMs will be deployed on B-52 G/H models and B-1Bs in the 1980's, and on the STEALTH bombers in the 1990's. [Ref. 51: p. 37]

The MX ICBM, renamed the PEACEKEEPER, is scheduled for deployment in existing MINUTEMAN silos with initial operational capability in 1986, and full capability in 1989.

Fifty missiles will be placed in Wyoming and 50 in Nebraska. Superhardened silos could be available for PEACEKEEPER-deployment by 1988. [Ref. 70: p. 18] The MIRVed PEACEKEEPER will have ten RVs and a range in excess of 4000 nm.

The smaller ICBM recommended by the Scowcroft Commission has been named the MIDGETMAN, and initial operational capability is expected in 1992. Two basing modes have been proposed--mobile basing or deployment in a superhardened silo. A 5000 nm range and 100 ft CEP have been proposed as missile goals. [Ref. 72: p. 15, and Ref. 70: p. 18]

In March 1983, President Reagan called for a national effort to develop an effective space-based ballistic missile defense system. U.S. scientists are concentrating on two types of directed-energy weapons research--high energy lasers and charged-particle beams--and Soviet scientists are reportedly researching the same areas. The technical feasibility and effectiveness of such weapons have been hotly debated among Western scientists, and the political and military desirability of such systems is a subject of debate in Western Europe, the U.S., and the Soviet Union. [See, for instance, Ref. 73 and Ref. 74] The issue of ballistic missile defense is likely to become a major issue in START negotiations.

### C. SOVIET NAVY'S STRATEGIC ROLE

The strategic capabilities of the Soviet Navy have greatly expanded since the SALT II negotiating period with the addition of numerous DELTA III SSBNs and the early units of the TYPHOON class to the fleet. These long-range missile platforms enhance the deep-strike capability of the strategic navy while enabling the submarines to patrol in protected home waters. Despite the increasing number of long-range missile-equipped SSBNs, however, the less capable YANKEEs continue their SS-N-6 patrols off the U.S. east and west coasts. These SSBNs continue to make the long transit from Northern and Far Eastern Soviet ports to patrol areas within 500-1500 nm of the United States--patrol areas which would be cut off from Soviet resupply and support lines in the event of nuclear war. The most reasonable purpose served by these continuing patrols is the short flight time--and warning time--of the SS-N-6 (usually between 10 and 15 minutes) to critical targets such as U.S. bomber bases and command and control centers (as opposed to 30 minutes for an ICBM flight).

At the same time, the steady retirement of the aging HOTEL SSBNs (with dismantlement serving as partial compensation for newer DELTAs and TYPHOONS) is increasing the regional strike role in the Euro, and Asian theaters for the remaining YANKEEs. With the number of YANKEEs also

decreasing as dismantlement continues, the force is dwindling as the strategic responsibility may be increasing. In the near future, SLCM-equipped submarines may assume part of the regional strike responsibility.

The navy is the only element of the Soviet military that is able to forward deploy forces to menace the United States homeland as American and NATO forces deployed in Europe menace the Soviet Union. This forward deployment capability has been exercised strenuously since the START and INF negotiations broke down in late 1983. In late November, as the scheduled date for the deployment of American PERSHING II and TOMAHAWK missiles neared, Soviet Defense Minister Ustinov threatened retaliation if the U.S. missiles were actually deployed in Europe. Ustinov not only promised to increase Soviet SS-20 deployments aimed at Western Europe, but threatened that

...additional systems will be deployed to create the necessary counterbalance to the growing grouping of NATO nuclear arms in Europe. Fitting retaliatory measures with respect to the territory of the U.S. itself will be taken, measures of such a kind that the Americans will inevitably feel the difference between the situation that existed before the deployment of their missiles in Western Europe and afterward... [Ref. 75: p. 7]

Two days after the West German government reaffirmed that it would accept the U.S. missiles, a Soviet statement attributed to Andropov announced four specific countermeasures. These included the termination of the INF talks, the renewed

deployment of SS-20's in western U.S.S.R., and the deployment of "operational tactical" missiles in Eastern Europe. Additionally, the Soviet statement declared

Since by siting its missiles in Europe the United States is increasing the nuclear threat to the Soviet Union, corresponding Soviet means will be deployed in ocean regions and seas taking this circumstance into account. In terms of their characteristics these means of ours will be equal to the threat created for us and our allies by the U.S. missiles being sited in Europe. (emphasis added) [Ref. 76: p. 2]

Chief of the General Staff Ogarkov reiterated this plan of action during a rare press conference held on December 5; Ogarkov stated that the Soviet deployment would equal the U.S. threat "from the point of view of range, yield, accuracy, and, what is particularly important, flight time to target." [Ref. 76: p. 2]

The Soviet promise of retaliation soon became reality. In late December and January, the U.S. press published accounts concerning an unusual deployment by an ECHO II class SSGN to the western Atlantic. At one point, the ECHO II was reported "about 400 miles from Norfolk, Va." [Ref. 77: p. 23] Units of the ECHO II class are believed to be equipped with either the SS-N-3 or SS-N-12 anti-ship cruise missile. Neither of these missiles are considered to be strategic land-attack cruise missiles; however, one version of the SS-N-3 is believed to have been developed in the late 1950's for a land-attack role. Subsequent successful SSBN/SLEM programs resulted in the redefinition of the ECHO

II as primarily an anti-ship platform; however, the SS-N-3c land-attack missile (with a range in excess of 400 nm) may remain in the Soviet inventory. At any rate, the deployment of an ECHO II to the western Atlantic immediately following Andropov's promise of retaliatory deployments suggests that the Soviets consider the ECHO II to still have a land-attack capability. The deployment of a more capable strategic cruise missile platform (such as an SS-NX-21-equipped SSN) to the western Atlantic would closely equal the U.S. European missile deployment in terms of "range, yield, accuracy, and...flight time to target."

Also in late January, U.S. press reports noted the unusual deployments of several DELTA SSBNs. In addition to the normal two or three YANKEEs deployed off each coast of the U.S., two to three DELTAs were deploying south of the Greenland-Iceland-U.K. gap towards the normal YANKEE deployment area. While the DELTAs could easily target most of the United States from their normal patrol areas near Soviet northern homewaters, the southerly movement succeeded in shortening the flight time to American targets--and the warning time--as Ogarkov had promised. [Ref. 77: p. 23] The deployment also revealed a strong Soviet confidence in U.S. ASW detection capability as well as the American tendency to "leak" classified military information!

Even before the Soviets announced plans for retaliatory missile deployments, the Soviet Navy demonstrated its unique

capability to deploy platforms a short distance from the U.S. mainland. A VICTOR III SSN got its picture on American television news and in the newspapers as the result of an embarrassing naval accident; nonetheless, the Soviets publicly demonstrated their capability to threaten the U.S. The VICTOR III's screw became snarled in a U.S. sonar cable off Bermuda, and the unit had to be towed to Cuba for repairs; but, the submarine--a potential SS-NX-21 SLCM carrier--also made a menacing statement by its very presence 500 miles east of South Carolina. Americans were forced to ask themselves, "How many more are out there?" [Ref. 78: p. 24]

Additionally, the Soviet Navy maintains a semi-permanent BEAR D (and recently, BEAR F) deployment to Cuba. The BEAR D's conduct reconnaissance flights along the U.S. east coast and collect intelligence on any U.S. naval units that are deployed in the western Atlantic/Caribbean. The BEAR F's are ASW platforms, suggesting that these aircraft are searching for U.S. SSBNs and SSNs. While these small-scale deployments (usually only two to four aircraft are deployed) are of limited strategic value, they do demonstrate a potential for the use of Cuba for naval strike or ASW aircraft immediately off the U.S. coast during hostilities. (BEAR D's also play a role in the guidance of long-range anti-ship missiles.) The deployment of a significant number of Soviet

aircraft to Cuba in a time of crisis could be accomplished much more quickly than the deployment of medium-range missiles, SLCM-equipped submarines, or SSBNs to the area--and be highly visible. [Ref. 16: pp 23-25, 333]

While the Soviet leaders may consider their highly accurate and extremely potent ICBMs to be their most valuable strategic weapons in wartime, there can be no denying that the Soviet strategic navy is uniquely useful in peacetime. No other service could make good Ustinov's threat of retaliatory deployments. Even though the U.S. weapons that were "disrupting the strategic balance" were ground-based, the Soviet Navy, with its SLCMs and SLBMs, responded to the challenge and proceeded to threaten the United States much as the U.S. missiles threaten the Soviet Union. A powerful surface navy has long been considered the chief vehicle of "power projection", especially in third world crises, but the strategic navy is also unique in its flexible response capability. This capability, coupled with its role as an "invulnerable" strategic reserve, should persuade Soviet leaders not to bargain away too much of the strategic navy's potential in arms control negotiations.

#### D. U.S. START PROPOSALS

Since May 1982, the U.S. has publicly advanced three START proposals. The initial U.S. proposal, a two-phased approach, was announced by President Reagan on May 9, 1982.



at Eureka College. The first phase incorporated the following points; explanatory notes have been added.

--Mutual reduction of the number of ballistic missile warheads by one third, to about 5000. (Each superpower had about 7500 strategic warheads in its inventory in 1982.)

--No more than one half of these warheads (about 2500) could be deployed on ICBMs. (In 1982, the U.S. had 2000 warheads on ICBMs and the U.S.S.R. had about 5500 ICBM RVs.)

--The total number of ballistic missile launchers would be cut to 850. (In 1982, the U.S. had 1700 such launchers in its inventory and the U.S.S.R. had 2400 launchers.) [Ref. 79: p. 3, and Ref. 80]

The second phase called for a reduction of the "overall destructive power of the two sides' forces to equal levels", including "a mutual ceiling on ballistic missile throw-weight below the current U.S. level." [Ref. 79: p.3] In 1982, the total U.S. missile throw-weight was 1.9 million kilograms (MKG) while the Soviet total was 5.1 MKG [Ref. 80]. Phase two would also "consider further [strategic] reductions." [Ref. 79: p. 3]

The official releases concerning the Eureka proposal do not mention the limitation of bombers, strategic cruise missiles, or "heavy" ICBMs. A British weekly, however, credits the U.S. proposal with including the following points; explanatory comments have been added.

--Each side would be allowed 316 bombers. (The U.S. inventory included 316 bombers while the U.S.S.R. had 145.)

--The U.S.S.R. would reduce the number of its heavy ICBM launchers from 308 to 110. (The U.S. has no heavy ICBMs.)

--Verification would include some on-site inspection; encryption of missile telemetry during test launches would be prohibited. [Ref. 81: p. 55]

The second U.S. proposal was advanced on June 3, 1983, and incorporated recommendations made by the Scowcroft Commission. This has been referred to as the June 1983 proposal, and included the following points; explanatory comments have been added.

--Flexibility on the limit for total ballistic missile launchers. (The addition of the single warhead MIDGET-MAN to the U.S. arsenal would necessitate a higher overall ceiling on launchers than the original proposal of 850.)

--Shifting from two phases of reduction to one phase, with all aspects negotiated at once. (This would allow the U.S. to trade an American concession concerning bombers for a Soviet concession concerning throw-weight.)

--Limitations imposed on bombers and ALCMs carried on each bomber.

--Flexibility on seeking a reduction in ballistic missile destructiveness. (Although throw-weight would still be an important variable in computing total destructiveness, other factors would also be considered. This idea was explained further in the October Build-down proposal, which will be discussed next.) [Ref. 82]

Although no new launcher ceiling was officially proposed, various sources reported that the U.S. would favor a ceiling between 1150 and 1450 [Ref. 83: p. 16, and Ref. 116: p. 28]. The June 1983 proposal retained some elements of the Eureka approach, specifically, a ceiling of 5000 total

warheads on ballistic missiles, only half of which could be land-based [Ref. 83: p. 16].

A third U.S. proposal, usually referred to as the Build-down approach, was advanced in October 1983. The following points were announced by U.S. officials:

--For newly deployed warheads, a certain number of existing warheads (to be computed through variable ratios) would have to be withdrawn.

--A minimum mandatory force reduction would be required yearly (approximately five per cent).

--Dismantlement would be determined by whichever provision (of the two above) resulted in maximum reduction.

--The U.S. would show flexibility in negotiating  
--the build-down of bombers  
--limitation of ALCMs  
--trade-offs between U.S. and Soviet strengths.  
[Ref. 82]

According to press reports, the units of measure in Build-down will not be numbers of warheads or numbers of launchers, but Standard Weapon Stations (SWS) that "measure the total destructive capability of nuclear weapons." [Ref. 84: p. 18] American creators of this reduction scheme categorized weapons according to their lethality, with higher SWS values for ICBMs with many warheads and high throw-weight; according to their calculations, one SS-18 (with 10 RVs) is considered to be twice as destructive as one MX, also with 10 RVs. On the other hand, U.S. bombers carrying ALCMs are considered more lethal than Soviet bombers carrying bombs. Both sides were projected to have about the same number--over 16,000--SWS units in 1984, and the U.S. plan

called for a mutual reduction to 8,500 SWS units by 1996. A strength of this plan is the flexibility each side has in choosing the combination of strategic forces that meet some mutually-agreeable total SWS value. However, the U.S. plan reportedly still calls for a limit of 5,000 total ballistic missile warheads. [Ref. 84: pp. 16-18]

#### E. SOVIET START PROPOSALS

While American proposals can best be described as seeking to reduce Soviet ICBMs and protect the U.S. cruise missile programs and strategic systems still in development, Soviet proposals can be described as seeking to ban cruise missiles, restrict U.S. modernization, and preserve Soviet advantages gained through the SALT process.

Specific Soviet proposals in START are more difficult to identify than are U.S. proposals. A British weekly listed the following provisions of a Soviet proposal reportedly made in August 1982:

- Establish a mutual limit of 1800 bombers and ballistic missiles.
- Reduce warheads to an equal (unspecified) limit.
- Ban all cruise missiles with a range exceeding 600 km.
- Delineate bomber-exclusion zones near the U.S. and U.S.S.R.
- Freeze the number of U.S. fighter-bombers within range of U.S.S.R. (apparently including European- and carrier-based bombers.) [Ref. 81: p. 55]

An examination of Soviet press reports in 1982 provides some confirmation of the British report, as well as additional details concerning the Soviet position at the beginning of START. During a speech to the Trade Union Congress in March, Brezhnev proposed a "mutual commitment...not to deploy sea-based or ground-based long-range cruise missiles." He also suggested a "mutual restriction of naval operations" which would include the designation of exclusion zones for SSBNs. He clarified this position:

In particular, we would consider it possible to agree that missile submarines of the two sides should be removed from their present extensive combat patrol areas, that their cruises should be restricted by limits mutually agreed upon. [Ref. 86: p. 69]

The full impact of this proposal on the U.S. and Soviet navies will be addressed in the next chapter.

In a speech delivered to the Komsomol Congress in May, Brezhnev called for a quantitative freeze on strategic forces to go into effect in June, simultaneous with the beginning of START negotiations. Additionally, he stated that "the development of new types of strategic weapons should be either banned or restricted to the utmost", and that the START negotiations should "preserve everything positive that has been achieved earlier" in the SALT process. [Ref. 86: pp. 69-70]

On December 21, 1982, General Secretary Andropov announced a slightly different Soviet arms control proposal. The main points are as follows:

- An immediate freeze on the number of strategic arms.
- Initial reduction of all strategic arms by 25 per cent to 1800 strategic launch vehicles (heavy bombers and ballistic missiles) by 1990.
- Substantial reduction in number of warheads to an equal level.
- Maximum limitation on strategic modernization. [Ref. 88: p. 5, Ref. 89: p. 89, and Ref. 115: p.1]

In contrast to American proposals, this offer refers to all strategic weapons, not just ballistic missiles. In presenting an analysis of Andropov's December 21 proposal, the National Security Record commented that proposed restrictions on strategic modernization would prohibit the deployment of the MX, B-1, and TRIDENT II [Ref. 115: p. 1]. If so, one would assume that equivalent bans would apply to the two new Soviet ICBMs, the BLACKJACK bomber, and the SS-N-18 follow-on SLBM as none of these systems were operationally deployed in December 1982.

Specific Soviet proposals on strategic naval modernization have focused on the newest classes of SSBNs. The initial Soviet START proposal included the suggestion that OHIO and TYPHOON class SSBN construction be limited to four to six units, and that new SSBN classes be restricted to 16 or fewer launch tubes (the OHIO has 24 tubes, the TYPHOON has 20, and the DELTA III has 16 tubes). The most recent Soviet proposals call for a "one new SLBM" rule and stipulate no

limits on SSBN construction. [Ref. 116] These proposals will be discussed in detail in the following chapter.

One additional factor must be kept in mind; U.S. officials have stated that Soviet START proposals have been "conditional on the non-deployment of our INF missiles in Western Europe." [Ref. 90: p. 22] As previously stated, the intertwining of START and INF negotiations is inevitable.

#### F. SUPERPOWER REACTIONS

As expected, neither superpower reacted favorably to the other's START proposals; rather, the reactions revealed areas of disagreement. The Soviet reaction to President Reagan's Eureka proposal was unquestionably negative. In a November 1982 military commentary in Tass, the author criticized the U.S. proposal for delaying the consideration of heavy bombers and cruise missiles until phase two. The commentator noted that the U.S. had about 350 heavy bombers operational in 1982 (not counting over 200 "mothballed" aircraft), and that each operational bomber could be equipped with 20 ALCMs for a formidable force of 7,000 cruise missiles. Thus, if the Eureka proposal were implemented,

The U.S. strategic forces on the whole, after the reduction of the first stage, would be able to deliver to targets no less than 12,000 strategic nuclear munitions (5,000 warheads of ballistic missiles and 7,000 warheads of cruise missiles on planes). Besides, the United States plans to deploy thousands of strategic cruise missiles on submarines.

The Soviet Union has only 150 strategic bombers which can carry a far smaller number of nuclear weapons

than the strategic aviation of the United States. Thus, in suggesting to decrease the number of warheads only on ballistic missiles, the United States actually seeks to ensure that the Soviet Union's strategic forces be limited to 5,000 nuclear warheads, while the United States' strategic forces would be able to have no less than 12,000 such weapons. [Ref. 91 p. 81]

Not surprisingly, the Soviets also reacted negatively to U.S. proposals to restrict ICBMs to one half the total number of ballistic missile warheads. In an April 1983 interview with the West German magazine Der Spiegel, General Secretary Andropov commented on superpower differences over the desired composition of strategic forces. He stated

For instance, the United States believed that its nuclear weapons would be less vulnerable if they were deployed on submarines....This is understandable, since the U.S. is a sea power. We are a continental power, and the bulk of our nuclear weapons are deployed on land. Now the Americans have proposed that nuclear weapons deployed on land be reduced, leaving sea-based missiles aside. Naturally, this doesn't suit us. For our part, we take into account all types of nuclear weapons available on both sides, and we propose uniform reductions of these weapons on both sides... [Ref. 92: p. 5]

In addition to rejecting Reagan's Eureka proposal, this statement reveals some of Andropov's feelings about the strategic navy; the significance of this statement on the navy will be explored in the next chapter.

Not surprisingly, Soviet reaction to Reagan's June 1983 proposal followed the theme that U.S. "flexibility" at the bargaining table was just "an adjustment" to match the "Pentagon's changed plans" to deploy a powerful new missile--the MIDGETMAN [Ref. 93: p. 14].



An October editorial in Pravda was devoted to reviewing the U.S. Build-down proposal. Again, the chief Soviet criticism of the plan was its attempt to undermine "the foundation of the U.S.S.R.'s defensive strategic potential--its intercontinental ballistic missiles." [Ref. 85: p. 17] Although the overall U.S. plan included provisions for counting the destructiveness of strategic bombers (through SWS units), the Soviet editorial noted that the Build-down proposal specifically calls for a graduated replacement of "warheads on ballistic missiles", and that this "replacement will be carried out to the same announced level of 5,000" total warheads. The editorial continues,

It's also no accident that replacement figures are named (one ICBM warhead is considered the equal of two old ones, while one new SLBM warhead is considered to be approximately equal to only one and a half old warheads) that unambiguously imply a faster and larger reduction in Soviet ICBMs than in American SLBMs. [Ref. 85: p. 31]

An earlier Pravda editorial, written in July, rejected the idea of the variable ratio included in Build-down even before the plan was announced. The editorial stated that

The U.S.S.R. favors a comprehensive approach under which all strategic delivery vehicles would be subject to limitations and reductions in the aggregate, not in some sort of artificially singled-out groups or portions. All nuclear warheads would be counted equally within the framework of an agreed-upon ceiling. (emphasis added) [Ref. 94: p. 5]

American criticisms of Soviet START proposals in many ways are a mirror-image of Soviet criticisms of U.S. proposals. For instance, Assistant Secretary of Defense Richard

Perle testified in February 1983 that the Soviets "have proposed a series of one-sided constraints in START, which are designed to hamper United States strategic modernization programs while allowing their own to proceed." [Ref. 90: p. 22] Other documents cite the Soviet offer to limit the TYPHOON and OHIO SSBN construction programs; because the Soviets have a second construction program on-going for a modern SSBN, the DELTA III program, U.S. officials charge that the Soviets could continue to modernize their fleet while the U.S. would be left with twenty year-old POSEIDON class submarines until another (and possibly less effective) program could be initiated. U.S. officials charge that this Soviet proposal is an attempt to use arms control as a substitute for effective ASW to counter the most survivable element of the U.S. strategic forces. [Ref. 87: p. 5]

Additionally, U.S. officials claim that the Soviet proposal to ban deployment of long-range cruise missiles would have an asymmetrical effect on U.S. and Soviet strategic forces. These officials state that the extensive deployment and constant improvement of Soviet air defense systems threatens the penetration capability of U.S. bombers, necessitating the deployment of long-range ALCMs. The Soviets, on the other hand, have no need for such missiles because U.S. air defenses are primitive. [Ref. 87: p. 6]

The U.S. State Department has rejected the Soviet proposal for a nuclear freeze quite emphatically. In September

1982, the State Department listed the following reasons for rejecting a freeze:

--A freeze would prevent the U.S. from implementing planned strategic programs necessary to "catch up" with the Soviet forces.

--At the present unequal strategic force levels, the Soviet Union has no incentive to agree to force reductions to equal levels.

--A freeze would "cap the existing level of strategic arms" rather than work towards force reductions.

--Verification of a freeze would be very difficult.  
[Ref. 79: pp. 3-4]

#### G. IMPLICATIONS OF INF NEGOTIATIONS

Superpower negotiations on Intermediate-range Nuclear Forces (INF) began in Geneva in November 1981, partially as a consequence of NATO's December 1979 dual track decision to deploy PERSHING II ballistic missiles and GLCMs in Western Europe, and simultaneously "seek negotiations with the Soviet Union for the mutual reduction" of U.S. and Soviet "intermediate-range missiles." [Ref. 95: p. 4] Any success in the INF talks could take significant pressures off the strategic arms control negotiators by dealing with issues that have caused problems in SALT and thus far in START. However, the two sides are seeking different objectives--the Soviets seek to limit French and British nuclear forces and U.S. "forward based systems," while the primary goal of the U.S. is to establish an equal limit for American and Soviet land-based missiles in Europe; consequently, the talks have

been plagued with serious disagreement over which forces will be included in the INF realm.

The initial U.S. positions (both the Zero Option announced in November 1981 and the Interim Agreement proposed in March 1983) applied solely to U.S. PERSHING II IRBMs and GLCMs scheduled for deployment in Western Europe and Soviet SS-20, SS-4, and SS-5 IRBMs deployed throughout the Soviet Union [Ref. 95: p. 4]. In September 1983, President Reagan adjusted the Interim Agreement proposal by offering to include medium-range bombers in the INF talks. Additionally, he eased his demand for worldwide equality between the U.S. and the U.S.S.R. in intermediate-range missiles. While the U.S. would still prefer a global INF agreement that limited all longer-range INF (LRINF) launchers in the U.S.S.R. (including those not targeted on Western Europe), the U.S. would refrain from deploying an equal number of missiles in Western Europe. [Ref. 96: p. 17]

The Soviets, meanwhile, believe that a wider variety of European-based nuclear weapons should be included in INF talks. Brigadier General Ye. Tatarnikov, a General Staff officer who was interviewed by an Italian correspondent in November 1981, stated that

It is pointless to restrict the negotiations to land-based missiles--the SS-20s as against the Pershing and cruise missiles. The negotiations must, rather, embrace all medium-range missiles--let us say, from 1,000 to 5,000 km--which means all the missiles of the United States and its allies now based in Europe and adjacent

waters capable of reaching Soviet territory... (emphasis added) [Ref. 97: p. 76]

Least there be any confusion over his comments, the General specified the systems he had in mind.

I repeat: all medium-range missiles, specifically the 986 NATO and 975 Warsaw Pact devices. So this means not only land-based missiles, but also those carried by aircraft and submarines. [It means] first and foremost, the U.S. so-called "forward-based nuclear systems"--that is, the FB-111 bombers and F-111 and F-4 fighter-bombers based in Britain, and the A-6s and A-7s on aircraft carriers--plus the British and French nuclear weapons, the Polaris and M-22s [sic], the Vulcan, Mirage and Buccaneer bombers, and so forth. [Ref. 97: p. 76]

The range limit chosen by the Soviets (1,000-5,000 km) would exclude battlefield/tactical missiles such as the U.S. PERSHING I and the Soviet SS-21/22/23, but would include the 18 SS-N-5 launchers on six GOLF II SSBs stationed in the Baltic (these launchers are not accountable under SALT agreements). The proposed limit also cleverly includes the maximum hypothetical radius (about 1,000 km) for the U.S. carrier-based A-6s and A-7s, as well as West German-based (U.S.) F-4s. What the Soviets do not consider in the A-6 and A-7 cases, however, is that carrier stand-off range from the enemy landmass in wartime would make it impossible for A-6s or A-7s to reach the U.S.S.R. [Ref. 51: pp. 50-51]

While this proposed range limit also encompasses range capabilities of two classes of Soviet fighter-bombers--the FENCER and FLOGGER--Soviet proposals omit these aircraft. However, U.S. officials consider these aircraft to be especially threatening to NATO, and equivalent (if not superior)

to U.S. fighter-bombers which Soviet proposals include. [Ref. 54: pp. 42-43, and Ref. 99: p. 13]

The initial Soviet proposal concerning INF, announced by Brezhnev in Bonn in November 1981, was a moratorium on "deploying new and modernizing the existing medium-range nuclear means in Europe", accompanied by a Soviet unilateral reduction in European-based weapons and continuing talks for "radical cut-backs" in the remaining medium-range forces stationed in Europe [Ref. 97: p. 78]. The Soviets appeared to have two primary goals in INF--to prevent the U.S. from deploying any modern missiles in Western Europe, and to force almost all other American nuclear-capable systems out of Europe. The "radical reductions" proposed by Brezhnev apparently referred to a Soviet plan to reduce its force level to the size of combined British and French nuclear forces, and remove almost all U.S. nuclear-capable forces from Europe. [Ref. 98: p. 1]

A rare Soviet concession in INF was revealed in August when, during a Pravda interview, Andropov proposed dismantling European-based SS-20s, instead of just redeploying these missiles to the Asian part of the Soviet Union. Andropov reportedly stated:

If a mutually acceptable agreement is achieved, including renunciation by the US of the deployment of new missiles in Europe, the Soviet Union, in reducing its medium-range missiles in the European part of the country to a level equal to the number of British and French missiles, would dismantle all the missiles to be reduced. [Ref. 98: p. 2]

While, by Soviet standards, the offer to destroy modern missile launchers is a significant concession, the NATO Special Consultative Group noted that the offer applied only to launchers and that "nothing in their position would prevent them from producing and stockpiling (for use as refires) an unlimited number of new LRINF missiles." [Ref. 118: p. 11] The offer was rejected. American missiles began arriving in West Germany and Britain in November, and the Russians indefinitely discontinued the INF talks. Soviet participation in START was suspended shortly thereafter.

Because the START and INF negotiations are so closely related, there has been considerable talk of merging the two. However the issue is resolved, there can probably be no START treaty without agreement on intermediate-range forces. Both sides have strong motivation for reaching an INF agreement--the U.S. would like to constrain the Soviet BACKFIRE bomber, as well as SS-20 IRBMs, shorter-range missiles, and HOTEL and GOLF SLBMs, while the Soviets are clearly concerned about U.S. PERSHING II and cruise missiles and bombers stationed in Europe, as well as other NATO nuclear forces. The negotiating positions remain far apart, however, and compromise appears unlikely in the near future. [For a more complete discussion of Soviet and U.S. INF positions, see Ref. 99]

The Soviets will probably remain firm in their insistence that any future arms control agreement (either INF, START, or a combined forum) include British and French nuclear forces. In Soviet naval literature, for instance, no discussion of the Western strategic threat is complete without a review of British and French force modernization. The British decision to build TRIDENT class SSBNs for the 1990's, and the French decision to equip its existing SSBNs with a more modern missile while beginning construction of the INFLEXIBLE class SSBN, are subjects of considerable concern to the Soviet Navy. [See Ref. 100: p. 97, and Ref. 101: pp. 72-73]

At present, the inclusion of British and French representatives in INF to negotiate limits on their forces seems unlikely as both countries have named preconditions, including dramatic reductions of the superpowers' nuclear arsenals, which are not likely to be met [Ref. 118: p. 9]. Although numerically, the British and French nuclear forces seem insignificant in comparison to the Soviet nuclear arsenal, the Soviets remain firm in demanding that these forces be subject to arms control. Militarily, the missiles could be used against the Soviets; if the deterrent mission of the weapons failed, they could be used in a retaliatory strike against the Soviet Union. Similarly, if Cuba (a Soviet military ally) had its own nuclear weapons, the United States would no doubt insist that they be subject to arms



control, and probably charged against the Soviets' own nuclear allowance.

When compared to the Soviet arsenal, even the military significance of U.S. INF is questionable. According to David Yost, if both superpowers continued unconstrained INF missile deployments,

Soviet superiority in longer-range INF missiles would be supplemented by Soviet superiority in INF aircraft and in shorter-range missiles such as the SS-21, SS-22, and SS-23. Without even considering the 3 to 1 Warsaw Pact superiority in nuclear-capable aircraft or Soviet missile reloads, the Soviet advantage over the U.S. in land-based missiles in Europe after full deployment of 572 Pershing IIs and GLCMs has been projected as 4 to 1 in warheads on launchers and 6.4 to 1 in megatonnage. [Ref. 118: p. 19]

It is in the political realm, however, that the Soviets place the real significance of INF reductions and limitations. In attempting to force U.S. nuclear forces out of Europe and offering to negotiate the elimination of British and French nuclear forces,

The ultimate intention of the Soviet Union appears to be to negotiate a new structure of European security, in which Soviet regional hegemony would be inevitable and conceded in the balance of forces. [Ref. 118: p. 10]

## V. ANALYSIS OF SOVIET GOALS IN START

One can reasonably deduce from the three U.S. proposals cited in the previous chapter that the primary American goal in START appears to be ensuring the survivability of its strategic forces. This means eliminating or severely limiting the Soviet counterforce-capable, heavy ICBMs; maintaining flexibility in deploying less vulnerable sea based missiles--both SLCMs and SLBMs--as well as ALCMs; maintaining flexibility in deploying PEACEKEEPER and MIDGETMAN missiles in survivable modes; and insuring that the present Soviet ABM system does not become capable of rendering U.S. forces impotent before American technology can deploy an effective system to similarly negate Soviet forces.

The primary Soviet goals are more difficult to pin down, but appear to encompass the following points: preserving a counterforce capability; preserving the present strategic "balance" through restriction of U.S. force modernization; limiting or eliminating the most threatening sea-based strategic platforms; and, for negotiation purposes, preserving the SALT II framework. These issues will be examined in this chapter.

## A. THE SALT II LEGACY

As noted in Chapter III, SALT II included several provisions which were advantageous to the Soviets. These included restrictions on heavy bombers; the counting of U.S. ALCM-equipped bombers within the MIRVed vehicle limit; establishing a limit of 20 ALCMs per bomber; the counting of missile launchers instead of warheads or individual missiles; placing limitations on U.S. SLCMs and GLCMs (in the Protocol); and establishing relatively high numerical limits which allowed planned Soviet strategic modernization to continue. Additionally, SALT II imposed no particularly constricting limits on existing "heavy" Soviet ICBMs or the BACKFIRE bomber. The Soviets apparently seek to incorporate a maximum number of these "positive" aspects of SALT II into START.

Following the United States' failure to ratify the SALT II treaty, the Soviets have expressed mixed emotions concerning the document. They continually praise the treaty and waste no time in pointing out which U.S. strategic modernization plans would violate provisions of the unratified document. For instance, in a December 1980 article, a Soviet ideologist criticized tentative U.S. plans to base the MX ICBM in a mobile mode. The article read:

The United States has not only failed to ratify the [SALT II] treaty to date, but has also begun to undermine it in the sphere of military construction...the planned deployment of the mobile MX ICBMs, could make effective verification...impossible--that is, they could

undermine the fundamental principles of the SALT I and SALT II agreements. [Ref. 102: p. 82]

The Soviets also view the deployment of long-range GLCMs and SLCMs as a violation of the SALT II treaty, even though the applicable restrictions expired with the Protocol on December 31, 1981. A Pravda editorial in October 1983 explains this viewpoint.

Washington did not put the SALT-II Treaty into effect, and for all practical purposes scuttled it. Statements alleging that the U.S. does not intend to undermine its provisions should not mislead anyone.... Those provisions of the treaty that so far suit the U.S. and in some way constrain the U.S.S.R. are suitable. Those provisions that in any way constrain the U.S. are unsuitable. This is how the Protocol to the treaty, which envisaged the need to resolve the question of long-range nuclear cruise missiles, was handled. When the time for the United States to begin the deployment of these missiles neared, the Protocol was abandoned. [Ref. 85: p. 17]

It appears that the Soviets still consider the Protocol to be an integral part of the treaty, despite official documentation that, during SALT II discussions with U.S. officials, "Soviet Foreign Minister Gromyko stated that the obligations of the Protocol cease to exist upon the expiration of the Protocol." [Ref. 71: p. 52]

When Soviet compliance with SALT II is questioned, however, one is likely to get the answer that Gromyko gave at a press conference in Bonn--since the U.S. never ratified the treaty, "the two sides have no obligation to act in accordance with it", despite verbal statements that both sides will abide by its provisions [Ref. 103: p. 13]. For example,

SALT II required both sides to reduce their strategic arsenals to 2250 delivery vehicles by December 31, 1981, but the Soviets have not reduced to this level (their current force is about 2500 vehicles). Their defiance is possibly a response to U.S. "defiance" in deploying SLCMs and GLCMs. In general, however, it appears as if the Soviets are justifying their strategic modernization programs within SALT II guidelines. [Ref. 104: p. 3]

The Soviets have reacted very negatively to President Reagan's Eureka proposal which pointedly reversed several SALT II guidelines--bombers and cruise missiles would not be constrained and significant throw-weight restrictions would be imposed. Initial Soviet proposals, on the other hand, reflect a desire to continue from the SALT II framework.

#### B. U.S. FORCES TO BE CONSTRAINED

As in the SALT process, the Soviets apparently see the START negotiations as a vehicle for imposing constraints on U.S. strategic systems. As the U.S. forces are just beginning a major modernization process after a long hiatus (as compared to the Soviet practice of continually upgrading and modernizing their forces), Soviet arms control proposals focus on maximum restrictions on force modernization. In particular, the Soviets seek to limit or ban U.S. counterforce-capable systems such as the MX, TRIDENT II, and cruise missiles.

Andropov's December 21 proposal to impose maximum restrictions on force modernization would impact on both U.S. and Soviet systems; however, some of the most threatening U.S. systems are still in the research and development phase, and are therefore more vulnerable to a modernization ban. For instance, the Soviet BLACKJACK and American B-1 bombers have entered the flight test stage; however, the STEALTH bomber (ATB) is still on the drawing boards. The first two Soviet TYPHOON/SS-N-20 platforms have become operational, as have the first three U.S. OHIO/TRIDENT I platforms; however, the Soviet SS-N-18 follow-on SLBM has already entered the test phase while the U.S. TRIDENT II is still under design. Two Soviet ICBMs are in the flight-test phase, as is the U.S. MX; however, the MIDGETMAN is still under development. As becomes obvious from this list, if Soviet proposals to limit strategic modernization were to outlaw those systems not yet in the testing stage, the STEALTH, TRIDENT II, and MIDGETMAN programs would have to be terminated.

On the other hand, some American cruise missile programs (such as the TOMAHAWK GLCM and ALCM) have already become operational while Soviet strategic cruise missile technology is still in test and developmental phases. Because of American technological leads in this area, the Soviets prefer a ban on certain types of cruise missiles rather than imposing limits on modernization.

All of these new American systems (including U.S. INF systems) receive frequent attention in the Soviet press. For instance, in a December 1982 interview with Tass, Defense Minister Ustinov noted that

MX missiles are weapons that destabilize the overall strategic situation...along with the deployment of these missiles, there are plans for the deployment of new Trident ballistic missiles on submarines and of strategic bombers and long-range cruise missiles in every basing mode, and the use of outer space for military purposes is envisioned. By 1990 the United States hopes to have up to 20,000 nuclear warheads in its strategic nuclear forces alone. All put, this can hardly be viewed as anything short of a program of preparations for an all-out nuclear war. [Ref. 91: p. 85]

Not surprisingly, the Soviet press also makes frequent mention of the fact that U.S. arms control proposals neglect to limit the most modern and threatening American forces. In reviewing President Reagan's Build-down proposal, a Pravda editorial published in October 1983 noted that

The new MX or Midgetman ICBMs, the Trident-2 SLBMs, the B-1 and Stealth bombers and the air-, sea- and land-based cruise missiles all remained untouched....U.S. Secretary of Defense Weinberger has clearly and unambiguously stated that, whether or not there is an accord with the U.S.S.R., all of these programs will be implemented. [Ref. 85: pp. 18, 31]

A review of Morskoy Sbornik between 1980 and 1983 reveals a mixture of articles providing factual information on American SSBN/SLBM programs, information on the expanding American general purpose fleet, and details of British and French naval modernization programs, as well as alarmist articles concerning the OHIO program, TRIDENT II, and TOMAHAWK. (Interestingly, 1983 provided few samples of Soviet

writing on U.S. naval strategic programs. Evaluation of the British Navy's performance in the Falklands War superceded the normal position of the U.S. fleet in the "Foreign Navies" section of Morskoy Sbornik.)

A 1981 article in this naval digest refered to a "dangerous tendency" of U.S. presidents to continually increase the number of SSBNs in the OHIO program. (Nixon asked for 10, Ford for 13, and Carter increased it to 14. Although the Soviets didn't mention it, under Reagan, the program has increased to at least 15.) The 1981 article predicted that within seven years, the "combined megatonnage of the submarine component of the [American] strategic forces will increase from 280 to 440 megatons," and that by the year 2000, 20 OHIO class SSBNs could replace the current POSEIDON force. The author also presented a dramatic diagram depicting the increased ocean area that future US SSBNs will be able to hide in while targeting Soviet territory with their missiles. According to the author's calculations, the POSEIDON fleet could patrol in 3 million square miles, the TRIDENT I fleet can expand to 14 million square miles, while the TRIDENT II fleet will be able to hide in 50 million square miles of ocean. The implication is clear--the Soviet ASW forces, believed to be inadequate against the POSEIDON fleet, will be hard pressed to search 50 million square miles for TRIDENT II missile carriers. [Ref. 105: p. 98]



Soviet writings also indicate a real fear that the TRIDENT II will succeed in achieving a counterforce capability. Soviet writers note the improved accuracy, as well as ABM-evading capabilities, possible with the Mk 500 MaRV warhead planned for the TRIDENT II. One author wrote in Morskoy Sbornik in 1980 that the D-5 would have an accuracy comparable to that of the MINUTEMAN--about 230 meters--and that planned improvements would increase this accuracy to 180 meters. This author continued that an accuracy of 150 meters or less is judged to have almost 100 per cent probability of "hitting enemy missile silos." [Ref. 106: p. 107]

A later article, published in 1981, noted that

The Pentagon is placing reliance on creating a potential for a "disarming first strike" by increasing the yield of nuclear warheads and increasing their accuracy of delivery on target...the kill probability of hardened point targets with a single warhead (without considering reliability of the missile or its warhead) will increase to 0.95 for the MX ICBM, up to 0.78 for the improved Minuteman-3 ICBM, and up to 0.6 for the Trident-2 ballistic missile. [Ref. 107: p. 110]

Although none of the Morskoy Sbornik articles examined mentioned arms control, the tone of the articles was consistent with the non-naval Soviet press--modern U.S. weapons are destabilizing and designed for a first strike. The obvious conclusion is that these arms should be constrained or banned.

### C. PRESERVING COUNTERFORCE CAPABILITY

Even naval writers published in Morskoy Sbornik freely admit that "submarine strategic-weapons systems have traditionally differed from analagous land-based weapons systems in their lesser accuracy and smaller explosive payloads", and are therefore "designated primarily for nuclear strikes at 'area' targets." [Ref. 108: p. 79] At the present time, land-based systems reserve exclusive billing as counterforce weapons. Because of their accuracy, U.S. GLCMs have been described by the Soviets as counterforce weapons, yet the Soviets apparently prefer to completely ban SLCMs and GLCMs rather than deploy the systems they have recently developed (SS-NX-21 and SSC-X-4). This reluctance to deploy cruise missiles, for whatever reason, only enhances the Strategic Rocket Forces' monopoly on counterforce capabilities.

By the Soviets' own admission, ICBMs comprise about 70 per cent of their "strategic defensive potential (in terms of warheads)", while the American strategic inventory consists mainly of SLBMs and bombers (80 percent) [Ref. 85: p. 17]. Despite extensive borders with the sea and a continuing naval buildup, Andropov referred to his country as a "continental power." [Ref. 92: p. 5] The Soviet practice of maintaining extensive ground forces can be attributed to Russia's history of invasions from (and of) neighboring nations; its reliance on land-based ballistic missiles, however, is for entirely different reasons. In addition to

the increased accuracy and hard-target kill capability, Soviet ICBMs have additional advantages that no sea-based or aerial platform can ever achieve--redundant and reliable communications with Moscow, as well as low-cost continuous readiness for operational employment.

In an interview with the Bratslava Pravda in January 1983, General Petrov, a Soviet General Staff officer, stated the following:

The thesis on the destabilizing properties of land-based missiles is false....From the military viewpoint, stability is primarily endangered by those systems which are most effective in destroying the defense warning system, command posts, and staffs and their communications, but which do not have sufficiently reliable communications with headquarters--this fact enhances the probability of their being used without approval--and which require special operational measures which can aggravate tension (for instance the take-off of heavy bombers). According to these indexes, the most destabilizing means are the ballistic missiles deployed on submarines, heavy bombers armed with the Stealth technology, long-range cruise missiles and perhaps the Pershing-2 missiles deployed in forward positions. (emphasis added) [Ref. 89: p. 90]

At this point, it should be recalled that U.S. and Soviet strategic doctrine do not coincide. Specifically, in the area of strategic stability the two sides disagree. As Stanley Sienkiewicz writes,

...Soviet doctrine denies the US formulation of stability--the absence of threats to each side's punitive capabilities--but rather defines it, when it does, more generally and self-servingly as the absence of any significant innovation or new deployment above what is described as parity. [Ref. 119: pp. 86-87]

While General Petrov provides a definition of strategic stability focusing on reliable command and control,

Sienkiewicz's definition helps to explain why U.S. systems such as STEALTH, which are technologically superior to existing Soviet systems, are also included in the category of destabilizing weapons.

General Petrov's list of destabilizing systems specifically mentions two U.S. systems--the STEALTH bomber and the PERSHING II--but it also describes naval systems deployed by both sides--SSBNs and future SLCMs. The Soviets apparently feel very confident that their political and military control ensures that Soviet ICBMs will be launched exactly when directed by the Soviet leadership--their orders will not be defied and the missiles will not be launched in error. When the strategic platforms are several thousand miles out to sea, however, with communications possible only at pre-specified times, command and control becomes more difficult. Additionally, there is always the danger that once a Soviet citizen leaves his national borders, he may no longer be loyal to the motherland. After all, the crew of a Soviet frigate mutinied in November 1975, and attempted to sail the ship to Sweden. A similar danger exists when a bomber is airborne and out of range of Soviet fighter escorts. Thus, the value of Soviet strategic forces firmly based within the Soviet Union becomes obvious. While Soviet long-range SLBMs fired from SSBNs at pier-side may represent a more accurate and politically reliable weapon than when the SSBN is

deployed, the value of an SSBN as a strategic reserve is negated when the unit is restricted to in-port "patrols."

The Soviets have also expended considerable resources to make the ICBM force survivable in the event of an enemy first strike. The expanding ABM system, possibly including a battle-management radar in Siberia near SS-18 fields, may represent a step towards protection of the missile force. Additionally, the physical survivability of the missiles has been increased over the last decade. Most Soviet ICBMs are now deployed in super-hardened, underground, dispersed, single missile silos; upgraded communications facilities and survivable, silo-based launch control sites are designed to ensure that the missiles can still be launched even after absorbing an enemy strike [Ref. 54: p. 21]. While SSBNs and bombers are considered to be survivable and stable deterrents by Western standards, the Soviet leadership apparently prefers to keep a close rein on its greatest strategic assets.

#### D. RESTRICTIONS ON NAVAL STRATEGIC PLATFORMS

Several statements made by the Soviets in reference to arms control indicate that they are willing to accept significant restrictions on their sea-based strategic platforms in order to constrain similar U.S. naval systems, as well as to allow for more flexibility in deploying land-based forces. Three particular Soviet proposals in this area will

be examined in this section--the banning of SLCMs, limited construction of TRIDENT and TYPHOON class SSBNs, and controlled SSBN patrol areas.

The Soviet position in START concerning long-range cruise missiles appears to remain unchanged from their position in SALT II--allow the deployment of strategic ALCMs, as long as they are included under delivery vehicle ceilings, but ban all long-range GLCMs and SLCMs. The Soviets appear to still support this position, even though they are believed to have strategic GLCM and SLCM systems in the testing stage. Speculation on the GLCM deployment ban is beyond the scope of this paper; however, the SLCM deployment ban directly affects the strategic navy.

The Soviets may be eager to ban SLCMs partly because they feel that U.S. technology is superior to theirs and the American TOMAHAWK development process is further advanced than the Soviet SS-NX-21 program. Another reason for the proposed ban probably involves Soviet concern that the missiles would not be included in a future arms control treaty (whether included or not, verification would be sufficiently difficult to merit Soviet concern over U.S. compliance), and would be allowed to proliferate throughout the U.S. Navy, thereby making every major surface and subsurface platform a potential strategic threat. The Politburo and General Staff probably feel that U.S. naval platforms, already hunting down ships and submarines of the Soviet fleet, should not

also be allowed to target the Soviet homeland. With the potential accuracy of cruise missiles, the General Staff is probably also concerned about the survivability of crucial command and control sites as well as ICBM silos. The Soviets may also hope that an early ban on SLCMs (before they are fully deployed) will prevent the possible proliferation of strategic TOMAHAWKs to West European and other navies.

A final possible reason for Soviet concern over strategic SLCM deployment is that it does not fit into Soviet naval strategy. Even though the Soviet Navy is developing the SS-NX-21, and will supposedly deploy it throughout the fleet, there does not appear to be a role for the missile in Soviet military strategy. In late 1983, deployments of a Soviet VICTOR III SSN and an ECHO II SSGN to the western Atlantic was reported in the American press merely because the deployments were so unusual. Soviet attack submarines are not believed to maintain continuous patrols off the U.S. coasts. Soviet SSBNs are assigned the role of land-attack, both intercontinental and regional, and the forward-deployed YANKEEs would probably strike the same type of targets that sea-launched cruise missiles would be assigned--strategic bomber bases, command and control facilities, and SSBN bases. A coordinated strike by the SLBM and SLCM platforms would not only be redundant, but the difference in flight times (about an hour) could--if the SS-N-21 was fired first

and was detected--provoke the U.S. to destroy the YANKEEs before they even fired their missiles, or--if the YANKEEs fired first--give the West time to scramble bombers, take countermeasures, and launch a counter attack before the SS-N-21s arrived.

Soviet SSNs are normally deployed in choke point or barrier patrols or in anti-carrier roles in areas surrounding the Soviet Union rather than being assigned open-ocean ASW roles. The entire SSBN bastion concept implies that a major role of Soviet ASW platforms, including SSNs, is that of protecting the DELTAs and TYPHOONS in homewaters, rather than conducting open-ocean ASW against enemy SSBNs. When the U.S. SSBN force was armed with shorter range POLARIS and POSEIDON SLBMs, the Soviet Navy, including naval aviation, could conduct offensive ASW in the same areas as defensive ASW (protection of the homeland). With the longer range TRIDENT force, however, Soviet long-range ASW efforts are apparently limited to satellite surveillance (possibly including non-acoustic ASW detection means) and random ASW surface, subsurface, and aerial prosecution. The thrust of Soviet ASW efforts appears to be limited to area defense surrounding the homeland. These close-in ASW forces are augmented by anti-surface platforms which conduct similar barrier patrols, apparently in an effort to protect the Soviet homeland from attacks staged from Western aircraft



carriers. [For a detailed discussion of Soviet naval strategy, see Ref. 41]

This defensive posture of the Soviet Navy does not support the idea of forward deploying cruise-missile-equipped SSNs in a strategic strike role. Western strategists have been criticized for casting U.S. SSNs in a dual strategic/ASW role [Ref. 51: pp. 82-83]. Critics say that the strategic mission will interfere with ASW tasks that the units should routinely be conducting; but at least the U.S. SSNs can conduct both these tasks in the same ocean area--approaching the Soviet homeland. For the Soviets, the two tasks--strategic land-attack and ASW--take place on opposite sides of the ocean.

From the above discussion, it can be seen that reported Soviet proposals to designate certain SSBN patrol areas as ASW-free zones or sanctuaries would work neatly into the Soviet defensive strategy [Ref. 36: pp. 208-209]. Few of their ASW platforms venture into TRIDENT patrol areas; however, the denial of access of U.S. SSNs to the Soviet SSBN patrol area in the northern Norwegian and Barents Seas and the western Pacific would not only be counter to U.S. ASW and attack strategy, but would also severely decrease the usefulness of SLCMs in a strategic role. Even if SLCMs were authorized under a START agreement, with ASW-free zones surrounding each superpower's landmass, the deployment of

such weapons (and more importantly, the platforms they would be aboard) would be limited to third world areas.

In 1978, Thomas Burns raised several interesting points concerning ASW-free zones:

Reliable arms limitations would require quotas for anti-submarine ships, planes, helicopters, and the active and passive sonars used in large surface ships, and also for sea-bed-mounted devices. It might be very difficult to arrange a coordinated ban which would be effective enough to have any realistic value. In limiting tactical ASW--both passive and active--monitoring techniques are not yet well developed or reliable. [Ref. 109: p. 42]

Reading this passage, several problems appear obvious: first, the problems of verifying sonar deployments in both fleets; second, the unlikely chance that the Soviets would agree to "quotas" limiting their extremely large SSN fleet to the size of the U.S. force; and third, the unlikely chance that the U.S. would agree to dismantle its sea-mounted sound surveillance system. More problems appear obvious as Burns continues his analysis of ASW-free zones:

The most important single tactical antisubmarine warfare consideration is the continuous trailing and the active tracking of the SLBM submarine fleet. There are a number of proposals ranging from the simple agreement by both nations to stop continuous trailing to the establishing of sanctuaries where missile submarines could operate and ASW activities were forbidden. But open ocean sanctuaries provide very little safety, since they would be subject to passive sonar monitoring....Even if they could be made secure, such sanctuaries could be employed only in peacetime; with any threat of war, the submarine fleets would disperse to the best tactical positions for carrying out their missions. [Ref. 109: p. 43]

As previously discussed, Soviet strategy (or lack of capabilities) apparently deemphasizes "continuous trailing" of the most modern U.S. SSBNs; however, in wartime, Soviet strategy apparently calls for the immediate destruction of enemy SSBNs, as well as their support bases and command headquarters. Soviet plans to attempt to destroy deployed U.S. SSBNs apparently require the cooperation of all types of Soviet platforms and weapons, including land-based missiles. ICBM attacks would probably be designed to incapacitate Western SSBNs through electronic and structural damage, rather than to destroy the submarine. [Ref. 110: pp. 161-163] The potential success of such attacks remains open to speculation.

In the final analysis, the declaration of ASW-free zones could work to the Soviets' benefit as they seldom forward deploy ASW platforms; however, the probability is minimal that the two superpowers would agree to forfeit certain advantages and freedom of deployment that they presently possess.

The Soviets have also proposed the exact opposite of ASW-free zones; instead of assuring the SSBNs freedom to conduct patrols unmolested, the Soviets have suggested that SSBNs "be removed from their present extensive combat patrol areas, that their cruises should be restricted by limits mutually agreed upon." [Ref. 86: p. 69] Their initial

START proposals also included the provision that the construction of OHIO and TYPHOON class SSBNs be limited to four to six units and that further SSBN classes be limited to 16 launch tubes. These proposals could reflect any one of numerous possible Soviet goals.

The Soviets do not need the TYPHOON program to modernize their SSBN force; their entire DELTA force has been built within the last decade, and the DELTA construction program is continuing (this class has only 16 launch tubes). Not only do these submarines have long service lives ahead of them, they are also equipped with long-range (3500-4300 nm) missiles, and a new SLBM is under development. In contrast, the American SSBN force consists largely of twenty- to thirty-year old SSBNs equipped with POSEIDON missiles (2000 nm range). The increasing age of this fleet makes it impractical to rearm any additional SSBNs with TRIDENT I missiles (the TRIDENT II will fit only OHIO tubes), and a replacement program for the OHIO class (supposedly a smaller submarine, capable of carrying fewer missiles, and more acceptable to the Soviets) would take more than 10 years to develop and deploy. Thus, imposing construction or deployment limits on TYPHOON and OHIO class SSBNs would have limited impact on the Soviet SSBN force, while it would "freeze" the American strategic navy as an aging force with limited endurance and striking range.

A possible Soviet goal in limiting SSBN patrol areas would be to ensure that SLBMs are used only as a strategic reserve. If all SSBNs were forbidden to deploy in areas within striking range of enemy ICBM fields, command and control sites, and other specified "first-strike" targets, both sides would be forced to maintain their counterforce weapons on land. This may represent a Soviet negotiating tactic designed to persuade the U.S. to agree to higher ICBM force levels, to cancel the TRIDENT II, and to actually decrease the number of modern SSBNs. The impact on the Soviet Navy would be similar--the number of SSBNs would probably decrease as the land-based missiles assumed the preeminent role in strategic strike.

Another possible reason why the Soviets would like to remove American SSBNs from patrol areas within striking distance of the Soviet Union is their apparent weakness in ASW. Until an "ASW breakthrough" is achieved, neither side can expect to destroy all enemy SSBNs before they can fire their missiles. If SSBNs are delegated to a strictly reserve mission, however, the initial nuclear exchange may destroy sufficient American command and control facilities, including satellite communications, to render SLBMs useless.

Whether or not Soviet arms control decisionmakers purposely seek to limit the Soviet Navy's role in strategic strike, the effect will be the same. If the goals delineated in this chapter truly reflect those of the Soviet

leadership, then the Soviet strategic navy is apparently destined to remain a distant second to the SRF in competition for strategic importance.

#### E. CONCLUSIONS

Instead of examining Soviet START proposals for potential loopholes which the Soviet strategic navy could exploit to further increase its strength, this chapter has focused on the Soviet Union's primary reliance on land-based missile forces and on proposals which would clearly limit or decrease the navy's strategic roles.

Speculation on reasons for this apparent declining role of the Soviet strategic navy is endless, and often without firm support. It could be that the strategic navy's role is not declining at all, but is remaining stable, and therefore no START proposals to further increase the size or power of the navy are necessary. The strategic navy proved its worth in late 1983/early 1984 when DELTA SSBNs were dispatched to a patrol area near the U.S. in response to the American INF deployments in Western Europe.

START proposals that limit SBN patrol areas may not reflect decreased confidence in the Soviet strategic navy as much as they reflect a lack of success in Soviet acoustic and non-acoustic means of detecting Western SSBNs. Without major advances in ASW technology, the Soviet Navy would probably be unable to neutralize U.S. SSBNs before they

fired their missiles in wartime; therefore, the Soviets apparently seek to restrict U.S. SSBNs to patrol areas beyond striking range of the Soviet Union.

Soviet offers to halt the TYPHOON construction program appear to reflect poorly on the submarine's capabilities, and need to be analyzed in detail. It is extremely unlikely that the U.S. would agree to the Soviet-proposed limits on strategic modernization that would prohibit deployment of the TRIDENT II SLBM; therefore, the offer to halt the well-advanced TYPHOON program, in return for limited OHIO construction, probably represents a method of at least restricting the potentially counterforce-capable TRIDENT II SLBM. Under the Soviet proposal, until a new SSBN class equipped with the TRIDENT II could be deployed in 10-15 years, only four to six OHIOs would be armed with this missile.

This proposal also reflects Soviet cunning in attempting to curtail the only modern U.S. SSBN construction program while the Soviets continue to mass-produce DELTAs--with upgraded missiles. Beyond this, it is also possible to speculate from this proposal that the TYPHOON program didn't deliver everything that the Soviet Navy promised. It is possible that the navy promised that the SS-N-20 would be as accurate a missile as the TRIDENT II is projected to be, and that the demonstrated capabilities are disappointing. It is possible that the TYPHOON is merely a newer, bigger, more

expensive DELTA, and the Defense Ministry feels continuation of the program is unnecessary.

It is worth recalling that, during SALT II negotiations, the Soviet delegation proposed a "one new SLBM" rule that would have banned TRIDENT II, but allowed the development of the SS-N-20 and TRIDENT I. U.S. negotiators rejected this proposal, but suggested that they might consider a ban on the TRIDENT II if the SS-N-20 was also banned. The Soviets rejected that offer. But, in 1983, with the demonstrated capability of deploying TRIDENT I SLBMs on existing POSEIDON SSBNs, it now appears that the initial Soviet proposal to limit OHIO and TYPHOON class construction was really an offer to limit SS-N-20 deployment (on TYPHOONS) if the U.S. restricted TRIDENT II deployment (on OHIOs)--TRIDENT I's could still be deployed on older SSBNs. This proposal also left open the possibility of the deployment of the TRIDENT II on a smaller, later generation SSBN. From this proposal, it looks like the Soviets consider the curtailment of the TYPHOON/SS-N-20 system (with a demonstrated operational capability) to be a price worth paying for a short-term limitation on the deployment of the TRIDENT II (which is still under development). This complete reversal of the SALT II position strongly suggests that the operational TYPHOON system has been a disappointment.

The most recent Soviet proposal would allow each side to deploy one new SLEM. Obviously, the Soviets realize that



the TRIDENT II would be the American choice, and equally obvious is the idea that the SS-N-18 follow-on would be the Soviet choice for the new SLBM. Perhaps this change in negotiating tactics merely reflects Soviet acceptance of the inevitable--namely, that the U.S. is determined to deploy the TRIDENT II in substantial numbers. Instead, it could reflect Soviet confidence that the SS-N-18 follow-on will be as accurate and hard to counter as the TRIDENT II.

Despite these naval proposals, Soviet objectives in START appear to heavily feature a continued emphasis on the role of counterforce-capable ICBMs in strategic strike, and demand maximum limitations on U.S. counterforce-capable systems. The Soviet leadership demonstrated a willingness to sacrifice several Soviet naval programs--the TYPHOON/SS-N-20 and SS-NX-21 systems--in order to achieve restraints on U.S. SLCMs and the OHIO/TRIDENT II program. At the same time, the Soviet leadership appears dedicated to the principle of ensuring equivalent capabilities for the Soviet and American strategic fleets. As the U.S. apparently rejected the OHIO/TYPHOON SSBN limited construction proposal, the next Soviet move was to ensure that the Soviet strategic navy retained the opportunity to deploy a system equivalent to the TRIDENT II. Whether they have the capability to do so remains to be seen.

## VI. CONCLUSIONS

The stated purpose of this thesis was to examine the Soviet position on strategic naval issues in SALT I and SALT II negotiations, and attempt to predict Soviet naval strategic objectives in START. By necessity, this thesis has been divided into three distinct time periods--SALT I, 1969-1972; SALT II, 1972-1979; and START, 1979-1983. This final chapter will attempt to identify common themes found in each set of negotiations; any similarities that can be found will, it is hoped, aid future negotiators in identifying areas of Soviet concern and interest.

Over the last 15 years, the strategic role of the Soviet Navy has been a product of the navy's capabilities, numerical size, power in relation to the U.S. Navy, and power in relation to the Strategic Rocket Forces. Each of these factors has been examined in each of the three specified timeframes; a strong relationship between each of these factors and Soviet objectives in arms control can be established.

For instance, during the SALT I negotiating period the YANKEE/SS-N-6 force, representing the first long-range strike capability for the Soviet Navy, was just being introduced. By the time the Interim Agreement was signed, only 29 YANKEES were operational; this force was significantly smaller and less capable than the U.S. SSBN force (which was

being equipped with MIRVed POSEIDONS), and was almost insignificant when compared to the 1500 ICBM launchers the SRF had operational in 1972. Many of these land-based missiles had ranges in excess of 6000 nm.

Because the SRF was so superior to the strategic navy in terms of numbers, range, accuracy, and throw-weight, the SRF obviously retained the primary responsibility for long-range strategic strike; the YANKEEs were to be withheld or used in coastal strikes. The primary Soviet naval objective in SALT I was apparently to avoid any constraints on the Soviet strategic navy's modernization and growth. Because the U.S. Navy had advantages over the Soviet Navy--forward bases bracketing the Soviet Union, technological leads such as MIRV, and potential reinforcement by NATO SSBNs--the Soviets felt that their navy must be allowed a significant numerical advantage over the U.S. before "equal security" could be achieved.

By the time SALT II negotiations were in the final round, the Soviet strategic navy had grown to 62 modern units, including 31 DELTAs armed with intercontinental range SLBMs, while the U.S. Navy remained essentially unchanged. The Soviets apparently felt that their numerical advantage in SSBNs/SLBMs (guaranteed under the Interim Agreement) helped even some imbalances between the Soviet and American fleets, and one primary naval objective in SALT II was to protect the right for qualitative improvements of their

strategic navy. The SALT II treaty allowed the navy to increase its number of MIRVed SLBMs (the first of which had become operational in 1978) and placed no limit on the number of new types of SLBMs which could be developed and deployed. Meanwhile, the strategic role of the navy, vis-a-vis the SRF, was probably improving as the firing range of the SS-N-8/18 SLBMs increased, thus enabling DELTAs to patrol in secure homewaters, or even stand combat "patrols" at pier-side.

During the START negotiations, it appears that the role of the Soviet strategic navy was expanded to include quick and flexible reactions to political situations. The forward deployment of several DELTAs to the western Atlantic in late 1983 certainly filled a political need in a way that the SRF could not. At the same time, however, the stand-off advantages of the DELTAs were wasted through forward deployment, suggesting that making a political statement was more important than the original strategic mission of the DELTAs--whether it be invulnerable strategic reserve or long-range strike.

Additionally, Soviet START proposals indicating a willingness to significantly curtail SSBN patrols and TYPHOON construction, and strongly supporting the continued deployment of counterforce-capable ICBMs, suggest that the strategic role (or at least the strategic strike role) of the navy may be decreasing rather than increasing. In view of U.S.

strategic naval modernization envisaged in the 1980's, the most obvious Soviet naval objectives in START appear to include constraining OHIO SSBN construction and modernization (retrofitting with the TRIDENT II), limiting TRIDENT patrol areas, and prohibiting the deployment of long-range SLCMs (a goal that first became apparent during SALT II.) In order to achieve these important goals, the Soviet Navy may have to accept roughly equivalent restraints.

The rising and falling fortunes of the Soviet strategic navy are clearly related not only to its own military capabilities (such as increased striking range and improved accuracy), but also to U.S. naval capabilities. The development and deployment of the long-range TRIDENT I system and the development of the TRIDENT II SLBM with potential counterforce capabilities have exerted a tremendous influence on Soviet naval objectives in arms control. The most consistently demonstrated Soviet concern in naval arms control issues has focused on anti-submarine warfare--an area where the Soviets traditionally trail the U.S. in capabilities. Even during SALT I negotiations, when the TRIDENT I was still in a developmental stage, a Soviet naval engineer expressed his concern that

The expansion of the operational zones of guided [ballistic] missile submarines sharply reduces the possibility of their detection and requires the enemy to devote a large number of ASW defensive forces and means to combat them. [Ref. 25: p. 51]

The Soviets first called for limitations to be placed on SSBN patrol areas during SALT I; in the days of short-range SLBMs, restricted patrol areas would have moved the SSBNs out of firing range of enemy territory, thus limiting the need for aggressive ASW. During SALT II negotiations, the Soviets expressed interest in the designation of ASW-free zones where SSBNs could patrol unmolested, as well as submarine-free zones. Strobe Talbott has described ASW-free zones as "a sort of underwater version of the ABM treaty" because the effect would be the same--these zones would eliminate the need for anti-SSBN warfare skills [Ref, 36: p. 208]. Similarly, Soviet START proposals have again called for limited SSBN patrol areas, and even the curtailment of the TYPHOON and OHIO construction programs; Soviet naval writings in the 1980's emphasize the quietness of the OHIO SSBN, as well as the large patrol area which Soviet ASW assets must search. All of these proposals strongly suggest that the Soviets lack confidence in their long-range ASW capabilities.

During SALT II negotiations, the Soviets proposed a "one new SLBM" rule which would have allowed the development of the SS-N-20 and TRIDENT I, but would have prohibited development of TRIDENT II (which was in the news at the time) and the SS-N-18 follow-on (a missile which was undoubtedly under development at the time, but was kept secret). Renewed Soviet interest in banning the TYPHOON/SS-N-20 and OHIO/

TRIDENT II systems reveals Soviet concern not only about their ability to detect and destroy the OHIO submarines, but also their concern over U.S. counterforce capabilities. This concern may be caused by a Soviet naval inability to duplicate the threat (i.e., deploy a counterforce-capable SLBM) or an inability to destroy the incoming missiles (if equipped with MaRV warheads) with an operational ABM system. Subsequent Soviet efforts are once more focused on achieving a "one new SLBM" rule, suggesting renewed confidence in their ability to duplicate the TRIDENT II threat.

It is the opinion of this author that many important military conclusions can be reached from studying Soviet arms control initiatives. Limitations proposed by Soviet negotiators can often be used to predict future Soviet force levels (as in Brezhnev's SSBN/SLBM proposal in SALT I) and the relative importance of each of the strategic branches of the Soviet military. Past negotiating patterns established in SALT may be useful in analyzing Soviet proposals and objectives in START and future negotiations. Perhaps the more important finding of this thesis, however, is that Soviet proposals and actions in arms control negotiations can be analyzed to determine Soviet concerns about their own military forces--such as a weakness in ASW or difficulty in developing or countering a counterforce-capable, MaRV-equipped SLBM--as well as Soviet confidence in their military strengths.

In concluding, a brief comment on the Soviet naval leadership and arms control is in order. Research performed for this thesis has supported an important suspicion voiced in Chapter I--namely, that Soviet naval representatives may not have much influence in formulating Soviet naval-related proposals in arms control. Soviet naval writings in Morskoy Sbornik since the early 1970's have provided no hint of actual naval preferences in strategic arms control. Similarly, Admiral Gorshkov's extensive writings in the 1970's barely mention strategic arms control. Instead, Soviet naval enthusiasm for arms control appears to be limited to agreements outside the SALT framework; for instance, a proposal advanced by Brezhnev in 1974 for the withdrawal from the Mediterranean of ships equipped with nuclear weapons received an "unprecedented public endorsement" by Admiral Gorshkov. [Ref. 111: pp. 235, 237] In contrast, in the Navies in War and Peace series published in 1972 and 1973, Gorshkov dismissed the usefulness of the SALT process by writing:

Even today, when the arms limitation talks have become a reality and ways of solving this problem have been defined, arms control is still only being extended to strategic missiles... [quoted in Ref. 112: p. 252]

This statement suggests that Gorshkov would like to see an East/West dialogue extended to include non-strategic issues, possibly including the establishment of nuclear-free zones



(both tactical and strategic nuclear weapons), as well as ASW-free zones.

In the second edition of The Sea Power of the State, signed to press after the SALT II treaty had been completed, Gorshkov's only reference to the treaty was negative:

Being forced to hold talks with the Soviet Union on limiting strategic arms, the United States stubbornly attempts to "seek its own advantage to the disadvantage of others," despite the principle of equality and equal security recognized by both parties. [Ref. 113: p. 234]

This quotation provides little hint of what specific aspects of SALT II displeased him. Rather, it suggests that Gorshkov was required to comment on the SALT process, and he sought the safety of the "party line". The quotation in this statement is drawn from a Brezhnev interview with Time.

A more explicit reference to extending arms control beyond the strategic realm was obvious in 1983 (after the commencement of START negotiations) when Gorshkov stated that

The arms race, including the naval arms race, is causing unease among peace-loving mankind. That is why in their 6 January 1983 Political Declaration, the Warsaw Pact states advocated that talks be started on restricting naval activity, reducing naval arms, and extending confidence-building measures to the seas and oceans. [Ref. 114: pp. VI-V2]

While he may be displeased with the SALT and START processes, this statement suggests that Gorshkov would not be opposed to at least two frequently mentioned Soviet proposals--namely, establishing ASW-free zones or limiting SSBN patrol areas. The statement may also be influenced by the

Soviet position favoring naval confidence building measures in much of the Atlantic as part of the measures to be negotiated at the Conference on Disarmament in Europe, which began in Stockholm in January 1984.

While Soviet naval objectives in arms control may not always parallel the desires of the Soviet naval leadership, Admiral Gorshkov has benefitted from the final outcome of previous negotiations. Both SALT I and SALT II allowed for maximum modernization and expansion of the Soviet strategic navy. At the same time, Soviet objectives in arms control have obviously included a desire to restrain U.S. strategic modernization and expansion. In this area, Soviet naval writings closely parallel other authoritative Soviet writings, public statements, and negotiating efforts. Although the outcome of START is far from obvious at this time, initial Soviet proposals suggest that their naval objectives in START remain consistent with those apparent in SALT--to impose maximum restrictions on U.S. naval strategic programs while allowing maximum flexibility in Soviet naval modernization and expansion.

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