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THE FINAL YEARS OF THE EXISTENCE of the Soviet Union—a period that encompassed also the dissolution of the Warsaw Treaty Organization—were, notwithstanding, years of substantial development of antisubmarine warfare thought and capability in the Soviet navy. Some of this progress was readily visible to the West, particularly in the introduction of highly capable general-purpose nuclear submarines (SSNs). Evidence of concomitant development of operational doctrine (in the Western use of the term) was also available to the West in open sources, many of them from the former members of the W.T.O. However, implicit in this material (but yielding only to the most patient and painstaking study) there were also to be seen the foundations of this characteristically elaborate body of theory. It is possible today to describe with considerable detail, accuracy, and confidence the structure and content of Soviet antisubmarine theory as it was in 1991. We can do so for that year with probably more authority than was ever before possible.

But today, of course, the Soviet navy itself is no more. It may, as it appears at this writing, be divided among some of the sovereign states that once formed the Soviet Union: Russia, of course, and Ukraine, Moldova, Georgia, Azerbaijan, and perhaps the Baltic States as well. Soviet naval analyses as such, once so urgent, are now historical. There is certainly much historical interest in a full accounting of the formal underpinnings of a Soviet naval capability that had been of such concern to the West. Perhaps, however, the matter has even more relevance: it will be, after all, the Russian Republic that inherits most or all of the formerly Soviet SSNs, in their Arctic and Pacific bases.

What will the new republic choose to do with its ready-made navy and with its many submarines? Although the political leadership is entirely new (in a sense, at least), the Russian naval leadership comprises the men, or many of them, that directed and operated the warships and submarines when they flew the old flag. It is arguable that the new nation will face, or believe it faces, defensive challenges

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at sea much like those the old union had addressed, and further that it will set about them in similar ways. Among all the radical transformations, then, we may look for certain continuities. The prospect for carry-over is likely enough in the area of antisubmarine warfare that a study of the antisubmarine thinking of the *Russian* navy may well begin with a snapshot of what was bequeathed it by its Soviet predecessor.

Because they carry the most authoritative Soviet views on a given subject (especially definitions), the most valuable Soviet and Eastern European sources are encyclopedias and dictionaries. The Soviets' penchant for defining precisely each military or naval term had deep roots in the military culture and traditions of Imperial Russia. Marxist-Leninist ideology only reinforced and further dogmatized these habits. It will be evident that the Soviets used a great number of terms to describe forms of activity which appear to be identical or to differ from one another only by a hair's breadth. However, this was how Soviet officers talked with and wrote for one another.

During their long years under Soviet dominion, all the Eastern European military services adopted the Marxist-Leninist theory on war and revolution and almost slavishly copied everything the Soviets did. This is evident in the definitions cited, for example, in the East German and the Yugoslav military dictionaries and encyclopedias. Whenever a Soviet source is cited here, East German or Yugoslav sources are cited as well.

Analysis based on open Soviet and Eastern European sources does have limitations. Presumably some conceptual developments of the last months and weeks before the demise of the Soviet Union went uncaptured. (Some major figures devoted themselves to politics, such as Rear Admiral Vyacheslav Shcherbakov of the Kuznetsov Naval Academy, who became vice mayor of Leningrad.) In general, the materials are inconsistent at times, and often downright contradictory; there is often too much data on one subject and not enough on others; and the sources may describe procedures that were already out of date. However, if properly read and interpreted, such literature can yield a reasonably reliable picture of how the Soviets really thought about what they called the "struggle against submarines," and how they intended to wage it.

Missions and Tasks

Because of the perceived need to protect the Soviet Union from ballistic missiles fired by Western submarines, "the struggle against submarines" was its navy's principal concern.[1] The arming of U.S. attack submarines with Tomahawk land-attack cruise missiles added importance to the mission. These

submarines would pose a serious threat in any general conflict because they could deliver precise and highly destructive strikes against an opponent's naval bases and other coastal installations from long ranges with little or no warning.

The Soviet armed forces had three principal missions: to repulse an opponent's attack (*napadeniye*) from air or space, to suppress his military-economic potential, and to destroy his armed forces. Within this framework, the chief missions of the Soviet navy specifically were to repel air or space attacks from the ocean axes, to help demolish the enemy's most important installations ashore, to interfere with his oceanic and sea communications, to destroy his naval forces at sea and in their bases, and to cooperate with Soviet ground forces in their own operations.

Submarine and antisubmarine warfare were concerned with the first and second of these naval missions: the first involved destroying the enemy's missile submarines, the second belonged to Soviet ballistic missile and cruise missile submarines. But to be successful these Soviet attack and missile submarines had to be protected in their sanctuaries (in the West arbitrarily called "bastions") and operating areas. Oscar-class nuclear-powered cruise-missile submarines (SSGNs) also needed protection during their sea transit and when they arrived in their assigned patrolling areas.

Prerequisites

The greatest threat to one's own ballistic and cruise missile submarines comes from enemy attack submarines. The struggle against them is in turn an integral part—in fact in Soviet thought it was the most important part—of the navy's overall efforts to attain "mastery at sea" (*gospodstvo na more*) in a specific part of the ocean or in the seas adjacent to the Soviet-controlled shores. The Soviets reportedly planned to achieve sea mastery in the area extending about four hundred nautical miles from the Kola and Kamchatka peninsulas in the first two weeks of a general conflict, and ultimately to extend this area to about eight hundred nautical miles seaward. At the outset of hostilities the main effort of the Soviet fleets would have been directed toward attaining such mastery in the operating area of their "strategic" submarines. Gaining mastery of the sea included destroying the enemy's submarine bases and command-and-control centers on the coast. Within the sea area itself, the actions against enemy submarines would have involved establishing antisubmarine warfare (ASW) barriers, defending non-ASW warships and convoys, laying mines at the approaches to enemy bases, and destroying the West's Sound Ocean Surveillance System (Sosus).[2]

To protect their missile submarines in their sanctuaries and during their deployment at sea, the Soviet navy had to attain and then maintain what the Soviets called (as did their Eastern European allies) a "favorable operational

regime" or "combat survivability of basing and deployment areas." This concept assumed a reliable system for basing, preparing, and deploying one's own forces and for providing early warning of an approaching enemy. "Favorable operational regime" should not by any means be confused with the term "sea mastery," because the latter objective cannot be attained without first assuring a favorable operational regime. Such a regime primarily depends on coastal surveillance systems and coastal missile-artillery troops, and upon properly fitting out naval basing areas. It also required that Soviet forces be able to find and destroy hostile submarines threatening Soviet ships at sea or in their bases, to protect their own coastal installations from missiles, and to prevent enemy submarines from conducting reconnaissance or minelaying in nearby coastal and offshore waters.[3]

Antisubmarine Forces

ASW assets included not only the navy's general-purpose submarines, fixed-wing aircraft, helicopters, and surface ships, but also the air force and the air defense forces.[4] The air force's Long-Range Aviation component would have delivered "strategic strikes" against the enemy's submarine bases and other coastal facilities while air defense forces controlled those reconnaissance satellites watching hostile submarines and their facilities.

The Soviets considered their nuclear-powered torpedo attack submarines to be the most effective means they had to search for, detect, and destroy hostile submarines. They were therefore the first line of defense against enemy SSNs threatening Soviet ships of all sorts. They were also the primary instrument for hunting down and attacking enemy ballistic-missile submarines at the approaches to the latter's bases and in their operating areas.

Though diesel-electric attack submarines are too limited in range to be effective in open-ocean ASW, their high maneuverability and low self-generated noise (when running on batteries) made them useful for ASW in sea areas close to Soviet-controlled shores, along barriers, or in straits and narrows where hostile submarines were expected to transit. Accordingly the Soviets used the Kilo class, and perhaps also the Tango class, as their second line of defense.

Surface ships, the most versatile of antisubmarine platforms, were the basic component of forces deployed in the inner ASW sub-zone (defined below under the heading of "ASW defense"), and they remained irreplaceable for point defense of naval formations and convoys at sea. Surface ships used to be much faster than submarines, but this advantage has diminished drastically. Though generally they have an inferior sonar detection range compared with modern submarines, they are fitted with a variety of sensors and are able to maintain contact with a hostile submarine once established. They also carry a powerful antisubmarine armament.

Aviation was tasked with combating enemy submarines both in the sea and ocean TVDs (theaters of military operation). Its main advantage over other forces is the speed with which aircraft are able to arrive in a designated search area, to sweep large areas, and to shift their efforts from one area to another. They are stealthy in tracking and highly effective in attack. However, their endurance (especially that of helicopters) and armament are slight compared with those of surface ships. Also, Soviet aircraft found it difficult to maintain contact with submerged submarines and to localize contacts precisely.[5]

Tactical Organization

The basic tactical-sized submarine unit was a group of two or more boats, usually of the same class, kept together for the duration of the mission at hand. The comparable ASW aviation unit (called an "air search-strike group") consisted of four to six single-type fixed-wing aircraft or helicopters organized to search, to strike, or do both; it could be used independently or as an adjunct of a surface force or convoy escort.[6]

The primary surface tactical-sized antisubmarine unit consisted of two or three ships usually of the same class. The larger tactical-sized forces, consisting of four to six ships of various types, were called "ship search groups" and "ship search-strike groups." A ship search-strike group was likely to include an ASW cruiser as flagship. When such a force was in a remote area, it usually included one or two destroyers or guard ships (frigates, as the latter are called in the West) armed with surface-to-air missiles, to improve its survivability under air attack.[7]

A composite force, called a "search-strike group," consisted of a ship search-strike group joined with fixed-wing aircraft or helicopters. In one exercise, such a group included two *Udaloy*-class "large ASW ships," one Krivak-type "guard ship," and several fixed-wing ASW aircraft.

Force Control

Soviet officers writing on ASW in their professional publications stressed the need for the highest degree of centralization and cooperation. In fact, the Soviet ASW concept was based on the premise that success at sea is unlikely when single types of forces—attack submarines, aircraft, or surface ships—are employed alone. Therefore cooperative action, whether in sea or oceanic areas, along barriers, or in defense of naval formations and convoys, was the basic principle for the employment Soviet ASW forces.[8]

As an ideal, cooperation of diverse forces meant that the task of each element be assigned clearly, that each search sector be determined accurately, and that timing of the actions of all participating forces be coordinated. The Soviets hoped in this way not only to avoid mutual interference and attacks upon each other

but also to compensate for the superior operational and tactical characteristics of Western submarines.[9] (At least, this was a concern when Soviet submarines generally were greatly inferior to their potential foes.) To achieve these results, the commander, whether ashore or afloat, had to exercise tight control over all forces engaged in his sea or ocean area. Such control demands smooth exchange of information during both planning and execution, and this necessity required highly centralized collection, evaluation, and display of situational data.

Unfortunately for the theory, communications between Soviet attack submarines and surface ships were in fact inadequate. Accordingly, cooperation was in practice a matter predominantly of mutual support between surface ships and aviation only. Force cooperation in open-ocean ASW essentially consisted of coordinating independent searches by SSNs, tactical-sized groups of fixed-wing aircraft, and large surface ships so as to accomplish a single operational objective. This objective could be to neutralize the threat of enemy SSNs in an operational-sized part of a maritime TVD, or to prevent such SSNs from penetrating a Soviet ASW barrier established in an important strait or narrows.

As for the future, if the Russians can develop reliable means of underwater communications to permit submarines to act in tactical concert with each other and with surface ships, their ASW platforms will be able to fire their weapons from positions beyond the enemy's detection and weapons range.[10]

Components of the Struggle against Submarines

The principal components of the Soviet struggle against submarines were reconnaissance, defense, and support.

Reconnaissance. One of the most important requirements of antisubmarine warfare is timely and continuous underwater surveillance. This is a large-scale effort and requires significant support from other forces. The Soviets considered it essential that they be able both to detect hostile submarines at the beginning of their deployment and to strike them anywhere in their operational area. This required the ability to sustain an uninterrupted search for them throughout wide sea or oceanic TVDs.[11] This in turn demanded precise knowledge (gained in peacetime) of the waters and seabed, both in the open ocean and in the enclosed seas washing the Soviet coastline. Yet in practice the Soviets searched for hostile submarines only a few hundred nautical miles to seaward of their own ports.

The main methods used by the Soviets in ASW reconnaissance were: tracking, trailing, searching, patrolling, and sweeping (the last three to be defined below); they were supplemented by surveillance with fixed sea and shore-based submarine detection sensors. Tracking Western SSBNs was once one of the principal tasks laid upon Soviet ASW forces. However, the main prerequisite for success here is covertness; since until recently Soviet SSNs were relatively

noisy, they found that tracking Western SSBNs for days or even a few hours was extremely difficult if not impossible. Trailing became a supposedly a more rewarding, if more difficult, variant of tracking. While tracking a potentially hostile submarine is conducted from longer range and from a variety of positions, trailing is done at short range and generally from stern target angles. But Soviet SSNs were not able, and (at least according to a source now old) never tried, to trail Western SSBNs.[12]

Defense. Submarine defense consists, said the Soviets, of operational and tactical-sized combat actions and also of special measures aimed at preventing reconnaissance, minelaying, and other forms of attack by hostile submarines. Such defense also had to ensure the safety of one's basing system, of ships of all sorts, and of straits and narrows.[13]

On the strategic level, ASW was part of what the Soviets called "universal defense" (*universal'naya oborona*). This concept of the defense of the Soviet homeland against an attack coming from across the sea was apparently adopted in the late 1980s, concurrently with the announced shift toward the military doctrine of "reasonable sufficiency." Among other things, universal defense aimed to ensure protection against any type of threat to coastal installations and to operational-sized forces (flotillas and *eskadras*) at sea.

The outermost boundary of the Soviet universal defense zone extended to about 750 nautical miles seaward from the coast. The entire zone was divided into three sub-zones, called the self-defense, near, and distant defense zones. The self-defense zone, which extended from the center of a defended facility out to a radius of eight or sixteen nautical miles, had as its aim to destroy among other things enemy submarines and their torpedoes or missiles. This was addressed primarily by shipboard systems, including helicopters. In the near defense zone (from eight or sixteen nautical miles out to fifty-four) submarine defense was provided by ship search-strike groups, air search-strike groups, and (composite) search-strike groups. In the distant defense zone, covering the area from fifty-four to 755 nautical miles off the coast, one would have expected to find fixed-wing aircraft and torpedo attack submarines. Their task was to ensure the timely detection of hostile forces, to provide warning of any threat, and to destroy the enemy or at least make it difficult for him to strike (see table).[14]

Depending on the size of the defended area, the Soviets had three methods of ASW defense: *zonal*, *defense of an object*, and a *combination* of these.[15]

Zonal defense (or area defense, as it is known in the West) was organized to protect straits and narrows, coastal waters, naval bases, and commercial ports.[16] Defense of straits and narrows through which enemy submarines were expected to transit was established by forming barriers astride their entrances. These barriers usually consisted of shore-based sonars (and other means of detecting

DEFENSE ZONES		TASKS	FORCES AND ASSETS
NAME	EXTENT (nmi)		
SELF-DEFENSE	0 - 8 (16)	● TO DESTROY ENEMY MISSILES, GUIDED BOMBS, AIRCRAFT, TORPEDOES, SUBMARINES, COMBAT CRAFT, AND MINES	● SHIPBOARD WEAPONS AND ASSETS ● SHIPBOARD HELICOPTERS ● MINESWEEPERS
NEAR	16 - 54	● TO DESTROY HOSTILE AIRCRAFT, SUBMARINES, COMBAT CRAFT, MISSILES IN FLIGHT, AERIAL GUIDED BOMBS, TORPEDOES, AND MINES	● SHIP-STRIKE GROUPS (KUGs) ● SHIP SEARCH-STRIKE GROUPS (KPUGs) ● AIR SEARCH-STRIKE GROUPS (AVPUGs) ● AIR-SHIP SEARCH STRIKE GROUPS (APUGs) ● MINESWEEPING GROUPS (KTGs) ● MINESWEEPING HELICOPTER GROUPS VTGs)
DISTANT	54 - 755	● TO TIMELY DETECT HOSTILE PLATFORMS ● TO PROVIDE WARNING TO OWN SHIPS ● TO DESTROY HOSTILE PLATFORMS OR MAKE IT MORE DIFFICULT THEIR STRIKES AGAINST OWN FORCES	● TACTICAL RECONNAISSANCE GROUPS ● SINGLE MULTIPURPOSE SUBMARINES ● RECONNAISSANCE-STRIKE GROUPS OF SURFACE SHIPS ● ASW AVIATION ● ATTACK AVIATION

Universal Defense of the Fleet Forces

and tracking submarines), nets, mine barriers, and one or more ship search-strike groups and air search-strike groups based nearby.[17]

In the case of ports and bases, enemy submarines had to be destroyed at distances beyond their missile or torpedo range. In all cases, security was provided in part by ships or groups of ships and aircraft, but primary reliance was placed upon fixed underwater sensors and obstacles, especially mines and nets at base and anchorage entrances. All these measures were reportedly organized in peacetime and intensified as needed in the course of hostilities at sea.[18]

Area defense was organized by "antisubmarine defense zones."[19] Each such defense zone consisted of a *distant* and a *near* sub-zone. In general, the near or inner sub-zone extended out from sixty to one hundred nautical miles from the coast. But the inner boundary might have been recently changed to fifty-four nautical miles so to conform to the boundaries of "universal defense." It is not clear how much farther the distant, or outer, sub-zone reached. Presumably forces operating there would have been restricted to reliable command-and-control distance, implying an outer limit of a thousand nautical miles or so from a Soviet-controlled shore. However, the outer submarine defense sub-zones off the Kola and Kamchatka peninsulas probably extended no more than four hundred nautical miles seaward, and approximately twice as much in wartime.

Normally, Soviet forces operating in the outer sub-zone were controlled directly by the commander in chief of the nearest home-based fleet, for in the Soviet view it was in the outer sub-zone that most operational-strategic and strategic ASW would take place—that is, in the Sea of Okhotsk and in the Barents, Greenland, and Bering seas.[20] The forces in the outer sub-zone had to be able to defend themselves from attack of any sort or from any source. This requirement was a major motivation for the development of aircraft carriers and other aircraft-carrying and air defense ships.

Defense of the inner sub-zone, on the other hand, was organized by commanders of local naval bases. An inner sub-zone existed in the operating area of each Soviet fleet; however, only the Northern and Pacific Fleets had both inner and outer sub-zones. Ships and aircraft defending against submarines in the inner sub-zone depended for guidance upon fixed shore and sea-based submarine detection sensors.[21]

No matter what its type, each ASW sub-zone was divided into patrol areas, each of which in turn normally encompassed several patrol sectors. Each sector was guarded by a single ship.[22]

The Soviets called the principal components of an ASW area sub-zone *barriers*, *positions*, and *obstacles*. Although these terms resemble each other, there were real differences in their meanings.

An antisubmarine barrier normally consisted of minefields, nets, and surveillance or tracking sensors on the seabed or coast, and was patrolled by surface ships and fixed-wing aircraft or helicopters. It was an integral part of a defensive

zone. It could be established close to the Soviet-controlled shore (if intended against enemy SSNs) but might be established beyond the range of coastal antiship missiles and guns. A barrier normally included diverse types of moored and bottom influence mines laid in from three hundred to 625 feet of water.[23] (See diagram.)

An antisubmarine position, which could be part of a barrier, consisted of the same kinds of forces and sensors as barriers and in the same kinds of places, but collected around a single point rather than arrayed along a line. When an antisubmarine position was part of a barrier, demarcation or off-limits zones were set up between adjacent positions to guard against inadvertent attack by friendly forces.[24]

Antisubmarine obstacles were simply nets and mines laid to hinder or destroy hostile submarines departing their bases, transiting straits, or penetrating defense areas of Soviet bases or ports. Depending on their location, obstacles could be either independent or part of a barrier.[25]

Defense of an object, or point defense as it is known in the West, was concerned with protection of individual ships and ship forces or convoys during their sea transit or in bases and anchorages. It consisted of a series of measures and combat actions aimed at preventing hostile submarines from carrying out strikes with torpedoes or antiship missiles. Specifically, ASW defense of an object encompassed search for and detection of enemy submarines, informing friendly ship forces or convoys about the detected submarine, preventing a hostile submarine from attaining a position for using its weapons, destroying it and its torpedoes or missiles after launch, and restoring battle-worthiness after a strike by a hostile submarine.

ASW defense of individual ships included measures to reduce the probability of encountering a hostile submarine, camouflage measures (cover, concealment, and deception as known in the West), detection and destruction of an enemy submarine, and jamming the enemy submarine's surveillance sensors and weapon homing systems.[26]

World War II seems to have shown the Soviets that defense against highly maneuverable submarines on the open sea can be successful only through combining area and point-defense systems. This would include establishing a system of surveillance over a wide area for a specified period of time, complemented by close coordination of actions by screening forces and forces of distant cover.[27] The latter pertained to specially created "groupings" of forces deployed at a certain distance from the area in which a naval operation or battle takes place. The aim of these forces would be to intercept the opponent and prevent his strikes against the main body. Forces of distant cover consisted of tactical-sized forces of surface ships, submarines, naval aviation, and coastal missile-artillery troops.[28]

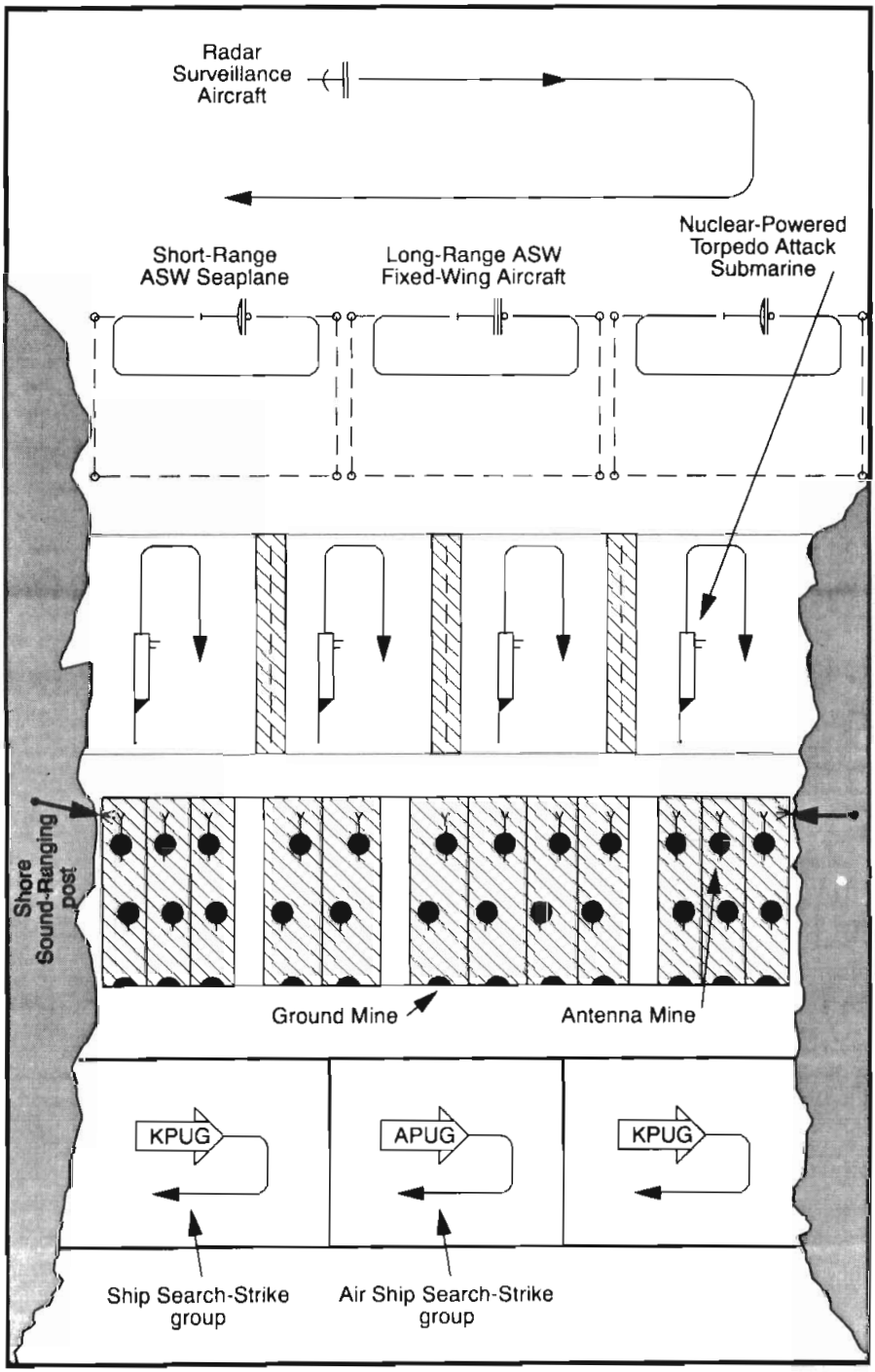
ASW Support. In contrast to ASW defense, ASW support was the support of an operation, battle, or combat actions in general. Increasingly, however, ASW defense and ASW support came to resemble each other, with the line dividing them often difficult to distinguish. The various types of combat support in the Soviet navy also increasingly overlapped. For example, there was almost no type of combat support that did not in one form or another include radio-electronic combat or camouflage measures. Another trend visible in the recent years was the growing interrelationship between support at the tactical level ("combat support") and at operational level ("operational support"). In fact, the tasks of combat support were increasingly taken over by operational support. The reason for this was the steadily enlarging scope of combat actions, which in turn required greater centralization of control of forces and assets in a theater. For example, the commander of a tactical-sized force might be unable to ensure independently the tactical deployment and effective use of his forces and assets in combat because he did not control the necessary supporting forces and assets, which only the operational-sized force commander could provide. Therefore, the scope of support depended to a great degree on the effectiveness of the planning of a naval operation as a whole.[29]

Support of combat actions in general was described by the Soviets as a series of interrelated measures directed at maintaining one's own troops and forces in high combat readiness, ensuring their combat capability, and creating favorable conditions for an organized and timely entrance into battle and then successful conduct of combat actions. It also included measures aimed at preventing or forestalling a surprise enemy attack and reducing the effectiveness of enemy strikes against friendly troops or forces.[30]

The role and significance of "antisubmarine support" in the Soviet navy grew steadily after the mid-1970s, largely because of the need to protect both SSBNs in their sanctuaries and large cruise-missile submarines en route to and on station. ASW support was specifically aimed at increasing the survivability of one's own ships and vessels from enemy submarine strikes—upon their bases on anchorages and during their deployment, sea transit, and execution of their combat actions.

The essence of ASW support lay in organizing surveillance and display of the subsurface situation in a given sea or ocean area, searching for and destroying hostile submarines where their threat was the greatest, establishing (ahead of time) ASW barriers at the approaches to one's naval bases and other areas, and concentrating diverse ASW forces to screen ship forces or convoys. Properly organized ASW support had to ensure timely detection and destruction of enemy submarines before they reached a position from which they could use their weapons.

To make attack difficult or to reduce the effectiveness of possible attack by hostile submarines, the Soviets envisaged the wide use of diverse passive measures. Thus their ships would select their sailing routes and time their



Source: "Potivolodochnyy rubezh" (Antisubmarine Barrier) VMS p. 346

movements to minimize the danger from enemy submarines. During sea transit, the Soviet ships sailed in an "antisubmarine" formation or composite anti-air, anti-submarine, and anti-combat-craft formation. They sailed at the most favorable speeds, conducted ASW avoidance maneuvers, used camouflage measures, and jammed the enemy submarine's sensors and homing weapons.[31]

Forms of Combat Employment

The Soviets used the term "combat actions" to describe the combat employment of their forces at the operational and tactical levels, while the term "military actions" pertained to actions at the strategic scale. Any combat or military action had its "type," "form," and "method." These terms might sound awkward to an English speaker, but their meaning must be described in order to understand the Soviet concepts. The "type" of combat action depended on the character of the employment of one's forces for attaining assigned objectives. The basic types of combat action were "offensive" and "defensive."[32]

The "form" of combat action depended on its scale, the capabilities of the particular service of the country's armed forces, the objective to be accomplished (tactical, operational, or strategic), and the character of the combat task. The basic forms of combat actions in the Soviet navy were attacks, strikes, battles, engagements, operations, and systematic combat actions.[33]

The "methods" of combat action depended on whether the action was offensive or defensive and on what service the forces or combat arms had come from. They included the sequence of the employment of one's forces and assets to resolve the tasks of an operation or a battle, the sector of the main and secondary strikes or attacks, the operational disposition (for operational-sized forces) or combat formation (for tactical-sized forces), and the character of maneuver of one's forces and assets.[34]

Reportedly only about ten percent of Soviet ASW actions were "offensive" in character. The most important of these were the missile and bomber strikes against enemy submarine bases and construction and repair yards. Searching for and engaging hostile submarines, especially SSBNs, in their operating areas were also considered offensive actions. The other ninety percent of the Soviet ASW effort was concentrated upon those defensive actions we have examined.

At the strategic level, the main form of ASW combat employment was the strategic strike; at the operational-strategic and operational level, it was the independent naval operation. Operational objectives in the struggle against submarines were also accomplished by engagements (*srazheniye*) and what the Soviets called "systematic combat actions" or day-to-day actions of fleet forces. Tactical objectives were achieved by tactical attacks, tactical strikes, and naval battles. These could be attacks either carried out independently or as a part of combat actions intended to achieve operational objectives.

Strategic Strikes. Ballistic and cruise missile submarines played an important part (at least theoretically) in the struggle against enemy submarines through the destruction of their bases and building yards, command centers, and navigational support facilities. This destruction was to be accomplished primarily by strategic strikes with nuclear weapons. A nuclear strike could be inflicted on one target or on a small group of them with a single weapon, or on one or more targets simultaneously by using several weapons, or on many targets simultaneously (or nearly so) by the use of a large number of weapons. The air force and the strategic rocket force were expected to contribute to this ASW action by hitting hostile SSBNs in their bases and yards.[35]

Independent Naval Operations. A naval operation, in general, was described by the Soviets as a series of naval engagements, battles, and strikes coordinated with respect to their objective, place, and time. It could be conducted by diverse naval formations independently or in cooperation with formations of other services of the Soviet armed forces.[36]

Within the field of antisubmarine warfare, the Soviets envisioned at least four types of independent naval operations. First was *destroying the opponent's missile submarines.* This would be accomplished by searching for and destroying ballistic missile submarines near their bases, in their patrol areas, and everywhere in between. Simultaneously, fleet elements would attack any hostile forces afloat or ashore providing distant support to these submarines.[37] An example of such an operation would be the deployment of attack submarines, ASW aircraft, and surface ships in the North Atlantic and the Arctic Ocean to search for, detect, and destroy U.S. SSBNs and Tomahawk-armed SSNs. At the same time, a number of Soviet SSNs would be deployed in ambush positions off Western SSBN bases.

A second type of independent naval operation—*destroying the opponent's ASW forces*—attempted to create conditions in which Soviet submarines of all kinds could operate safely. This would be done by destroying fixed detection systems and command centers, and by sinking enemy ASW forces at sea or in their bases.

A third independent naval operation involving ASW was the *protection of the flow of one's own maritime traffic* from enemy submarine attacks.[38]

The Soviet navy in recent years identified the "*antisubmarine search operation*" as a new, fourth, type of independent naval operation, offering thereby perhaps the best possible evidence of the great significance searching for hostile submarines had for it. An ASW search operation required coordination of all efforts so as to clarify a situation in the shortest possible time.[39]

Engagements. In the West, the Soviet term for a naval battle or attack was often erroneously translated as "engagement." But this is a term to which the Soviets attached a different and very precise meaning; to them, a naval engagement was

not just a battle, but the sum of the most important battles and strikes, counter-strikes, attacks and counter-attacks conducted by their forces fleet and aimed at attaining a single operational objective. The main features of a naval engagement were its long duration and the large area in which it takes place. A naval battle as such, as we will see, was both briefer and smaller.[40] An example of a naval engagement would be a prolonged effort on the part of Soviet surface ships, attack submarines, and aircraft to destroy a large concentration of enemy SSNs trying to penetrate the Sea of Okhotsk or the Barents Sea.

Systematic Combat Actions. This term refers to the most frequent way in which Soviet ASW forces were employed in both peacetime and in war: that is, their day-to-day activities. With modest individual objectives, "systematic" actions would take place along probable hostile submarine deployment routes and patrol areas, on ASW barriers, and in straits and narrows.[41] They would include both combat and protective measures, carried out by tactical-sized forces over an extended period of time. Their collective objective would be to turn an unfavorable operational situation to one's own advantage, to create and maintain a favorable operational regime, and to prevent operational surprise at sea.

The variety of activities which came under this heading included most of the things navies do: conducting reconnaissance and patrol; defending against attack by submarines, aircraft, minelayers, fast patrol boats, and combat swimmers; striking enemy surface combatants, merchant ships, airfields, naval bases, and coastal installations; laying defensive minefields; sweeping enemy-laid mines in Soviet waters; countering hostile reconnaissance; and conducting radio-electronic combat.[42]

Tactical Combat Actions. The main forms of antisubmarine combat were called attacks, tactical strikes, and naval battles. Normally, an attack was part of a strike or a battle. However, in some cases it might be an independent action.

Attack. An attack involved closing in to attain a favorable firing position, using weapons and radio-electronic combat assets against the target, disengaging or withdrawing, or maneuvering to use weapons again against the same or another target. An attack could be carried out independently or in mutual support by submarines, surface ships, or aircraft. The principal types of attack against a hostile submarine were by torpedo and depth charge (formerly called "antisubmarine attack").[43] An example of a naval attack would be a Soviet SSN launching torpedoes against an enemy SSN or a single ASW surface ship firing multiple-rocket ASW launchers either singly or in combination with torpedoes.

Tactical Strike. This action was a bold, rapid-effect action by either a single unit or a tactical group aimed at swiftly destroying a target. A swiftly mounted action by a tactical group of ASW surface ships in cooperation with land-based

helicopters against a single enemy submarine at the approaches to a Soviet base, or trying to penetrate an ASW barrier in a strait, would be a tactical strike.

Naval Battle. The battle was the highest and most common form of tactical employment of Soviet fleet forces. It might be fought either independently or as part of a naval operation or of systematic combat actions. It consisted of a series of strikes, attacks, and maneuvers by individual ships or their tactical groups coordinated with respect to target, place, and time, and conducted according to a common plan to achieve a common tactical objective. The objective was usually to destroy the opponent or to inflict such losses on him as to force him to abandon his efforts.[44]

Methods of Combat Employment

The principal methods of combat employment of Soviet ASW forces were searching, patrolling, sweeping, screening, ambushing, blockading, and mining.[45]

Searching. Soviet forces searched for submarines mainly in the enclosed and marginal seas of the Arctic and Pacific. Most waters adjacent to the Soviet coasts pose great problems for effective use of sensors and weapons: the Baltic and Barents seas are shallow, while the Black Sea and Sea of Okhotsk are too shallow to form convergence zones but too deep to behave predictably as shallows do. In the Sea of Okhotsk and in many parts of the Baltic, the difficulties are compounded by seasonal ice (which degrades sonar performance by causing reverberation and high ambient noise). In the central Arctic Ocean, ice-covered waters are the dominating feature year-round.

Patrolling. Patrols were organized to detect and attack enemy submarines in transit or trying to break into defended areas, and could be conducted by surface ship, fixed-wing ASW aircraft, or general-purpose submarines.

Sweeping. A sweep was made to detect and destroy or drive out submarines in an area where, for instance, one's own ships were soon expected to transit; it was also called a *control sweep.* In general, a sweep was conducted wherever, though there was no datum, a submarine's presence was suspected or must be assumed.[46]

Screening. ASW screening was an integral part of defense and protection of a ship force or convoy against all types of threat, that is, from the air, surface, and subsurface. It was organized in bases, during sea transit, and in a naval battle. Screening was conducted by air patrols, groups of ships for tactical reconnaissance, and forces and assets of anti-air, anti-submarine, anti-craft, and anti-mine defense, and radio-electronic combat.

In general, screening encompassed a series of combat actions and measures intended to prevent surprise strike by enemy aircraft, submarines, and combat craft and to ensure necessary time and favorable conditions for one's own ships' transition into a combat formation and execution of combat actions. The Soviets differentiated between near and distant screens. Both near and distant ASW screening of a ship force or convoy was conducted by using fixed-wing aircraft and helicopters in cooperation with other forces of ASW defense.[47]

The near or close-in ASW screen was organized to prevent a hostile submarine from attaining a salvo position for its torpedoes or firing position for its antiship missiles. The maximum effective salvo range of submarine-launched torpedoes is currently about ten nautical miles from a ship or formation center. However, since modern attack submarines and U.S. submarines in particular would generally use missiles to attack surface ships, distances of from thirty to sixty nautical miles were actually involved. Here, then, is a link between antisubmarine defense and air defense, in that screening ships must be able to destroy a submarine's missiles with surface-to-air missiles and rapid-firing guns.

The distant or outer screen could reach out up to one hundred nautical miles. Forces assigned to this screen had to detect and immediately engage hostile submarines, and also warn friendly forces. The main body could then send any available ASW forces and assets to help pursue and destroy the detected submarine and, if possible, change course to avoid the area.[48]

Ambushing. The Soviets proposed to destroy enemy submarines by deploying their SSNs in ambushes that were set up especially in approaches to enemy submarine bases or in narrows between these and the open sea.[49] For example, there were reports in the U.S. press that in the mid-1980s the Soviets deployed two or more Victor IIIs off U.S. SSBN bases at Bangor, Washington, and Charleston, South Carolina. In April 1987 the Soviets conducted an exercise with five SSNs, including Victor IIIs, east of Bermuda, apparently to practice ambushing U.S. SSBNs in front of their Charleston base.[50]

Blockading. One of the most effective ways of neutralizing the threat of hostile submarines was to blockade them in their bases or operating areas. The Soviets considered mines to be the most effective weapon to accomplish this objective. They envisioned extensive use of mines to close the exits of enemy submarine bases, blockade straits or narrows in the distant parts of the oceans, and create ASW barriers.

Mining. The mine was one of the most important elements in the Soviet organization of ASW defense zones. It played an especially great role in barriers protecting Soviet strategic submarines in their sanctuaries and patrolling areas. The Soviets also used mines widely for defensive barriers protecting their naval

bases, commercial ports, and coastal shipping routes. Moreover, mine barriers could be placed so as to destroy hostile submarines or prevent their penetration into waters where Soviet surface ships were engaged in combat operations.

Conceptually, the "struggle against submarines" was all-encompassing, in that the Soviets believed that it was necessary to engage enemy submarines everywhere that they operated. As we have seen, the Soviets also envisaged, in general war, striking hostile submarine command and control centers, bases, and repair yards. Soviet ASW capabilities, however, were more modest in fact than in theory. In practice, their effort in this field was limited essentially to the enclosed seas and restricted coastal waters bordering the open ocean, out only to the limit of effective air cover provided by land-based aviation and, later, by the new *Admiral of the Fleet Kuznetsov*-class (ex-*Tbilisi*-class) aircraft carriers.

The Soviets clearly preferred area defense to point defense, and they relied more than Western navies do on seabed and coastal submarine detection sensors to defend their bases, ports, and narrow seas.

If the Russians wish to make the ASW zone concept they have inherited fully viable, they must become able to protect their forces from hostile action, especially from the air, and they must also build a larger and more effective maneuvering ASW force than the Soviet navy had. More importantly, they need revolutionary advances in submarine detection, based perhaps on nonacoustic sensors. Until these requirements are met, Russian ASW will remain what Soviet ASW was in practice: much less effective than its theory would have led us to believe.

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