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CENTRAL INTELLIGENCE AGENCY
WASHINGTON, D.C. 20505

5 February 1974

MEMORANDUM FOR: The Director of Central Intelligence

SUBJECT : MILITARY THOUGHT (USSR): Air Defense of Naval Operations

1. The enclosed Intelligence Information Special Report is part of a series now in preparation based on the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal "Military Thought". This article describes the shortcomings of Soviet naval air defenses, using examples from a 1966 Black Sea exercise. While the author is highly critical of the exercise, he emphasizes the more fundamental point that the Navy cannot meet its air defense responsibilities and National Air Defense cannot fill the gap. His primary recommendations are to increase the numbers of naval picket ships and improve naval capabilities to control intercept by fighter aircraft. This article appeared in issue No. 2 (81) for 1967.

2. Because the source of this report is extremely sensitive, this document should be handled on a strict need-to-know basis within recipient agencies.

[redacted]

David H. Blee
Acting Deputy Director for Operations

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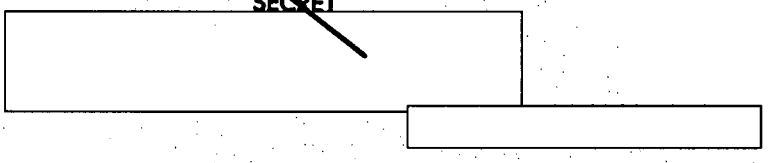

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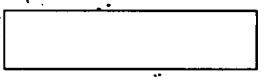

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Intelligence Information Special Report

COUNTRY USSR

DATE OF INFO. Mid-1967

DATE 5 February 1974

(I)

SUBJECT

MILITARY THOUGHT (USSR): Air Defense of the Navy

S Documentary

Summary:

The following report is a translation from Russian of an article which appeared in issue No. 2 (81) for 1967 of the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal "Military Thought". The author of this article is Colonel V. Nosov. This article describes the shortcomings of Soviet naval air defenses, using examples from a 1966 Black Sea exercise. While the author is highly critical of the exercise, he emphasizes the more fundamental point that the Navy cannot meet its air defense responsibilities and National Air Defense cannot fill the gap. His primary recommendations are to increase the numbers of naval picket ships and improve naval capabilities to control intercept by fighter aircraft.

End of Summary

Comment:

The 24 February 1962 issue of Red Star reported that Lt. Col. Viktor Nosov was awarded the Order of the Red Star. Military Thought has been published by the USSR Ministry of Defense in three versions in the past -- TOP SECRET, SECRET, and RESTRICTED. There is no information as to whether or not the TOP SECRET version continues to be published. The SECRET version is published three times annually and is distributed down to the level of division commander.

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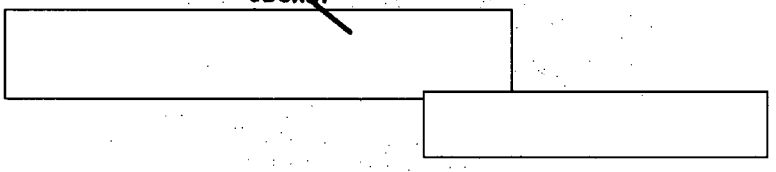


Air Defense of the Navy

by

Colonel V. Nosov

It is impossible to expect a naval operation to succeed in modern warfare without reliably organized air defense of the naval forces. This defense, depending on the condition and operational status of the navy, may be effected by protecting naval installations, ships in port, in dispersal areas, and also in coastal waterways, and protecting ships at sea while they are performing combat duty or conducting operations beyond the operational range of the means of the Air Defense of the Country.

The air defense of the navy is organized, in the first instance, within the overall system of air defense of the country. It is sufficiently reliable and constantly being improved with the developing combat capabilities of the Air Defense Forces of the Country.

Protecting ships located beyond the zone of operations of the Air Defense Forces of the Country is another matter, especially while these ships are performing combat duty and conducting naval operations.

Protecting fleet forces under these conditions necessitates organizing an autonomous air defense by shipboard air defense means, which requires ships armed with antiaircraft missile systems, radar patrol ships, and air defense fighter guidance posts set up on ships. However, at the present time these air defense means are not possessed by the Navy in sufficient number and they are not fully responsive to modern requirements.

Nor are ways of fully using existing air defense means in the armament of the navy--for example, radar patrol ships, air defense posts and ships equipped with fighter aviation control and guidance posts--being investigated effectively enough.

Thus, considerable difficulties constantly are encountered in organizing air defense of fleets under the conditions being examined, since the real capabilities of air defense means of the fleets do not correspond to the requirements for the defense of forces of a fleet conducting operations at sea. Therefore, the opinion exists that forces of a fleet in remote areas of a sea have to be defended by the Air Defense Forces of the Country. However, the Air Defense Forces of the Country cannot guarantee reliable protection of forces of the fleets beyond the limits of the system of air defense of the country, since they do not have the necessary aggregate of means (surface ships equipped with antiaircraft missile launchers, radar patrol ships, and others) for this purpose.

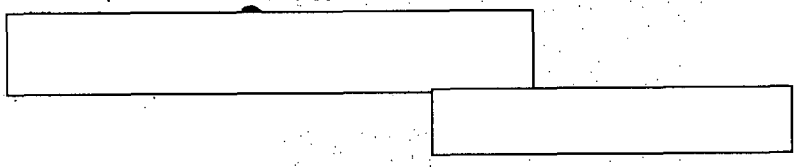
The regulations now in force do not clearly define the limits of responsibility for air defense of a fleet in the various periods of its operational status.

The reasons enumerated apparently have led to the fact that in exercises conducted in recent years, problems of air defense have been worked out by the staffs of the fleets without deep analysis of the capabilities of the attack means of the enemy and of the effectiveness of our means of combatting them.

We will take one of the exercises as an example and analyze the organization and implementation of the air defense of the forces of the fleet in it.

In mid-1966, in the Red Banner Black Sea Fleet, a command-staff exercise was conducted jointly with the Air Defense Forces of the Country and the Odessa Military District.

From analysis of the combat capabilities of the "enemy" air attack forces and means in the initial situation we could assume that on a coastal axis the main forces of his air attack means would be operating at low altitude, with extensive maneuvering and using radio countermeasures. The conditions of the situation required making the existing air defense plan more specific, paying particular attention to organizing combat with low-altitude and high-altitude targets coming from seaward, as well as protecting the deployment of the forces of the fleet.



The fleet staff, in conjunction with the command of the coastal air defense formation, should have, first of all, carefully planned the defense of those forces on whose actions the success of the naval operation depended entirely. Unfortunately, the fleet staff did not devote the needed attention to this problem in the exercise.

Instead of specifically indicating to the air defense formation staff, air defense tasks by exercise stages and agreed assessment data on the capabilities of the attacking enemy forces and of our own defense means, and determining the priority of preventing the conduct of aerial reconnaissance and aerial minelaying by the enemy in the operations and basing area of the fleet forces, the documents worked out by the fleet staff basically contained general formulations.

We also encountered this situation in other exercises which have been conducted, even though pertinent regulations state that when the air defense of ships and shore installations of a fleet is organized in an operation, air defense measures are planned by the fleet staff jointly with the staffs of the coastal formations (large units) of the Air Defense Forces of the Country and the front, on the basis of the air defense system existing in that theater, with allowance for the specific features of the impending operation. The fleet staff, in conjunction with the staff of the coastal air defense large unit, should have planned the air defense thoroughly, with allowance for concentration of the primary efforts of the air defense forces and means on the main axis and on protecting the fleet forces carrying out the main tasks in the operation. However, this was not done.

Omissions which occurred in the air defense planning at the beginning of the exercise and the failure to coordinate the planning with the air defense large unit also affected subsequent stages, when organization problems and, later, the actual implementation of an amphibious landing operation, were worked out.

The essence of the plan to protect the amphibious landing was reduced to the following: the sea crossing and the landing beyond the operational limits of the system of air defense of the country were to be covered by specially assigned fighter aviation forces of the air defense of the country and the front. Calculations showed that the

assigned fighter aviation forces were capable of protecting the landing by exerting a maximum effort. Supporting fighter combat actions at their full radius required increasing coverage of the seaward side and also the guidance coverage, especially at low altitudes. To do this, it was planned to station a radar patrol ship at sea 160 kilometers from the shoreline, and to guide fighters beyond the communication range of the shore command posts with shipboard fighter aviation control and guidance posts set up aboard surface ships designated for immediate protection of the amphibious landing.

The process of actually carrying out this plan revealed omissions which could have been avoided by more comprehensive appraisal of the capabilities of our air defense means and enemy air attack means.

In order to station a radar patrol ship at sea at the stipulated distance from shore (160 kilometers), it was necessary to provide for its air protection, since the ship does not have air defense means for self-defense and its patrol area was located beyond the limits of the system of air defense of the country in this theater.

To carry out a continuous fighter patrol over the ship would have required an excessive and completely invalid expenditure of the limited fighter aviation forces assigned to the fleet. Another, more advisable way would have been for the antiaircraft missile means of surface ships to protect the ship from air strikes. However, that would have required an additional expenditure of forces which the plan did not envision earlier and which could be accomplished only by weakening the immediate defense of the amphibious landing. The command decided not to take that step.

With consideration of the conditions created, a new decision was made: bring the radar patrol ship closer to the zone of the shore means of the antiaircraft missile troops. Thus the coverage actually was not augmented, since the radiotechnical troops of the coastal air defense large unit provided full detection and radar support for the air defense combat actions in this area.

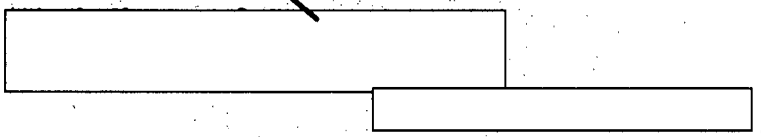
Serious difficulties arose also in augmenting the guidance coverage for fighters. In combat against low-altitude targets coming from seaward, the guidance range for the fighters is increased primarily by transferring control of them to shipboard guidance posts set up on ships. The presence of such ships, as well as trained guidance navigators, permits considerably increasing the interception range for targets and no less important, augmenting the amount of simultaneous guidance of fighters.

Calculations show that supporting fighter aviation combat actions on the Black Sea axis requires no less than four ships with guidance posts on board: one or two posts with the amphibious landing forces, two for augmenting the fighter guidance coverage on distant approaches to fleet installations, and a minimum of one among ships participating in an operation in a remote area of the sea. However, only one ship with a shipboard fighter aviation control and guidance post on board actually could take part in the exercise, since the remaining shipboard guidance posts were not manned by combat crews. This also affected the support of fighter combat actions during the period of protection of the amphibious landing operation.

Also attracting attention was the fact that the shipboard fighter aviation control and guidance post had inadequate equipment to communicate with the flagship command post, and consequently the command did not have data on the results of combat actions carried out from these guidance posts.

Stationing only one radar patrol ship did not ensure timely detection of the air enemy on distant approaches. Strengthening the detection coverage on this axis would have required three or four such ships.

In analyzing the past exercise, we will say a few words about the use of shipboard guidance posts. The commander of the landing force, for concealment purposes, ordered a "radio silence" condition during the sea crossing for all shipboard radio sets, including the shipboard fighter aviation control and guidance post set up on board one of the warships escorting the landing force. As a consequence of this decision, the transfer of the control of the fighters to the shipboard fighter aviation control and guidance post set was frustrated, and the fighters returned to their airfields.

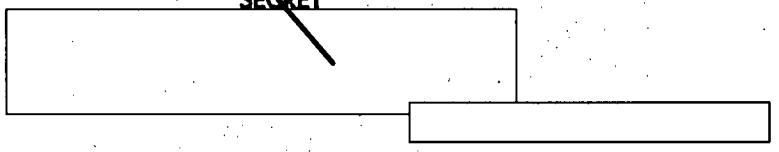


The decision of the landing force commander obviously did not correspond to the situation which had arisen. The radio silence condition was warranted up to the moment "enemy" air attack means were detected in the zone of the radiotechnical troops, but was completely unwarranted with the entry of the attack means into the zone of the combat actions of the coastal air defense large unit and the fleet. Under these conditions all measures should have been taken to destroy the air attack means.

Thus, based on the foregoing, it is difficult to appraise as highly reliable the air defense organized in the exercise for the amphibious landing operation and antisubmarine warfare operation conducted by the fleet in remote areas of the sea. However, despite the obvious dearth of shipboard air defense means, it is evident from the foregoing that the air defense of the fleet forces could have been organized more reliably during these stages.

This would require thorough planning in the initial period of the command-staff exercise--having provided, in doing so, for maximum utilization of the existing means in the fleet, coordinating the plan with the staff of the coastal air defense formation regarding tasks to be carried out by the fleet at every stage of the exercise, and carefully maintaining cooperation with the coastal air defense formation and the front during the entire period that the fleet is conducting operations.

Exercises have shown that the problems of combat control of air defense forces and means have not been fully resolved, either. Thus, for example, the problems of organizing and effecting combat control of air defense means involved in tracking ships on a body of water contiguous to several allied nations (Baltic Sea and Black Sea) require further research and development. The role and location of the chief of air defense of the fleet in control should be precisely defined. It would seem in a period when the fleet is conducting operations, the chief of air defense of the fleet should be at the command post of the coastal air defense large unit. Here, as a person well informed on all details of the plan of the operations, he would provide the most tangible assistance to the large unit commander in maintaining cooperation. On the other hand, his presence is required at the shore command post of the fleet, where he has to direct the work of the air defense post crew and participate in the fleet commander's decision-making.

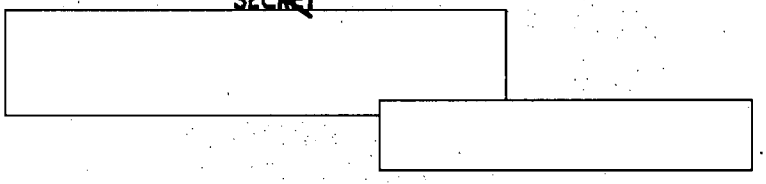


However, this is possible only with timely and uninterrupted receipt at the air defense post of air situation data analagous to that received at the air defense large unit command post, which is difficult to accomplish in practice, given the current status of these posts. Automated situation presentation systems have been introduced very little. There are insufficient communications channels with the command post of the coastal large unit to ensure complete and timely receipt of information on the air situation, and transferring this information onto the plotting board by hand requires a large number of plotters and considerable time to represent the situation.

Cooperating posts are separated from each other, which hampers contact between them and can be the cause of uncoordinated utilization of air defense means. This is the only possible explanation, for example, for the fact that after the first "enemy" air strike on fleet installations and forces in the exercise in question, the chief of intelligence of the fleet was hard put to report the air situation and the organization of the strike that already had been completed. The chief of air defense of the fleet was not informed of the measures taken in the fleet to combat the radio-electronic means of the attacking "enemy".

In this regard, one must keep in mind that the exercise took place generally under the conditions of a simple air situation, in which the forces representing the "enemy" operated only from one direction. In actual war conditions, when attacking enemy aviation will operate from several directions, with extensive execution of maneuvering and powerful jamming of the operation of our radio-electronic means, the situation will be considerably complicated, and presenting and appraising it at a shore command post will require the intensive and well coordinated work of all cooperating elements of the command post. It is necessary to prepare for this now, eliminating the shortcomings revealed in exercises.

The experience of combat training and exercises shows that the control of air defense forces and means protecting forces of the fleet in operations must be precisely allocated by combat action zones: as long as forces of the fleet are located in the area of combat actions of the coastal air defense large unit, combat control is concentrated in the hands of the commander of the air defense large unit and is exercised from his command post.



To assist the commander in implementing cooperation among the air defense large unit and the other forces assigned (from the air army, the fleet and the front) for protecting the ships in an operation, representatives of these forces, with means of communication, must be located at the command post of the air defense large unit.

After ships have sailed out beyond the limits of the area of combat actions of the air defense large unit, it is advisable to concentrate control in the hands of the amphibious forces commander (in a landing operation), or in the hands of the chief of air defense of the large unit of ships (in a naval operation).

This sort of organization evidently is the most advisable, since it would be based on the already established and continuously improving system of control of the coastal air defense large units, which has a well-developed net of reconnaissance, communications and command posts.

As for exercising control over air defense forces and means beyond the limits of the area of combat actions of the coastal air defense large units, it must be provided for in the plans of operations and worked out in advance in exercises and training with a suitable operational-tactical background.

* * * *

Of course, one cannot reduce the problem of air defense of the fleets, particularly during the conduct of operations, to only those questions which basically depend on the command and staffs, their purposefulness in work and their initiative, for resolution.

Undoubtedly there are a number of unresolved, still poorly understood, and at times even questionable theses on air defense of the fleets. It is difficult, for example, not to agree with the position that, for fundamental resolution of the problems of the air defense of the fleets, it would be advisable to organize on the ground forces pattern, and to reinforce the fleets with surface ships armed with special long-range and short-range antiaircraft missile systems for combatting aircraft and cruise missiles on the distant approaches to the targets being protected.

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A serious step on the path to resolving this problem would be to build special radar patrol ships and equip them with modern, three-dimensional radar sets, and also to develop special seaplane-type interceptor aircraft designed to protect surface ships in remote areas of a sea.

The existence of these air defense means within the composition of the fleets would not only permit resolving the problems of their air defense during the conduct of naval operations but would also considerably increase the effectiveness of the air defense of the country on coastal axes.

Naturally, the resolution of these problems will require a great deal of time and further comprehensive research in the process of combat training and exercises.

However, a number of problems concerned with improving the air defense of the fleets can and must be resolved right now by more effectively and fully utilizing existing air defense forces and means of the fleets, as well as by improving them and organizing them more advantageously.

The command-staff exercise which was conducted is also evidence of this.

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