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WASHINGTON, D.C. 20505

22 April 1975

MEMORANDUM FOR: The Director of Central Intelligence

SUBJECT : MILITARY THOUGHT (USSR): The Relocation of Rocket Troops During an Offensive Operation

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 reviews the problems involved in relocating various rocket units in a front offensive operation, stressing the need for front centralization of control and missile expenditure. Other problems include planning, engineer support, missile and propellant supply, and communications. This article appeared in Issue No. 1 (71) for 1964. [redacted]

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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. For ease of reference, reports from this publication have been assigned [redacted]

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William E. Nelson
Deputy Director for Operations

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SUBJECT

MILITARY THOUGHT (USSR): The Relocation of Rocket Troops During an Offensive Operation

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Summary:

The following report is a translation from Russian of an article which appeared in Issue No. 1 (71) for 1964 of the SECRET USSR Ministry of Defense publication Collection of Articles of the Journal "Military Thought". The author of this article is General-Mayor of Artillery A. Yanchinskiy, who reviews the problems involved in relocating various rocket units in a front offensive operation, stressing the need for front centralization of control and missile expenditure. Other problems include planning, engineer support, missile and propellant supply, and communications.

End of Summary

[redacted] Comment:

General-Mayor A. N. Yanchinskiy was a Candidate of Military Sciences in 1963. The SECRET version of Military Thought was published three times annually and was distributed down to the level of division commander. It reportedly ceased publication at the end of 1970. [redacted]

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The Relocation of Rocket Troops
During an Offensive Operation
by
General-Mayor of Artillery A. Yanchinskiy

Questions of the relocation of the rocket troops of a front, army, and division in the course of an offensive operation have been studied repeatedly in exercises and have been discussed in the pages of the military press. However, it would not be correct to consider such questions resolved once and for all. As the theory of conducting modern operations is developed and nuclear weapons and the equipment of the rocket troops are improved, the methods of employing them in combat must accordingly be more precisely defined.

According to existing views, the relocation of rocket troops is organized on the scale of a front, army, and division. Thus, the chief of rocket troops and artillery of a front organizes the relocation of the front rocket brigade, separate rocket battalions, and missile-technical units subordinate to the front; the chief of rocket troops and artillery of an army organizes the relocation of the army rocket brigade and mobile missile-technical base; and the chief of division artillery organizes the relocation of the tactical rocket battalion. Such decentralization in the relocation of rocket troops, and first of all troops with an operational-tactical function, does not correspond to the principle of the mass utilization of missile/nuclear weapons to accomplish the main tasks of a front operation.

On the basis of large-scale operational exercises, it can be seen that the mass utilization of missile/nuclear weapons is possible only on the scale of a front, when strikes can be conducted simultaneously by front and army rocket large units (units).

The role of the front is becoming even greater in the organization of mass chemical strikes by the rocket troops if we consider that the destruction of targets by chemical missiles requires a significantly greater expenditure of missiles than would be used for the destruction of targets with nuclear-armed missiles. For example, it would be necessary to

use 12 to 14 type R-170 chemical missiles to destroy 30 to 40 percent of the personnel of an enemy motorized rifle (armored) division in their area of concentration, while four to nine missiles of the same type would be required to destroy only one "Redstone" group in its siting area.

The most efficient utilization of operational-tactical missiles with nuclear and chemical warheads requires rigid centralization on the part of a front, both with respect to their expenditure by the armies as well as with respect to questions of control over the rocket large units and units. In other words, the staff of the front and the staff of the rocket troops and artillery must exercise continuous supervision over the expenditure of each nuclear-armed missile by the armies and, in accordance with the plan of the front troop commander, must coordinate questions of the relocation of all operational-tactical rocket units (of front and army subordination) in the course of an operation. This is in complete agreement with the great depth of modern operations and the rapid rates of advance of the troops. In this case, the front troop commander will have a certain number of rocket troops and missiles constantly ready to deliver a massive nuclear or chemical strike on the enemy in the course of the entire operation, even when the situation may change rapidly. In addition, this will make it possible for the rocket and missile-technical units to carry out broad-scale and purposeful maneuvers in an operation and will facilitate the solution of problems of missile-technical support on the whole.

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During the NEMAN exercise conducted last year, the failure to observe the above requirements led to a situation in which the front used 51 of its 108 nuclear-armed missiles in the first two days of the operation without accomplishing its main task -- to rout the main grouping of the enemy. In organizing the strike against this grouping, the front had available a total of 13 operational-tactical missiles with nuclear warheads and a limited number of ready rocket units which could have used chemical as well as nuclear-armed missiles. As a result, there was no massive missile/nuclear and chemical strike against the main enemy grouping.

The front must have a single plan for the relocation of operational-tactical rocket brigades and separate operational-tactical rocket battalions, which will reflect the order of movement and the practical measures to be followed in order to carry it out comprehensively. This plan must be developed by the staff of the front rocket troops and artillery in accordance with the plan of the front troop commander following careful coordination of all questions with the staffs of the front and the rear services, and with other services during preparations for the operation. In drawing up the plan, it will be necessary to

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consider both the interests of the front and those of the army, providing for siting areas for the rocket brigades and separate rocket battalions and deployment areas for the front missile-technical units, the sequence and time periods required for the relocation of rocket and missile-technical units depending upon their tasks in the operation; the relocation routes of each rocket brigade and separate rocket battalion, considering the possibility that they may be occupied by other forces; measures to be taken for the engineer preparation of the march routes and siting areas and the personnel and equipment required for this purpose; the procedure for supplying missile propellant to missile-technical units; the organization of control of rocket units, their defense and air cover, as well as the organization of services for maintaining general order and traffic control.

In accordance with this plan, the staff of the front, staff of the rocket troops and artillery, rear services staff, and other organs of the front and army would also solve the specific problems relating to the relocation of rocket and missile-technical units.

Taking into consideration the sequence and time periods required for the relocation of rocket brigades and separate rocket battalions, the front (army) staff must first of all notify the troops of the routes that will be available to them and must assign to the chief of the rocket troops and artillery the communications forces and means necessary for control, must organize provost marshal services and traffic control along the routes, and must provide forces and means from the combined-arms large units for the protection of rocket brigades, separate rocket battalions and missile-technical units.

The rear services staff of the front must work jointly with the chief of the rocket troops and artillery and the chief of the directorate of missile and artillery armament to solve problems of supplying missile propellant to the mobile missile-technical units and, taking into consideration their relocation, must plan for the movement of their depots and solve problems of providing materiel and technical support.

The engineer troops of the front and armies are faced with important tasks in supporting the relocation of rocket troops. During exercises attempts are made to use first of all those roads which are available in the zone of advance of the front for the relocation of rocket brigades and battalions. However, practice has shown that all such roads may be far from suitable for the movement of missile equipment without prior work by the engineer troops, such as the reinforcement or restoration of bridges and damaged road sections, etc. Therefore, routes that will be used for

the relocation of rocket units must be checked in advance and prepared accordingly by the engineer troops. Another important task of the engineer troops is the checking beforehand for mines in the intended siting areas of rocket units and the deployment areas of missile-technical units. The chief of engineer troops of a front (army) must coordinate all of these questions with the commander of the rocket troops and artillery and, depending upon the plan for the relocation of rocket units, must establish the order in which they will be solved (specific measures to be taken to provide engineer support, engineer forces and means to be used, etc.).

The chiefs of rocket troops and artillery of the front and armies and their staffs will inform each rocket large unit (unit) of the relocation assignments, will organize the preparation and delivery of missiles to the rocket units, and will monitor their movement and the state of their readiness to conduct nuclear and chemical strikes at the times established by the front (army) troop commander.

In planning the relocation of operational-tactical rocket troops on a front-wide scale, the armies must be notified of the siting areas for their rocket brigades and of the times at which they must be ready to deliver strikes from these areas. In a number of cases, due to possible changes in the situation, an army may be notified only in general terms of the tasks, relative to location and time period, which its rocket brigade must be ready to accomplish. In such cases questions of determining siting areas and the sequence and time periods for the relocation of the army brigade will be resolved independently by the chief of the army rocket troops and artillery. The staff of the rocket troops and artillery of a front, acting in accordance with the plans made by the front troop commander, must under all conditions provide timely information to its subordinate staffs on any new assignments regarding the relocation of their rocket units or must clarify previously issued instructions.

Problems of the relocation of the rocket battalions of motorized rifle and tank divisions must be solved in another way. Here extreme centralization may only hinder the employment of these battalions, particularly when the divisions are operating along separate axes and simultaneously at different depths. In addition, it must be remembered that at the present time tactical missiles have a relatively short range and cannot always be part of massive nuclear or chemical strikes delivered by a front.

The relocation of tactical rocket battalions in the course of an offensive must be planned jointly by the division artillery staff and the

division staff on the scale of each large unit. In order to correctly plan the sequence and time periods involved in their relocation, the division commanders must know which tasks in their zones of operations will be accomplished by the army and front rocket large units (units).

In the future, as tactical missiles with greater range enter the armament of the divisions, planning the relocation of rocket battalions of some divisions may possibly be done on an army scale. The necessity for this may arise first of all in the interests of the massive employment of chemical weapons by an army in the course of an operation to accomplish such tasks as, for example, repelling enemy counterstrikes, conducting meeting engagements, committing second echelons and reserves to battle, etc.

The relocation of rocket brigades and battalions must be carried out so that the greater part of them will always be in constant combat readiness to deliver timely and accurate nuclear and chemical strikes. This may be accomplished if the sequence and time periods of their relocation correspond exactly to the tasks of delivering the nuclear and chemical strikes, the nature of possible actions by one's own forces and those of the enemy, the characteristics of the given theater of operations, and chiefly, to the presence and condition of the road network, the size of the siting areas, and the conditions under which missiles will be readied and brought to the rocket units.

Unfortunately, these requirements are not always taken into consideration. For example, in the BURYA, RADIY, and other exercises, plans for the relocation of rocket troops in the course of an operation were made simply on the basis of the most advantageous range of the missiles, the rate of movement of the rocket units, and the time required to prepare them for delivering strikes from the new siting areas. Accordingly, the following average distances covered during relocation were determined: 80 to 90 kilometers for R-170 battalions, 150 to 200 kilometers for R-300 battalions, and 300 to 350 kilometers for KR-500 cruise missile battalions.

In practice, such planning of the relocation of rocket units on the basis of the average distances covered resulted in a linearity of their battle formations, and at the same time the operation developed extremely unevenly when there were abrupt changes in the situation. The front troop commander did not always have a sufficient number of rocket brigades and battalions deployed to deliver a massive nuclear or chemical strike and there was no opportunity to prepare such a strike in the short time

available. When a meeting engagement developed, the rocket brigades frequently were deployed simultaneously with the combined-arms and tank large units from the march, which actually led to a delay in preparing strikes against the nuclear means and advancing operational reserves of the enemy.

It is extremely difficult to select siting areas when rocket brigades are being deployed from the march under the conditions of a meeting engagement. For example, in one of the exercises, the army deployed its rocket brigade in an area which proved to be more than 100 kilometers away from the line of contact with the enemy, as a result of which the brigade was unable to conduct well-timed strikes against the enemy main grouping and was forced to move to a new area at the very start of the meeting engagement. This could not have happened if the decision to relocate the brigade had been made taking into consideration existing reconnaissance data on the enemy, the tasks of the army and the brigade itself, and the possible nature of the development of combat actions.

The front troop commander, on the basis of his operations plan and the expected development of combat actions, determines where and for what purpose the need may arise to deliver massive nuclear and chemical strikes, and assigns the chief of staff and the chief of rocket troops and artillery the tasks of preparing these strikes and relocating the rocket troops.

The chief of rocket troops and artillery must know the expenditure of nuclear and chemical warheads as well as the approximate times during which massive strikes will be delivered in order to determine, jointly with the front staff, the most likely variants in the relocation of rocket units and, in accordance with this information, assign the chief of the directorate of missile and artillery armament the tasks of preparing and delivering missiles to these units before their relocation or after they have reached their new siting areas.

Under these conditions it is not necessary to adhere to the established average distances covered in relocating operational-tactical rocket brigades and separate operational-tactical rocket battalions. The distances may differ greatly in the course of an operation. The determining factors will be the tasks of the rocket large units (units), the rate of advance of the troops, actual conditions, and the time required to prepare each massive nuclear or chemical strike.

The readiness of rocket troops to launch missiles at the time when the army of the second echelon of a front is being committed to battle will

have a decided effect on the sequence for relocating the rocket troops. Experience gained in exercises shows that the rocket brigade of an army being committed to battle must be ready to conduct strikes against the enemy no later than the time at which the troops begin moving from their areas of disposition to the deployment line. In one exercise when an army of the second echelon was committed to battle, it had ready only one battalion of its rocket brigade; two other battalions were making the march to their siting areas at the same time as the troops and actually could not be called upon to deliver strikes.

In relocating a distance of 150 to 200 kilometers a rocket battalion requires nine to ten hours to prepare for strikes from its new siting area; seven to eight hours would be required for the march and 1.5 to two hours for deployment. A rocket brigade requires twelve to thirteen hours for this same purpose. In the event that meteorological preparations for firing from the new area have not been made in advance, this time would be increased by another two to three hours.

Therefore, the following specific conditions should be considered when rocket units are assigned their relocation tasks: the time required to prepare for and deliver strikes from the new siting areas, the condition and length of the march route, the permissible rates of movement during the day and night, as well as questions of meteorological support.

In our view, the principle of relocating rocket brigades by battalions under any conditions of the situation, which is followed at the present time, does not fully correspond to the nature of a modern operation, since up to 50 percent of the rocket units in a front would usually be on the march at all times, decreasing the capability of the front to deliver massive strikes at the most crucial times of the operation.

The rather long ranges of fire of the rocket large units and units in a front and in the armies permit them to carry out decisive movements in support of the main tasks of an operation. For example, it may be decided to relocate one or another rocket brigade at full strength to a new siting area for the purpose of preparing a massive nuclear or chemical strike in a short period of time. If it is an army rocket brigade that is to be relocated, the front troop commander must at this time plan for the possible use of his own rocket units as well as front aviation in support of this army.

Thus, the role of the front level is increased when there is centralized control of operational-tactical rocket large units (units).

The front must not only constantly inform the armies of the strikes that it will deliver with its own means in the armies' zones of operations (by decision of the front troop commander), but it must also quickly satisfy their requests for the delivery of strikes, particularly during a period when army rocket brigades are being relocated.

We mentioned above that the conditions of a theater of military operations have a significant influence on the procedure by which rocket troops are relocated. For example, in mountain regions where the rate of advance of attacking troops is relatively slow, rocket units will be relocated less frequently than in areas where the terrain is flat. In exercises the frequency of relocation of rocket troops in mountain areas has usually been once every two to three days. This is due to the necessity for devoting great attention to the selection and preparation of alternate siting areas for purposes of anti-nuclear protection and ensuring the concealment of the battle formations of rocket large units and units when carrying out moves. Each rocket brigade and mobile missile-technical base should have two or three such alternate deployment areas prepared along the route of the forthcoming relocation.

It is important that the relocation of missile-technical units be organized correctly to permit the uninterrupted supply of ammunition to the rocket units in the course of an operation. Of course, this question must always be decided taking into consideration the tasks of the rocket units, the sequence and time required for their relocation, the availability of missile-technical units, and their capability to prepare missiles, the conditions of the local terrain, and the existence and condition of roads that will be used for the movement of missile transporters.

As is known, the preparation and delivery of missiles to front and army rocket brigades is carried out by front mobile missile-technical bases, while missiles for the divisional rocket battalions are prepared and delivered by the army mobile missile-technical bases. The mobile missile-technical bases receive missiles and warheads from the separate missile park battalions while missile propellant for the R-170 and R-300 missiles is provided by the fuel supply service to front depot branches, from which the mobile missile-technical bases transport it by their own means.

The experience of exercices has shown that this procedure for missile supply and delivery is fully acceptable. However, in our opinion the

relocation of front missile-technical units must not be planned solely by the chief of the directorate of missile and artillery armament, but by him and the chief of staff of front rocket troops and artillery at the same time that plans are made for the relocation of operational-tactical rocket brigades and separate operational-tactical rocket battalions; their relocation must be reflected in a common plan for the relocation of the rocket troops of the front. Plans for the relocation of army mobile missile-technical bases should be made by the chiefs and staffs of the rocket troops and artillery of the armies, since they are capable of more thoroughly considering the special features of the actions of the rocket battalions of the divisions and of coordinating the supply of missiles to them with their tasks during an operation.

The chief of the directorate (department) of missile and artillery armament participates directly in the planning by the staff of the rocket troops and artillery for the relocation of rocket troops, and on the basis of this plan supervises the relocation of each missile-technical unit.

At the start of the first operation, the rocket units must be supplied with missiles for the first strike and for destroying enemy targets as the troops accomplish their immediate tasks. The preparation and delivery of missiles must be planned so that the rocket units will reach their siting areas with missiles mounted directly on their launchers. Unfortunately, in one exercise this most important requirement was not fulfilled by the front staff. As a result of a failure to coordinate the times of deployment of the rocket brigades with the preparation of missiles and due to the lack of precise instructions designating the routes by which missiles would be delivered, the brigades arrived at their siting areas without missiles and for a period of almost one day were not combat-effective.

As a rule the remaining missiles are delivered to the brigades and battalions at their new siting areas in the course of an operation. During the first relocation of rocket units, the distance required to transport missiles from the deployment areas originally occupied by the mobile missile-technical bases may range from 120 to 150 kilometers for R-170 missiles and from 250 to 300 kilometers for R-300 missiles. The delivery of ready missiles by motor transport over such long distances presents great difficulties: it frequently will be necessary to negotiate damaged sections of road and contaminated areas of the terrain; it is extremely difficult to maintain communications with the missile transporters in order to redirect them if necessary to other units or to new siting areas; and it is difficult to protect missile transporters. It was found in exercises that the delivery of missiles to rocket units under such conditions, even

with a well-developed road network and the absence of other troops or rear services elements on the routes being used, required at least eight to nine hours for R-170 missiles and from fifteen to twenty hours for R-300 missiles. Even with delivery times such as these, one can hardly count upon the timely delivery of missiles, which will lead unavoidably to the failure of the troops to fulfil their tasks in an operation.

It is completely obvious that when missiles are to be delivered to rocket units by land, the delivery distance must be kept at a minimum. For this purpose, missile-technical units and, first of all, mobile missile-technical bases, should follow immediately behind the rocket units. In exercises, new areas of deployment of front mobile missile-technical bases were chosen at a distance of 30 to 50 kilometers from the siting areas of the rocket brigades and battalions, while army mobile missile-technical bases, in consideration of the fact that they must deliver missiles simultaneously to several tactical rocket battalions dispersed and operating on a broad front, were usually placed in the center of the operational disposition of army forces, 40 to 50 kilometers from the battle formations of troops in the first echelon.

The supply of missile propellant is extremely important for the timely preparation of missiles. Propellant depots or their branches should be located up to 60 kilometers from the areas of deployment of front mobile missile-technical bases and should be moved simultaneously with them in order to minimize the delivery distance, and, consequently, the time required to deliver propellant.

As is known, missile boosters and warheads are delivered to the mobile missile-technical bases by separate missile park battalions located in the rear area of the front (on rail lines, in the vicinity of airfields, ports, and railheads). Their movement during an operation will be determined chiefly by the restoration of the railroads and airfields, but during some periods when motor transport is used, there may be significant delays in the delivery of missiles and nuclear warheads to the mobile missile-technical bases.

Experience gained in numerous exercises has shown that the problem of supplying missiles to the rocket troops can be solved correctly only through the use of air transport, in particular, helicopters.

The chief of the rocket troops and artillery of a front should have at his disposal a helicopter regiment which could be used to supply ready missiles from the mobile missile-technical bases to the rocket units, to

supply separate boosters and ready warheads to rocket units for subsequent mating by the missile-technical subunits, as well as to supply missiles and nuclear warheads from the separate missile park battalions to the mobile missile-technical bases. Where necessary, helicopters could also be used to transport ready missiles from one rocket unit to another.

In the course of an operation, the rocket troops must always be ready to accomplish their tasks in the event that they are deployed in previously unprepared areas. Under such conditions it is especially important to have a reliable communications system for the control of rocket large units (units) in order to be able to clarify rapidly the tasks that have been assigned them or to assign new tasks.

The staff of the front and the staff of the rocket troops and artillery must carefully think through problems of organizing communications with each operational-tactical rocket brigade and separate operational-tactical rocket battalion and make provisions for allocating the necessary means.

The communications channels allocated to the chief of the rocket troops and artillery must be reserved strictly for his use and in no case should be used by the staff of the front (army) to control other troops, as is still frequently the case in exercises. The commander and staff of each brigade (battalion) must solve these problems in the interests of controlling their own units (subunits) in the course of their relocation.

It is especially important that there be precise and continuous monitoring of the relocation of rocket and missile-technical units, including monitoring of the progress of the march itself. The staff of the rocket troops and artillery of the front and armies and the staffs of the divisional artillery must know exactly the position, condition, supply status, and readiness to launch of each missile launcher throughout the entire period of relocation. The commanders and staffs of the rocket brigades and battalions must make timely reports on this as well as on their arrival at the new siting areas and occupation of them.

When rocket units are relocated they usually are preceded by reconnaissance groups whose chief task is to reconnoiter the routes and the intended siting areas and carry out topogeodetic and meteorological preparations for firing. In addition, when relocating rocket troops it will be necessary to devote special attention to the engineer preparation of the new siting areas before they are occupied by the rocket units in order to reduce losses caused by possible enemy nuclear strikes. For

example, in the course of an operation during one exercise, the enemy struck the troops of an army with 22 nuclear warheads, of which 18 were ground bursts. As a result, the total area of radioactive contamination was 13 to 14 square kilometers, of which 5,000 square kilometers had a radiation level of 30 to 100 roentgens and 1,500 to 2,000 square kilometers had a radiation level greater than 100 roentgens.

The rocket brigade had been deployed in battle formation approximately 1.5 hours before the enemy nuclear strike. With the arrival of the battalions in the siting area, preparations were begun to deliver nuclear strikes and therefore the battalion forces by themselves were unable to prepare personnel shelters in the brief time available. Following the enemy nuclear strike, the brigade found itself in the zone of radioactive contamination. True, the army commander correctly evaluated the radiation situation and decided to relocate the brigade in another area. But this could be done only after a period of two hours during which time the personnel would actually have received a radiation dose of up to 100 roentgens or more and the brigade would not have been combat-effective. If even the simplest shelters (trenches) had been available for the personnel, the radiation dose would have been approximately ten times less, which would not have substantially affected their fulfilment of their firing tasks.

This example provides positive proof of the need for careful engineer preparation, not only of the route of travel, but also of the siting areas of rocket units, for which purpose engineer subunits drawn from the forces and means of the front (armies) should be attached to the reconnaissance groups. It seems to us that the question of the scope of engineer operations in support of rocket units should be studied more thoroughly in exercises and that possible norms for the reinforcement of rocket units with engineer subunits should be considered.

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