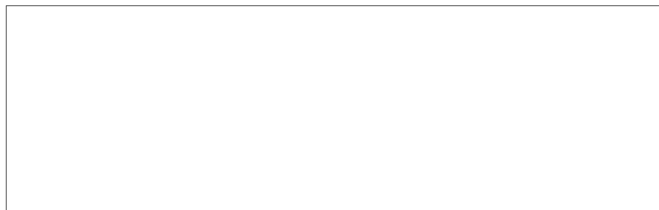


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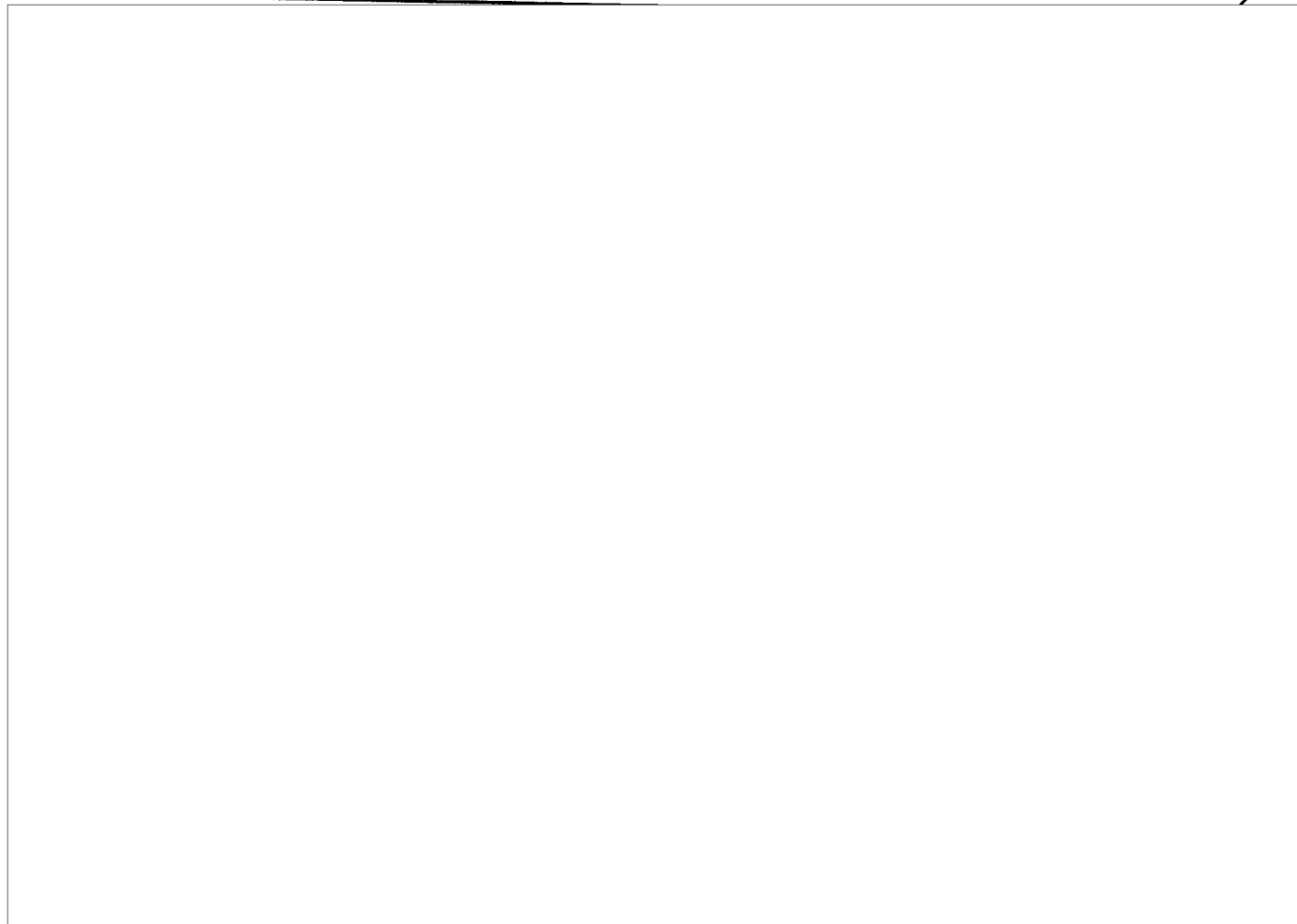


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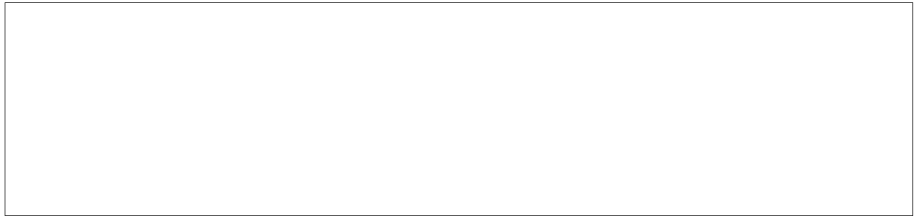
SUBJECT

MILITARY THOUGHT (USSR): Front Rocket Troops in the
Transition to the Offensive from Areas of Permanent Location

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Front Rocket Troops in the Transition to the
Offensive from Permanent Location Areas

by

Colonel-General of Artillery G. Kariofilli

The main demand made on the rocket troops in peacetime is constant readiness to preempt the enemy in the delivery of nuclear strikes; and in a surprise outbreak of war, to thwart his nuclear attack and destroy his main ground forces groupings. This idea underlies the determination of the periods of readiness for action of the rocket troops.

The experience of operational exercises conducted over the past years has shown that a great deal of time is still being spent on readying the rocket troops to carry out the initial nuclear strike (from the moment the combat alert is declared).

Among the reasons affecting the increase in the periods of rocket troop readiness we should include the imperfection of rocket-technical support (according to the experience of exercises, up to 70 to 80 percent of the total time allotted for preparing the initial nuclear strike sometimes is spent on this), and the remoteness of the deployment areas of the mobile rocket-technical bases, which reaches 50 to 60 kilometers and more from the siting areas of the rocket units they service. In a number of instances, due to untimely preparation and delivery of rockets to the rocket brigades and battalions before the commencement of the initial strike, some of the launchers cannot participate in it.

Quite often before the commencement of the strike the rocket troops do not have information on all the targets to be destroyed, and therefore are forced to carry out their tasks by launching several rockets over a long period of time, and while considerably isolated from the strikes of the strategic means.

The complexity of control based mainly on the use of a different kind of procedural tables requiring considerable expenditures of time on coding and decoding commands and instructions, has a substantial impact on increasing the periods of readiness of the rocket troops.

Reducing the periods of rocket troop readiness is of especially great importance when going over to the offensive directly from permanent location areas, when the initial nuclear strike will be organized and carried out in a more complex situation in comparison with an offensive involving the consecutive deployment of troops from concentration or



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departure areas. Most important in so doing is to ensure a minimum interval between the strikes of the front and the strategic means, which considerably increases the surprise of using nuclear weapons and their effectiveness resulting from the simultaneous destruction of the major enemy targets in the entire depth of the theater of military operations.

Readying the rocket large units and units to conduct combat operations entails carrying out a whole series of measures, the most important of which are: deploying the rocket troops in combat formation and bringing them to the appropriate degree of combat readiness; rocket-technical support; determining the targets to be destroyed and allocating the tasks to the executors; and organizing and effecting control.

The deployment of the rocket troops which are to participate in the initial nuclear strike with a preliminary move into the concentration areas is, as a rule, carried out as follows: upon combat alert the rocket brigades (battalions) first move into concentration areas and, subsequently, after receiving rockets, to siting areas located at a distance of 40 to 60 kilometers from the line of contact with the enemy for operational-tactical rockets, and 10 to 15 kilometers for tactical ones.

This sequence of deploying the rocket troops cannot be used when going over to the offensive directly from areas of permanent location, because when the rocket units and combined-arms large units move from permanent location areas at the same time, the initial strike has to be carried out while they are still on the offensive. We cannot count on the advance movement of the rocket troops to the siting areas which are considerably distant from the permanent location areas of the units, since this would result in increased periods of readiness, loss of surprise in preparing the operation, and retaliatory measures on the part of the enemy.

Ground forces currently are armed with rocket systems having considerable launching ranges. This increases the capabilities of the rocket troops to perform their tasks and allows them to be deployed somewhat differently. Specifically, it seems possible to deliver the initial strike from siting areas chosen in immediate proximity to the permanent locations of the rocket large units and units.

Our calculations have shown that the distance of the siting areas from the permanent locations of the units averages 10 to 15 kilometers. This distance ensures the viability of the rocket units when the enemy delivers strikes against the permanent location points.

When the rocket large units and units are supplied with rockets in permanent location areas in advance, their readiness to carry out the

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initial strike from the indicated siting areas can be substantially reduced, and not exceed 2 to 2.5 hours after the combat alert is declared. However, not all the rocket troops can participate in the initial strike from siting areas located close to the permanent locations. Obviously, for large units and units having systems with shorter launching ranges, the siting areas must be designated at a greater distance from the permanent location areas, but calculated to ensure the units can be rapidly deployed.

Tactical rocket subunits can move out at the same time as the first echelon divisions at the head of the main forces column, in constant readiness to deploy to deliver strikes against the enemy targets revealed by reconnaissance. The siting areas for the rocket units which are to participate in the initial strike, must be fully reconnoitered and the routes to them checked out in peacetime. It is not desirable to prepare the areas from the engineer standpoint, as this may attract the attention of enemy reconnaissance.

It should be noted, however, that reducing the period of rocket troop readiness to carry out the initial nuclear strike to 2 to 2.5 hours still cannot guarantee them against destruction or enemy delivery of preemptive strikes. The point is that the plans of our probable enemies provide for assigning in peacetime a certain number of operational-tactical rocket units to be on duty at launch sites and ready to strike in 20 to 30 minutes, depending on the type of rocket system.

Therefore, in order to thwart these strikes, we also must have our rocket troops on combat duty at launch sites. This obviously becomes necessary in the period of aggravation of the international situation. It must be carried out by order of the General Staff.

Assigning rocket large units and units to combat duty requires, besides operational decisions, many technical decisions associated with the capabilities of long-term maintenance of readied rockets on the launchers, the development of measures ensuring against accidental launches, and others; and therefore they must be thoroughly planned in peacetime with consideration for the special features of the theaters of military operations and troop tasks. The technical level of our rocket armament allows us to resolve these problems in a positive way.

Combat duty of rocket units must not be confused with the duty rocket subunits usually assigned from large units and units. These former units must be provided with specific tasks to destroy targets in the initial strike.

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While not denying the importance and necessity of assigning duty batteries, especially during an operation, it should be emphasized that duty batteries as a rule are given tasks to destroy nuclear means of attack. When there is insufficient data on those means, these batteries essentially are in reserve. In our view, even when there is no information on the enemy nuclear means of attack, the duty batteries must not be kept in reserve, but assigned to destroy other targets in the initial nuclear strike of the front, in order to inflict, in coordination with strategic means, a crushing defeat on the major enemy groupings.

Rocket-technical support, as is known, provides for the supply of rockets and warheads from central bases and arsenals to mobile rocket-technical bases (front and army); the preparation of rockets and their warheads at these bases and the delivery of checked out, fuelled, and assembled rockets to the rocket brigades and battalions; the carrying out of transshipment work and the necessary technical checks in the rocket-technical subunits of the rocket large units and units; and, finally, the check of the rockets at the launch sites before launch.

Performing these functions sometimes requires the expenditure of a great deal of time. To reduce it, and consequently to shorten the time spent bringing the rocket troops to combat readiness, provisions have been made for a number of rocket large units and units to keep checked out delivery rockets (one for each launcher) which are ready for fuelling, as well as a supply of fuel for these rockets. In the mobile rocket-technical units the warheads are kept in a checked out status, ready for transition to Special Readiness (SG) 5 without a monitoring cycle. All this permits carrying out the transition of the warheads to final readiness in a shorter (by 1.5 to 2 times) length of time. The warheads in Special Readiness 5 supplied to the rocket brigades and battalions can be immediately mated to the delivery rocket without additional preparation (which used to take more than three hours).

This and other measures have considerably shortened the time required to prepare the rockets, but still have not solved the problems completely.

The time required to supply the rocket troops with rockets for the initial strike may be further reduced by keeping delivery rockets ready for fuelling right in the rocket large units and units, and the warheads for them in the mobile rocket-technical bases in Special Readiness 5, ready for mating. Actually, in this case a rocket can be readied by the forces of the technical subunits of a rocket brigade (battalion) in 45 minutes from the moment the warhead is supplied from the mobile rocket-technical base.

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The time spent on the preparation of the initial nuclear strike may be even further reduced if the warheads in Special Readiness 5 are supplied to the brigades (battalions), and the rockets brought to fuelled status, when the threatening period is established.

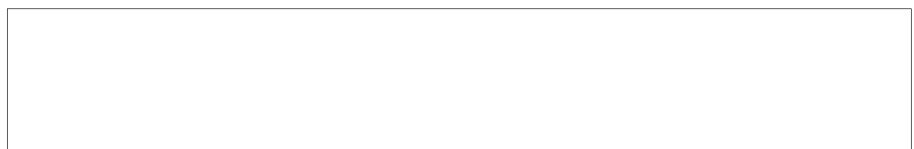
Keeping the necessary number of warheads in Special Readiness 5 in the mobile rocket-technical bases and rockets in the brigades (battalions), besides shortening the time, considerably facilitates the security of preparing the initial missile/nuclear strike, since it eliminates such an important revealing factor as transports with rockets moving by road. The warheads in Special Readiness 5 can be supplied from the mobile rocket-technical base directly to the location areas of the rocket brigades and battalions at any time of day in storage vehicles, which in outward appearance are no different from the other special vehicles (workshops, staff busses, etc.).

It should be noted, however, that this problem must be solved in keeping with the location and function of the formations. Keeping delivery vehicles ready for fuelling and warheads in Special Readiness 5 does not provide an advantage for the rocket troops of the formations charged with marching a distance of more than 1500 to 2000 kilometers from deep in the country, since the permissible distances for transporting ready rockets by special motorized transport do not exceed indicated distances (1200 kilometers for R-170 missiles and 2000 kilometers for the R-300). Shipping ready rockets farther than the permissible distances requires that they be returned to a mobile rocket-technical base for rechecking.

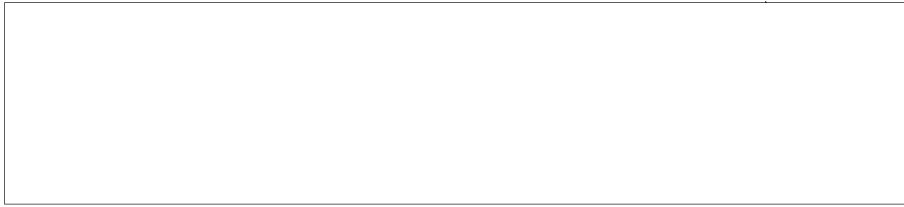
Reconnaissance of targets for rocket troop strikes, along with other factors, is also one of the decisive conditions for the effective use of missile/nuclear weapons. It is especially significant for an initial nuclear strike being organized in a complex situation when there is extremely limited time available.

For the rocket troops to exploit their high combat qualities, they must have specific targets to destroy by the commencement of the initial nuclear strike. Otherwise, even when the rocket troops are in the highest readiness, the tasks of the initial nuclear strike cannot be fully carried out. This is just what happened in several exercises. Many of the targets for the front rocket troops in the initial strike were determined by piloted and pilotless aircraft at the onset of war, i.e., essentially after the strikes of the strategic means.

We know that the enemy, even before initiating the strike or afterwards, will begin moving his troops out of their permanent location areas. Under these conditions, even when the front rocket troops are in



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full launch readiness, they cannot destroy mobile enemy targets at the same time as the strategic means without intelligence data. Consequently, the strikes at best can be delivered only against stationary targets, which, it goes without saying, does not fulfil the main task of the initial strike, i.e., the destruction of the nuclear means and main groupings of the opposing enemy.

At the onset of combat operations, final reconnaissance of field targets by aviation forces, which are the basic means of reconnaissance in support of the front rocket troops, requires an average of up to 1.5 to 2 hours, and preparing and delivering the strikes against these targets takes another 2 to 2.5 hours. As a result, a strike will be delivered by individual and group rocket launches as targets are spotted. Organizing this is a rather complex matter, considering that all the problems must be solved in an exceptionally tense situation and under the pressure of enemy strikes.

The lack of a real capability by the reconnaissance forces to supply the rocket troops with target data in a timely manner was, in the exercises we conducted, the main reason that the tasks of the initial strike were fulfilled by subsequent rocket launches 2.5 to 3 hours later.

The major targets for destruction by rocket troops in the initial strike must be determined and planned in peacetime. Tasks must be continuously refined for the rocket troops as new intelligence is received. In a threatening period, when previously spotted targets are most likely to change and new ones emerge, all the reconnaissance forces and means can be pressed into service to make a final reconnaissance of them and refine the plan for carrying out the initial strike in the shortest possible time.

The experience of exercises has shown that to reduce the time spent preparing rocket units for launch, taking the refinement of tasks into account, requires that intelligence data received at the front staff from all the reconnaissance means be studied and analyzed by assigning intelligence officers of the staff of the rocket troops and artillery. This makes it possible, even before the front troop commander adopts the plans for the destruction of the reconnoitered targets, for the chief of the rocket troops and artillery, who has the coordinates of reliably detected targets, to undertake a number of measures to prepare the strikes, particularly to make the necessary calculations to determine the yield of nuclear charges, the altitudes and types of bursts, and to designate the rocket units to fulfil the tasks.

The efficient and economical expenditure of the yields of the nuclear munitions allocated to the front for the operation requires that the



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reconnaissance means have the kind of instruments which would allow them not only to detect the location areas of the targets, but also to determine the coordinates of their component elements, as well as to ensure that the intelligence information is transmitted in a short time.

A reduction in the accuracy of determining target coordinates makes it necessary to use higher yield nuclear charges for destruction, or increase their expenditure and assign additional launchers, to ensure more complete and reliable destruction of the main enemy groupings.

The effectiveness with which the targets are destroyed, especially in the initial strike, is influenced by the untimely receipt of intelligence data in the interested headquarters. Thus, a 10-minute delay in receiving the coordinates of a detected Pershing launch site can result in reducing the effectiveness of a nuclear strike by 20 percent. In exercises this information usually was received from aerial reconnaissance 1.5 to 2 hours after strikes had been delivered by strategic means. One can imagine the insignificant probability of destroying these targets after they have carried out strikes against our troops.

At present there are practically no reconnaissance means of the type that could independently resolve completely the reconnaissance problems in respect to the accuracy and timeliness of spotting targets in support of the rocket troops. This problem may be resolved only by the combined use of all types and means of reconnaissance: radiotechnical, radar, and especially aerial reconnaissance.

We would like to turn our attention to the very important problem of meteorological support to the rocket troops.

Receipt of the initial meteorological bulletins requires an average of up to 3 to 4 hours. Therefore, the deployment of meteorological stations and the commencement of atmospheric sounding must be planned so that meteorological data can be received by the rocket units at the moment they occupy the siting areas.

But as is known, the operating radars of the meteorological stations are easily detected by the enemy, which may allow him to determine the siting areas of the rocket units. In order to hinder the conduct of reconnaissance by the enemy, the minimum number of meteorological stations must be assigned to the meteorological support of rocket launchers in the initial strike, and already be deployed to operate in those areas which are used in peacetime, or outside the siting areas. According to our calculations, two or three meteorological stations may be required



to deploy for simultaneous operation in each army zone. Meteorological support must be planned on a front scale.

Rocket large units and units placed on combat duty may be provided with meteorological data by the range meteorological stations until the onset of combat operations. In principle, the further improvement of existing, and the development of new, rocket systems, must be carried out in the direction of automatic determination and input of meteorological data right in the rocket.

There is no need to prove the importance the control of rocket troops has in the modern conditions of the conduct of combat operations. The loss of tight control of the rocket troops, which are the basic means of destruction, even for a short time, can lead to a disruption of the nuclear strikes or to a sudden reduction of their effectiveness.

At the same time, the experience of a number of exercises has shown that there are many defects in this respect. A precise method of preparing missile/nuclear strikes and organizing reliable communications with the rocket troops has not been worked out in all the combined-arms formations. As a result, after the front commander has adopted a plan for the strike, the staffs spend a great deal of time coordinating the problems and allocating tasks to the direct executors. Thus, in one of the exercises, 46 minutes were spent on allocating tasks to the rocket brigade and battalion.

Obviously, radical improvement of the problems of control will become possible only by fully automating all of the processes. It is now necessary to use more widely means with low mechanization and efficiently use the computers which are available to the troops and which speed up the production of calculations and the transmission of instructions and commands.

A few words about carrying out the initial strike. With the availability of a sufficient number of front rocket troops on combat duty and their provision with accurate data on the targets to be destroyed, the tasks of the initial strike may be fulfilled by one rocket launch simultaneously with the strike of strategic means or with a small interval between them.

However, a different situation is possible. The signal to bring the rocket troops to combat readiness may be received shortly before or at the same time as the launches of strategic rockets. Under these conditions, obviously there is no need to wait until all the front rocket units are in full readiness to deliver a massive strike. To reduce the interval between



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the nuclear strikes of the strategic rockets and the front means to a minimum, the launches will have to be made as soon as each rocket unit, and even launcher, is ready. Of course, the force of such a strike will be considerably less than the total nuclear capabilities of the front. But the timeliness of strike delivery, especially against the enemy nuclear means, will permit weakening the power of his nuclear strikes and destroying his major troop grouping. 50X1-HUM

In conducting the initial nuclear strike there arises a problem of no little importance, which is organizing the coordination of the front strikes with the strikes of the strategic rocket troops. The point is that if in an offensive from the concentration areas the tactical rocket battalions of the first echelon large units, which have Luna-M rockets, can successfully destroy the enemy first-echelon divisions, his tactical, and in a number of cases also some of his operational, nuclear means, then in an offensive from the permanent location areas the fulfilment of these tasks has to be assigned to the operational-tactical rocket large units and units to the detriment of destroying targets in the operational depth.

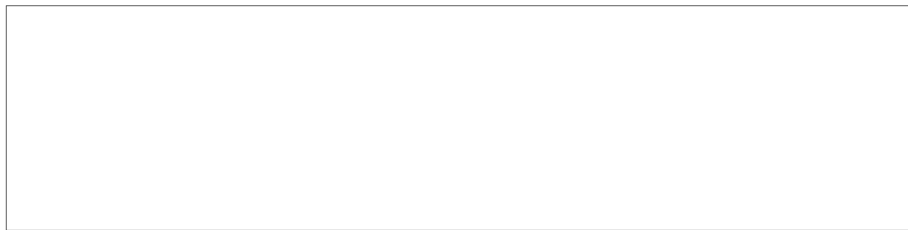
Locating the siting areas of the front rocket brigades and units near their permanent location areas at a distance of 90 to 100 kilometers or more from contact with the enemy also will reduce their capabilities to destroy enemy targets in the depth, especially the operational reserves, rocket means of the Mace and Pershing type, nuclear munitions depots, and the airfields of nuclear delivery aircraft.

Hence it follows that, when fulfilling the tasks of the initial strike under these conditions, the strikes of strategic means have to be brought closer to the national borders to perform tasks in support of the front.

The coordination of the strikes of the front with those of the strategic rocket troops must not be limited by an agreed line dividing their zones for destruction, but organized specifically by targets and time. The front commander, who has data on the targets being hit by the strategic means in the front zone, as well as the yields of the munition being used, can more purposefully decide the use of his nuclear means in the initial strike.

When the rocket troops carry out the initial strike from siting areas occupied near the permanent location areas, it is possible for them to be considerably isolated from the troops on the offensive, whose rate of advance to contact with the enemy will considerably surpass the usual offensive momentum. Thus, according to calculations, by the end of the first day of the operation, the front and army R-300 missile brigades may be located at a distance of up to 150 kilometers or more from the forward

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units of our troops. If the necessary steps are not taken in time, it may become necessary to move all or a large part of the rocket brigades to new launching areas in one night. Therefore, in order not to allow the rocket units to be so isolated from the advancing troops, it obviously will be desirable to move the most distant rocket units to new siting areas on the first day of the operation, and the rest at night between the first and second days.

In this connection, certain special features are possible in the organization of rocket-technical support. In the event that rocket units are provided with rockets for the initial strike in permanent location areas, their next supply of rockets obviously will be carried out from the deployment areas of the mobile rocket-technical bases while the initial strike is being carried out. These deployment areas must be selected differently for each separate mobile rocket-technical base. Thus, for example, it is desirable to locate the mobile rocket-technical bases which are part of and servicing the front rocket units, close to the siting areas of these units. Mixed army mobile rocket-technical bases upon combat alert sometimes have to deploy to prepare rockets in not one, but two areas: one element close to the siting area of the army rocket brigade, and the other in the center of the main grouping of the division rocket battalions, in order to simplify the supply of rockets as much as possible and to save time.

The views stated here on some of the questions of the combat use of the rocket troops during their transition to the offensive from permanent location areas, naturally cannot be settled and adopted to the same extent for all theaters of military operations. However, we think that the principal questions examined call for an exchange of opinions, which will allow us to develop a common view on this problem.

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