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CENTRAL INTELLIGENCE AGENCY
WASHINGTON 25, D.C.

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MEMORANDUM FOR: The Director, Defense Intelligence Agency
SUBJECT : MILITARY THOUGHT: "Questions of the Control
of Missile Units in an Offensive Operation"

1. Enclosed is a verbatim translation of an article which appeared in the TOP SECRET Special Collection of Articles of the Journal "Military Thought" ("Voyennaya Mysl") published by the Ministry of Defense, USSR, and distributed down to the level of Army Commander.

2. In the interests of protecting our source, this material should be handled on a need-to-know basis within your office. Requests for extra copies of this report or for utilization of any part of this document in any other form should be addressed to the originating office.

FOR THE DEPUTY DIRECTOR, PLANS:

Richard Helms
RICHARD HELMS

Enclosure

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Original: The Director of Central Intelligence

cc: Military Representative of the President

Special Assistant to the President for
National Security Affairs

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COUNTRY : USSR

SUBJECT ([REDACTED]) MILITARY THOUGHT: "Questions of the Control of Missile Units in an Offensive Operation"

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Following is a verbatim translation of an article titled "Questions of the Control of Missile Units in an Offensive Operation," written by Major-General S. Kuznetsov and Major-General A. Tikhomirov".

This article appeared in the 1960 First Issue of a special version of the Soviet military journal Voyennaya Mysl (Military Thought). This journal is published irregularly and is classified TOP SECRET by the Soviets. The 1960 First Issue was the initial issue of this publication.

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Questions of the Control of Missile Units in an Offensive

Operation

Major-General S. Kuznetsov

Major-General A. Tikhomirov

The organization of the control of missile units employing nuclear warheads continues to remain the subject of special attention for combined-arms commanders as well as for missile specialists (spetsialist-raketchik). A number of articles devoted to this question have already appeared in Collections of Articles of the Journal "Military Thought".

As is known, during the critique of the operational-strategic staff exercise which took place in the Ukraine in September 1959, Marshal of the Soviet Union Comrade Grechko noted the shortcomings uncovered during the exercise in the realm of control of weapons of mass destruction. In particular, it was pointed out that because the most expedient forms and methods of control of these means have not yet been found, the coordination between intelligence organs, the operational command, and the commanders of the artillery and the air army on questions concerning the use of nuclear weapons, involves an intolerable waste of time measured in terms of many (4 to 6) hours. Similar defects were noted during a number of other exercises. In connection with this, there is an imperative necessity to find those methods for the control of weapons utilizing nuclear warheads which would require the least possible time for the destruction of a target (from the moment of its detection to the nuclear strike).

At the present time the organization of the control of missile units and tube artillery employing nuclear ammunition is reflected as follows. For the fulfilment of missions in the interests of the main grouping of army troops, the missile units and units of tube artillery employing nuclear ammunition are brought together in an army special artillery group (ASAG). In an offensive operation the army may be reinforced with missile units allocated for solution of tasks of tactical (range of fire of not more than 35 km) as well as of operational significance (range of fire up to 300 km). Furthermore, it can receive an additional 1 to 2 tube artillery divisions employing nuclear ammunition. Therefore, the composition of the ASAG, as regards its tactical and technical characteristics as a deliverer of nuclear warheads, will be exceptionally varied, and this will greatly impede the achievement of control of this group during preparation

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for and in the course of the operation. Objections to the creation of the ASAG, in connection with the above-mentioned situation, have been stated in detail in print. In addition to these, we would also point out the following.

It is recommended that the ASAG utilize as its staff the staffs of the artillery divisions of the Reserve of the Supreme High Command (RVGK)¹, which are advancing as reinforcements for the army. Furthermore, the artillery division commander who is appointed as the commander of the ASAG is not relieved of his responsibilities for the activities of his organic large units, which were transferred to reinforce the large units of the army.

The commander of the RVGK artillery division and his staff have organic means of control which permit the organization of control of only their own large units. When appointed as commander of the ASAG, the commander of an RVGK artillery division is obliged to leave to his deputy part of the means of control, exercised by the division headquarters, for ensuring the control of organic large units of the RVGK artillery division allocated to reinforce the army. As a result, the ASAG commander and the deputy commander of the RVGK division will not have sufficient means of control; this will lead to unreliability of control and, in particular, to loss of time in the transmission of various orders and commands and in the receipt of information from below. Therefore, the use of the RVGK artillery division staff in the capacity of the ASAG staff is, obviously, inexpedient. It will in no way promote the speed of delivery of nuclear strikes.

We further consider that one of the causes of delay in the delivery of a nuclear strike on detected, unscheduled targets is the unnecessary centralization of the decision of the question of the allocation of nuclear warheads. Usually this is done in the following manner. Let us assume that the headquarters of artillery of a front (army) has received a report from an aircraft about a detected target (for example, a "Corporal" launcher). The commander of artillery of the front (army), not having the means to destroy the target with fire-power of conventional means, reports this to the troop commander and requests permission to use missiles with nuclear charges. The troop commander, having a very limited reserve of nuclear warheads, will first determine the possibility of the destruction of this target by

1. Marshal of Artillery S. Varentsov. "Combat Employment of Artillery in Offensive Operations of an Army and Front. Collection of Articles of the Journal "Voyennaya Mysl", 1958, No. 5 (43), page 13 .

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conventional air weapons, and only after this will be give the appropriate instructions to the artillery or air army commander.

Having received the troop commander's decision, the artillery commander gives instructions to the commander of the missile unit (the ASAG commander) to prepare for a strike on the target with a nuclear warhead. Then he will have to be provided with the corrected target coordinates and the order for expenditure of a nuclear warhead. All these conversations and transmissions of commands waste a considerable amount of time which is quite sufficient for the "Corporal" launcher to have carried out the firing of a nuclear warhead or to have changed its location site.

The situation becomes even more complicated in the event one must decide an analogous task in the course of a successfully developing offensive operation, with high tempos of movement, the absence of a continuous front, a high dynamic of operations, and unexpected and sharp changes in the situation. Under these conditions, an imperative need arises to impart the greatest possible autonomy to large units in conducting combat operations, which, of course, must be supported accordingly. The division commanders will not have time to await the army commander's decision regarding the question of destruction by nuclear weapons of targets presenting an immediate threat to the division's units.

On the basis of the above, the conclusion can be drawn that the existing rigid centralization in deciding the question of the use of nuclear warheads against unscheduled targets becomes a factor of a negative order. In order to shorten decisively the time from the detection of the target to its destruction by nuclear warheads, partial decentralization of the use of these warheads is essential. It can be realized only if the division commanders obtain as reinforcement missile units (units of tube artillery employing nuclear ammunition) and receive the right to make decisions regarding destruction of targets with nuclear ammunition within the limits of their expenditure established by the army commander.

Which missile units can be used for reinforcement of the divisions? First of all, of course, units of tactical missiles having a firing range of up to 35km. Such a range permits the missile support of division units with one shift of siting area during the course of a day's advance. In addition, it guarantees firepower maneuver not only within the limits of the entire width of the division's zone of advance, but also within a considerable part of the zones of advance of neighboring divisions. This situation provides the commander of

artillery of the army, within definite boundaries, with an opportunity to use the missile units assigned to the division, for fulfilling tasks of army significance.

During preparations for an offensive operation, the combined-arms army may, count on reinforcement by one regiment of tactical missiles. This will permit each division of the first echelon of the army to be strengthened by at least one battalion (division) in the direction of its main strike.

As is known, under existing organization missile battalions are uniform: part of them are armed with missiles having firing range of up to 20-25 km, part with a firing range of 30-35 km. These two types of missiles have different magnitudes of probable error (otkhozheniye), and therefore may not be utilized for the execution of all tasks. Missiles with a range of fire of 20-25 km, having less dispersion, are more suitable for the destruction of targets located in the immediate vicinity of friendly troops. At the same time, the tactical-technical characteristics of missiles having the maximum firing range of 35 km practically exclude the possibility of their use with nuclear charges against targets which are located in the immediate vicinity of friendly troops. Therefore it is desirable to reinforce the division with missile subunits of tactical designation with various tactical-technical characteristics; this would necessitate battalions of mixed composition. With regard to the supply of warheads to such a mixed battalion, there will be no special inconveniences; one workshop can assemble nuclear charges on these and other missiles of tactical designation.

It is inexpedient to include missile subunits, assigned to divisions, in just any artillery group, first of all because of these subunits are designated for resolution of only particularly important tasks, and secondly because they usually have a very limited number of warheads. Missile subunits must remain directly subordinate to the commander of the artillery division.

The commanding officer and staff of a missile regiment (polk), after its battalions are assigned to divisions, will retain the functions of ensuring the timely preparation of the battalions for fulfillment of firing tasks during the period of artillery preparation and artillery support of the offensive, the control of the combat activities of the battalions, assistance to them in organizing meteorological, ballistic, topographical, and technical support; the delivery to battalions of warheads having nuclear, conventional, and chemical charges, and also the control of the maneuver of battalions during regroupings. In addition, they are the ones who will provide direction in supplying the battalions with all kinds of materiel

items and repair equipment. Therefore, the headquarters of the missile regiment will be used during the preparation for and in the course of the operation in the same manner as the headquarters of the artillery breakthrough division of the RVGK.

For the fulfilment of tasks of army significance, the combined-arms army may be reinforced by several battalions of operational missiles with a firing range of 150-300 km. These battalions will comprise that portion of long-range weapons which it is advisable to leave directly subordinate to the commander of army artillery. If the army is reinforced with two or three battalions, then they will be under the direction of the commander and staff of the missile regiment. If, however, the army is reinforced with only one battalion, then naturally it will be under the direction of the commander of the battalion and his staff.

The proposed distribution of missile units and subunits should not be regarded as a categorical rejection of the centralization of their fire control by the commander of artillery of the army. During the period of artillery preparation of the offensive, it is advisable to centralize at the army level the use of the subunits and units employing nuclear weapons, taking into account the tasks which are fulfilled by divisions. However, for this there is no necessity to withdraw these missile units (subunits) from the divisions and to create an ASAG. It will be sufficient if the army artillery commander will provide the commanders of artillery of divisions with the tasks which, according to army plan, must be fulfilled by missile units and subunits with nuclear shells and shells with conventional charges, i.e., the centralization of fire control of these units and subunits will be carried out on the same bases as the centralization of fire control of tube and rocket artillery employing shells with conventional and chemical charges. The centralization of fire control of units and subunits employing nuclear weapons may also be required during a breakthrough of the enemy's defense zones in the course of an offensive operation, and in some other instances.

A proposal concerning the creation of front special artillery groups (FSAG) was expressed in print. We consider this proposal to be groundless. At the present time the headquarters of artillery of a front does not have the possibility of choosing from among its personnel an artillery staff, with corresponding means of control, which could head the FSAG. And in this regard there is no necessity to create such a group. It is doubtful that there can be more than one or two missile regiments subordinate to a front in the very near future. These regiments will have a very limited quantity (but very

powerful) of nuclear weapons in connection with which the setting-up of tasks for regiments and the supervision of their fulfilment will not burden the staff of the front artillery.

In those cases where the front has 3 or 4 missile regiments (which apparently, will be a rare exception) the necessity for the creation of an FSAG will arise. But only a specially created staff having the necessary means of control will be able to head such a front group. Such a staff must arrive to reinforce the front concurrently with the arrival of the missile regiments.

A few words about reconnaissance. There is no necessity to prove the exceptional significance which reconnaissance of the enemy has for all units employing nuclear weapons. It is obvious. We wish only to note one circumstance which, to an intense degree, impedes the employment of nuclear weapons. The fact is that the missile units and units of tube artillery employing nuclear warheads, do not at the present time have the reconnaissance means which would permit them to conduct reconnaissance of targets for destruction by nuclear weapons and to maintain control over the results of nuclear strikes. The front aviation conducts reconnaissance for the missile regiments of operational designation; this can be considered normal. Reconnaissance for tactical missile regiments is conducted basically by those means which belong to the army artillery. These are principally the ground artillery reconnaissance means, helicopters, and individual artillery fire-adjusting planes from among the artillery fire-adjusting planes assigned to the army for the operation.

In an overwhelming majority of cases, the enemy's atomic cannon and rocket launchers of the "Honest John" and "Lacrosse" type may be detected only by photography from the air. A great deal of time passes before the data regarding the enemy's atomic cannon (rocket launchers), after its processing and after the decision of the army commander, arrive at the missile battalion (battery) which must destroy this gun with a nuclear warhead.

The situation is no better as regards the detection of enemy forces and combat equipment in the course of an offensive. The basic causes of this situation appear to be the extremely inadequate number of artillery fire-adjusting planes which are usually assigned to the army, and the complete disparity of the tactical-technical characteristics of existing artillery fire-adjusting planes with contemporary requirements, and finally, an exceptionally strict centralization of their use.

The strict centralization of the use of artillery fire-adjusting planes was justified to some extent by the fact that aerial reconnaissance was conducted basically in the interests of army artillery groups and army special artillery groups. However, when missile subunits are assigned to divisions, the previous procedure for use of artillery fire-adjusting planes, in accordance with the general army plan, obviously becomes obsolete. The time has come to provide the large units with the means of aerial reconnaissance which could also be used for adjustment of fire of tube artillery and for the reconnaissance of the enemy's means of nuclear attack in the tactical depth of his defense. These means of reconnaissance must be aircraft with the appropriate tactical-technical characteristics. The presence of aerial reconnaissance means within the large units will provide for a more rapid reaction to detected targets on the part of the large unit commander, and consequently, will shorten considerably the time between the moment of the detection of the target and the delivery of a nuclear strike against it.

Considerable significance for the rapid implementation of nuclear strikes with missiles on unscheduled targets, is attributed to the correct organization of meteorological support of missile units.

Missiles (raketa) of tactical designation, as is known, have solid fuel. Their readiness for launching is determined by the time necessary for calculations in setting-up the sighting mechanisms, mounts, checkout, and heating (pogrev) of the explosive mechanism. With the possession of the most recent meteorological data, all the aforementioned may require up to 15 minutes from the moment the battery receives the command to open fire to the launching of the missile. In the absence of the most recent meteorological data, twice as much time will be required, since it will be necessary to gather information regarding atmospheric conditions and to prepare a meteorological bulletin.

With the possession of a valid meteorological bulletin and favorable conditions, not more than 30 to 40 minutes is required in order to launch a missile of operational designation which is on a launch pad (puskovoy stol). If the meteorological bulletin is not current, however, an additional 1 to 1½ hours may be required for the launching of the pilot balloon (shara-pilot), the processing of the data obtained, and the compilation of the meteorological bulletin. Furthermore, approximately an additional 15 minutes will be required for the preparation of data for setting up the goniometer (uglomer) and accelerometer (integrator).

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In connection with this, it is expedient to organize meteorological support in such a way that the meteorological bulletins arrive at the missile units and subunits at not less than one-hour intervals. In such circumstances, the launching of the missile after receipt of the command may, in the worst case, be carried out not later than 50 to 60 minutes afterward, in the overwhelming majority of cases - not later than 35 to 45 minutes afterward.

If there is one field artillery meteorological station (PAMS) in a missile battalion, the existing organization mentioned above is impossible to achieve because a PAMS can process the launching data from only 6 or 7 pilot-balloons with radiosondes, in a 24-hour period. Therefore, it is necessary to increase the capability of the PAMS of every battalion 2 to 3 times in order to permit the issue of a meteorological bulletin every hour.

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