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MILITARY THOUGHT (USSR): The Reduction of Possible Losses and the Restoration of the Combat Effectiveness of Troops 50X1-HUM

The Reduction of Possible Losses and the Restoration of the Combat Effectiveness of Troops

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In a scientific-research game conducted at the Academy i/n M. V. Frunze, one of the problems investigated was to find ways of reducing possible losses and restoring the combat effectiveness of troops in a front offensive operation under conditions of massive use of weapons of mass destruction.

The following situation was created in line with this theme. On the decision of the formation commander, the main forces of the front were moved out of their permanent locations (areas of concentration) toward the border in order to go on the offensive. At this time the "enemy" delivered a massive nuclear strike, of which more than half consisted of nuclear surface bursts. Additionally, many centers of chemical and bacteriological contamination were also created.

The possible troop losses under these conditions were reckoned according to three variants: among troops which were moving out to the lines of deployment in order to go on the offensive; among troops which were still at their permanent locations; and among troops which were located in areas of concentration fortified with rudimentary engineer preparations.

Calculations showed that, even though they were in columns, the troops and installations in the rear area sustained heavy losses while moving out to the lines of deployment in order to go on the offensive. More than half of the large units of the front, including rocket troops and aviation, lost 30 to 50 percent of their personnel, equipment, and weapons to nuclear weapons alone.

The nuclear surface bursts resulted in a severe radiation situation. Up to 90 percent of the area occupied by front troops was contaminated. Also, zones of strong and dangerous radioactive contamination constituted 25 to 60 percent of

the territory. In addition, the troops sustained up to 20 percent losses from chemical weapons. It was calculated that all units and large units subjected to attack by toxic agents of the "V" type required immediate special treatment.

Analysis of the results of a massive "enemy" strike once again reaffirms the conclusion that, if troops begin to move out to go on the offensive before enemy means of mass destruction are destroyed or neutralized, they will sustain massive losses and their capability to fulfil their assigned tasks will be sharply reduced. Consequently, before the troops move out to go on the offensive, it is necessary to take measures to sharply weaken the combat effectiveness of enemy means of mass destruction. This can be done only by delivering decisive strikes against him with nuclear weapons, as a result of which his nuclear power will be decreased, major troop groupings destroyed, antiaircraft defense means neutralized and destroyed, and the control and work of the rear area disorganized.

If, during the first enemy strike, troops are deployed in permanent locations without being dispersed and protected by engineer preparations, research has shown that they will sustain even greater losses. In this case the enemy will require significantly fewer nuclear munitions in order to completely decimate our troops. The explanation for this is, first, he may know the location of our units and large units and, second, it is not uncommon for our divisions to be deployed in their entirety in one military cantonment no larger than one to two square kilometers. Needless to say, under such conditions a large unit may completely lose its combat effectiveness if hit by a single nuclear weapon, even one with low yield.

Troop losses decrease significantly if units and subunits are dispersed in areas of concentration fortified with rudimentary engineer preparations. Calculations show that in this case troop losses are about 20 to 30 percent less than among troops which are in the process of moving out. If the concentration area of a division is increased to 900 [sic] square kilometers, losses will be reduced by a factor of 1.5 to 2. In order to

preserve the combat effectiveness of our troops it is therefore advisable to deploy them in areas of concentration fortified with rudimentary engineer preparations before the start of a massive enemy strike. However, it is not always possible to do this. In the first place, the outbreak of war will not necessarily be preceded by a threatening period, which means that the troops will have less than 1.5 to 2 hours in which to leave the military cantonments. Second, it is not always possible to prepare fortified areas of concentration in advance, i.e., in peacetime. Taking all this into account, in order to preserve the combat effectiveness of our troops we must set up, while still in peacetime, engineer preparations in the maximum number of areas of permanent troop locations. This would permit rapid occupation of the engineer preparations should time not permit the movement of troops to an area of concentration.

If the situation allows, it is advisable to move the troops to areas of concentration where they must immediately set to work digging trenches and setting up other rudimentary engineer preparations. Regarding materiel, particularly rockets and fuel, they must be dispersed and stored, while still in peacetime, in reliable reinforced-concrete structures.

Troops may sustain large losses from radiation, especially from surface bursts. Figures show that these losses may be two to fifteen percent during the first two hours. Particularly heavy losses may be sustained by units and subunits being transported in motor vehicles and open armored personnel carriers--rocket troops (front mobile rocket-technical base, front alternate rocket-technical base), troops of command posts (forward command post of the front, rear area command post of the front), and troops of special units. Tank large units and units are not as vulnerable to the effects of radiation. Analysis of the effects of the first nuclear strike by the enemy against the troops and installations of the rear area of the front shows that, on the whole, tank regiments in tank divisions retain their combat effectiveness even under the most severe conditions. However, on the whole, the combat effectiveness of divisions is very dependent on the statu

the special units and of the rear area, which may sustain significant losses and, in effect, become incapable of fulfilling their tasks.

A few words now about the methodology used in assessing the combat effectiveness of troops. The combat effectiveness of a large unit often depends directly on the percentage of its losses: if they are under 40 to 50 percent, the large unit is considered combat effective; if they are greater, it is not considered combat effective. Research shows, however, that the percentage of losses is not always the determining factor in resolving this problem. Thus, for example, in this game two divisions lost, respectively, 24 and 25 percent of their personnel from nuclear strikes. It would seem that with such small losses both of these large units would retain their combat effectiveness, but a qualitative analysis of the losses showed that this was not quite so. The command of the divisions was put out of action, as well as separate rocket battalions and artillery and tank regiments, after which it was impossible to claim that the large units retained their combat effectiveness. From this it is perfectly clear that our methodology in assessing troop combat effectiveness must be based on a qualitative analysis of losses and then later expressed in terms of percentages.

Recently, considerable attention has been devoted in the press to problems of restoring the combat effectiveness of troops during an offensive operation involving massive use of nuclear and chemical weapons.* This is quite understandable, since these problems will always occupy the center of our attention.

It is well known that, whatever the situation of the troops and installations of the rear area of a front at the start of a massive enemy nuclear strike, they may sustain losses. Consequently, the main task of the command of a front, of armies, and of large units will be to restore troop combat effectiveness within a short period of time

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*Collection of Articles of the Journal "Military Thought," No. 1 (77) 1966, No. 3 (82) 1967.

and to create conditions for going over to an all-out offensive. However, there may be very many facilities requiring the restoration of their combat effectiveness.

In our opinion, the efforts of the front command must be directed first to the restoration of the control organs of rocket troops and aviation, primarily to the restoration of communications systems and the operating efficiency of officers and generals at command posts. The troops themselves must participate in the first stage of restoring the combat effectiveness of combined-arms large units. The elimination of the aftereffects of enemy nuclear strikes can continue even after the top priority tasks have been accomplished.

Research shows that if the greater portion of the command posts and the communications system are put out of action, it will be a long time (from several hours to several days) before the command and staff of a front will be able not only to take measures to carry out assigned tasks, but also to determine the status of their troops. It is precisely for this reason that the task of restoring control is of paramount importance.

In the above-mentioned war game the average loss for each communications center was up to 70 percent of the means of communication and up to 65 percent of personnel. Losses among officers and generals at command posts were from 20 to 90 percent.

All possible methods have been investigated for restoring the control system of a front which has been disrupted in this manner: the transfer of control to an intact army (division) command post; the transfer of division control to a front command post; the designation of a new army field command at reduced strength, drawing on the forces and means of the front; the designation of an operations group with means of communication, drawing from the front field command; the transfer of troop control of an army to the commander and staff of one of the divisions; and the transfer of subordination of divisions to adjacent armies.

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Research results revealed that each of these methods can be applied, depending on the specific conditions of the command of an army (front).

For example, the transfer of control to an intact command post will not take much time. All it requires is to clarify the status of the command posts and to determine whether they should be restored or whether it is necessary to transfer control to an intact post. In the latter case the post will take over troop control, after which it will be reinforced with means of communications and with officers (generals); and its functional duties will be clarified. Except for just one army, in almost all large units and formations in which both the command post and the forward command post were out of action, troop control from the forward command post of these formations (large units) became possible in about an hour. At the same time, in order to have stable and reliable troop control, we consider it necessary to restore the command post at the same time that control is transferred to the forward command post. To accomplish this it will be necessary to reinforce the command post with means of communication drawn from the second line of communications centers or from the reserves, and to build up its personnel with officers from command posts which have been put out of action. These measures will require from two to three hours up to a few days.

More difficult conditions for the restoration of control may develop if all command posts are put out of action, as happened during the game to the troops of one army when both the command post and the forward command post were hit by nuclear strikes and the rear area command post was subjected to contamination by bacteriological weapons.

As the situation developed, restoration of control took place by designating an operations group from the front field command while the communications center was restored by drawing from a surviving second line center and reserves of the army means of communication. Calculations showed that this task can be accomplished in four to six hours if the operations group is transported by helicopter to the area wher

the army command post is being restored. If the operations group is transported by vehicles, however, at least ten to twelve hours will be required.

Troop control of an army may be given to the commander and staff of one of the divisions. However, research shows that a division commander's means of communication are not adequate to guarantee firm and stable control of army troops operating over a broad area. In this case it is necessary to strengthen the division command post with appropriate means of communication and with officers, while also taking measures for the final restoration of fully functioning command posts and communications systems in the division and army. At best, these measures will require seven to nine hours for implementation.

Experience shows that the rapid restoration of command posts under the exceptionally complex conditions of modern nuclear warfare requires that each operational formation (front, army) and large unit must have, besides a command post and a rear area command post, an alternate command post fully equipped with means of communications and at least a limited number of personnel. In addition, all command posts must have the necessary transport facilities at their disposal, particularly helicopters, which will allow both personnel and means of communications to be flown to areas where they are needed.

The data we have obtained and the subsequent conclusions derived from them are, of course, tentative. They require further research and verification in troop exercises and war games.

We will now touch upon an equally important task--that of the restoration of combat effectiveness of rocket troops. In order to give a more graphic idea of the status of rocket troops after the first mass strike by the enemy, we shall use as an example the war game referred to above.

About thirty-five percent of all batteries were put out of action by the first "enemy" nuclear strike. Because of large personnel losses, over thirty percent of the R-300 missile battalions were on the verge of complete loss of combat effectiveness. An even worse situation developed

the rocket-technical units: two bases were put completely out of action, and the effectiveness of the remaining bases dropped by fifty percent. With the destruction of the rocket fuel depot, the large units of operational-tactical rockets were in fact without fuel.

Research has shown that in such situations the first steps in restoring combat effectiveness of rocket troops must be: their withdrawal from areas with high radiation levels to other siting areas; the conduct of rescue work in areas subjected to enemy nuclear attacks; the reforming of rocket units; and the restoration of combat effectiveness of rocket bases and the system for supplying rockets. The first necessary step is to withdraw rocket units from siting areas located in zones B and C. It is extremely dangerous to leave the units in these areas for an extended period of time since personnel may receive a radiation dosage equal to fifty roentgens in the course of only one hour.

We calculate that the transfer of battalions to new areas will require an average of 3.5 to 5 hours; the completion of reconnaissance, one hour; the movement into new siting areas, 1 to 2 hours; and the deployment and completion of engineer construction work and the preparation of strikes, 1.5 to 2 hours. As a result of these measures, the combat capabilities of organic rocket troops increased at about the following rate: in 2.5 hours the front troops were ready to mount strikes with 10 nuclear and 3 chemical rockets; in 3.5 hours, 17 nuclear and 7 chemical rockets; and in 5 hours, 20 nuclear and 22 chemical rockets.

For the timely restoration of the combat effectiveness of rocket troops, they must be assigned subunits of engineer and chemical troops; and points for special treatment must be deployed near siting areas of brigades. Such measures must be provided for in advance. Since rocket units must be capable of remaining in contaminated zones for an extended period of time, their equipment (especially launchers and special vehicles) must be supplemented with means for reducing the dosage of radioactive contamination to which personnel will be exposed. In addition, the rocket large units will need some kind of organic subunits to perform quard duty, to construct engineer shelters, and to eliminate aftereffe

Rockets and rocket fuel must be dispersed, part of it at depots and part with rocket large units. Rocket fuel depots must be dispersed among sections in various areas.

It is very important to clarify the tasks of rocket units which were not hit by enemy nuclear weapons, since an abrupt change in the situation will require the reassignment of combat tasks among rocket units. It may develop that some tasks previously assigned to army brigades will have to be reassigned to the rocket troops or front aviation.

Front aviation may sustain significant losses from enemy nuclear strikes. In the above-mentioned war game, the air army had lost up to twenty percent of its total forces after the first strike. In addition, only about fifteen percent of the surviving aircraft were able to carry on combat action immediately after the strike. The combat effectiveness of the air army was restored at approximately the same rate as that of the front rocket troops.

Research on the questions of restoring the combat effectiveness of combined-arms large units after a massive enemy strike was conducted, as we have mentioned, primarily for that period when the units were enroute to the lines of deployment for transition to the offensive. In this research we proceeded from the assumption that enemy nuclear forces and his groupings of ground troops were also subjected to a massive nuclear strike, as a result of which they sustained about the same losses as the troops of the front. This is a crucial movement, and the question of victory is directly dependent on which of the opponents is the first to deliver a decisive strike with his surviving forces. We have calculated that if timely measures are taken, about thirty percent of the units and large units of all divisions located in the first echelon of armies will be able to begin combat action in only three to four hours. In one instance the offensive may be opened by separate regiments, and in another, by a few divisions. We consider that under similar conditions the first variant will be feasible most often. It goes without saying that from the start of the offensive it will be necessary to mount repeated nuclear strikes against enemy rocket troops, aviation, and combined-arms large units. This will allow us to achieve the requ

superiority of forces and weapons to defeat the enemy with decisive offensive actions.

Various points of view are presently being expressed on questions concerning the elimination of the aftereffects of an enemy nuclear attack. Some consider that this task must be accomplished by creating organic defense subunits for each division; others think it must be done by non-organic detachments; and a third group maintains that the job must be done by those subunits and units which have been subjected to the attack.

Research findings have shown that organic defense battalions created in divisions are capable of working in two contamination centers at the same time, while organic defense companies in regiments can work in one. Thus, in each division organized in this manner, this work can be carried out simultaneously in six contamination centers.

Non-organic detachments have somewhat lesser capabilities. They do not have enough medical and engineer subunits to carry out special work, nor do they have reconnaissance means. In a division, one non-organic detachment for eliminating aftereffects can most often work in only one center, and that where the nuclear burst is of low yield.

It is possible to assign motorized rifle subunits to the detachments which eliminate aftereffects. If five or six contamination centers develop in the zone of a division, it can allot part of its subunits for the elimination of aftereffects of nuclear strikes and still continue to fulfil its assigned task. However, to create non-organic detachments in a division it is necessary to call in at least five sections each of engineer, chemical, and radiation reconnaissance, ten armored recovery vehicles, five bulldozers, five sections for tracked vehicle repair, and seven medical groups. As a result, the division may lack the necessary forces and means to build roads for the advancing units and to give them medical assistance. From this one can conclude that it is difficult to rely to any great extent on eliminating aftereffects with one's own forces unless the organic structure is altered to allow an increase in special subunits.

The volume and nature of work in centers of contamination require still more research on the subject. It seems to us that in units and large units of the first echelon the volume of work in evacuating inoperative and damaged equipment should be sharply reduced. The reason for this is that the radius of destruction for tank crews and gun teams will exceed the radius of destruction for combat equipment. Therefore, much serviceable equipment may remain in the centers of attack, while the crews may have been put out of action. Quite frequently it may not be possible to use even the serviceable equipment. The question of evacuation and repair of damaged equipment must obviously be solved at the level of the army and front by specialized evacuation and repair subunits. In units and large units of the first echelon, however, we must consider the basic task of eliminating aftereffects of a nuclear attack to consist of aid for casualties and special treatment for personnel.