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Protection of Troops in Battle

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ON SOME MEASURES OF CHEMICAL, BIOLOGICAL AND RADIO-
LOGICAL PROTECTION OF TROOPS IN BATTLE

Following is the translation of an article by Ante Grgin entitled "O nekim merama ABE obozbe-djenja trupe u borbi" (English version above) in Vojni Glasnik (Military Herald), No. 13(5), May 59, Belgrade, pages 36-45/2.

The fact that every use of chemical, biological and radiological /from here on to be referred to as CBR/ combat means cause powerful destructions as well as contamination of soil and atmosphere is known. For shorter or longer periods of time contamination creates unpassable or hard to conquer obstacles which in actual combat situation could have considerable influence on the outcome of the battle. By using CBR combat means the enemy may sometimes want to contaminate only certain parts of the soil (areas). When atomic bombs (projectiles) are exploded, besides primary radioactive radiation created also is a subsequent (secondary) radiation which is particularly intensive in the case of low or surface explosions. This subsequent radioactive radiation can in certain cases cause contamination of a certain part of the soil to such a high intensity that it presents a serious obstacle. Men who would cross or stay on such soil unprotected would receive a large dosage of radioactive radiation, the consequences of which are well known.

To avoid or diminish the harmful effect of radiation and in order to make possible the accomplishment of combat tasks, besides other measures and procedures, the following are used: evacuation and change (replacement) of units from contaminated areas, as well as detouring and overcoming such areas. As long as they are correctly performed and at the right time, such measures, together with other measures and procedures, could play a significant role both in executing combat tasks and in protecting men and equipment.

Significance of the discussed measures in combat and certain principles

Considering the characteristics of contemporary attack and defense as well as other operative-tactical actions, it could be freely concluded that all these measures will be fully evident in all types of combat as well as in other operative-tactical actions. For instance, in a superficial analysis it could be said that in defense evacuation and change of units are stressed, while in an attack detouring and overcoming receive priority. However, a contemporary defense will be much more flexible, combined with attacks, maneuvers forward (counterattacks-counterstorms) and backward (evacuation-retreat and similar) as well as with some other characteristics. Therefore, various measures such as detouring and overcoming contaminated areas will be used and will often have decisive significance. Besides detouring and overcoming other measures will also be used in an attack which are characteristic for a defense: evacuation and replacement (change) of units from contaminated areas (instead of "change" the term "replacement" corresponds better for attack because the operation is easier and simpler to perform).

Some consider that such measures should be approved by an immediate superior or one even two ranks higher. Such a position is by all means incorrect. When change or replacement of units is in question a superior almost always makes the decisions, while for other measures this is not always necessary nor logical. Here in question are procedures which will most frequently be used during a battle and they will be performed by lower tactical units (detachment, company, battalion, but rarely a tactical group and higher units), since this will be required by general dispersion, considerably enlarged fronts and the depth of troop deployment. Consequently, this question should be treated flexibly and the superior of such units should be given full initiative, while the intervention of higher ranks is necessary only in the case if the conceived maneuver enters the scope of higher units. Awaiting for an approval of higher ranks would only interfere with initiative and the speed in undertaking and performing such measures. Let us take as an example the detouring and overcoming of contaminated areas which are particularly stressed in movements. A superior whose unit performs this operation has a specific task, a specific zone (direction of operation) in which he alone, in accordance with the received task, operates and decides. Obstacles

that are met by his unit are overcome or detoured according to circumstances. If he is unable to do this, he will ask a higher ranking officer for help. It is fundamental that he accomplishes the task and, therefore, he must have the initiative. If in detouring a contaminated area his unit is compelled to enter the zone (direction) of the adjoining unit, then the permission of a higher ranking officer is necessary. In this case coordination of operation with adjoining units and any supporting units participating in the same operation is necessary.

The decision regarding evacuation or change (replacement) of units is not easy nor simple to make, particularly so in defense. It depends on a series of pertaining factors such as: combat situation, situation of the enemy, of own forces, terrain and weather, and particularly on the condition of the unit to which such measure pertains (its combat ability, protective means, place in the combat arrangement - importance and significance of the specified area which is defended, intensity of radiation, i.e., intensity of contamination BOT /abbreviation not identified/. Moreover, it depends on the fact whether the unit has previously been exposed to radioactive radiation, on the permissible amount of radiation and on the reliability of fortification objects in regard to protection). In addition to the above mentioned, in making decisions regarding such measures it should be kept in mind that the men in the unit should not receive a larger dose of radiation when they are evacuated or changed about than they would have received had they remained at the combat location (area) using fortification objects which offer a certain degree of protection. This means that the necessity of undertaking such measures is questioned here.

The purpose of the evacuation or change (replacement) of a unit from a contaminated area is to treat irradiated men. For that reason this should be performed in suitable areas well sheltered and so removed that the enemy has no opportunity for direct action.

If for any reason the evacuation or change is not performed and the unit in question must remain on the contaminated soil (area) for a longer period of time, then the change and rest of men within the unit must be organized. The existing fortification, primarily shelter, would be used for this purpose.

It is certain that there will be frequent cases when the unit will have to remain for a longer period of time in an area which may be contaminated (in defense, while resting, in areas of concentration, gathering and similar). In such a case, and whenever it is possible, reserved areas should be foreseen - accesses and roads to such areas, and if possible, the manner of evacuation of units. This should become a rule.

The overcoming of contaminated terrain is a more difficult operation because it is connected with greater difficulties and losses and, therefore, whenever possible such a terrain should be detoured. But this is not always feasible since there will not always be detour possibilities and particularly not on extensively furrowed land which will be systematically contaminated in successive lines by the enemy. Under such circumstances the overcoming of contaminated areas is the only possible measure which can be used. In order to make the overcoming operation more successful a good organization in general is necessary. In the first place, CBR reconnaissance and information is necessary, then a good training of the unit in overcoming such areas and in the skillful and rapid use of formation and other defense means available. When the overcoming of terrain contaminated by radioactive means is considered, besides the general war tolerated (permitted) dosage of radiation it is also necessary to determine the so-called command permitted dosage of radiation which men can absorb (war tolerated dosage is a general permitted maximum, while the limit above it up to which a calculated risk may be taken is command dosage of radiation). Commanders of divisions and senior superiors should have the right in determining such dosage). The speed of movement in overcoming contaminated areas depends on the intensity of radiation and the permitted dosage. And it is desirable that the latter be as large as possible. The best solution is that the overcoming be performed by motor vehicles - tanks, armored vehicles, trucks and similar vehicles. When moving tactical operations are performed and when there is no possibility of detours, the overcoming of contaminated areas is performed by passing over them. This is frequently the case for units in an attack, and particularly so for the first echelon. Second echelon, reserves and other elements of combat order have, however, more possibility to cross such a terrain over already established passes in charge of which are units

of ABHO /CBR units/ and engineering units (pioneers), while the place, number and size is determined by a general military superior.

The control protection service (KZS) has a significant role in executing these measures. If contemporary conditions and the specific tasks are considered, the until now classical organization of the service aimed at overcoming mines and explosive obstacles would not be adequate and consequently should be revised. The organization of this service should come under CBR units.

* * *

The battle against the aggressor (attacker) comprises a series of defensive and offensive operations combined with with other operative-tactical actions. For this reason, the organization and performance of such CBR protection as connected with the above mentioned operations will be discussed.

Measures in defense

A surprise and mass use of various CBR combat means enables the aggressor to weaken the defender to a considerable extent, particularly so in the area of the main attack. In order to avoid contamination of the soil which he plans to occupy, the aggressor will as a rule use air atomic explosions. He will use low and surface explosions when he desires to create contaminated parts of terrain in addition to the destruction. However, such areas are not considered for the movement of his forces for a certain period of time at least. The aggressor can also use other CBR combat means to achieve the same purpose. Taking into account the characteristic of contemporary attack, it can be expected that the aggressor will use CBR combat means while still in the phases of approaching and preparation for an attack. The purpose of this is to neutralize, destroy and exhaust men and also to interfere with defender's construction of defense fortifications. It can be expected that the attacker will tend to neutralize or destroy the defender as efficiently as possible at an early phase of the attack storm, using a combination of atomic and chemical combat means. In addition, he will tend to take a quick advantage

of the effects of the above means. Such operations should be expected throughout the entire duration of the attack. By using CBR combat means, the attacker will also tend to prevent the intervention of defender's reserves or their backward maneuver toward the main forces. He will do this either by direct action or by contaminating the terrain in order to slow down or to hinder the maneuver of the defender. The attacker can use such means of aggression against areas where background forces are located, against organizations, as well as against routes of supply and evacuation.

Although these are not all possibilities of CBR combat means, they indicate defender's tasks, if he is to diminish and avoid the consequences of such actions.

We are interested here how to perform these CBR measures of defense.

Evacuation of units from contaminated areas.

This measure should be executed in accordance with the defense plan. However, it must be immediately stressed that the accomplishment of this measure is very difficult in the case of the units which are in direct contact and which are engaged in combat against the attacker, particularly so during the daytime. This is considerably easier to perform in the case of contaminated units scattered in the depth of the defense arrangement outside the combat. The evacuated units could be moved into reserve areas (if such areas exist) or in the depth of the defense, outside the actual enemy action. Evacuation is most suitably performed during the night, particularly so in the case of the units which are in direct contact and are engaged in the combat. For this reason they should attempt to endure till dusk. Depending on the situation, however, the evacuation can be performed during daytime. Evacuation from contaminated areas should be organized and executed according to a plan and should be complete. The superiors of all ranks must remain calm in such a delicate situation and hold tightly the control over units. They should also command the operation from the beginning to the end. In the case of units in direct contact /with the enemy/, the organization and method of evacuation would be similar to the organization and method of timely evacuation from the combat when the decision has not been made yet. The

difference is that, as a rule, non-contaminated units are not evacuated and that the evacuation is executed over contaminated soil with the use of protective means. Such an evacuation would be performed in specified directions where KZS /control protective service/ operates.

When a decision regarding the change of units from contaminated areas is made, the necessity of such an operation should always be considered. In other words, it should be considered whether it is necessary to expose a new unit to danger purposely (/the unit/ which is being changed) by locating it on the contaminated terrain. Or should the contaminated unit be evacuated from the contaminated soil and a new unit be used (with certain loss of terrain) to occupy a certain line in the vicinity, while considering the contaminated area as a barrier for own defense? The second solution would be better in an actual situation.

The change /of units/ is advisable if a certain important contaminated object or a crossroad are jeopardized and if by retreat the defense of a certain higher unit as a whole would come in question. The change of units from contaminated areas should not in essence be different from that in the last war. There are similarities regarding change of units in combat, particular in defense, as well as in organization, time and method of execution. The difference is only in its execution on contaminated terrain, the use of protective measures and the operation of KZS /control protective service/. It has been already pointed out that the contemporary defense is of such a character that the detouring and overcoming of contaminated areas will be fully utilized, particularly by using reserves and other echelons. Effective and fast execution of these measures will influence to a large extent their timely and successful performance and at the same time the outcome of the battle as a whole. As a rule, reserves and other echelons detour contaminated areas. However, if this is not feasible (if the contaminated terrain is vast, or if a detour would result into deviation from suitable or the only possible direction of advance, or if by long detours too much time is lost and consequently the action is belated) such an area is overcome in the first place by utilizing suitable vehicles, or in the absence or unsuitability of such equipment, by utilizing formation and other available means of defense.

If time and circumstances permit, it would be useful to build passages which would be utilized in overcoming such areas.

It should be pointed out that the detouring and overcoming of contaminated areas in defense, particularly in the case of reserve and other echelons, is less difficult because it is executed in the depth of the defense, without a considerable impact of enemy action.

In defense the units can be evacuated or ordered to retreat from the first to the second and from this to the third line, etc. There will be cases when in executing these operations the units will have to detour or overcome contaminated terrain. Whether they will detour or overcome will depend on actual combat situation and the task of the unit. The superior will always choose that measure which is suitable and feasible and which will render possible the best and the fastest execution of the task and assure the safety of the unit. Everything that has been said about detouring and overcoming of contaminated terrain holds true in this case.

Measures in attack

In defense, as a rule, the enemy will use low and surface atomic explosions. The reason is clear. He attempts a momentary destruction and radiological contamination of the soil. By such atomic action, the stoppage is achieved simultaneously.

If the structure of the contemporary attack is analyzed, it becomes evident that, regardless of the method of its execution and form, the attacker may be defeated by the defender's CBR means while he is still in marching columns, while he makes approaches, while he is in areas of concentration, assembly, areas where he prepares for attack, starting line, at the beginning of the storm, as well as during the duration of the attack. It is to be expected that the attacker will come across contaminated parts of the terrain during each of his combat movements. In addition to this, the contamination of terrain by CBR combat means may be executed in combination with other obstacles such as mines, explosives, and similar. Such and similar obstacles can affect to a large extent the plan and the speed of an attack. In

order to avoid unnecessary losses and to accomplish the required tasks, the units should, besides other actions, attack quickly and effectively using the most suitable method, in addition to detouring and overcoming obstacles.

Detouring contaminated areas is the most effective method but it is not always possible, particularly not for the units which attack in the first echelon. This depends on the actual combat situation, on the size of the contaminated area, kind of contamination (radiological or chemical), whether there are detouring possibilities, etc. Such areas are by far easier to detour before the beginning of the attack, for instance, when they are crossed during the movements from the area of concentration to the area of gathering and from these areas to the starting location. The reason is that the movement is executed without an extensive effect of enemy action. Such movements are also easier for other echelons and reserves up to the time of their engagement in battle. During the attack, however, such movements are much more difficult for the units which are in tight combat contact. It should be kept in mind here that the defender will control with own troops all existing detouring routes, in the first place with the fire of infantry with howitzers and artillery. In addition to this, counterattacks of his reserves should be expected on these routes.

If for any reason such a detour of contaminated areas is not possible, the operation of overcoming will take place. First echelons, which are in tight combat contact, utilize formation and other available means of defense. The type and time of overcoming will always be determined by the superior of the unit. In the case radiological contamination, the crossing is much faster and utilizes motor vehicles, as already explained. In the case of chemical contamination, formation and other available means of defense are primarily used for overcoming. The first echelon, most frequently crosses the contaminated area while other elements of combat order have more possibilities to use other methods. Of great significance here is the skill in utilizing formation and the available means of defense as well as speed.

Evacuation and change of units

In an attack, evacuation of units from contaminated area can take place if they are located in the areas of concentration, areas of gathering, attack starting areas, starting line and on occupied lines during the attack. It should be stressed that evacuation is most successful when performed in forward movements inasmuch as the units are not contaminated to the extent that they need serious medical help in decontamination. If the case is to the contrary, evacuation is directed toward reserve areas.

In an attack, intensively contaminated units may be replaced by new ones either at the starting location or during the attack. In the first case, considering the structure of contemporary attack, it would be most suitable to replace the unit by locating the replacement unit in a suitable area from where the latter could be taken into combat, thus taking over the task of the contaminated unit. Something similar could be applied in the second case, i.e., when the replacement of a contaminated unit is performed during the attack. In both cases the replaced unit is brought to a suitable area where /medical/ help is given.

CBR safety measures in other operative-tactical actions are similar to attack and defense measures. They are as significant and important because the success will largely depend on them.

A distinct example for such measures is particularly evident in pursuit /of the enemy/, when the speed and continuity of action are essential. To achieve this, the units engaged in pursuit should be capable of rapid and effective detouring and overcoming, in addition to other obstacles, contaminated areas too.

Execution of measures during the night

Night action will be regularly performed in a future war. Because of uncertain situation, difficulty to establish front line and to select most suitable aims, the application of atomic means will be rendered more difficult, though not impossible. As to other CBR combat means, their use in night actions will not pose any

problems. Thus, the above mentioned measures of CBR protection will get full significance, although their execution will be more complicated and connected with certain difficulties which should be kept in mind. For instance:

- establishing and marking contaminated soil is rendered considerably more difficult. Reconnaissance of such areas is by far slower and efficiency is lower. A partial solution is achieved by sending a CBR reconnoiterer to the lowest unit, by enforcing regular units with ABHC /atomic, biological and chemical/ units and by planning during the daytime;

- change or replacement and evacuation of units from contaminated areas are also rendered more difficult. Operation is performed by far more slowly while the danger of irradiation of men is by far greater. All this is true for detouring and overcoming contaminated areas. If overcoming is performed through already constructed passages, KZS /control protection service/ should be enforced and its organization should be adapted to night conditions.

- work of CBR units of defense, as a whole, is also rendered more difficult. Even during the daylight the directions of intervention should be established, as well as suitable places for work. Precautionary measures and the control of work are intensified.

These are some characteristics of night actions using CBR measures of protection to be kept in mind. Otherwise, procedures and tasks of branches and services as well as units of CBR defense are the same as if performed during daytime.

Planning of measures

It can be freely said that the planning of such measures is rendered difficult beforehand since it is not known where will the enemy use CBR combat means. This can only be guessed. Certain planning is possible only if contaminated areas are discovered beforehand. Conversely, this is decided in an actual situation.

When a contaminated area is discovered during the

combat, it is necessary to collect as soon as possible data about:

method and type of CBR combat means used;

size, intensity of radiation (or density of EOt contamination) of a contaminated area, and a possibility of its being detoured or overcome;

situation of a contaminated unit - dosage of received irradiation, or scope of EOt contamination, /number of/ killed, wounded, and the situation regarding means.

After such data are collected and on the basis of other elements of the situation, the superior decides which measures to use, and organizes its execution. All questions are decided upon verbally on the spot.

Role and task of organs and units of ABHO

Since an ABHO organ assists the commander it should be ready to explain the CBR situation at any moment. Moreover, on request or by own initiative, it should submit a realistic and appropriate suggestion for the use of ABHO units and action of other branches of the army. To be capable to comply with such a request it should permanently follow combat actions in general, and should follow and study enemy CBR actions. It should also collect data about consequences of enemy CBR actions by using CBR reconnaissance and other sources /of information/. Collected data are classified, analyzed and the results are reported to the commander or the chief of staff. In addition, its suggestion should indicate measures which should be undertaken by the units under CBR action or units which will be in action in that area. Suggestions submitted by ABHO organs should be based on a broad evaluation of the situation; they should be realistic and feasible. The commentary should be logical, persuasive and should show high degree of familiarity with the situation. After the commander makes his decision, and after the orders are received, he commands the units of CBR defense and gives them actual tasks. From the above mentioned, it is evident that to a great extent it depends on the organs of CBR defense which measures of CBR protection will be undertaken in actual situations. Thus, its role in general, and the execution of the mentioned measures in par-

ticular, is of decisive significance.

Since other branches and services are the basic organizers and performers of the mentioned measures, the actual task of units of CBR defense would consist of: - specialized reconnaissance of contaminated areas with the purpose of collecting necessary data which are of essential significance for arriving at the correct decision (which was already discussed in the previous section); building passages in contaminated areas and decontamination of men and materials in the case of units which are intensively and mass irradiated.

Finally, it could be freely concluded that CBR protection in future war actions will dominate as a whole, and that it will be given great significance. This is also true for the measures discussed in this article.

Although the discussed measures attempt to protect men and materials from unnecessary losses, they are at the same time of operative-tactical character since they are performed in accordance with the maneuver plan in a specified operative-tactical action.

END