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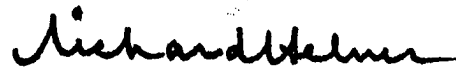
7 MAR 1962

MEMORANDUM FOR: The Director of Central Intelligence

SUBJECT : ARTILLERY COLLECTION: "The Working Out and
Conduct of Command-Staff and Tactical
Exercises with Missile Units and Large Units"

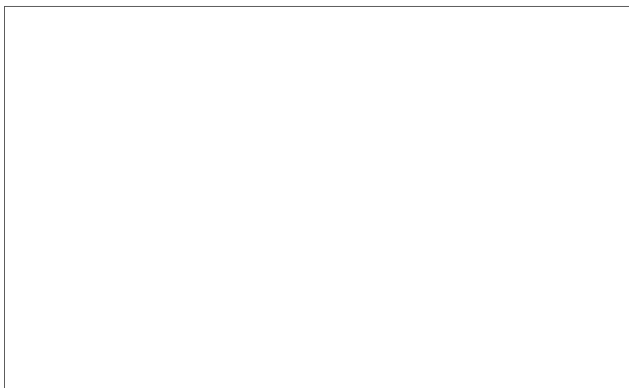
1. Enclosed is a verbatim translation of an article which appeared in a Soviet Ministry of Defense TOP SECRET publication called Information Collection of the Artillery (Informatsionnyy Sbornik Artillerii).

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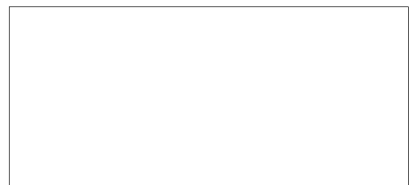


Richard Helms
Deputy Director (Plans)

Enclosure



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Original: The Director of Central Intelligence

cc: Military Representative of the President

Special Assistant to the President for
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The Director, Defense Intelligence Agency

The Director for Intelligence,
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SUBJECT : "The Working Out and Conduct of Command-Staff and Tactical Exercises with Missile Units and Large Units", Information Collection of the Artillery No. 49, 1959

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Following is a verbatim translation of an article titled "The Working Out and Conduct of Command-Staff and Tactical Exercises with Missile Units and Large Units" which appeared in Issue No. 49, 1959 of the Soviet military publication Information Collection of the Artillery (Informatsionnyy Sbornik Artillerii). This publication is classified TOP SECRET by the Soviets and originates with the Artillery Headquarters of the Ministry of Defense. It is printed by the Military Publishing House of the Ministry of Defense in Moscow. Dates of issue and other publishing data are not available.

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The Working Out and Conduct of Command-Staff and Tactical Exercises with Missile Units and Large Units

The working out and conduct of command-staff and tactical exercises with missile units and large units are fairly new, and the experience gathered in this sphere is for the time being insufficient. This article represents one of the first attempts to pass on to the troops the available experience in organizing and carrying out exercises.

The article does not claim to give an exhaustive treatment of the contents of the subject, and examines only individual aspects of this many-sided subject.

Since the readers are familiar with the general principles concerning the methodology of working out operational-tactical exercises, the article examines basically only specific features of the planning, the working out, and the conduct of exercises with missile units and large units.

* * *

In missile units and large units, both command-staff and tactical exercises can be carried out.

A command-staff exercise of a unit (large unit) can be carried out independently or simultaneously with a command-staff exercise of a combined-arms (tank) army of a military district. The commander and the staff of a unit (large unit) can work out the problems of control of the unit (large unit), directly subordinated to the troop commander (artillery commander) of a front or army.

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A command-staff exercise will achieve the required results to a large extent if it is carried out on the terrain with the use of the means of communication. At the location of a unit (large unit), staff training can be carried out as preparation for the exercise, including a sand table, without moving out onto the terrain.

Taking part in a command-staff exercise are the commander and the staff of a unit (large unit), the deputies of the unit (large unit) commander with their services, chiefs of services directly subordinated to the unit (large unit) commander, command subunits (podrazdeleniye upravleniya) and subunits.

On a command-staff exercise the commanders of missile units (large units) gain experience in making decisions in the combat employment of the unit (large unit) and in assigning tasks to their subordinates, in the organization and planning of combat operations of the unit (large units), in the organization of coordination with reconnaissance units (subunits) and troops, in the organization of supply of the unit (large unit) with special armament and special fuel, and the organization of repair and evacuation of special armament, as well as in control of the unit (large unit) during the course of the execution of combat tasks.

The staff of a unit (large unit) works out the problems of planning and organizing combat operations of the unit (large unit) and the assignment of tasks to the subordinates, the organization of control of and aid to the subordinates in the execution of the tasks, and ensures that the commander of the unit (large unit) has continuous control during the operation.

During the course of a command-staff exercise, the commander of a unit (large unit), the staff officers, and the chiefs of services acquire experience in carrying out their functional duties and the command subunits in ensuring the control of the unit (large unit).

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While at a command-staff exercise combined with other arms of troops, a considerable opportunity arises for thoroughly working out the problems of coordination in an operation, at an independent exercise of a unit (large unit) it is easier to master the particular features of its combat employment.

A tactical exercise of a unit (large unit) can be carried out jointly with troops as well as independently. In the latter case, the unit (large unit) carries out a one-sided exercise. At a tactical exercise, all facets of tactical preparation are worked out in the complex with the problems of fire control, special preparation and the supply of technical equipment (the supply of special armament, special fuel, and the repair of the special armament). In carrying out a tactical exercise the following are achieved: the operational training of NCO's and enlisted men within their subunits; the combat coordination of subunits, units and large units; and the training of the commanders and the staffs in the control of their subordinates when carrying out combat tasks. In the course of a tactical exercise, both the staffs and the subunits acquire skill in the sphere of planning the use of atomic weapons and operations in a complicated situation during a change of the positions they occupy under conditions of heated combat against enemy weapons of mass destruction.

A tactical exercise is conducted on the terrain in specific areas with the entire composition of the unit (large unit) taking part and with strict adherence to the requirements of secrecy. The number of missiles and the quantity of fuel must as far as possible be sufficient for carrying out the operation at both the technical and firing positions at the same time.

A tactical exercise of a unit (large unit) may commence from the line of march. The duration of the exercise depends on its aims and tasks. When carrying out the tasks without a change of the combat formation of the unit (large unit), the duration of the exercise may take up to 2 to 4 calendar days for a unit and 4 to 5 calendar days for a formation. If in the course of the exercise of the unit, a single change of the battle formation is envisaged, the duration of the exercise may increase from 4 to 5 up to 8 to 10 calendar days (depending on the type of missile in service with the unit).

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Field firing in the course of tactical exercises is carried out at special firing ranges. In the territories of military districts where firing ranges do not exist, the training of the unit (large unit) for carrying out a firing, ends at the starting up of the missile engine on its preliminary phase (predvaritelnaya stupen raboty) - "burn-out" ("prozhig") or with the readiness of the battery to fire (combat launching).

Composition of the Directing Staff of the
Exercise and the Functions of the Officers Concerned

Depending on the scale and aims of the exercise, the direction can be carried out by the artillery headquarters of the district or by the commander of a missile large unit.

The composition of the directing staff and the number of assistants of the director and umpires are determined by the type of exercise, the themes, the training aims and tasks of the exercise, as well as whether the exercise is carried out with a unit or a large unit. The directing staff is usually appointed from the composition of the staff officers directly subordinated to the director of the exercise. In order to strengthen the directing staff, the director of the exercise can get the required number of officers from the subordinated subunits, units, or staffs not taking part in the exercise.

The total number of umpires brought in for the exercise depends on the type and tasks of the exercise.

So, when conducting a tactical exercise with an engineer brigade, it is advisable to determine the composition of the umpires approximately as follows:

- with the commander of the brigade - one;
- with the chief of staff of the brigade - one;
- with the chief engineer of the brigade - one;

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- with every chief of a service - one each;
- with the battalion commander and his staff - one;
- with the battery commander - one;
- with the data-computing section (otdeleniye podgotovki dannykh), geodetic survey platoon (vzvod geodezicheskogo obespecheniya) and the mobile meteorological station (podvizhnaya meteorologicheskaya stantsiya) - one;
- with the two sections of the lateral radio-correction (bokovaya radiokorreksiya - BRK) system and the radio-technical station to check the accuracy of fire (when they are present in the brigade) - one each;
- for collecting the records (zachet) from the launch batteries and the technical battery - one umpire for each section of a launch battery and three umpires for each checkout section of the technical battery.

When carrying out a battalion tactical exercise it is advisable to appoint one umpire to each of the following: the data-computing section, the geodetic survey platoon, and the mobile meteorological station. For collecting the records on a tactical exercise of a battalion equipped with 8A61 missiles, it is advisable to appoint an assistant to the umpire for each section (platoon) of a launch battery, three assistants for a checkout section and one assistant to every team of the assembly and fueling section of the technical battery.

When carrying out a command-staff exercise, the number of umpires is determined by the complement of the staff and the command subunits taking part in the exercise, and will be considerably fewer than during a tactical exercise.

The functions of the officers directing an exercise are determined by the type and the scale of the exercise. The director of the exercise defines the aims of the exercise, personally elaborates or directs the elaboration of a tactical task, the plan of preparation, and the plan for the

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conduct of the exercise, prepares the directing staff and umpires, determines the materiel required, and organizes and checks the preparations of the staff of the unit (large unit) taken on the exercise.

When preparing a command-staff as well as a tactical exercise, the director defines the following:

- the training aims of the exercise, the particular tasks (training problems), and the sequence of their fulfilment;
- the commencement and duration of the exercise and the time for the critique;
- the composition and distribution of umpires;
- the exercise area and arrangements for its protection and maintenance of secrecy;
- the requirements in motor transport and POL.

When organizing a tactical exercise for a unit (large unit), the director of the exercise, besides the above points, also defines:

- the training tasks as regards firing and fire control, as well as tasks for the subunits (units);
- the proposed combat formation of the unit (large unit);
- the equipment issued to the unit (large unit) taking part in the exercise, including the means of checking the results of firing (at exercises with field firing);
- the arrangements for topographic, geodetic, and meteorological support;
- the arrangements for engineer support;
- the number of missiles and the required component parts, the expendable elements and special fuel components;

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-the requirements in hoisting transport, test-launching, fueling and other equipment, as well as the expenditure of the resources of the special assemblies equipment;

-the order of coordination with the staff of the firing range (when the exercise is carried out on the territory of a firing range with field firing).

During the period of preparation for a tactical exercise before its commencement, the director, together with the officers of the directing staff and the umpires, carries out a reconnaissance of the exercise area, in the course of which the following are defined more precisely:

-the concentration area of the unit (large unit);

-the siting area and the probable disposition of combat formation elements of the unit (large unit) with regard to observing the requirements for secrecy;

-the movement route of the columns and main routes for deployment of the unit (large unit) in the siting area;

-the location of the directing staff and the organization of communications with the umpires;

-the guarding of the exercise area.

When carrying out a tactical exercise on the territory of a firing range (with field firing), the reconnaissance is carried out with the representatives of the firing range. In this case, the director of the exercise defines in addition the area (areas) of the targets, the firing positions from which firing is permitted, and how the firing range services can be utilized (if firing is only permitted from fixed pads (statsionarnaya ploshchadka)), the deployment area for launch and technical batteries (if firing is permitted from field pads (polevaya ploshchadka)), the possibilities and the order of receiving special fuel and special armament from the firing range depots, the organization of communications for employing bilateral observation posts and reconnaissance aircraft to determine the results of the

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firing and intersection of the points of impact of the missiles, as well as security measures while carrying out the field firing.

In the course of the exercise, the director controls the work of the directing staff, his own assistants, and the umpires to ensure that all the assigned training targets and tasks are carried out by the unit (large unit) and he also assigns tasks to the subordinate commanders and checks, through the staff, with the assistance of the umpires and personally, that the commanders and the staffs have acted correctly and in good time, as well as the subunits (units) taking part in the exercise.

The directing staff of the exercise works out on the basis of the instructions given by the director, the concept of the exercise, the plan of the organization and preparation of the exercise, the reconnaissance plan for the exercise area, the tactical assignment and plan for the conduct of the exercise, and also carries out a check on the preparations of the staffs (of the subunits and units) and the umpires for the exercise.

When preparing an exercise the directing staff organizes the supply of the staffs (of the units) with maps of the exercise area, issues to the subunits the allotted special armament and special fuel, motor transport and the resources of the assemblies of special equipment (resursy agregatov spetsialnoy tekhniki), organizes the commandant's services in the exercise area and neutral communications, and works out the security measures and the maintenance of secrecy during the exercise.

In the course of the exercise the directing staff also carries out the arrangements normally made at any other exercises.

The general function of the umpires at the exercises is the creation of an instructive situation which would ensure the attainment of the assigned training aims and would assist the commanders and staff officers in making correct decisions.

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Besides their general functions, the umpires at missile unit exercises have to take into account the specific features of planning and employing missiles with atomic and conventional charges, particularly on such moving objectives as enemy missile launchers, a temporary concentration of his reserves, etc.

If at the exercise it is intended to work out the problems of the last minute reconnaissance of the objectives before delivering atomic strikes, fire control, the assembly and loading of atomic ammunition in the process of the operation, then the umpires must create a suitable training situation for this.

In the course of the exercise, the umpires must also see that the data for firing are correctly prepared, that orders are given properly and efficiently carried out, note the time taken and accuracy in carrying out the tasks, see that concealment is observed, check that the regulations on care and upkeep of combat equipment are observed and insist on the observation of security measures.

When at a tactical exercise the security measures are violated, the umpire suspends the work and immediately makes a report concerning this to the director of the exercise.

The preparation of the umpires for the exercise is personally carried out by the director of the exercise on a general basis.

Organization and Preparation of an Exercise

The theme of the exercise is determined in accordance with the combat training program of the units, as well as with the operational training program, taking into account the special features of the district concerned.

As a theme for an exercise, for example, the following could be chosen: "The operations of a missile unit (large unit) in an offensive (defensive) operation of a front (army)"; the theme for an exercise can be narrower problems,

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for example: the combat operations of a missile unit (large unit) to ensure the commitment into battle of the second echelon of a front; the operations of a missile unit in a meeting engagement; combat with enemy means of atomic attack, etc.

In accordance with the type of missile equipment available in armament, the unit can work out the theme of an exercise when operating under direct subordination to the artillery commander of a front or the artillery commander of an army.

The training aims and tasks are determined by the degree of preparedness of the commanders, the staffs, and the unit (large unit) as a whole, as well as by the place and role of the particular exercise in the general system of the operational-tactical and the combat training of the troops.

The following training aims and tasks can be set on exercises:

-to check the combat efficiency of the unit (large unit) and its readiness for offensive (defensive) operations;

-to train the unit's (large unit's) personnel for operations during a march, when deploying into combat formation, when preparing for fire and when firing;

-to perfect the skills of the commander, the staff of the unit (large unit) and the commanders of the subunits in controlling the subordinated units (subunits) on the march, when deploying into combat formation, and when carrying out combat tasks;

-to train the personnel in the operations required for the elimination of the consequences of an enemy atomic attack, etc.

After determining the theme and the training aims and tasks of the exercise, the director defines more exactly the period of time and the area of the exercise, based on the operational and combat training plan, and on the organizational instructions.

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On the basis of the instructions of the superior headquarters concerning the supply of technical equipment for a tactical exercise, the director and the directing staff allocate the resources issued (special armament, special fuel, motor transport and POL) among the subunits, and if necessary prepare a requisition giving details of the time and place for delivery of the special armament and special fuel. The quantity of material-technical equipment released may influence the working out of the concept and the plan for carrying out the exercise (with very minimum means, the subunits will take part with reduced personnel, particularly in the technical battery and the transport battery, special training tasks can be carried out by several subunits and units using a limited number of missiles, and so on).

The preparation for an exercise by the directing staff is carried out in advance and usually includes the following:

- the instructions of the director of the exercise to the staff on the organization and working out of the exercise;

- the reconnaissance of the earmarked exercise area and the movement routes;

- the working out of the exercise (the formulation of the concept and tactical task, the plan for carrying out the exercise, and the preparation for the critique);

- the engineer, topographic and geodetic preparation of the exercise area;

- the determination of the composition and the tasks of the umpires as well as the preparation of the directing staff and the umpires for the exercise;

- the preparation of material-technical equipment;

- the organization of neutral communications and secret registry;

- the preparation of the unit (large unit) taking part in the exercise.

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The tactical concept of the exercise is worked out by the directing staff and is confirmed by the senior artillery commander (artillery commander of the military district, chief of the firing range).

The tactical concept of an exercise usually provides the following:

- the general aim of the operations and combat tasks of a missile unit;
- the phases of the exercise, their duration and depth;
- the approximate position of the two sides, the adoption of combat formation and the fire tasks to be performed by the unit (large unit) in phases;
- the tentative rates of advance and the movement of the unit (large unit) during the attack.

The general aim of the operations and the combat tasks are set in accordance with the theme and training aims of the exercise. The nature and the content of the fire tasks are determined by the instructions of the firing course and of the director of the exercise (when carrying out field firing they should be coordinated with the chief of the firing range).

When determining the phases of the exercise and their duration, it is necessary to follow the training aims (tasks) of the exercise, the instructions of the firing course as to the time required for working out firing and fire control tasks as well as the operational-tactical standards of missile units.

For example, the tactical exercise of a unit (large unit) can be conducted in the following three phases: the alerting (podyem) of the unit (large unit) and the preparation for executing combat tasks; the selection and equipping of combat formations, the deployment into combat formation, the organization of fire control during the artillery preparation for an attack; fire control and control of the maneuver of the unit (large unit) in the course of the offensive operation.

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The training problems are determined by phases of the exercise and depend on the aims of the exercise.

To the basic training problems which are worked out in the course of an exercise, the following, for example, can pertain:

-the alert of the unit (large unit) and its move to the assembly area;

-the working out of a decision by the commander of the unit (large unit) and planning the combat employment of the unit (large unit);

-the organization of the reconnaissance of the movement route (routes), the siting area, the detraining station, the depots for special fuel and the preparation of the siting area from the engineer, topographic and geodetic points of view;

-the march of the unit (large unit) and the deployment into combat formation;

-the technical preparation of the missiles at the technical and firing (launching) positions;

-the control of the unit (large unit) when carrying out planned and unplanned tasks (in the second and third phases of the exercise);

-the control of the unit (large unit) when changing locations in the course of the operation;

-the elimination of the consequences of an enemy atomic attack on the positions of the unit (large unit) in the second or third phase.

After defining the training aims, the phases of the exercise and the training problems, the directing staff must assign the fire tasks (planned and unplanned) for the unit (large unit) according to the phases of the exercise and the expenditure of missiles required for them. When determining the expenditure of missiles, it is necessary

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to separate the targets on which field rounds ("burn-outs") are fired, and the actual expenditure of missiles and special fuel. As basic fire tasks, the following can be considered, for example: the destruction of enemy means of atomic attack (one planned and one or two unplanned targets), the destruction of enemy reserves, command posts, and airfields during the period of the artillery preparation (counterpreparation), the destruction of railheads, airfields, ports, supply bases, and other objectives in the course of the operation (in each phase one or two planned targets per unit and one unplanned target). In order to create the most instructive situation, it is advisable before carrying out a combat task to provide for the substitution of some targets for others (the objective has changed its location or stopped functioning, a more important objective has appeared, and so on).

It is advisable to do the subsequent working out of the tactical concept on a map. At the same time, if the exercise (tactical or command-staff) is conducted on the terrain, on the territory of a firing range or a military district, the routes for the execution of the march and the exercise area are determined in accordance with the instructions of the senior commander and in agreement with the local authorities.

The practical work of drawing up the concept on a map can be carried out in the following order:

-assign the axis route for moving the unit (large unit) to the siting area and for its movement during the exercise;

-evaluate the exercise area and assign the siting areas with the following distances between them: in defense, 50 to 80 km; in offense, 100 to 120 km (when using missiles with atomic warheads for part of the subunits, 50 to 60 km);

-assign the lines of our troops and of the enemy in the initial position for the exercise;

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-define the zone of the offensive (defense) of the army and front, and the immediate and subsequent tasks (the depth and the zone of defense), as well as the lines of defense of the enemy, taking into account the subsequent lines of deployment of a unit (large unit) of missile artillery;

-assign the position of friendly troops and of the enemy for each phase and training problem (the location of the unit and large unit when working out the training problems);

-determine the capabilities of a unit (large unit) of missile artillery in carrying out the fire tasks from every position, and assign the objectives for destruction, the times and duration of their subjection to strikes, as well as the expenditure of missiles.

The movement of a unit (large unit) during an offensive affects its capabilities of conducting fire, so both these problems must be coordinated.

When planning the movement of a unit (large unit) during an offensive, it is advisable first of all to define the tasks (lines), for the carrying out of which it is essential to have a unit (large unit) in readiness to open fire from a new area, a siting area, a time for movement and the line on which the movement should begin when reached by our troops. And then, in accordance with the above-mentioned problems, there should be noted or given in detail the movement route, the time of readiness to open fire from the new siting area, sequence of the anti-aircraft artillery cover during the march and at the new siting area, as well as the railheads (depots) for supplying the unit (large unit) with special armament and special fuel.

The movement of the unit (large unit), the position of our troops and enemy objectives, as far as time is concerned, are defined on the basis of the established (assigned) rates of advance of our troops (enemy troops).

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The tactical task is the main document on which the commanders and the staffs of the subunits and units can work during the initial period of the exercise. The task must show all the necessary data for the operations of the commanders and the staffs on the exercise. The formation and the contents of the task depend on the theme of the exercise, and the training aims and conditions under which it is decided to begin the exercise. So, if the tactical exercise of a unit (large unit) begins after an alert and the time is limited for preparatory measures to be taken, the tactical task may simply consist of the battle orders of the senior artillery commander (the artillery commander of an army or a front) and reference data.

When conducting a command-staff or tactical exercise under the conditions of the deployment of the unit (large unit) from the area in which it was located, the tactical task usually includes an orientation of the situation, information on the state and location of the unit (large unit), the tasks of the senior commander, and reference data.

When conducting an independent tactical exercise with a unit (large unit), it is advisable to state the following basic problems in the tactical task:

- Section I - The general situation at the beginning of the exercise (information on the position, state, and nature of the operations of our troops and those of the enemy before the start of the exercise).
- Section II - The local situation (the disposition of the unit, information on its subordination, whether at full strength, supplies, etc.).
- Section III- The tasks of the unit (large unit).
- Section IV - Information on the tasks and the capabilities of the attached weapons, on the tasks of the units and large units coordinating in the destruction of the same objectives.

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Section V - Reference data (on the weather conditions, on the rising and the setting of the sun, about the state and load capacity of bridges and roads, the conditions of rivers, and so on) as well as instructions on the preparation of the participants in the exercise.

The following are issued as appendices to the task: planning documents and extracts from documents of the higher headquarters which are essential for the work of the participants in the exercise (the firing chart - grafik ognya) or an extract from the firing table, a list of coordinates of the control points of the geodetic grid, extracts from the plans for sending transports with the special armament and special fuel, etc.) as well as diagrams and information on the situation.

In the plan for conducting the exercise the following points can be included:

- the theme and training aims of the exercise;
- the area and the duration of the exercise;
- the phases of the exercise, training problems and the time allotted for working them out;
- the combat (firing) tasks of the unit (large unit) when dealing with the training problems, and the expenditure of missiles (the number of missiles being prepared at the technical and firing positions) in carrying out these tasks;
- the operational and sidereal times when completing the training problems and the content of the introductory data (vvodnyye) according to these times;
- the operations of the director and the umpires;
- the trainees' sample solutions.

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In the plan for conducting the exercise it is necessary to show in each phase (training problem) the decision of the combined-arms commander and the general situation, with the nature of the operations of enemy and friendly troops. The introductory data showing the decision of the combined-arms command and the general situation, as well as the introductory data for working out particular training problems must only give the concept of the decision or the general principle of the situation. The accumulation and making more precise of such introductory data is done by the umpires in the course of the exercise, based on the further instructions given by the director and on the general concept of the exercise.

In isolated cases on the most important problems (mainly those that have not been worked out), detailed introductory data with an alternative solution can be given in the appendix to the exercise plan in written form or as a diagram with a legend. The sequence of carrying out the basic measures must be defined in the exercise plan (in the text or in the appendices): the time and the place for handing over the task, as well as the time and the place for hearing the decision (order) of the commander of the unit (large unit); the time of the move of the unit (large unit) to the exercise; the period of time of return to the location area, the time and the place of the general critique of the exercise; the measures as regards cryptographic control and the procedure of using the neutral communications, the location of the directing staff and the sequence of its moves.

The preparation of the exercise area will only be required when carrying out a tactical exercise with a unit (large unit). The main attention is then given to the engineer and the topographic and geodetic preparations.

The engineer preparation of the exercise area is organized in accordance with the formed situation and includes the preparation of the roads for executing the march and the cross-country routes for moving the unit (large unit) to the siting areas. When preparing the roads and the cross-country routes, the following work must be

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carried out: increase the turning radius as required (not less than 15 meters), flatten the gradient and slope of the roadbed to meet the technical requirements of the combat equipment used in the exercise, and increase the width of the roadbed, especially on curves. On routes where bridges and marshy sectors are encountered, it is necessary to check the load capacity of the bridges and strengthen them to the requirement (40 tons) and construct corduroy roads with surfaces of sand or crushed rock on the marshy sectors of the road.

The experience of exercises shows that engineer preparation of an exercise area with difficult terrain conditions and limited resources may take up to one month.

The topographic and geodetic preparation of the exercise area consists of marking the available points on the terrain of the State geodetic grid (the restoration of destroyed marks, pyramids, etc.) and in the development of the special geodetic grid up to the density of 1 control point (opornaya tochka) for not more than 20 square kilometers. The points of the special geodetic control grid (opornaya geodezicheskaya set spetsialnogo naznacheniya - OGSS) must also be marked on the terrain with conventional signs. The extent of the topographic and geodetic preparation in the exercise area is defined more exactly by the directing staff after studying the State geodetic grid catalogue of control points and the reconnaissance of the area.

The subunits of the military topographic service of the military district headquarters (firing range) are detailed for carrying out the topographic and geodetic work in the preparation of a siting area and platoons of the geodetic support of missile units not taking part in the exercise can be detailed. It may take from one week to a month to carry out the work of geodetic preparation of the exercise area, depending on the number of siting areas selected for deployment and on the means employed.

When carrying out an exercise with field firing, it is necessary to provide for the preparation of the firing range and the appropriate target situation in which tasks can be given on the destruction of enemy weapons of atomic attack, control elements, reserves, and other important enemy targets.

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Preparation of a Unit (Large Unit) Taking Part in an Exercise

A unit (large unit) taking part in a tactical exercise must complete all of its preparation by the start of the exercise. Before the commencement of a command-staff exercise, the individual preparation of the staff officers and the subunits taking part is completed.

The preparation of a unit (large unit) or a staff for an exercise includes:

-the theoretical training of the enlisted men, NCO's, and officers (the study of the necessary sections of the instructions and directions, the firing courses and regulations);

-the practical training in studying functional duties, and acquiring skill in carrying out their duties (work on special and technical preparation, calculation of the essential data, and working out combat documents, etc.);

-increasing the efficiency of the subunits and the staffs (staff training, work on fire and technical preparation among the subunits, etc.).

Besides the above-mentioned measures, it is necessary to complete the preparation of technical equipment with the carrying out of the necessary repairs of combat equipment and the replenishment of the reserves to their established levels before the start of the exercise.

To check the readiness of the unit (large unit) or of the staff before the move of the unit to the exercise, it is advisable to bring in the umpires, who determine the state of the equipment, the strength and training of the personnel, etc. Any deficiencies disclosed must be rectified in a time set by the director of the exercise. Before the start of the exercise, the director of the exercise must check the state of the unit (large unit, staff) taking part and must be convinced that by its preparation and material-technical equipment, the subunits and the staffs are capable of carrying out the tasks that confront them in the course of the exercise.

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The Conduct of an Exercise

Depending on the type of exercise and the training aims, tactical and command-staff exercises can begin with the handing over of the tactical task or on an alert of a unit (large unit), and is carried out continuously in the course of a specified time.

If in the course of a tactical exercise it is intended to check that the subunit is fully mobilized and prepared (mobilizatsionnaya gotovnost) and functions smoothly, it usually begins with the alert of the unit (large unit) and its move to the assembly area, after which the tactical task or a battle order from the senior commander is handed over to the commander of the unit (large unit).

A command-staff exercise and a tactical exercise where the checking of the alerting of the unit (large unit) on receipt of an alarm is not intended, begins, as a rule, with the handing over of the tactical task, in which the time must be stated when the staff or the unit should adopt combat formation or be in the concentration area.

After the transmittal of the tactical task, all the subsequent work on directing the exercise is carried out according to the exercise plan. The plan worked out before the start of the exercise is elaborated in the course of the exercise in accordance with the decisions of the commanders and the staff officers.

The director of the exercise elaborates the exercise plan, usually by phases, after acquainting himself with the decision of the commander of the unit (large unit) and passes these details to his assistants, the officers of the directing staff and the umpires. The elaboration of the exercise plan is given by the director at periodic meetings of the umpires or personally during the course of work through the staff officers or through the existing channels of communication.

During the course of the exercise, the director and the umpires continuously add to the situation and complicate it, causing great pressure in the trainees' work.

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Besides the introductory data which determine the preparation and carrying out of the combat tasks, the director and the umpires must provide introductory data for organizing and carrying out measures of combat security as, for example, for subunit (unit) operations against attacks by enemy sabotage detachments, against air attacks, and the contamination of the siting area (fully or partly) by toxic and combat radioactive substances. The nature of the introductory data must complicate the work of the personnel under training but must not disrupt the carrying out of the projected training tasks.

If, for example, in the course of the exercise it is intended to work out the carrying out of a new firing task with a move of a missile unit from an area contaminated with toxic substances, then the introductory data on the enemy chemical attack must assist the personnel under training in taking just this decision.

When the instructions in the introductory data give larger areas of contamination than are necessary for completing the problem given, then the trainee may make the decision to change the combat formation of the whole unit.

This decision, although perfectly correct according to the introductory data, will mean, however, that the training problem will not be worked out.

In other words, the contents of introductory data must assist in working out the main problems assigned in the course of the exercise.

The umpires with the launch and technical batteries must in the course of the exercise provide introductory data in which certain instruments (assemblies) of the missile and the aggregates of ground equipment are notionally out of order. As a result of such introductory data, the commanders of the subunits must make their own decision on the replacement of the instruments (assemblies) by their own forces from the spare parts reserves (ZIP) or organize their repair by the repair workshops of the unit (large unit). On arrival at the repair workshops, the assemblies and the aggregates that are notionally out of order are

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thoroughly inspected. The personnel of the repair workshops replace these assemblies and get ready to repair them. The umpires check the organization of the technology of the repair process for the individual assemblies and aggregates. The notional unserviceability of instruments (assemblies) of the missiles and of the aggregates of ground equipment must be coordinated with the exercise plan and exclude the disruption of the basic arrangements limiting the course of the exercise: (the readiness of the unit to fire, or the periods of "burn-out", the start of the move to a new siting area, etc.). The notionally unserviceable instruments (assemblies) and aggregates are brought into operation after their "repair" or by the beginning of the next training problem.

In the course of the exercise it is essential to see that documents are passed to the higher staff in good time, and that subordinates receive their tasks in time, as the preparation of the missiles for firing takes considerable time.

The location of the directing staff and umpires' organization during the exercise is determined by the type of exercise, the problems to be completed, and the local conditions.

It is advisable to end a tactical or a command-staff exercise by creating a situation which completes the tasks previously given, and which requires a transition to another type of combat operation (from defense to the offensive, from the offensive to pursuit) or to the regrouping of the unit (large unit) on a new axis.

All the elements of engineer preparation of a unit's combat formation prepared (dugouts and trenches for the aggregates of the ground equipment, cable-net trenches, shelters, etc.) must be thoroughly filled in after the end of the exercise or in the course of the exercise after changing positions.

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The Critique and Report on the Exercise

A critique completes a tactical or command-staff exercise. During the critique, the exercise is summed up, the operations of those taking part are evaluated, tasks are laid down to perfect the combat training of the unit (large unit), with regard to the experience of the exercise, and problems for research (experiment) and improving the efficiency of the subunits and the staffs are formulated. The critique of an exercise has, therefore, great educational and training significance, and requires thorough preparation.

The preparation for the critique begins at the same time as the working out of the plan for conducting the exercise. Moreover, even before the beginning of the exercise, in the materials for the critique the general aims of the exercise are shown, the principal theoretical tenets for the operations of the troops and the unit (large unit) according to the theme of the exercise, are set out, the training aims and the tasks of the exercise are given, as well as the tactical situation for the operations of the troops and missile unit (large unit).

The directing staff prepares diagrams of the general and local situations, in which it is intended to carry out the basic tasks of the exercise.

An appraisal of the work of the commanders, the staffs, and the subunits, as well as an evaluation of the execution of the task and the exercise as a whole, is made on the strength of the reports of the umpires, the personal observations of the director of the exercise, and the officers of the directing staff.

Based on the reports of the umpires and the documents of the staffs taking part in the exercise, the directing staff prepares the material on the operations of the unit (large unit) during the exercise (diagrams, tables, graphs, etc.).

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The basis for determining the unit (large unit) evaluation for the exercise are the efficiency record cards (kartochka slazhennosti) of the subunits (unit exercise record cards) and the evaluation of the work of the commander, the staff, and the services of the unit (large unit).

In the efficiency record cards of the subunits an evaluation is given of special and tactical training, with indications of the positive and negative sides of the exercise, the reasons for shortcomings, and also recommendations for their elimination. The general evaluation of the efficiency of the subunit is determined on the basis of the evaluation of tactical and special training.

In the unit (large unit) exercise record card the conditions of carrying out firing tasks are shown, an evaluation is made of how the firing tasks and the tactical tasks were carried out, and a general evaluation of the exercise made out on the basis of the evaluation for carrying out the firing and tactical tasks. Besides this, the degree of efficiency in carrying out tasks, the positive and negative sides of the exercise, the reasons for shortcomings, the conclusions of the director of the exercise, and the observations of the senior commander are recorded in the exercise record card.

The critique of the exercise is carried out after processing and analyzing the exercise material in the exercise area or upon the return of the staff (unit, large unit) to their own locations. General and particular critiques are carried out with the personnel that have taken part in the exercise. The officers brought in for the general critique of the exercise are selected by the director of the exercise. When carrying out a command-staff or a tactical exercise of a unit, all officers taking part in the exercise are brought in for the general critique.

When carrying out a tactical exercise of a missile large unit, the general critique is attended by officers up to and including the commanders of subunits (batteries) and their equivalents.

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At the general critique the director of the exercise gives an account of the problems in the same sequence as on all exercises: at the same time as showing the aims of the exercise, clarifying the training tasks and analyzing the actions of the commanders and the staffs, specific examples are given of how the preparation of the missiles for firing was carried out, how quickly the special ammunition was assembled, to what extent the combat formation adopted was satisfactory for timely execution of the tasks, in what sequence the preparation for opening fire was carried out in the course of the operation for the destruction of enemy means of atomic attack, how accurate were the strikes on the reserves moving up, how amendments were introduced into the original plan for the employment of atomic weapons in connection with the alteration of meteorological conditions and the operational and tactical situation.

The problems suggested for the critique can be considerably altered, depending on the assigned training aims set for working out on the exercise. Only one thing is important: at the critique, the main attention should be given to the special problems without which the unit cannot successfully carry out its combat tasks.

In the course of the critique, the director of the exercise can cite examples of the operations of missile units (large units) taken from the experience of previous exercises.

The critique is carried out separately with the enlisted men and NCO's. These critiques are carried out by the director of the exercise or he instructs his assistants or the commanders of the subunits to do so. Such a critique of general problems must give an analysis of the special preparation, the efficiency of the various subunits, and the knowledge of their equipment exhibited by personnel.

Based on the conclusions on the exercise and the instructions of the director of the exercise, the commander of the unit (large unit) issues an order giving the achievements and failures revealed during the exercise and the measures to eliminate the shortcomings in combat training.

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The report on the exercise is usually compiled by the directing staff on the order of the senior commander, so that the experience acquired can be disseminated for use in training other missile units (large units), as well as to familiarize the officers of the central directorates and military schools of the Ministry of Defense, who make use of them in the course of their duties.

The report shows the theme, the training aims and the tasks of the exercise, the time and the place of the exercise, the subunits (units, large units) and the staffs taking part, the organization of the directing staff and the umpires, and the organization, planning, and the material supply of the exercise.

The report contains an analysis of the decisions of the sides, the course of the exercise, the operations of the commanders, the staffs, and the units taking part in the exercise, the quality of planning is determined and the degree of training and combat preparedness of the missile unit, conclusions are made on the exercise conducted, and the measures which will be necessary to execute to eliminate the defects revealed, as well as suggestions on new ways and methods of the combat employment of units or of their organic organization are outlined. The report may contain suggestions for improving organization and for carrying out similar exercises.

Appropriate maps, diagrams, and copies of individual documents deserving attention and study must be attached to the report.

After reviewing the general principles of the organization and method of carrying out exercises with missile units, a concrete example for working out such an exercise is given. This example is given for one particular problem and not all the problems examined in it are set out exhaustively or in full.

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An Example of Working Out a Concept and Plan for Conducting a
Tactical Exercise of an Independent Engineer Battalion (Divizion)

Let us suppose the artillery commander of a district has decided to carry out a tactical exercise with one battalion of an engineer brigade of the Reserve of the Supreme High Command (RVGK) on the theme of "Operations of an Independent Engineer Battalion in an Offensive Operation of an Army in the Initial Period of a War". In the course of the exercise (see sketch) the task set is to work out the march and deployment of the battalion, to plan the combat employment of the battalion, and to control it in an attack with a change of its combat formation. The area of the exercise - (env.) Brussow, (env.) Furstenberg, (env.) Bad-Wilsak, (env.) Perleberg, (env.) Mirow, Ferdinandshof. The route of the movement: Dobrzany, Stargard, Szczecin, Pasewalk, Strasburg, Strelitz, Wittstock, Dannenwalde. The commander of the engineer brigade of the RVGK is appointed director of the exercise. The security of the exercise area is the responsibility of the director of the exercise.

The elaboration of the task and plan of the exercise is entrusted to the brigade commander.

The 1st Independent Engineer Battalion, billeted at Karwitz, of an engineer brigade of the RVGK, is selected to take part in the exercise. The battalion concentration and assembly area after an alert is a forest east of Dobrzany. The battalion is at 90 percent strength for personnel and 100 percent for equipment. One launch battery is equipped with the launching assembly 8U218, and the other launch batteries with launch platforms (stol) 8U28 and tracked erectors 8U27. The technical battery and all the launch batteries have standardized equipment for checkout and preparation for firing of missiles 8A61 and 8K11.

The battery possesses three combat training missiles 8A61 and one combat training missile 8K11 (without a special charge).

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The training aims of the exercise can be defined as follows:

-checking the combat efficiency of the battalion and its subunits, and their readiness for combat operations in the initial period of war;

-the training of the personnel of the battalion in carrying out a march, in deploying into combat formation, and in preparing to fire in a short period of time;

-perfecting the expertise of the battalion commander, and the commanders of subunits in controlling the subunits on the march, while deploying into combat formation and in the course of carrying out their combat tasks;

-perfecting the expertise of the commander and the staff of the battalion in the control of a maneuver of the battalion while carrying out its combat tasks.

For firing and the control of fire, it is intended to work out tasks 3D and 4Da in the firing course (applicable to a battalion equipped with 8A61 and 8K11 missiles).

When working out the exercise and in the course of it, provision can be made for carrying out of the following training tasks:

-an alert and the move to the assembly area;

-reconnaissance of the movement route and the siting area, engineer preparation and geodetic support for firing (to carry out this training problem it is advisable to create a situation in which the battalion arrives from the depth of the country, is unfamiliar with the terrain and so has not carried out any work in the preparation for deployment);

-a march of the battalion and the deployment into combat formation;

-the planning of the combat employment of the battalion;

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-the technical preparation of the missiles and the control of the battalion when carrying out its combat tasks;

-the reconnaissance of new siting areas, the routes for movement and the control of the battalion when moving to new siting areas;

-the deployment of the battalions in the new siting areas and the carrying out of combat tasks;

-the elimination of the consequences of an enemy atomic attack and the restoration of the combat effectiveness of the subunits of the battalion.

It is advisable to plan the exercise to last 6 calendar days with the following times:

start	- 17.7;
end	- 22.7;
critique of the exercise	- 24.7.

Officers of the 2nd and 3rd Engineer Battalions should be detailed as umpires, so that the other units of the brigade should get the greatest benefit from the experience of the exercise being conducted.

When working out the concept of the exercise, the move of the unit (battalion) in the first period of the exercise to temporary positions with a subsequent move of the battalion during the exercise can be considered: one launch battery to move in two bounds of 50 to 60 km each and the main body of the battalion in one bound of 120 to 130 km (the depth of the exercise area).

To prepare and carry out the exercise it will be necessary to detail:

-for the disposal of the directing staff:

-a brigade HQ's battery (to organize command communications and neutral communications, guards and defense of the headquarters);

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-a platoon of geodetic support of the 3rd Battalion (as part of the geodetic detachment to check the geodetic work being carried out);

-part of the brigade motor transport platoon (for transporting the directing staff and the umpires);

-an administrative platoon;

-a detachment for guarding the exercise area (personnel to be detailed from 2nd and 3rd Battalions);

-at the disposal of the 1st Battalion's commander:

-a platoon of geodetic support of the 2nd Battalion (as part of the geodetic detachment assisting in the topographic and geodetic preparation of a combat formation in the initial period of the exercise);

-a repair workshop for special armament of the brigade commanded by the deputy for special armament of the 3rd Battalion (for notional operation as a mobile repair-technical base (podvizhnaya remontno-tekhnicheskaya baza - PRTB)).

The engineer preparation of the route is to be carried out by the forces and means of the combat engineer (inzhenerno-sapernyy) platoons of the 2nd and 3rd Battalions, operating as the engineer siting company (inzhenerno-pozitsionnaya rota) of the front, to be completed by 10.7. The geodetic preparation of the exercise area: checking of the points of the State geodetic grid (GGS) and the creation of a special geodetic control grid (OGSS) in the siting areas to be carried out by the forces and means of the platoons of geodetic support of the 2nd and 3rd Battalions operating as sections of the front geodetic detachment, all work to be completed by 12.7.

The requirements for special armament and special fuel, motor transport, POL, and other resources must be worked out by the directing staff in conjunction with the chief engineer, the commander of the rear and the commander of the technical unit by the end of 3.7. A detailed requisition with calculations must be prepared for submission to the district headquarters by 4.7.

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To support the work of the technical and launch batteries, the battalion is to be issued with six combat training missiles 8A61 and 8K11 with the necessary complete set of equipment, spare parts, and special fuel. The shortage of missiles can be made up for the period of the exercise from the 2nd and 3rd Battalions.

The exercise is to be carried out using maps with the scale of 1:200,000, 1:100,000 and 1:25,000.

Let us examine the working out of the tactical concept of the exercise by using a definite example.

1. The evaluation of the exercise area and the selection of areas of deployment. The exercise area has a depth of 150 km. Taking into account the instructions of the director of the exercise, assign the following: siting area No. 1 (env.) Schoenhausen, (env.) Torgelow, (env.) Pasewalk; the temporary firing positions are 15 to 20 km south of this area (in the woods southeast of Pasewalk); siting area No. 2 for the deployment of one launch battery in the forest southeast of Strelitz (at a distance of 55 to 60 km from area No. 1); siting area No. 3 for the deployment of the entire battalion (env.) Pritzwalk, Garz, (env.) Blumenthal (at a distance of 120 to 130 km from area No. 1).

Siting area No. 1 (the initial position for the attack) is selected on the flank of the main grouping of the army; siting area No. 2, in the area of the forward edge of our troops or in the immediate depth of the enemy disposition; siting area No. 3, in the direction of the main strike of the army troops (on the flank the troops of the army may lag behind in the forward movement).

2. The concept of the operations of our troops. The troops of the army carry out an offensive operation in the initial period of the war. In these conditions one can take the rate of advance as 50 to 70 km per 24-hour period, the depth of the operation as up to 200 to 250 km, the duration of the operation as 4 to 5 calendar days, and the width of the zone of the attack as 130 to 150 km.

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The initial position of our troops for an offensive is taken to be at a distance of 30 to 50 km from siting area No. 1. With a depth of 210 to 250 km for an offensive operation, it is necessary to plan one more move for the battalion in order to support the subsequent offensive operation of the army (the second move should only be considered when planning combat operations).

The dividing lines of the army, the initial position, the tasks of the troops in the operation and the grouping of forces are shown in the sketch-plan of the exercise (see sketch).

3. The concept of enemy operations. The enemy forestalls our troops in their deployment and begins combat operations 1 to 2 calendar days earlier.

Taking into account the aggressive operations of the border troops and the delivery of a counterstrike, as well as the nature of the terrain, the advance of the enemy into the depth of our disposition is to be limited to 40 to 60 km. Therefore, the nominal demarcation line (national frontier) should be fixed 40 to 60 km from the selected initial position for the attack of our troops.

The initial position of our troops for the offensive is shown as the line of deployment of the main forces and is planned in accordance with the decision of the army troop commander in the depth of his disposition, in case the enemy forestalls our troops in deployment at the beginning of military operations.

Assign the lines of defense in the depth of his territory taking into account the nature of the terrain, their distances from each other and the distance from the nominal demarcation line, the periods of readiness of the independent engineer battalion from the new positions (see sketch), as well as mutual relation with the tasks of the army (see sketch).

The likely objectives of destruction for the battalion can be the means of atomic attack ("Corporal", "Redstone", "Matador"), the reserves and the control points, as well as fixed installations (the railway stations of Uelzen, Lueneburg, Rotenburg, [two or three place names missing] Hamburg, Bremen, Oldenburg, the ports of Wesermuende, Wilhelmshaven).

* * *

When working out the exercise it is advisable to calculate the periods of time for carrying out the tasks to conform with the concept and scope of the offensive operation, and also, taking into account the possibilities of moving the missile artillery. The prescribed timing is shown below in the form of a table.

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4. Periods of time for carrying out the tasks and the position of the independent engineer battalion. During the period of the exercise it is light at 0500 hours and dark at 2000 hours.

Designation of tasks (measures)	Depth of task (distance of bound) in km.	Time taken in carrying out the task	Operational time
<u>(a) Operations of army troops and of the enemy</u>			
1. Enemy commenced military operations	-	-	0300 17.7
2. Army troops go over to the attack	-	-	0430 19.7
3. Move of the army troops to area No. 3	80-90	30-36 hours	1200-1500 20.7
4. Carrying out of the first task	110-125	2 calendar days	Morning (0600) 21.7
5. Move of the army troops to area No. 4	120-130	2 calendar days	Morning 21.7
6. Move of the army troops to area No. 5	200	3-4 calendar days	Morning 22 to 23.7
7. Carrying out the subsequent task	210-250	4-5 calendar days	Morning 23 to 24.7
<u>(b) Operations and position of the 1st Independent Engineer Battalion</u>			
1. Alert of battalion and move to assembly area	-	-	0200 17.7
2. Reconnaissance of siting area No. 1	110-120	3 to (6-8) hours	by the end of 17.7

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Designation of tasks (measures)	Depth of task (distance of bound) in km.	Time taken in carrying out the task	Operational time
3. Move of battalion to siting area No. 1 & part of the launch batteries to temporary firing positions	110-120	5 to 8 hours	from 2030 17.7 to 0430 18.7 (technical battery by 0200 18.7)
4. Readiness of the battalion to conduct fire (deployment & technical preparation of the missiles).	-	10 to 12 hours	by 1600 18.7
5. Reconnaissance of siting area No. 2	60-70	2 to (4-6) hours	by the end of 19.7
6. Move of one launch battery to area No. 2 and its deployment	60-70	5 to 1 hours	from 2030 19.7 to 0300 20.7
7. Reconnaissance of siting area No. 3	-	4 to 6 hours	up to 2030 20.7
8. Move of the battalion to area No. 3 and its deployment	130-140	(6-10) + 1 hours	from 2030 20.7 to 0800 21.7
9. Reconnaissance of siting area No. 4	-	3 to 4 hours	21.7
10. Move of one launch battery to area No. 4	50-60	(4 1) hours	from 2030 21.7 to 0200 22.7
11. Reconnaissance of launching area No. 5	-	4 to 6 hours	22 to 23.7
12. Move of the battalion to area No. 5 and its deployment	120-130	(5-8) + 1 hours	from 2030 22 (23).7 to 0600 23 (24).7

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- Notes:
1. The planned speed for the move: Motor convoys - 25 kph; tracked vehicle convoys - 15 kph; for deployment and preparation for firing of aggregates on tracks - 1 hour.
 2. The launch battery from areas No. 2 and 4 correspondingly moves to areas No. 3 and 5 after the battalion's deployment there.
 3. The operations of the army troops and the battalion from the morning of 21.7 are played out without moving the battalion (when it is located in siting area No. 3).

In the course of the move, the battalion as a whole or one launch battery must be ready to conduct fire while the troops are moving up to the lines:

-siting area No. 2 (to be ready 0300 20.7; the troops have been advancing for 24 hours and have covered 50 to 70 km) Teterow, Wittstock, Rhinow;

-siting area No. 3 (to be ready 0800 21.7; the troops have been advancing for more than 48 hours and have covered 110 to 120 km) - the line of the immediate task (Bruel, Ludwigslust, Bismarck);

-siting area No. 4 (to be ready 0200 22.7; the troops have been advancing for three days and have covered 120 to 150 km) Boizenburg, Wittingen;

-siting area No. 5 (to be ready 0600 23(24).7; the troops have been advancing for 4 to 5 calendar days and have covered 200 to 250 km - the line of the subsequent task is Hamburg, Soltau, Celle.

5. In order to determine the fire capabilities of the battalion in destroying objectives and to establish the order for carrying out the tasks, it is advisable when working out the exercise to draw up the following auxiliary table.

When determining the capabilities of the battalion, it is advisable as a rule to have one battery (that is moved independently) in reserve to deal with sudden tasks that may arise.

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The capabilities of a battalion, * the objectives for destruction, and the order of carrying out the tasks

Location of the battalion	Length of time in the firing position	The capabilities of the battalion (No. of missiles)	The objectives for destruction, yield, and times for the tasks			
			Planned	Unplanned	Planned	Unplanned
Temporary firing positions	9 hours (from 1600 19.7 to 0100 19.7)	2-3			8A61 missiles	
Area No. 1 (the entire battalion) artillery preparation - 0430 19.7	16 hours (from 0430 to 2030 19.7)	12	Target No. 51 - tank brigade - 100 kt - 1930 19.7 Target No. 52 - command post - 60 kt - 1930 19.7	Target No. 40 "Corporal" - 30 kt - 1730 Target No. 41 "Matador" - 40 kt - 2315	Target No. 55 - 100 kt - Sth. Weizen - 10 missiles - 1930 19.7	
Area No. 1 (battalion less one launch battery)	24 hours (from 2030 19.7 to 2030 20.7)	12			Target No. 55 - 4 missiles	Target No. 100 - Iuenburg - 8 missiles - 2100 19.7
Area No. 2 (one launch battery)	21 hours (from 0300 20.7)	-		Target No. 101 "Redstone" - 80 kt - 1200 20.7		
Area No. 3 (battalion less one launch battery)	36 (50) hours (from 0700 21.7 to 2030 22-23.7)	18(30)		Target No. 102 - special depot - 150 kt - 2200 21.7 Target No. 103 - reserves 40 kt and 100 kt - 0800 23.7	Target No. 65 - Weermunde - 10 missiles - 0700 21.7 Target No. 66 - Bremen - 12 missiles - 0700 21.7	Target No. 67 - Wilhelmshaven - 5 missiles - 0300 21.7
Total of missiles		2		6	36	13

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* When determining the capabilities of a battalion, the average rate of fire for a launch battery is taken as one missile every four hours.

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[REDACTED]

Taking into account the planned objectives for destruction, the expenditure for the operation is drawn up:

8K11 missiles - 10 (2 in reserve)

8A61 missiles - 60 (11 in reserve).

The requirement of special charges with yields of 30 kt - 2; 40 kt - 1; 60 kt - 2; 80 kt - 1; 100 kt - 2; 150 kt - 1; 200 kt - 1.

When the task is set for deployment in preparation for firing, the battalion must be given fixed objectives for destruction (railway stations - targets 48, 49 and 55).

In the course of the operation, besides the main targets, alternative targets are laid down (ports, railheads - targets 69 and 70).

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