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CENTRAL INTELLIGENCE AGENCY
WASHINGTON, D.C. 20505

30 January 1981

MEMORANDUM FOR: The Director of Central Intelligence

FROM : John N. McMahon
Deputy Director for Operations

SUBJECT : USSR GENERAL STAFF ACADEMY LESSONS : Development and Critique of the Plan of the Organization of Rear Services Support of Front Troops in an Offensive Operation

1. The enclosed Intelligence Information Special Report is part of a series now in preparation based on a collection of 29 lessons, classified TOP SECRET, prepared in 1977 for use in the Soviet General Staff Academy. The lessons are broken down into two parts: the first 19 lessons deal with the staff preparation of a front offensive operation with conventional and nuclear weapons, the remaining 10 lessons deal with the conduct of an offensive employing conventional weapons at first with a transition to the use of nuclear weapons. This report is a translation of the lesson outlining the steps and factors involved in organizing the logistic support of a front in an offensive operation, including its materiel and fuel requirements, estimated combat casualties, and tank and vehicle repair and evacuation capabilities.

2. Because the source of this report is extremely sensitive, this document should be handled on a strict need-to-know basis within recipient agencies.

John N. McMahon

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Intelligence Information Special Report

COUNTRY USSR

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DATE OF INFO. 1977

DATE 30 January 1981

SUBJECT

GENERAL STAFF ACADEMY LESSON No. 18 : Development and Critique of the Plan of the Organization of Rear Services Support of Front Troops in an Offensive Operation

SOURCE Documentary

Summary:

The following report is a translation from Russian of a lesson, classified TOP SECRET, prepared for use at the General Staff Academy of the Armed Forces of the USSR. This lesson is for the instruction of students acting as front deputy commanders for the rear and front chiefs of staff in the factors to be considered in planning and organizing the logistic support for a front offensive operation with conventional or nuclear weapons. The main points, which are covered in a generalized manner, deal with the following: gasoline, diesel, and aviation fuel requirements; allocation and integration of transportation resources, materiel flow and stockpiling at front bases, estimated combat casualties, and tank and vehicle repair and evacuation capabilities. It is revealed that a total of 1,212,600 tons of materiel will be required by the front for the operation. Of interest are the assumptions that combat casualties in personnel will be 0.9 percent per day in non-nuclear combat and 2.8 percent per day in nuclear combat, and that each of the enemy /NATO/ nuclear munitions used will inflict medical losses of only 180 men.

End of Summary

Comment:

The reference materials (appendices and explanatory memoranda) cited herein for use with this lesson were not received.

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Lesson No. 18

I. Lesson subject: Development and critique of the plan of the organization of rear services support of front troops in an offensive operation.

II. Estimated time to complete Lesson No. 18:

Number and name of lesson	Allotted time		Total
	Group Exercise	Individual preparation	
Lesson No. 18 -- Development and critique of the plan of the organization of rear services support of front troops in an offensive operation.	4 hours (180 minutes)	6 hours	10 hours
Including:			
-- checking the students' readiness for the lesson.	5 minutes	--	--
1. Critique of the plan of the organization of rear services support of front troops in an offensive operation.	145 minutes	--	--
2. Study of an excerpt from the plans of technical support of front troops.	20 minutes	--	--
-- summing up the results of the lesson.	10 minutes	--	--

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III. Training objectives:

-- to improve the students' knowledge of the basic matters of the organization of rear services support of troops in a front offensive operation;

-- to provide practice in developing the plan of the organization of rear services support of troops in a front offensive operation and to study it in full scope;

-- to study the methods of preparing basic sections of the plans of the organization of rear services and technical support of troops in an operation.

During the lesson they are to investigate the methods of combatting fires in a rear area of a front and the content of the measures to ensure the stable operation and survivability of rear services units, large units, and facilities.

IV. Method of conducting the lesson -- group exercise.

V. Methodological recommendations regarding the students' preparation for the lesson.

At the start of individual preparation by the students, the instructor, at the request of the training group, will conduct a short briefing (not more than 20 minutes), for which the following procedure is recommended:

1. He will more precisely define the initial data for the development of the plan of the organization of rear services support and clarify in which documents the data is located; he will draw attention to the fact that during individual preparation, the students are to study and have all this data with them.

2. He will recommend the most advisable procedure for studying the plan of the organization of rear services support and on which sections of it the greatest attention should be focused.

He can suggest the following procedure of independent work for the students:

-- to study all initial data which has been set forth as the basis for developing the plan;

-- to systematically and comprehensively examine the contents of all sections of the plan and tie them in with the concept of the operation and the tasks and nature of troop actions. To study the explanatory memorandum for the plan simultaneously with the map, which has to be "set up."

-- to calculate the materiel support and supply deliveries for the 9th Army and fill out the pertinent tables of the explanatory memorandum for the plan.

3. In addition to the plan of the organization of rear services support, the students must study the excerpt from the technical support plans (Appendix No. 4) and be prepared to concisely report the procedure for calculating the losses and recovery of armored and motor vehicle-tractor equipment.

VI. Procedure for conducting the lesson.

At the start of the lesson, the instructor will check the assignment completed by the students during independent work (time -- 5 minutes).

First training topic -- critique of the plan of the organization of rear services support of front troops in an offensive operation. Time -- 145 minutes.

The instructor will announce the operational time, define the location of the front staff more precisely, and proceed with the critique of the plan of the organization of rear services support.

The instructor will be in the role of the front commander, and the students will be in the role of front deputy commander for the rear.

An examination of the plan will begin with Section III, "Disposition of the Rear Services" (time -- 40 minutes).

When critiquing this section, special attention must be focused on the exposition of the concept, which forms the basis for the establishment of the rear services groupings, and the deployment and relocation of front

bases, hospital bases, and other rear services elements during an operation.

Attention will be focused on the compatibility of the disposition of the rear services with the operation plan and troop tasks, on the consistency of the rear services groupings with an operation carried out either with or without the employment of nuclear weapons, and on the means by which this is attainable.

Transportation support -- time -- 15 minutes.

To work out this topic, the instructor will listen to short reports by two students regarding the preparation and use of lines of transportation:

-- the first -- regarding the restoration and technical coverage of railroads (the rail lines and time limits for restoration of roads, the organization of temporary transshipment areas, the use of isolated sectors, and the employment of railroad troops);

-- the second -- regarding the restoration and maintenance of motor roads and the procedure for using road troops.

In his concluding remarks, the instructor will turn the students' attention to the necessity of establishing a consolidated network of transportation lines in a front's rear zone that ensures the integrated use of the different types of transportation.

The substance of this topic has been set forth in Section IV of the explanatory memorandum.

Materiel support -- time -- 30 minutes.

The substance of this topic has been set forth in Section V of the explanatory memorandum.

It is advisable to conduct an examination of the topic systematically: first, examining the organization of materiel support and the overall supply situation of the front in the operation, and then the supply situation of the troops during fulfilment of the immediate task of the front (Tables B and C of Section V).

When examining the "Calculation of the front's materiel support," special attention is to be given to the total materiel resources allocated

for the operation and their sources (their location and how many there are, what resources and when they are to arrive), to the distribution of the materiel, to the expenditures for the tasks of the operation, and to the amount of reserves at the end of the operation.

The procedure for echeloning materiel in the front at the start of the operation will be examined in detail. In the process, it will be emphasized that of the 1,212,600 tons of materiel to be issued to the front, the front already has 974,200 tons, which fully cover the planned expenditures in the operation.

Calculations of the materiel requirements for the operation will be examined in detail only with regard to fuels. It is advisable to carry out calculations at the blackboard.

The calculation of the fuel requirements for expenditure (in fuelings) is arrived at by the formula:

$$R = \frac{Go \times Km \times Kud \times Kibs^*}{Zkh},$$

accordingly, for the front the following coefficients have been established:

a) Gasoline:

-- movement forward -- $\frac{230 \times 1.3 \times 1.5}{500} = 0.9$ fueling;

-- for the front's immediate task -- $\frac{250 \times 1.5 \times 1.5 \times 0.9}{500} = 1.0$ fueling;

Total: 0.9 plus 1.0 = 1.9 fuelings.

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* Translator's note: The equation's terms translate as follows: R = expenditure, Go = depth of operation, Km = maneuver coefficient, Kud = travel conditions coefficient, Kibs = combat strength change coefficient, Zkh = range per fueling in kilometers.

b) Diesel fuel:

-- movement forward -- $\frac{230 \times 1.6 \times 1.1}{250}$ = 1.6 fuelings;

-- immediate task -- $\frac{250 \times 1.7 \times 1.2 \times 0.8}{250}$ = 1.6 fuelings;

Total: 1.6 plus 1.6 = 3.2 fuelings.

Calculations for the front's follow-up task are carried out in a similar manner.

To determine the fuel requirements of the 1st Air Army, the average daily expenditure has been established as follows: gasoline -- 0.4 fueling; diesel fuel -- 0.5 fueling.

The front's requirements in aviation fuel have been estimated based on a calculated expenditure of 0.7 fueling per air army sortie. The operation has been allocated 21 sorties. To support this number of sorties, 14.7 fuelings of aviation fuel are required, which /breaks down/ by task to: 9.8 fuelings for the immediate task and 4.9 fuelings for the follow-up task. By the end of the operation, 11.2 fuelings will remain. The overall resources for the operation are 25.9 fuelings.

Reserves of materiel at the end of the operation are to be: 100 percent in the armies, and a minimum of 70 to 80 percent of prescribed capacity norms in the front.

A calculation of ammunition requirements will be carried out: by the chief of rocket troops and artillery for artillery, mortars, and missile launchers; by the front staff for tank and small arms ammunition; and by the front chief of air defense troops for antiair munitions.

The procedure of these calculations will be examined in the lessons of other departments.

Calculation of the materiel support of troops during fulfilment of the front's immediate task will be examined using the 4th and 7th armies as an example.

The total materiel requirement of an army consists of two elements: expenditure during movement forward and during the operation, and the establishment of reserves at the end of the operation.

This requirement is supported by drawing on the reserves established in the armies at the start of an operation and by shipments during the operation.

In all instances, reserves in the field and at a mobile army base must not be below prescribed standards.

According to the conditions arising from the situation, the calculations on fuel requirements, for example, for the 7th Army's expenditures in the movement forward and during an operation, were made based on the following data:

Gasoline:

-- for movement forward -- $\frac{100 \times 1.2 \times 1.5}{500} = 0.4$ fueling;

-- for the front's immediate task -- $\frac{250 \times 1.4 \times 1.4 \times 0.85}{500} = 0.8$ fueling;

Total: 0.4 plus 0.8 = 1.2 fuelings.

Diesel fuel:

-- for movement forward -- $\frac{100 \times 1.7 \times 1.2}{250} = 0.8$ fueling;

-- for the front's immediate task -- $\frac{250 \times 2.0 \times 1.2 \times 0.9}{250} = 2.1$ fuelings;

Total: 0.8 plus 2.1 = 2.9 fuelings.

Requirements in technical means and personnel items are taken to be 20 percent of the total weight of ammunition, fuel, and rations.

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In concluding the examination of Section V, the students' attention will be directed to:

-- the different norms and variations in materiel expenditures with respect to the armies and days of the operation;

-- the different maneuver coefficients and travel conditions coefficients for the armies and the front as a whole;

-- the establishment of reserves in the armies at the end of the operation (during fulfilment of the immediate task of the front) within the limits of prescribed norms;

-- the procedure for determining the amount of materiel which must be delivered to the armies during the operation (the expenditure plus the reserves at the end of the operation minus that available at the start of the operation).

Students must develop an especially clear idea regarding the echeloning of reserves at the start of an operation, taking into account the increased expenditure of them in the first days of the operation.

Shipment of materiel -- time -- 30 minutes.

The substance of this topic has been set forth in Section VI of the explanatory memorandum.

It is necessary to begin the examination of this section with the organization of the shipment of materiel to the armies (army corps) and to front bases: for fulfilment of the immediate task (by days) and in general indices during fulfilment of the follow-up task (Table A).

It is advisable to place students in the role of front chief of staff, with special attention focused on the following special features of the organization of shipments:

-- rail transport integrated with other types of transportation will be widely used before the start of the operation and in the first days of the operation, especially if it begins without the employment of nuclear weapons;

-- sea transport will be used to deliver cargo to the 4th Army (to troops conducting combat actions on the JUTLAND Peninsula), to the 7th

Army, and the 2nd Army Corps, and also to deliver cargo to the 1st Branch of the 3rd Rear Front Base (WISMAR);

-- fuel will be issued via pipeline to the 7th and 6th armies, and to the 10th Tank Army. Cargo will be delivered to airborne landing forces by air transport;

-- on D1 and D2, front motor transportation will deliver ammunition to artillery firing positions, to armies of the first operational echelon, and to front artillery brigades, and fuel to first-echelon armies;

-- materiel for the air army will be brought up by rail transport to army bases, and further on by motor transport of the air army;

-- front large units will move materiel using their own transportation; on the first day of the operation, front motor transport will deliver artillery ammunition only to the front artillery units participating in the preparatory fire;

-- materiel will be delivered to rear front bases and their branches only by rail and sea transport.

It is then necessary to examine the volume of shipments to each army (army corps), to large units and units of front subordination, to forward front bases and rear front bases during fulfillment of the immediate task, and to examine the allocation of shipments based on the types of transportation and days of the operation (Table C). Special attention should be focused on the following two matters:

1) the procedure for determining the volume of shipments to each army (army corps), and their distribution according to the days of the operation;

2) the allocation of the volume of shipments according to the types of transportation (how much, when, and by which transportation the materiel is to be delivered). Students are to independently prepare the shipment calculations in example 9N.

The volume of materiel shipments to the armies, army corps, and large units and units of front subordination will be taken from the calculations on materiel support (Section V, Table C) and will be allocated according to the days of the operation, depending on the tasks to be fulfilled by the troops, and the anticipated intensity of combat actions.

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The volume of materiel shipments to forward front bases and rear front bases depends on the amount of reserves to be issued to the troops, the deployment times of the bases, and the capabilities of supply transportation, the capabilities of the bases to store materiel and the levels of reserves which the bases plan to have by a prescribed time (day) of the operation.

So, for example, the 1st Forward Front Base should have reserves:

-- to replenish the daily expenditure of the troop grouping being supported;

-- to issue reserves to front units operating near the 1st Forward Front Base;

-- to maintain prescribed amounts of reserves at the 1st Forward Front Base.

Materiel sufficient for the following should be delivered to the 3rd Rear Front Base:

-- for issue to forward front bases;

-- for issue to front reserves operating near the 3rd Rear Front Base;

-- for establishment of prescribed reserves at the base.

By way of example, shipments to the 1st Forward Front Base will be examined:

a) During preparation of the operation, in accordance with the commander's orders, a minimum of three days' reserves of materiel must be established at a forward front base for the grouping being supported. At the start of the operation, fuel and ammunition reserves are to be transferred on the spot from fixed depots. Rail transport is to deliver from the fixed depots 1,900 tons of only those types of materiel not at the base.

b) During fulfilment of the immediate task

On D-day, 600 tons of rations and other types of materiel will be delivered by rail transport. On D2, the base will relocate to a new area, to which the reserves will be brought by front motor transport by the

morning of D3.

Shipment of materiel in the following days will be carried out on the scale necessary to supply the troop grouping being supported and the front units and large units operating near the 1st Forward Front Base.

When examining Table B -- the total volume of shipments for the operation -- it is necessary to discuss with and show the students the amount of material which each element of the rear services is to deliver, to emphasize the variations in the volume of shipments on the basis of the tasks and days of the operation, and to correlate all of this with the capabilities of the different types of transportation (Appendix 3 to the lesson). In summing up, the conclusion must be drawn that the rear services organs will be able to cope with the shipments only through the integrated use of all types of transportation and the extensive allocation of troop and army transportation for deliveries "to themselves." This is obvious from a comparison of the indices of the total volume of shipments and the capabilities of the transportation (see the reference material for the lesson).

Medical support -- time -- 15 minutes.

The substance of this topic has been set forth in Section VII of the explanatory memorandum.

To develop this topic, it is necessary to listen to three students:

-- the first -- on the accepted procedure of medical support;

-- the second -- on the calculation of possible medical losses;

-- the third -- on the organization of the evacuation of the wounded.

In preparing Section VII (medical support), the following initial data has been assumed:

-- average daily medical losses:

-- in an operation without the employment of nuclear weapons -- 0.9 percent, and with their employment -- 2.8 percent per day, including: from weapons of mass destruction other than nuclear -- 0.8 percent, from conventional weapons -- 0.6 percent, and sick -- 0.1 percent, from the listed strength of the front; from nuclear weapons -- 180 men from each

nuclear munition used by the enemy in an operation;

-- in the enemy's initial missile/nuclear strike in the front zone the calculation will be done analogously.

The medical losses in the armies will differ depending on the tasks and the nature of the combat actions. This is clearly evident from the table set forth in the explanatory memorandum.

The calculation of the requirements for and availability of hospital beds and the means for evacuating the wounded have been set forth in Section VII of the explanatory memorandum.

Measures on the protection, security, and defense of the rear -- 15 minutes.

The substance of these topics has been set forth in Section VIII of the explanatory memorandum.

In examining this topic, it is necessary to focus special attention on the measures being conducted, the forces and means allocated for this, and the times required for their fulfilment.

Second training topic

Familiarization with an excerpt from the plans of technical support of front troops. Time -- 20 minutes.

The instructor will inform the students that the plans on technical support will be prepared separately for each service and coordinated with the front chief of staff and the front deputy commander for the rear.

The instructor will appoint students: one to the role of chief of the armored service, and then a second to the role of chief of the motor vehicle-tractor service; and he will listen to their briefings on these topics:

-- the first -- possible losses in armored equipment and their distribution based on the tasks and types of repair; the capabilities of repair and recovery means;

-- the second -- the same for motor vehicle-tractor equipment.

In working out the excerpt from the plans of technical support, the following initial data has been assumed:

-- possible losses in the immediate task -- 60 percent, and in the follow-up task -- 40 percent, of the total losses for the operation; from the initial nuclear strike -- 60 percent of the losses in the immediate task;

-- distribution according to types of repair (in percentages):

	Running	Medium	Major	Irrecoverable losses
Tanks, armored personnel carriers, infantry combat vehicles	40	25	10	25
Motor vehicles and prime movers	65 50	14 20	7 10	14 20

Notes:

The numerator is for an operation without the employment of nuclear weapons.

The denominator is for an operation employing nuclear weapons.

In working out the task, the following average daily capabilities of the repair and recovery units and subunits have been assumed:

-- in a motorized rifle division -- 14 tanks in running repair, or 10 in running and 1 to 2 in medium repair;

-- in a tank division -- 21 tanks in running repair, or 14 in running and 2 in medium repair;

-- motor vehicles -- 105 (in a motorized rifle division) and 95 (in a tank division) in running and 7 in medium repair;

-- in army units -- motor vehicles: 150 in running and 7 in medium repair;

-- by a front separate repair and rehabilitation regiment -- up to 20 medium repairs of tanks and 20 medium repairs of armored personnel carriers and infantry combat vehicles, recovery and transportation of armored equipment -- up to 35 items per day;

-- by a front separate repair and rehabilitation battalion -- 27 medium and 40 running repairs of motor vehicles;

-- by an army separate motor vehicle repair and rehabilitation battalion -- rehabilitation by medium repair of 15 motor vehicles and recovery of up to 120 motor vehicles per day;

-- by a separate armored equipment repair and rehabilitation battalion -- rehabilitation by medium repair of up to 10 tanks and 9 armored personnel carriers and infantry combat vehicles, and recovery of 20 items of armored equipment to a distance of up to 20 kilometers.

Based on the data which has been set forth, the total capabilities of all repair and recovery units, based on their arrival times at the front for the operation, will amount to -- see Tables 2 and 3 of Appendix 4.

When making the calculations on the restoration of damaged equipment, it must be borne in mind that running repair will be carried out first of all. Running repairs have been substituted for part of the repair capabilities for medium repairs (for one medium repair there are five running repairs).

In summing up, the students' attention will be directed to the fact that due to the shortage of repair units in the front, much equipment will still remain unrepaired; and this will make the extensive use of locally available repair facilities necessary.

Assessment of the results of the lesson -- time -- 10 minutes.

Taking into account that each topic being examined has been concisely summarized, the instructor will in summing up cite the training objectives of the lesson, discussing the quality of the students' preparation for the lesson and the degree to which the assigned tasks have been fulfilled.

[redacted]

He will also direct attention to the importance of the other sections of the plan which, because of a shortage of time, were not examined in the group exercise but were studied independently by the students. If necessary, he will answer the students' questions pertaining to the lesson subject.

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