5404

CENTRAL INTELLIGENCE AGENCY

# Intelligence Information Special Report

**COUNTRY** Poland

**CSDB** - 312/01190-68

**DATE OF INFO.** Spring 1967

**DATE** 18 June 1968

**SUBJECT**

Military Thought (Poland): "Experiences from the "Rajd" Exercise Conducted by the Warsaw Military District Staff"

**SOURCE**

Summary

This article presents details concerning a training exercise in June 1966 which involved movement of a short-range ballistic missile (SCUD) brigade from its garrison area over hard-surface roads to a forward launch site. The exercise covered several hundred miles and included a wide river crossing. It revealed confusion in the departure from garrison, inadequate functioning of command and communications, poor security and antiaircraft cover, significant breakdown of equipment and several other deficiencies. The article concludes with a series of recommendations and with the assertion that additional exercises will be required to correct these deficiencies.

End Summary

Comment:

This article appeared in issue number two for 1967 of

TS #197303
Copy # 2

Mysl wojskowa (Military Thought), a quarterly publication of the Polish Ministry of National Defense. The publication is classified Secret. For convenience, the paragraphs of the article have been numbered, although they were unnumbered in the original text. Underlining indicates either italics or bold-face type in the original document.

The distances traveled during individual stages of the march are not fully consistent with statements concerning the total distance covered during the exercise.

TS #197303
Copy # 2

Experiences from the "Rajd" Exercise Conducted by the Warsaw Military District Staff

Lieutenant Colonel Z. POCZATEK (Academy Graduate)

1. The Rocket and Artillery Forces Staff of the Warsaw Military District (WOW) conducted a tactical exercise with a missile brigade during the period 12 to 18 June 1966. This tactical exercise was carried out within the framework of a combined training exercise conducted by the WOW Staff under the codename Rajd (Raid) on the theme: The long-distance, day-and-night march of an operational-tactical missile brigade and its deployment to make the initial nuclear-missile strike.

2. An antiaircraft artillery regiment and one mechanized infantry battalion of a mechanized division participated in the brigade exercise. Furthermore, the brigade undertook joint action with territorial defense units and staffs and with the Command of the "Grudziadz" Troop Movement Command and Control Zone, through the area of which the brigade moved. An artillery reconnaissance aviation regiment also participated in the exercise with the brigade.

3. The primary objective of the exercise, besides testing the combat readiness of the brigade, was to gain comprehensive experience in the possible regrouping of the brigade by making a single night-and-day march for a distance of about 370 kilometers, crossing the Vistula River on a ponton bridge and ferries, and then, after a daytime (nighttime) halt, to continue the march westward for a distance of about 200 kilometers and deploy the brigade from the march to carry out the firing missions planned for the initial nuclear-missile strike.

4. The exercise consisted of a preparatory period and two major stages. The preparatory period lasted from 8 to 12 June, during which specific objectives were achieved, according to the plan for increasing the combat readiness of the brigade.

5. The major objective of this period was to conduct

training in the operation of the control and reporting system between the WOW Staff and the brigade command under alert conditions and to increase the combat readiness of the brigade in preparation for its efficient performance in the difficult and prolonged tactical exercises.

6. The specific objectives were achieved according to a detailed plan drafted by the brigade staff. It was obviously advisable at this time to have a detailed variant plan for suddenly withdrawing the brigade from the assembly areas to the main route and especially for establishing the site for the formation of the heavy-equipment column and for the loading of launchers on flatbed semi-trailers. The plan should also take into consideration the organization of traffic control. The exercise showed that in this period it is necessary to determine constructively the means and methods of commanding the brigade while simultaneously directing the alert, planning the march, and establishing the supply points, including, primarily, the use of dry rations according to the anticipated variant plan for the march formation.

7. The first stage of the exercise from 12 to 15 June included the withdrawal of the brigade according to the alert system and the brigade's march to the Drawsko area. The major objective of this stage was to test the feasibility of simultaneously directing the alert, planning a long-distance march by the brigade staff and battalion staffs, and making a night-and-day march including the crossing of a wide water barrier on a ponton bridge and ferries.

8. Depending on its peacetime disposition and operational plan, the missile brigade can move out from its garrison either to one of its assembly areas or to the designated staging area, to a previously prepared or designated launch site area, or directly to the march route for movement to the combat operations zone.

9. Under specific conditions, the brigade can move without missiles, with separate missile components and missile propellants, or with ready missiles. This, correspondingly, determines the organization and method of march, the march formation of the brigade, and the average rate of march. In the exercise, the brigade carried out the most typical, and at the same time the most difficult, variant plan.

10. At 1700 hours on 12 June, a combat alert was ordered for the brigade. At the same time, the brigade commander received the march order. During the march, the brigade was to move a distance of 670 kilometers in three full days and at full combat strength, to pass through the "Grudziadz" Troop Movement Command and Control Zone, to cross the Vistula River, and to reach, about 35 hours from the time of calling the alert, the first daytime halt area at Tuchola, Koronowo, and Swiecie, which is about 360 kilometers from the staging center.

11. The units and subunits departed for the assembly areas rather quickly (30 to 40 minutes); however, vehicle traffic at the barracks installation was observed moving in too many directions.

12. A command post was set up at brigade headquarters at the time of the alert. In actuality, however, there was no control of the alert because the operations officers and brigade commander were engaged in planning and organizing the march. The commander and the chief of staff issued fragmentary orders and instructions.

13. There was too much troop congestion at the assembly points, because the subunits did not move out to the march route as soon as they reached a state of readiness. This situation resulted partially from the anticipated approach of the brigade column, including light and heavy equipment battalions. Immediately after the equipment moved out, most of the ultra-short-wave radio equipment was activated with a very high rate of transmissions, thus contributing to the detection of the brigade's withdrawal from garrison.

14. The brigade staff proceeded to plan the march without a clear concept for accomplishing the assigned mission. Particular elements of the plan of action were determined only during the drafting of the march plan. Additionally, in planning the march, the brigade staff, despite precise knowledge of the characteristics of the assigned route, did not consider all the elements which would restrict the march, particularly the heavy-equipment echelon and the actual mechanical condition and capability of the "KrAZ" tractor trucks. Another serious defect was the fact that only the operations officers were

engaged in planning the march. The remaining brigade deputy commanders and service chiefs were not included in this important stage of the exercise. This resulted in very superficial planning of organizational matters for the effective use of rest periods, command functions, and march security, including especially the organization of food supply and technical support.

15. The final planning of the march was completed about 40 minutes after the mission was received. The march plan, which was drawn on a map scaled at 1:100,000, was presented to the brigade commander, who reported his plan of action to the director of the exercise and then issued the march order.

16. Many unforeseen difficulties were created by the imprecise drafting of the plan for the withdrawal of the brigade, the commanders' superficial knowledge of the plan, and a certain abruptness of some commanders in implementing the guidelines of this plan. Consequently, not all of the columns entered the staging center according to the planned sequence and designated time. The engineer company, which was the advance traffic control unit, was not able to move out and overtake the head of the column on schedule, and the technical battery and combined maintenance shops did not move to the staging center on the assigned route. Consequently, these units became intermixed. The 6th Artillery Battalion took the cross-country route, forcing the brigade staff and meteorological battery to move on another route through the forests. This caused considerable delay in the movement of the meteorological battery (heavy equipment). The movement of the 6th Artillery Battalion on the cross-country route caused almost an hour's delay for the heavy-equipment echelon, in which the launchers were loaded on flatbed semi-trailers on the asphalt highway instead of on an unexposed, hard-surface road. Detached from the brigade staff, the mobile command group at the staging center did not take effective action in conducting the withdrawal of the brigade.

17. The brigade reconnaissance group, which was quickly formed, moved out on the route and overtook the head of the column in 1.5 hours; however, it failed to make provisions for the designation and installation of traffic

control points on the routes leading to the staging area. The group was properly restricted to placing information signs on another sector of the route which was well-known to the participants.

18. The long-halt area, which was reconnoitered by the reconnaissance group, did not fully ensure the proper dispersal of the brigade column (the 3rd and 6th Artillery Battalions were stationed closely together). In certain cases (the technical battery) the halt area was too far from the axis of advance. The brigade staff remained in the rear of the battalion staffs, thereby greatly restricting the exercise of command.

19. The daytime halt area was well reconnoitered, with the exception of the location site for the heavy-equipment echelon. In the selection of this site, consideration was not given to the possibility of the echelon's efficient movement to the main route and its possible attachment to the battalions, if it should continue its march in the battalion columns.

20. Traffic control, which was organized primarily by the People's Militia and Territorial Defense Forces, functioned efficiently. This was also true of the protection of road installations and of the security of railroad crossings. This support system for the march fully stood the test with respect to the actual capabilities of a brigade which had only a non-organic traffic control squad under its command. Furthermore, the system contributed to the maintenance of operational concealment.

21. The march of the light-equipment echelon was conducted quite efficiently. The average rate of speed in particular route sectors was variable and ranged from 15 to 20 kilometers per hour in the most difficult sectors. The march capabilities of the light-equipment echelon can be greater and can be achieved by adequately organizing the march.

22. The individual columns of the light-equipment echelon made the march independently to the Vistula River crossing. This caused the echelon to be considerably extended and did not ensure the continuity of communications among the columns.

23. Before the crossing was reached, the brigade's chief of staff assumed command of the entire light-equipment echelon thus enabling an efficient (uninterrupted) crossing of the Vistula River on a ponton bridge and the relatively rapid movement of the entire echelon to the night halt area. During this time, the chief of staff maintained ultra-short-wave radio communications with all the commanders of the light-equipment columns. Reports were transmitted efficiently by using the telephone communications system of the route commander. Information on the position and situation of the heavy-equipment echelon was also obtained by this channel.

24. The march of the heavy-equipment echelon was the basic element of this stage. Many unexpected difficulties developed. The forming-up and departure of the heavy-equipment echelon to the staging center were delayed by about one hour. The column of the heavy-equipment echelon was dispersed by battery about every 12 miles at uneven intervals in a constantly changing formation, because of the considerable differences in the mechanical efficiency of individual "KrAZ" tractor trucks and in the training of the drivers. Another contributing factor was the winding route, with steep grades, bypasses and relatively numerous viaducts and bridges which required the unloading of the launchers from the flatbed trailers.

25. The unloading time for one launcher was about 9 minutes, and the loading time averaged 16 minutes. In general, an average of 40 minutes was lost by the entire heavy-equipment echelon in overcoming each obstacle which required the unloading of the launchers from the flatbed trailers. Experience showed that it is possible to reduce this time when there is good servicing and proper organization of operations and command. The rate of march was greatly reduced because of defective flatbed trailer wheels and the deficiencies of the "KrAZ" tractor trucks, which included engine defects, feeder-pump breakdowns, and burned-out valves.

26. Because of these reasons and mistakes in command, the heavy-equipment echelon was dispersed over a 50-kilometer sector, and the individual batteries continued the march with very few halts. The echelon commander failed to adopt the basic decision of assembling the entire heavy-equipment echelon in the intermediate area in order to

assume command, organize a rest period, and feed the personnel. The brigade deputy commander for line operations, who had just arrived, organized and led the entire echelon to the Vistula River.

27. From an analysis of the march by the heavy-equipment echelon it is concluded that the individual fire platoons of the launching batteries within the heavy-equipment echelon should have moved in close formation at intervals of only 300 to 500 meters between batteries. Over-extended columns and movement by independent battery columns restricted the exercise of command, security, and logistical support.

28. The brigade efficiently crossed the wide Vistula River water barrier on a ponton bridge and ferries and encountered no particular difficulties. Only the ferry crossing required the management of certain organizational matters. The brigade chief of combat engineers, who on the spot, drafted and coordinated the plan for the crossing was sent ahead for this purpose to the zone command and then to the commander of the river-crossing sector.

29. It is most advisable and economical to use several ferries (70 and 100-ton) or two 100-ton ferries for the crossing by the launching battery's heavy-equipment echelon. The battery commander's GAZ-69 "Bizon" command car and the 8U218 launchers should be transported on a 70-ton ferry or self-propelled GSP ferry, and the "KrAZ"-214 tractor truck and flatbed trailer, neutralizer (neutralizator) and Star 6x6 truck with launcher crew should be transported on a 100-ton ferry. Comment: The 8U218 launcher is associated with the R-11 (SCUD) ballistic missile.

30. The loading and unloading time for a battery is determined by the efficiency of the battery and the organization and equipment of the crossing point. In the exercise, the loading of a launcher on a 70-ton ferry took 20 seconds, and on a self-propelled GSP ferry, one minute and 25 seconds. The loading of a "KrAZ" tractor truck and flatbed trailer and neutralizer on a 100-ton ferry took one minute and 45 seconds. It took 14 minutes for one ferry to cross the Vistula River, which is 470 meters wide.

31. The movement of the heavy equipment, including launchers, across the 50-ton ponton bridge was conducted at

a rate of speed of about 6 kilometers per hour; that of the rest of the columns, at a speed of 10 to 15 kilometers per hour. The movement of wheeled vehicles across the bridge was conducted in a steady flow, with intervals of about 30 meters between vehicles. The launchers must be moved across the bridge separately, and a launcher should be escorted by the gun position officer who goes ahead for close coordination with the driver-mechanic. The brigade's entire light-equipment echelon, which was about 6 kilometers long (without any interruptions during the tactical movement) crossed the Vistula River on the ponton bridge in 40 minutes. The two echelons continued the march efficiently and at a relatively rapid rate of speed from the Vistula River line to the daytime halt area.

32. The heavy-equipment echelon moved 370 kilometers in 1.5 days (including two nights) and attained the following average rates of speed:

- 11.2 kilometers per hour in a night-and-day march in the first march sector of 130 kilometers;

- 15 kilometers per hour in a day-and-night march in the next sector of 240 kilometers.

33. The considerable increase in speed in the second sector is undoubtedly explained by the improved condition of the route and the increased confidence of the drivers in driving the heavy vehicles.

34. An attached antiaircraft artillery regiment, which overtook the brigade, crossed the Vistula River in the first sequence, deployed in a combat formation in the brigade's daytime halt area and provided antiaircraft cover for the brigade during its arrival and stay in this area. The regiment's main effort was concentrated on providing cover for the launching batteries, the technical battery and the brigade headquarters. However, part of the most important brigade elements were located beyond the zone of cover, because of the limited capabilities of the antiaircraft artillery regiment (two battalions).

35. Not all the march elements properly used the time allotted for the rest period. This was complicated by the fact that the arrival of the particular echelons

in the areas took about half a day. Furthermore, elements of the heavy-equipment echelon joined the organic units and subunits in this area. If the brigade commander had taken this into consideration beforehand, it would have been possible to avoid unnecessary and costly maneuvering of the launching batteries by the heavy-equipment echelons during their entry into the area and during the formation of the battalion columns.

36. During the early hours of 14 June, the brigade received a combat order from the commander of the Rocket and Artillery Forces of the 2nd Army informing the brigade of the next phase of the operations. (The brigade was informed of the outbreak of war during the march at 0500 hours on 13 June). Furthermore, this order precisely outlined the staging area, the next route, the march schedule and the supply points.

37. On the basis of the aforementioned data, the brigade staff drafted detailed march plans for moving the brigade from the daytime halt area to the staging area. A march plan and a plan for withdrawing the brigade from the occupied area on the march route were drafted.

38. The withdrawal of the brigade from the daytime halt area and accomplishment of the second stage of the march were conducted very efficiently.

39. All columns withdrew to the staging center at the designated time. Although the drivers were very tired, the rate of movement was increased slightly, making the rate of speed for the unmixed columns 20 kilometers per hour, and for the mixed columns, 16.4 kilometers per hour. The brigade moved a total of 230 kilometers during a 12-hour day-and-night period.

40. The brigade, at full combat strength, moved 500 kilometers by vehicle to the deployment area in 2.5 days; the average rate of movement was 230 to 250 kilometers per day /sic/.

41. The brigade reconnaissance group, which was divided into two echelons, operated at full strength during this stage of the march in the sector extending from the daytime halt area to the deployment area.

42. The mission of the group's first echelon, which was composed of reconnaissance and survey elements, was to reach the brigade's planned deployment area as rapidly as possible, to establish liaison with the topographical service troops (WST), and to select and survey the launch site area.

43. The mission of the group's second echelon, which was composed of support elements (engineering, meteorology, traffic control), was to provide support for the march and the deployment of the brigade. It was clearly advisable to have this variant plan for the operation of the brigade reconnaissance group under conditions for conducting a brigade march during military operations with the possibility of operational deployment of the brigade from the march. However, on the second sector of the route the reconnaissance group did not assure safe passage through the unguarded railroad crossings.

44. The mobile command group, which was detached from the brigade staff, only partially discharged its duties, because the brigade commander seldom used it. This group was composed of the brigade deputy chief of staff, the operations officer, the communications officer, the cipher officer and a messenger. It had at its disposal the brigade helicopters and the staff bus equipped with an ultra-short-wave radio.

45. It appears that the concept of detaching this type of group is correct but that the principles for its operation require additional consideration and practical testing.

46. The route commander's traffic control and communications operated efficiently and ensured an orderly march by the brigade through the troop movement command and control zone without the use of its own forces to provide support for the march. The communications system operated by the route commander could be used still more effectively if the reports prepared by the interested parties were clearer and more timely and the column and subunit commanders were more quickly informed of the cipher systems of the columns and the locations and cryptonyms of the telephone stations deployed along the route.

TS #197303
Copy # 2

47. This problem in the march command system is particularly significant if the brigade does not have at its disposal mobile ground communications equipment and the R-108 radio communications used by the column commanders in the ultra-short-wave networks do not have the proper range and, consequently, the capability for transmitting orders to the brigade columns during the march.

48. Technical support for the columns was organized in the following way: the army automotive workshop and the combined maintenance shops of the brigade provided support for the column of the brigade reconnaissance group, the brigade staff and the technical battery; the brigade automotive workshop and maintenance shops of the 3rd Artillery Battalion, for the column of the light-equipment echelon of the 3rd Artillery Battalion and the rear services; and the brigade motor-transport workshop of the 6th Artillery Battalion, for the column of the light-equipment echelon of the 6th Artillery Battalion.

49. Refueling was done during the long halts and daytime rest periods, primarily by the "tank to vehicle" method.

50. Almost all vehicles were refueled during the long three-day /sic/ halt. At the daytime halt area, all fuel consumed up to this time was replenished and the reserves were restored by drawing fuel from the supplies of the troop movement command and control zone. The brigade arrived at the deployment area with two-thirds of its fuel reserve.

51. The second stage of the exercise, from 15 to 17 June, included the deployment of the brigade from the march in order to participate in the first nuclear-missile strike and to direct brigade fire during subsequent operations. The following remarks and observations are derived from the tasks which were accomplished during this stage.

52. The reconnaissance group, despite overwork and many organizational shortcomings, accomplished its task. After arriving at the new area, the group established liaison with the topographical service unit operating in that area. A precise survey control operation was carried out for one of the battalions on the basis of the assumed survey control data of the PSSG /possibly field geodetic survey station/ located in the battalion area.

53. A preliminary survey was made in another battalion area, where the OSSG /possibly independent geodetic survey station/ had not yet been deployed. During the next phase, the topographical service troop teams checked the designated reference lines and then determined more accurately the coordinates of the battalion combat formation. The entire preliminary survey was completed about 1100 hours; it assured that fire readiness would be achieved on schedule. The survey work was very accurate.

54. The problem of moving the brigade into the designated area was not solved satisfactorily. Because of the improper selection of the rendezvous area and the irresponsibility of certain officers, the brigade staff lost about /illegible number/ minutes, and the brigade rear services units drove into the field of fire beyond the brigade deployment area. However, the deployment was conducted efficiently and the brigade provided for the receipt of weather reports and for the preparation of missiles on schedule.

55. The meteorological battery transmitted the results of the first weather observation at 1100 hours on 15 June and successive observations were made every four hours. The individual platoons, whose performance was not good before the exercise, now operated efficiently under much more complicated conditions and quickly made high-altitude observations (all above 24 kilometers). However, the weather reports were neither transmitted on the specified frequency nor received from the monitoring service. They were transmitted by brigade headquarters to the battalions and to the technical battery within the command network.

56. The receipt and delivery of missiles to the technical battery was handled without troops. However, one semi-trailer truck was dispatched to the rendezvous point to add some realism to this element of the exercise. Documentation for the consigned missiles was received and the consignee retained it for the time required to receive the designated number of missiles. The technical battery actually performed the combat operation related to the preparation of missiles by using a real missile.

57. In its calculations, the brigade ordnance de-

partment neither considered nor relied on the reports about missile supply and the progress of the work in the technical battery. This contributed to a difference between the hypothetical estimates and the actual situation. It was found that the missiles which were received by the operational-tactical missile regiment (POT) and, in turn, by the battery commanders, were not closely checked. In many cases, these functions were limited to formal inspections and to demands for the removal of verified deficiencies and defects that could be done in a relatively short time by the participating maintenance shops.

58. After the march, the equipment was not inspected in all launching batteries; therefore, the commanders were not fully aware of the actual degree of its efficiency. The minor defects and deficiencies which were not eliminated became apparent during actual operations.

59. The 5th and 1st Artillery Batteries were alternately placed in a Number Two state of readiness immediately after their deployment and during the organization of the first strike. Furthermore, the other launching batteries were inspected in turn in order to check their capability for accomplishing fire missions after a long march. The work tempo of the on-duty fire platoons was too slow and their technical performance was unsatisfactory. Individual duty personnel made many mistakes which had not been made during their previous training. Unexpected technical deficiencies, primarily in the electrical systems of the launchers, hampered the inspection. Although it is undeniable that the heavy workload of the operators affects the operational speed and accuracy of the launcher crews, it was found that the fire platoons of the batteries (primarily the 2nd and 5th Artillery Batteries) were not fully trained and had serious difficulty in carrying out their assigned fire missions.

60. It is concluded that after a long march the missile brigade should have a minimum of six to eight hours for checking equipment and personnel should have a short rest period before the brigade undertakes its fire missions.

61. The brigade staff updated the nuclear-strike schedule and the brigade combat operations map as the new data for the first strike were received. At the same time

the changes, which were introduced in the form of coded fire orders, were transmitted to the battalions.

62. At 0230 hours on 16 June, all batteries were placed in the Number Two state of readiness, in accordance with the directive which was received. Five launching batteries which were assigned to make nuclear strikes in the first salvo attained the Number One state of readiness at 0307 hours. This readiness state was maintained until 0423 hours. The first salvo was fired after the signal was received.

63. Three batteries made the strike in the second salvo at 0700 hours. Only one battery received a real missile. The rest of the batteries did not perform the actual operation and maneuver. Only the operational-tactical missile brigade command was fully tested. On the other hand, the combat operation of the remaining batteries was inspected after the second salvo was fired.

64. By 0900 on 16 June, the brigade carried out two other unscheduled fire tasks with the batteries on duty in order to influence the conduct of the operations.

65. The brigade commander and the chief of staff alternately directed the fire when the fire readiness of the brigade was being increased and the first strike was being made. The brigade staff was divided into two units. The duties of each officer were rationally and precisely defined. It took the brigade staff about 50 seconds on the average to receive an order, reach a decision, and transmit the order to the battalion.

66. Communications for commanding and directing fire operated efficiently in the launch site area. However, the necessity, from the technical aspect, of interruptions in the operation of radio-relay equipment, was sometimes overlooked. Interruptions in radio-relay operations also require the staffs to make wider use of ultra-short-wave radios and to receive training in the transmission of fire orders on this parallel radio channel, which is more difficult to use. The brigade headquarters did not have direct communications with the batteries on duty because of the shortage of suitable means of communications. Whenever necessary, the brigade headquarters established communica-

tions through the proper radio network, or ordered the battery on duty to make a connection with the battalion-brigade radio-relay link via the battalion telephone exchange. The use of the battery on duty cannot be considered a satisfactory solution to this problem.

67. In the variant plan for the deployment of the brigade from the march to an unscheduled area, the problem of engineering support was not properly solved in the exercise. This variant plan was not taken into consideration in the plan for engineer support. The organic engineer equipment company and the battalions arrived simultaneously at the deployment area. The work assigned to the company was of a somewhat experimental nature and could provide support for only one launching battery, because of its low capability relative to requirements and its limited number of equipment-operating hours. Furthermore, this work, which was performed under daytime conditions, gave away the brigade deployment area. The brigade engineer equipment company was not able to provide adequate concealment for the personnel of the brigade fire control and command units because of the shortage of collapsible shelters and the means to transport them.

68. Camouflage for the brigade combat formation in the launch site area was inadequate. It was possible to draw up a very accurate plan of the brigade combat formation on the basis of data obtained from artillery aerial reconnaissance which was conducted by means of visual observation and photography.

69. The following elements particularly revealed the presence of the brigade:

- antiaircraft artillery gun emplacements of the brigade combat-formation main elements assigned to provide cover;
- helicopters on the landing pads located near the brigade command post;
- personnel and vehicle traffic during overflight by reconnaissance aircraft;
- poor camouflaging of aircraft and duty posts

which were located in the open;

- disregard for the element of cover in the deployment of vehicles in the wooded areas (along tree rows and roads); and

- prolonged delay in spreading camouflage netting after arriving in an area.

70. In regard to the problem of defense and security for the brigade combat-formation elements, more consideration was given to those elements which are targets of special interest for enemy reconnaissance-sabotage groups. Efforts were also made to ensure a capability of flexible response in particular directions of threat by maintaining a reserve with the brigade headquarters. However, the capabilities of the brigade for this type of response to an emergent threat were not substantiated in practice because of the inadequate mobility of the attached regimental motorized battalion (GAZ-51 Lublin trucks) and the inferior operation of the regimental motorized battalion's intercommunications system as a result of the extensive dispersal.

71. The following basic conclusions are derived from the problems which were tackled in this exercise.

a. Maintaining the brigade's full capability for immediate withdrawal from garrison, for its movement in a motorized column over a great distance, and for its rapid attainment of fire readiness after deployment from the march requires the complete coordination of the brigade commands and staffs and the battalions, the systematic training of the individual duty personnel, units and subunits in a program of regular classwork and tactical exercises, and the maintenance of combat equipment in a condition of full mechanical efficiency.

b. The problems of simultaneously directing the alert and withdrawing the brigade and of planning and organizing a long-distance march require correct handling of organizational matters and considerable operational effectiveness on the part of the brigade command and staff. It appears that the brigade command and staff should be divided into two units in this variant plan of operation.

TS #197303
Copy # 2

- The first unit, which would be composed of the brigade commander, the deputy commander for political affairs, the deputy chief of staff and one operations officer, the chief of communications, the cipher officer, the chief of the motor-transport service, the chief of combat engineers, the chief of chemical defense and the quartermaster officer. It should formulate decisions for the march, draft the necessary orders, plan the march, implement the decisions and orders of the brigade commander and submit the proper reports to higher headquarters.

- The second unit, which would be composed of the brigade chief of staff, the deputy commander for technical affairs, the operations officer and the communications officer, should direct the operation of the alert and the gradual implementation of the decisions by the echelon (column) commanders of the particular elements for the proper formation of the brigade columns and for withdrawing the brigade to the staging center at the scheduled time.

- The brigade deputy commander of line operations and the brigade quartermaster, who are the commanders of the columns, should not be directly engaged in the work of the aforementioned units. They should concentrate their efforts on quickly withdrawing the individual elements which compose their columns from the barracks installation and forming them into a march column, in accordance with the commander's plan of action.

c. It is possible to move the operational-tactical missile brigade a long distance by making a two-to-three day day-and-night march at a rate of 200 to 250 kilometers per day. Furthermore, concealment of the march cannot be fully maintained if part of the march must be carried out during the day.

d. It is unnecessary to dispatch a reconnaissance group under conditions for regrouping the brigade before the outbreak of war in a zone which precludes the possibil-

ity of deploying the brigade on a route prepared and secured by the National Territorial Defense Forces. The mission of guiding the columns and selecting the halt area can be accomplished by small, mobile security patrols operating at the head of the columns of light- and heavy-equipment echelons.

e. It is advisable to divide the brigade column into a light- and heavy-equipment echelon in order to make the march outside the zone of combat operations, if it is economical for the light-equipment echelon to make the march and the physical hardships are reduced /two or three words missing/.

f. /First part of line missing/ ... the operational-tactical missile brigade with the means of crossing the river in the troop movement command and control zone is a completely realistic undertaking. The brigade can make the entire crossing on a ponton bridge having a minimum load capacity of 50 tons or by the combined use of a ponton bridge and ferries having 70-ton and 100-ton capacities /sic/.

g. Command of the brigade column during the march is a complicated problem which required concentration of efforts by all commanders and staffs. Additional research on the forms and methods of command are absolutely necessary. Maintaining communications is the major problem. Therefore, it is advantageous to move the operational-tactical missile brigade on one of the main army routes, along which the axis of communications is ensured.

h. It is possible to deploy the operational-tactical missile brigade directly after a prolonged march to make immediate nuclear-missile strikes. However, the last sector of the march before reaching the planned deployment area should not be longer than 100 kilometers and a long halt should be made before reaching this sector in order to inspect equipment and to rest personnel.

i. It is entirely possible to detach an operational-tactical missile battalion from the operational-tactical missile brigade to conduct independent operations, provided the battalion is adequately reinforced and provided with materiel.

TS #197303
Copy # 2

j. The antiaircraft artillery regiment which is detached to provide antiaircraft cover for the brigade is not fully able to accomplish its mission of providing antiaircraft cover for the brigade during the march and in the launch site area with its current organizational strength (two battalions of 85-mm guns). It appears that the most suitable weapons for covering the brigade would be 12 to 15 small-caliber, four-barrel antiaircraft guns of the "Szylek" type. [redacted] Comment: Presumably this is a Polish name for the 14.5-mm ZPU-4./

k. The motorized infantry battalion which is designated to defend and cover the operational-tactical missile brigade should be equipped with armored transporters which are capable of shifting to the side roads and taking short cuts from the main route of the brigade.

l. To increase the operational efficiency of the brigade, it would be advisable to include the following equipment in the table of organization:

- One reserve heavy prime mover for each operational-tactical missile battalion and engineer company to replace equipment in case of a serious breakdown, thereby ensuring the continuous movement of a launcher or piece of engineer equipment.

- One cross-country truck for each launching battery. At present, the battery does not have a vehicle to transport the personnel of the fire platoon. In this situation, duty personnel of the fire platoon are transported under conditions which violate the work-safety and hygiene regulations and which restrict the possibility of arranging a rest period during the march.

- One automatic radio meteorological station for the meteorological battery. The meteorological battery, which is composed of three stations, cannot always ensure full self-sufficiency for the brigade in this regard, especially when the battalions are operating independently or at considerable intervals from each other.

TS #197303
Copy # 2

- Two R-403 radio-relay units for the brigade command battery to provide efficient mobile communications with the technical battery and with the batteries on duty.

- One mobile battery-charger unit for the combined maintenance shops to meet the communications needs of the brigade headquarters and subunits. The communications equipment of these elements is currently operated on the storage-battery power supply of the battery-charger unit which is stationed at the garrison.

- Four heavy prime movers and flatbed semi-trailers for the engineer equipment company to transport the artillery tractor dozers (BAT) and also four truck-launched bridges (SMT) to provide support for the movements of the operational-tactical missile brigade in the launch site area.

72. It would also be beneficial to study the possibilities of producing tubeless tires for the flatbed semi-trailers. The large number of tube failures during the exercise contributed considerably to reducing the rate of march of the launch batteries. It should be noted that the march was made exclusively on asphalt roads.

73. Further elaboration of the experiences and conclusions presented in this article, and their testing in practice during subsequent exercises, can give added substance and reality to the principles of organization and performance of a long-distance march by an operational-tactical missile brigade and its deployment and preparation to carry out nuclear-missile strikes.