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imagery analysis report

Soviet Mobile Missile Summary

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SOVIET MOBILE MISSILE SUMMARY
22 MAY—16 SEPTEMBER 1979 (TSR)

INTRODUCTION

1. (TSR) This report updates information in a previous report[1] on SS-20 field training activity, mobile missile equipment, and construction progress observed at deployed SS-20 mobile IRBM bases; the report also summarizes significant mobile missile activity seen at two offensive missile test centers, three production facilities, a research/training facility, and at several command and control facilities in the USSR (Figure 1). Seven field-deployed training exercises were observed, and two new mobile bases were identified. Two new missile load simulators, construction of a new three-bay garage, and apparent modifications to the electronics area were seen at Kapustin Yar. At Plesetsk, a drive-through structure had been erected. A minimum number of 41 single-bay garages were fabricated, and a minimum number of 47 garages were shipped from Bryansk. Modifications of command post bunkers were underway at the Yurya and Verkhnyaya Salda complexes, and a helix antenna has been added at Chita Strategic Rocket Forces (SRF) Army Command Post/Bunker/Hard. . Included in this report are a location map, annotated photographs, and tables.

NEWLY IDENTIFIED MOBILE BASES

2. (TSR) Olovyannaya Mobile IRBM Base 1 (Figure 2) was confirmed as a mobile base This new base is approximately 200 kilometers (km) east of Drovyanaya SSM Complex and was in the early stage of construction. The Olovyannaya base is the easternmost of the SS-20 bases. An operations area was under construction 500 meters east of the dismantled SS-7 triple silos at former Olovyannaya SSM Launcher Position 1. Nine single-bay and three three-bay garage foundations are also present. No additional construction of support buildings was underway. The terrain in the Olovyannaya region is largely barren, with scattered areas of vegetation cover.

3. (TSR) Smorgon Mobile IRBM Base 2, the fourth base in the Postavy Division, the base consisted of foundations for four single-bay garages and for one three-bay garage (Figure 3) in the old SS-5 IRBM launch area. The foundation for an 11-bay garage was seen in the support area. Several new revetments are in the SSM training area, approximately 3 km south of the base. Preliminary construction, which included temporary support barracks for construction personnel,

4. (TSR) a total of 20 bases and one probable base had been located and identified (Table 1); of these, 13 were either complete or in the late stage of construction. The SS-20 mobile IRBM bases are now distributed in the following geographic regions—seven bases are in the western USSR (Belorussia), four are in the Ural Mountain region, three are in west Siberia, and six are in east Siberia.

FIELD TRAINING

5. (TSR) The first observed SS-20 field training at a mobile IRBM base in the western USSR was identified at Postavy On that date, six probable SS-20 vehicles were deployed in a heavily wooded area 1 km west of Postavy Mobile IRBM Base. The vehicles were aligned along a loop road at a former SS-4 fixed-field site. No activity had been seen at the fixed-field site for several years. The dense tree canopy in the area precluded the identification of additional vehicles. No SS-20 transporter-erector-launchers (TELs) could be identified, and the exercise may have been a command, control, and communications exercise. In addition, the identification of new SS-20-size revetments approximately 15 nm southwest of the base suggests that SS-20 missile launch equipment is also involved in field training exercises at Postavy.

6. (TSR) Three separate SS-20 field training exercises were observed at Drovyanaya SSM Complex during the first week in August. SS-20 vehicles were observed in two areas near Drovyanaya Rail-to-Road Transfer Point (RTP). The first SS-20 launch unit containing at least two SS-20 TELs with missile canisters and seven additional vehicles was in a revetted area 1 km south of the RTP. The second SS-20 unit was in newly constructed revetments 1 km north of the RTP. At least seven vehicles were present these areas were empty and seven revetments at Drovyanaya Revetment Area 1 were occupied Revetment Area 1 was empty, and SS-20 equipment was observed in ten newly constructed revetments 2 km west of Revetment Area 1. Further, probable SS-20 activity occurred in this same area with only four revetments occupied on each day.

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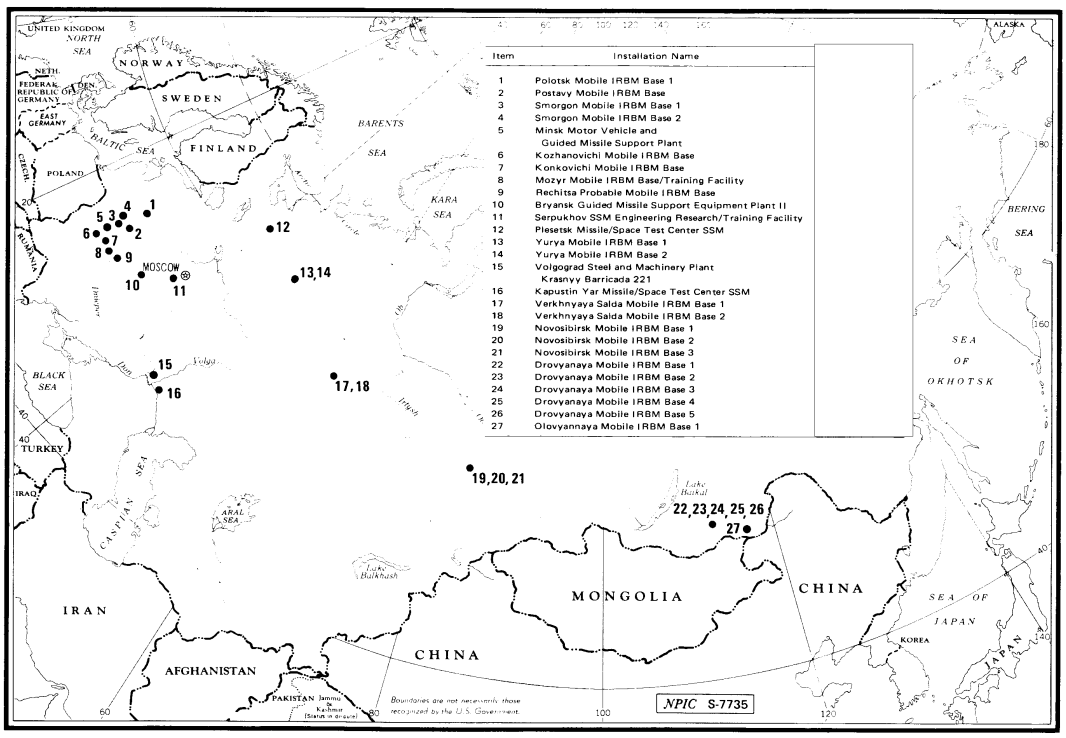

FIGURE 1. LOCATIONS OF SS-16/-20 ACTIVITY, USSR

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Table 1. Summary of SS-20 Construction at Deployed Areas
This table in its entirety is classified TOP SECRET RUFF

	SSM Installation Name	First Identified	OPERATIONS AREA: Single-Bay Garage Complete	Single-Bay Garage Ucon	3-Bay Garage Complete	3-Bay Garage Ucon	11-Bay Garage Complete	11-Bay Garage Ucon	Construction and/or Modifications Complete	GENERAL SUPPORT AREA/NUCLEAR PAYLOAD HANDLING FACILITY: 11-Bay Garage (66 x 18m) Number	11-Bay Garage (66 x 18m) Construction Complete	Tech Support Bldg Number	Tech Support Bldg Construction Complete	High Two-Bay Bldg Number	High Two-Bay Bldg Construction Complete	Clerestory Bldg Number	Clerestory Bldg Construction Complete	C-Shaped Hq/Admin Bldg Complete	C-Shaped Hq/Admin Bldg Ucon	Status of Construction at RTP	Remarks/Comments
EASTERN USSR	Drovyanaya Mobile IRBM Base 1	Jul 76	9	--	3	--	1	--	Yes	1	Yes	0*	--	0*	--	0*	--	0	--		Personnel shelters ucon near athletic field
	Drovyanaya Mobile IRBM Base 2	Feb 77	9	--	3	--	0	--	Yes	2	Yes	0	--	0	--	0	--	0	--		Personnel shelters ucon in support area
	Drovyanaya Mobile IRBM Base 3	Nov 77	9	--	3	--	0	--	Yes	2	Yes	0	--	0	--	0	--	0	--		
	Drovyanaya Mobile IRBM Base 4	Nov 78	0	7	0	3	0	--	No	1	No	0	--	0	--	0	--	0	--		Personnel shelters ucon near support area
	Drovyanaya Mobile IRBM Base 5	Apr 79	4	5	2	1	0	--	No	0	--	0	--	0	--	0	--	0	--		No significant activity/construction has been observed since [redacted] 25X1 However, construction has continued on temporary barracks/support area for construction personnel
	Olovyanaya Mobile IRBM Base 1	May 79	0	9	0	3	0	0	No	0	0	0	--	0	--	0	--	0	--		
CENTRAL USSR	Novosibirsk Mobile IRBM Base 1	Jan 77	9	--	3	--	0	--	Yes	2	Yes	0*	--	0*	--	0*	--	0	1		25X1
	Novosibirsk Mobile IRBM Base 2	Dec 77	9	--	3	--	0	--	Yes	2	Yes	0	--	0	--	0	--	0	--		
	Novosibirsk Mobile IRBM Base 3	Jun 78	7	2	3	--	0	--	No	2	Yes	0	--	0	--	0	--	0	--		Two 11-bay garages end-to-end in support area
	Verkhnyaya Salda Mobile IRBM Base 1	Feb 78	9	--	3	--	0	--	Yes	2	Yes	0*	--	0*	--	0*	--	0	--		
	Verkhnyaya Salda Mobile IRBM Base 2	Jan 79	9	--	3	--	0	--	Yes	2	Yes	0	--	0	--	0	--	0	--		
	Yurya Mobile IRBM Base 1	Apr 78	9	--	3	--	0	--	Yes	1	Yes	0*	--	0*	--	0*	--	0	--		
	Yurya Mobile IRBM Base 2	Jan 79	9	--	3	--	0	--	No	2	Yes	0	--	0	--	0	--	0	--		Additions to single-bay garages still ucon
WESTERN USSR	Konkovichi Mobile IRBM Base	Nov 75	9	--	3	--	1	--	Yes	2	Yes	1	Yes	1	Yes	1	Yes	1	--	Complete	C-shaped hq/admin bldg & vehicle maint bldg at fueling facility externally complete
	Kozhanovichi Mobile IRBM Base	Jul 76	9	--	3	--	1	--	Yes	2	Yes	1	Yes	1	Yes	1	Yes	0	1	Complete	C-shaped hq/admin bldg in midstage of construction
	Mozyr Mobile IRBM Base Training Facility	Oct 76	9	--	3	--	0	--	Yes	3	Yes	1	Yes	1	Yes	1	Yes	1	--	Steamplant externally complete	
	Postavy Mobile IRBM Base	Oct 77	9	--	3	--	0	--	Yes	2	Yes	1	Yes	1	Yes	1		0	1	Complete	
	Smorgon Mobile IRBM Base 1	Apr 78	9	--	3	--	0	--	Yes	2	Yes	1	Yes	1	Yes	0	--	0	--	Complete	SS-5 GSE bldg prob being used in place of clerestory bldg
	Smorgon Mobile IRBM Base 2	Aug 79	0	4	0	1	0	--	No	1	No	0	--	0	--	0	--	0	--		
	Rechitsa Prob Mobile IRBM Base	Sep 78	--	--	--	--	--	--	--	2	No	1	No	1	No	1	No	0	--		No single-bay garage foundations to date; construction more closely resembles Mozyr
	Polotsk Mobile IRBM Base 1	Oct 78	9	--	3	--	0	--	Yes	2	No	1	No	1	No	1	No	0	--		[redacted] POL storage & fueling facility in midstage of construction 25X1

Red indicates changes since [redacted] 25X1

*The former SS-7 ICBM complexes in the central and eastern USSR currently have nuclear payload handling facilities under construction at their RTPs; these areas consist of high two-bay, technical support, and clerestory buildings.

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7. (TSR) Twelve SS-20 TELs were known to have participated in the Drovyanaya exercise these TELs may have been deployed in units of six each. It cannot be determined from photographic analysis whether the field-deployed units in the August exercises belong to one support base or whether units from different bases participated. Mobile IRBM bases 1, 2, and 3 are considered to be operational within the Drovyanaya SSM Complex.

8. (TSR) Other SS-20 field training exercises were seen near the RTP at Novosibirsk, in an identified training area, a communications unit was deployed 1.5 km north of the RTP; this unit occupied the same area that a communications unit had during the large regimental exercise Eleven net-covered vehicles were observed dispersed along the treeline of a large clearing. Three probable MAZ-543 missile support vehicles (MSVs), two probable van trucks, a probable TWIN EAR mobile troposcatter communications unit, a probable URAL-375 support van, and a BTR-60PB personnel carrier could be identified. An antenna mast was attached at the rear of one of the MAZ-543 MSVs. In addition, a large unidentified probable MAZ vehicle was 3 km southeast of the communications unit. The vehicle was well camouflaged and was parked in the trees.

9. (TSR) a single SS-20 launch line was field deployed in the same general training area as the exercise. Three probable SS-20 TELs with canisters and a probable MAZ-543 MSV were observed despite the extensive use of camouflage. Additional vehicles may have been present but not observed. , the equipment was no longer present, but distinctive imprint patterns from SS-20 TEL leveling jacks were clearly visible along the edge of the clearing. A separate field training exercise was also underway At least six net-covered SS-20 vehicles were present, and additional vehicles could have been present but obscured by trees. This area had not been seen occupied since the first SS-20 field training exercise was observed

TRENDS AND DEVELOPMENTS AT DEPLOYED BASES

13. (TSR) A significant increase in the quantity of SS-20 equipment, as well as operational activity, was observed during the summer months at deployed mobile IRBM bases. It is unclear at this time whether the Soviets are becoming less sensitive about camouflage procedures within the garrison or whether large numbers of SS-20 equipment recently arrived at several mobile bases. of Novosibirsk Mobile IRBM Base 2 showed elements of an SS-20 battalion parked on open hardstands within the SS-20 operations area. Two SS-20 TELs with canisters, two probable MAZ-543 MSVs, and one unidentified MAZ vehicle were present (Figure 9). A third SS-20 TEL with canister appeared to be parked inside a single-bay garage; this TEL was observed through open front doors, and shadow precluded positive identification of the vehicle. Four additional SS-20 vehicles were parked in front of an 11-bay garage in the support area. This was the first observation of SS-20 TELs with canisters while in garrison.

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14. (TSR) Postavy SSM Training Facility enabled a detailed analysis of two previously observed SS-20 vehicles. One of the vehicles was a confirmed SS-20 TEL carrying a load simulator (Figure 10) similar to one observed at Kapustin Yar Missile/Space Test Center (MSTC) SSM. vehicle appeared to have a six-axle chassis similar to the SS-20 TEL, but it was about 2 meters longer. The reason for the additional length and function of the vehicle has not been determined.

15. (TSR) an SS-20 missile canister was identified for the first time at Postavy Mobile IRBM Base (Figure 11). In addition, a resolution target was also present at the Postavy SSM Training Facility, suggesting a possible Soviet reconnaissance test over the area.

16. (TSR) Three probable SS-20 warhead canisters were seen in a special training area within the The canisters were positioned on the extended warhead handling tray at the rear of a type I warhead van, and a truck-mounted crane was beside the van. Three probable SS-20 payload canisters had been seen earlier. The canisters were lying on the ground and were next to a type I warhead van with its handling tray extended. Mensuration of all the canisters revealed two different sizes—the canisters seen the canister seen The reason for the two different sizes of canisters is unclear at this time.

17. (TSR) A higher than usual level of vehicular activity was also seen near the 11-bay garage at Yurya Mobile IRBM Base 1. eight unidentified SS-20-associated vehicles were seen in front of the garage, and four van trucks were seen probable MAZ-543 MSV and a van were observed parked on the soccer field at Drovyanaya Mobile IRBM Base 3 ; an SS-20 towed canister transporter/dolly was parked in the support area at Postavy Mobile IRBM Base and an SS-20 TEL with load simulator was identified at the Yurya ICBM Complex Support Facility, approximately 7 nm south of the Yurya RTP.

18. (TSR) In addition to an increase in the SS-20 equipment observed, a substantial increase in the construction of revetment areas was also noted during the summer months. Eight separate revetments areas are now in close proximity to SS-20 support bases at Drovyanaya. Two newly constructed revetment areas were added within the Yurya SSM Complex; one large revetment area was added at Postavy; and the extensive revetment area at the Novosibirsk SS-20 Training Area now appears to be complete. Revetment areas are characterized by long drive-through and drive-in revetments and are reinforced by interior retaining walls.

MISSILE TEST CENTERS

Kapustin Yar Missile/Space Test Center SSM

19. (TSR) SS-20 mobile missile activity observed at Kapustin Yar MSTC was at a high level during this reporting period. The most significant activity included the start of construction on a three-bay garage, the modification of the electronics area at Kapustin Yar Medium Range Test Complex C, Site 1 , the continuing construction on two SS-20 support areas within the test center, and four SS-20 launches. Two new SS-16/-20 load simulators and a new mobile IRBM crew training area were also identified.

Launch Site 1C

20. (TSR) Construction was begun on a three-bay garage at this launch site (Table 2). foundation trenches for typical three-bay garages were observed north of the telemetry tower, between pads 1C-3 and 1C-2 (Figure 15). When this three-bay garage is complete, it will assist SS-20 launch crew training by providing realistic facilities for SS-20 launches from the single-bay garage.

21. (TSR) An unidentified modification to the H-shaped electronics pad east of 1C-3 had also occurred. four cube-shaped objects were positioned on the electronics pad, and various devices appeared to protrude from the roofs of the objects. The function of these objects has not yet been determined.

New Load Simulator

22. (TSR) Two new load simulators were observed on TELs at Kapustin Yar One was near the receiving building at the general support area, and the other was within the motor pool section of the bivouac/troop training area. The simulators were significantly smaller than the SS-16/-20 canisters. There are now five load simulator/driver-training vehicles for the SS-20 training program at Kapustin Yar.

Table 2.
Mobile Missile-Associated Garages/ Buildings at Soviet Test Centers
This table in its entirety is classified TOP SECRET RUFF

	Installation Name	PRIMARY SS-16/-20 GSE GARAGES												OTHER MOBILE MISSILE-ASSOC SUPPORT BLDGS								Remarks
		Single-Bay Garage		3-Bay Garage		6-Bay Garage		9-Bay Garage		11-Bay Garage (66 x 18m)		11-Bay Garage (66 x 24m)		Drive-In High Two-Bay (30 x 30M)		Tech Support		Clerestory		Miscellaneous		
		Complete	Ucon	Complete	Ucon	Complete	Ucon	Complete	Ucon	Complete	Ucon	Complete	Ucon	Complete	Ucon	Complete	Ucon	Complete	Ucon	Complete	Ucon	
Kapustin Yar MSTC	Msl Rec/Inst/Stor Area	0	0	0	0	2	0	1	0	1	0	0	0	0	0	0	0	0	0	10	2	
	MR/IRBM Biv/Trp Trng Area	1	2 sliding	0	1	1	0	2	0	1	0	0	0	0	0	1	0	0	0	15	1	
	General Support Area	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	7	Footing for poss 11-bay garage partially complete
	Launch Site 1C	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Plesetsk MSTC	Mobile ICBM Fac 1	6	0	0	0	0	0	0	0	2	0	1	0	0	0	1 (See Remarks)	0	1	0	3	0	Technical support bldg is a modified SS-7 GSE 2-bay garage; clerestory drive-thru bldg is almost externally complete
	Mobile ICBM Fac 2	6	0	0	0	0	0	2	1	3	0	1	0	1	0	0	0	1	0	0	2	9-bay garage still ucon is in foundation stage; high-bay bldg is connected to old SS-7 nuclear warhead/storage bunker by a covered personnel passageway; clerestory drive-thru bldg is almost externally complete
	ICBM Launch Test Site 6	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	
	ICBM Launch Test Site 5	0	0	1 (See Remarks)	0	0	0	2 (See Remarks)	0	0	0	1	0	0	1	1	0	1	0	3	2	3-bay garage is a modified, partially bunkered GSE garage & is not identical to the 3-bay garage seen at deployed SS-20 bases; however, it could house same type of GSE (MAZ-543 MSV); one of the 9-bay garages was previously reported as a 66- x 18-meter, 11-bay garage

RED indicates changes since

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SS-20 Launches

23. (TSR) Four SS-20 launches were reported during the current reporting period, all from Complex C, Site 1. The launches occurred An SS-20 missile on a TEL was observed connected by cable to a MAZ-543 MSV and a van truck (Figure 15). All of the equipment was covered with canvas/netting.

SS-20-Related Construction

24. (TSR) Construction was continuing in two SS-20 support areas at the MSTC—at the bivouac/-troop training area and at the general support area (Table 2). In the SS-20 garage area of the bivouac/troop training area, the technical support building appeared to have been externally completed and the three-bay garage was in the late stage of construction (Figure 16). Construction has not progressed on the single-bay garages.

25. (TSR) At the general support area, construction had begun on three probable barracks/-administration buildings, a possible high-bay-type building, a T-shaped possible command and control building, a square headquarters/administration building, and one unidentified foundation (Figure 17). The support structures include four quonset huts that are probably temporary barracks and one small support building, which was under construction.

26. (TSR) The size of the paved driver-training track under construction west of the general support area has been doubled; this track now covers an area of approximately 1,000 by 3,000 meters. It appears that basic SS-20 driver training will be conducted in this area when construction is complete. This will allow the bivouac/-troop training area to be used for the more specialized, technical aspects of SS-20 operations.

Mobile IRBM Crew Training

27. (TSR) There were 24 observations of field-deployed SS-20 vehicles during this reporting period. The number of field-deployed training exercises has remained relatively constant since 1977.

28. (TSR) A new mobile IRBM training area, Kapustin Yar Mobile IRBM Crew Training Area 7 , has been identified 5 km west of the Kapustin Yar Missile Receiving/Inspection/Storage Area An elongated section of vehicle tracks and ground scars, similar to those seen at other mobile IRBM training areas, was seen in an open area. No SS-20 vehicles have been observed at this site.

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Plesetsk Missile/Space Test Center SSM

29. (TSR) During the current reporting period, drive-through wooden structure was identified near Plesetsk IRBM Research and Development Training Launch Site 13 unique railcars were observed in the SS-16 area of the Plesetsk Missile Handling Facility troop formations were observed at mobile facilities 1 and 2, and a mockup vehicle with cab protruding from a canvas-covered framework was identified in a training area at mobile facility 1. Additionally, major building construction in the operations area of mobile facilities 1 and 2 and at mobile-associated launch sites 5 and 6 has been completed.

30. (TSR) open-sided wooden structure was seen under construction approximately 600 meters west of launch site 13 work on the drive-through structure appeared to be complete. revealed that canvas panels had been added to cover the sides of this structure. This canvas was not present the canvas had been staked out on either side, giving the structure a tentlike appearance (bottom photo). The structure was last observed at which time there was no change in its appearance. The purpose of this wooden structure is unknown. However, similar size structures that are probably made of tubular metal framework covered with sheets of canvas were seen in May 1973 at the test range during the development and testing of the SS-16 mobile ICBM.

31. (TSR) of the SS-16 receiving and checkout area of the missile handling facility, flatbed railcar was seen adjacent to the southeastern end of the clerestory missile receiving and checkout building. Canvas/netting was lying on the pavement and over the railroad tracks which serve the four-bay missile hold building immediately west of the clerestory building. The railcar was still present but was not seen during the remainder of the reporting period. The canvas/netting had been removed a possible rail dolly, was discernible in front of the four-bay missile hold building. A canvas-covered framework appeared to be mounted over the bed of the rail dolly. The rail dolly remained in the same location during the remainder of the reporting period. The rail dolly and flatbed railcar have not been identified with any previous solid propellant strategic missile programs and have not been seen previously at Plesetsk. a missile railcar was seen for the first time since September 1977 at the southeastern end of the clerestory missile receiving and checkout building. This railcar was not seen again during the remainder of the reporting period. Canvas had been removed from framework next to the clerestory missile receiving and checkout building

Mobile Facilities 1 and 2

32. (TSR) of mobile facility 1, seven separate troop formations and two buses were seen near the main entrance to the facility. Troop formations were seen again in the housing/support area The recent completion of construction within the operations area and the identification of troop formations suggest that this facility is actively occupied. The previously reported multistory barracks is now externally complete. Some trenches for steamline connections were still evident around this barracks. A second multistory building was in the midstage of construction in the housing area.

33. (TSR) Analysis resulted in the identification of a mockup vehicle with cab protruding from canvas-covered framework in a training area immediately east of the housing/support area. The size of this training area suggests that it is probably used for the training of personnel, although the type of training carried out in this area is unknown at this time.

34. (TSR) mobile facility 2, troops were seen in five formation groupings in front of an 11-bay garage. Engineering equipment was seen in front of the northernmost 11-bay garage. A possible BTR-60 personnel carrier was also seen parked with the engineering equipment During this time period, vehicle tracks were discernible leading into at least four bays of the 24-meter-deep 11-bay garage.

Launch Sites 5 and 6

35. (TSR) At launch site 5, no additional construction has taken place on the previously reported high, two-bay payload handling building foundation. Construction on the four-bay garage/shed has been completed. All major building construction in the GSE support area is complete.

36. (TSR) At launch site 6, engineering equipment was seen parked on the apron in front of one of the three 11-bay garages at this site. This equipment has remained at this location throughout the reporting period.

Table 3
Minimum Number of SS-20 Single-Bay Garages Fabricated at and Shipped from Bryansk Guided Missile Support Equipment Plant II

This table in its entirety is classification TOP SECRET RUFF

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Fabricated		Shipped	
Complete Garages*	Incomplete Garages	Complete Garages*	Incomplete Garages
3	4	5	5–6
0	0	0	0
0	1	3	1
2	4–5	1	4–5
0	1	0	1–2
3	3–4	4	4
2	2–3	3	2–3
2	1	2	3–4
2	4–5	2	1
0	1	1	1–2
2	4–5	0	4–5
16	25–30	21	26–33
41–46		47–54	
154–174**		140–157**	
195–220		187–211	

*Includes 2 stationary end sections and 8 sliding-roof sections.

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SINGLE-BAY GARAGE AND GROUND SUPPORT EQUIPMENT PRODUCTION AND TECHNICAL TRAINING

Bryansk Guided Missile Support Equipment Plant II

37. (TSR) Bryansk is the only known producer of SS-20 sliding-roof, single-bay garage components. During the current reporting period, a minimum number of 41 garages were fabricated, and a minimum number of 47 garages were shipped out of the plant (Table 3).

Minsk Motor Vehicle and Guided Missile Support Plant Volgograd Steel and Machinery Plant Krasnyy Barricada 221

38. (TSR) Chassis for several items of GSE which are firmly associated with the SS-16/-20 missile systems are manufactured at the Minsk plant. These include the six-axle MAZ-type chassis for the SS-16/-20 TEL/resupply vehicle, the twin-cab MAZ-543 MSV chassis seen in at least four finished configurations, and the single-cab MAZ-543SP (special purpose) chassis which is used for both [redacted] 25X1 van trucks. The SS-16/-20-associated chassis produced at Minsk are fitted-out in their various final configurations at Volgograd 221. Imagery of the Minsk and Volgograd plants only occasionally reveals the presence of these chassis/vehicles, and then only in very small numbers; therefore, it has not been possible to chart their levels of production.

Serpukhov SSM Engineering Research/Training Facility

39. (TSR) SS-20-associated activity supporting garrison-level training was continuing at this facility. When last observed [redacted]e single-bay, sliding roof garage was complete, and the arch-roofed warhead components storage bunker was partially erect. 25X1

SS-16/-20-RELATED COMMAND AND CONTROL FACILITIES

40. (TSR) Several significant developments have occurred at the command and control facilities associated with the SS-16/-20 mobile missile systems during the reporting period (Table 4). The more significant of these developments included the modification of the Yurya ICBM Complex Command Post/Bunker and of the Verkhnyaya Salda ICBM Complex Command Post/Bunker. In addition, a helix antenna, possibly for use with the airborne command post, was observed on the Chita SRF Army Command Post/Bunker/Hard.

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Table 4. Command and Control Developments at Deployed SS-16/-20-Associated Facilities [redacted] *This table in its entirety is cassified TOP SECRET RUFF* 25X1

	Active - Deactivated Under Construction	NEW SS-16/20-RELATED ANTENNAS: 30-meter Lattice Towers	30-meter Masts	Horizontal Dipole Antennas	Fishbone Antennas	Rhombic Antennas	Quadrant Antennas	Hardened Antennas	Antenna Masts	PRE SS-16/-20 ANTENNAS: Lattice Towers	Horizontal Dipole Antennas	Fishbone Antennas	Rhombic Antennas	Quadrant Antennas	Hardened Antennas	Antenna Masts	Large C-shaped Building	Small C-shaped Building	Rectangular Building	Bunker Modification Yes - No Completed	Comsat Station	Twin Ear Unit Regularly Seen	Vehicle Revetments	Comments	
Chita SRF Army																									
Drovyanaya ICBM Cplx																									
Cp/Bnk [redacted]	A	4	--	--	2	--	--	--	--	2	--	--	--	--	--	2	--	--	--	Compl	Type B (See Comments)	No	No	Trenching & excavations observed near the comsat bldg	25X1
CP/Alt/Bnk [redacted]	A	2	--	--	--	--	--	--	--	--	1	4	--	--	--	3	--	--	--	No	--	Yes	No	Parking apron for the TWIN EAR still ucon	25X1
Rad Rcvr [redacted]	A	--	--	--	--	--	--	--	--	2	3	2	--	--	3	1	--	--	--	Yes	--	No	Yes	Modification of rcvr first seen 2 Sep	25X1
Rad Xmtr [redacted]	A	--	--	--	--	--	--	--	--	--	4	--	8	--	--	--	--	--	--	(See Comments)	--	No	No	Facility now complete	
Mobile Base 1 [redacted]	A	2	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	(See Comments)	Yes	Occasionally seen	25X1
Mobile Base 2	A	2	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	No	Yes		
Mobile Base 3	A	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	No	Yes		
Mobile Base 4	U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	No	No	No construction at this site since previous report	
Mobile Base 5	U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	No	Yes		
Olovyannaya ICBM Cplx																									
CP/Bnk [redacted]	A	--	--	--	--	--	--	--	--	--	1	3	--	--	--	2	--	--	--	No	Type B	No	No		25X1
CP/Alt/Bnk [redacted]	A	--	--	--	--	--	--	--	--	--	2	4	--	--	(See Comments)	5	--	--	--	No	--	No	No	Hardened antennas deployed at co	25X1
Rad Rcvr [redacted]	A	--	--	--	--	--	--	--	--	2	4	4	--	--	1	--	--	--	--	No (See Comments)	--	No	(See Comments)	Two new bldgs ucon in the antenna field numerous small, old revetments	25X1
Rad Xmtr NE [redacted]	A	--	--	--	--	--	--	--	--	--	4	--	8	--	--	--	--	--	--	No	--	No	No		25X1
Rad Xmtr NW [redacted]	A	--	--	--	--	--	--	--	--	2	7	--	6	--	2	--	--	--	--	No	--	No	No		25X1
Mobile Base 1	U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	No	No		
Vinnitsa SRF Army																									
Mozyr MRBM Div																									
CP/Bnk [redacted]	A	--	--	--	--	--	--	2 (See Comments)	--	--	2	--	--	--	--	2	--	--	--	Compl	Type A	No	No	Two hardened Washer antennas observed & a third probably present	25X1
Rad Rcvr [redacted]	A	--	--	--	--	--	--	--	--	--	4	--	--	2	--	3 (See Comments)	--	--	--	No	--	No	No	Two masts support FORK REST antennas	25X1
Rad Xmtr [redacted]	A	--	--	--	--	--	--	--	--	--	6	--	--	2	--	4 (See Comments)	--	--	--	No	--	No	No	Two masts support FORK REST antennas (Dec 1977 imagery)	25X1
Mobile Base 1 [redacted]	U	--	--	2	--	--	--	--	--	--	--	--	--	--	--	--	--	1	ucon	--	--	--	No	Located 3.5 nm SW of the div CP & rcvr	25X1
Konkovichi MRBM Regt																									
CP/Bnk [redacted]	A	--	--	2	--	--	--	--	3	--	--	--	--	--	--	--	--	--	--	(See Comments)	No	No	No	Bldg constructed at end of the bunker & antennas erected	25X1
Rad Rcvr [redacted]	A	--	--	--	--	--	--	--	--	--	2	--	--	2	--	--	--	--	--	No	No	No	No	A series of small excavation seen in the antenna field	25X1
Rad Xmtr [redacted]	A	--	--	--	--	--	--	--	--	--	8	--	--	1 poss	--	--	--	--	--	No	No	No	No		
Mobile Base [redacted]	A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ucon	--	--	--	--	No	No	Mobile base collocated with rcvr & CP	25X1
Kozhanovichi MRBM Regt															--	--	--	--	--	No	No	--	No		
CP/Bnk [redacted]	A	--	--	--					--		--	--	--	--											25X1
Rad Rcv [redacted]	A	--	--	2	--	--	--	--	1	--	2	2	--	2	--	--	ucon	1	No	No	No	--	No (See Comments)	Many vehicle tracks seen near C-shaped bldg & 11 bay garage	
Rad Xmtr [redacted]	A	--	--	--	--	--	--	--	--	--	4	--	--	2	--	--	--	--	--	No	No	--	No		25X1
Mobile Bas [redacted]	A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	No	Mobile base collocated with rcvr & CP	
Gomel MRBM Regt																									
Cp/Bnk [redacted]	A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3	--	--	--	No	No	No	No		25X1
Rad Rcv [redacted]	A	--	--	--	--	--	--	--	--	--	2	--	--	2	--	4 (See Comments)	--	--	--	No	No	No	No	2 masts support FORK REST antennas	
Rad Xmtr [redacted]	A	--	--	--	--	--	--	--	--	--	7	--	--	4	--	--	--	--	--	No	No	No	No		25X1
Mobile Base* [redacted]	U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ucon	ucon	ucon	--	--	No	No	Completely new base & support area ucon	25X1
Omsk SRF Army																									
Novosibirsk ICBM Cplx																									
CP/Bnk [redacted]	A	2	--	--	1	--	--	--	1	2	2	--	--	--	--	2	--	--	--	Yes	--	--	--		25X1
Rad Rcv	A	1	--	--	2	--	--	--	2	1	2	4	--	--	1	3	--	--	--	--	--	--	--	1 sloping vee antenna; 1 mast supports FORK REST; 1 VHF/VHF antenna	

Table 4. (Continued)

		NEW SS-16/20-RELATED ANTENNAS								PRE SS-16/-20 ANTENNAS															
	Active - Deactivated Under Construction	30-meter Lattice Towers	30-meter Masts	Horizontal Dipole Antennas	Fishbone Antennas	Rhombic Antennas	Quadrant Antennas	Hardened Antennas	Antenna Masts	Lattice Towers	Horizontal Dipole Antennas	Fishbone Antennas	Rhombic Antennas	Quadrant Antennas	Hardened Antennas	Antenna Masts	Large C-shaped Building	Small C-shaped Building	Rectangular Building	Bunker Modification Yes - No Completed	Comsat Station	Twin Ear Unit Regularly Seen	Vehicle Revetments	Comments	
Rad Xmtr [redacted]	A	2	--	3	--	5	--	--	1	2	7	-	6	--	--	--	--	--	--	No	--	--	--		25X1
Mobile Base 1 [redacted]	A	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	No	(See Comments)	Revetments near RTP	25X1
Mobile Base 2	A	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	No	--		
Mobile Base 3	U	(See Comments)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	No	--	1 prob lattice tower observed on the ground	
Smolensk SRF Army																									
Postavy MR/IRBM Div																									
CP/Bnk [redacted]	A	1	--	3	--	--	1	--	--	--	1	--	--	--	--	2	--	--	--	compl	No	Yes	No	Considerable activity & construction here since previous report	25X1
Rad Rcvr [redacted]	U	2	--	--	--	--	--	--	--	--	removed	--	--	--	--	removed	--	--	--	Yes	No	No	No		25X1
Rad Xmtr	A	--	--	--	--	--	--	--	--	--	9	--	--	--	--	6	--	--	--	No	No	No	No		
Postavy MRBM Regt																									
CP/Bnk [redacted]	A	--	--	2	--	--	--	--	--	--	--	--	--	--	--	--	ucon	--	--	compl	No	(See comments)	No	TWIN EAR seen at 11 bay garage	25X1
Rad Rcvr [redacted]	D	--	--	--	--	--	--	--	--	--	removed	--	--	removed	removed	--	--	--	--	No	No	No	No		25X1
Mobile Base [redacted]	A	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	No	Yes	No	Mobile base collocated with regt CP & rcvr	25X1
Smorgon MRBM Regt																									
CP/Bnk [redacted]	A	--	--	2	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--	compl	No	No	No		25X1
Rad Rcvr [redacted]	D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	No	No	No		25X1
Rad Xmtr	A	--	--	--	--	--	--	--	--	--	4	--	--	2	--	--	--	--	--	No	No	No	No		
Mobile Base 1 [redacted]	U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	No	No	No		25X1
Mobile Base 2	U	--	--	--	--	--	--	--	--	--	2	--	--	--	--	--	--	--	--	--	No	No	No		
Polotsk MRBM Regt																									
CP/Bnk [redacted]	A	--	--	2	--	--	--	--	2	--	--	--	--	--	--	1	--	--	--	Yes	No	No	No		25X1
Rad Rcvr [redacted]	D	--	--	--	--	--	--	--	--	--	--	--	--	--		(See Comments)	--	--	--	No	No	No	No		25X1
Rad Xmtr	A	--	--	--	--	--	--	--	--	--	6	--	--	2			--	--	--	No	No	No	No	Mast supports a FORK REST antenna	
Mobile Base [redacted]	U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	No	No	No		25X1
*Rechitsa Prob Mobile IRBM Base																									
**Polotsk/Disna MRBM Regt Xmtr																									
Orenburg SRF Army																									
Verkhnyaya Salada ICBM Cplx																									
CP/Bnk [redacted]	A	--	--	5 ucon	1 ucon	--	--	--	--	2	1	--	--	--	--	2	--	--	--	ucon Yes	No	No	--	Prob SS-20 conversion just beginning	25X1
Rad Rcv	A	--	--	--	--	--	--	--	--	--	2	2	--	2	2	5 (See Comments)	--	--	--	--	No	No	--	1 FORK REST	
Hq Spt Rc [redacted]	A	--	--	--	--	--	--	--	--	--	1	2	--	--	--	2	--	--	--	--	No	No	--		25X1
Rad Xmtr	A	--	--	--	--	--	1	--	--	--	7	--	3	1	--	4 (See Comments)	--	--	--	ucon Yes	No	No	--	2 FORK REST	
Mobile Base 1 [redacted]	U	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	No	No		25X1
Mobile Base 2	U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	No	No		
Vladimir SRF Army																									
Yurya ICBM Cplx																									
CP/Bnk [redacted]	A	2 ucon	--	--	1 ucon	--	--	--	--	2	2	1	--	--	--	3 (See Comments)	--	--	--	ucon Yes	No	No	--	Bunker modification underway; 1 mast for R-400	25X1
Rad Rcvr [redacted]	A	--	--	--	--	--	--	--	--	--	8	--	--	2	--	2 (See Comments)	--	--	--	--	No	No	--	2 FORK REST antennas	25X1
Rad Xmt	A	--	--	--	--	--	--	--	--	--	10	--	1	--	--	6 (See Comments)	--	--	--	--	No	No	--	3 FORK REST antennas 1 R-400	
Mobile Base 1 [redacted]	A	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	No	Yes		25X1
Mobile Base 2	U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	No	No		

25X1

Chita

41. (TSR) A probable four-element helix antenna was observed atop a hexagonal pedestal at the Chita SRF Army Command Post/Bunker/Hard This is the first time an antenna of this type has been observed at a Soviet SRF command and control facility. The antenna was not present in December 1978. The hexagonal pedestal, however, has been present on the bunker since 1973.

42. (TSR) A helix antenna of the type observed is most commonly associated with telemetry, space tracking, and satellite communications; helix antennas, however, are also used for ultra-high-frequency/very-high-frequency microwave communications.

43. (TSR) Two buildings were under construction near the Chita SRF Army Command Post/Bunker/Hard, and an excavation was observed on the eastern side of the bunker. The building near the northern end of the bunker is a small support structure; the other building is a large rectangular, peak-roofed, single-story building at the southeast side of the bunker, near the control building. This large building is similar to a building seen under construction in July 1978 at Smolensk SRF Army Command Post/Bunker/Hard

Drovyanaya

44. (TSR) Excavations were observed on the control bunker at Drovyanaya ICBM Headquarters Radio Communications Receiver/Bunker/Hard The excavation of this complex receiver control bunker is similar to that observed for the modifications at Postavy IR/MRBM Division Headquarters Radio Receiver/Bunker/Hard and at Drovyanaya ICBM Complex Command Post/Bunker (

45. (TSR) Two excavations were also observed near the Drovyanaya Communications Satellite (comsat) Station These excavations were first observed in June and are connected by a cable trench to the comsat building. During the summer of 1979, a variety of shipping crates and boxes was seen near the comsat building, indicating that some internal modification may have taken place. In addition, an unusually large number of vehicles have been observed at the comsat building since modification of the command post bunker began in April 1978.

Konkovichi

46. (TSR) A TWIN EAR mobile troposcatter communications unit was seen in an operational mode in front of the 11-bay garage near Konkovichi MRBM Regimental Command Post/Bunker on The TWIN EAR antennas were oriented approximately 125 degrees, probably toward Mozyr. No cable trenches or other connections were seen between the TWIN EAR and the command post/-bunker or the 11-bay garage.

47. (TSR) The large C-shaped building in the support area at Konkovichi MRBM Launch Site 1 was nearly complete. This building has been identified as a probable headquarters/administration building and is similar to multistory C-shaped buildings seen at other SS-20-related bases.

Kozhanovichi

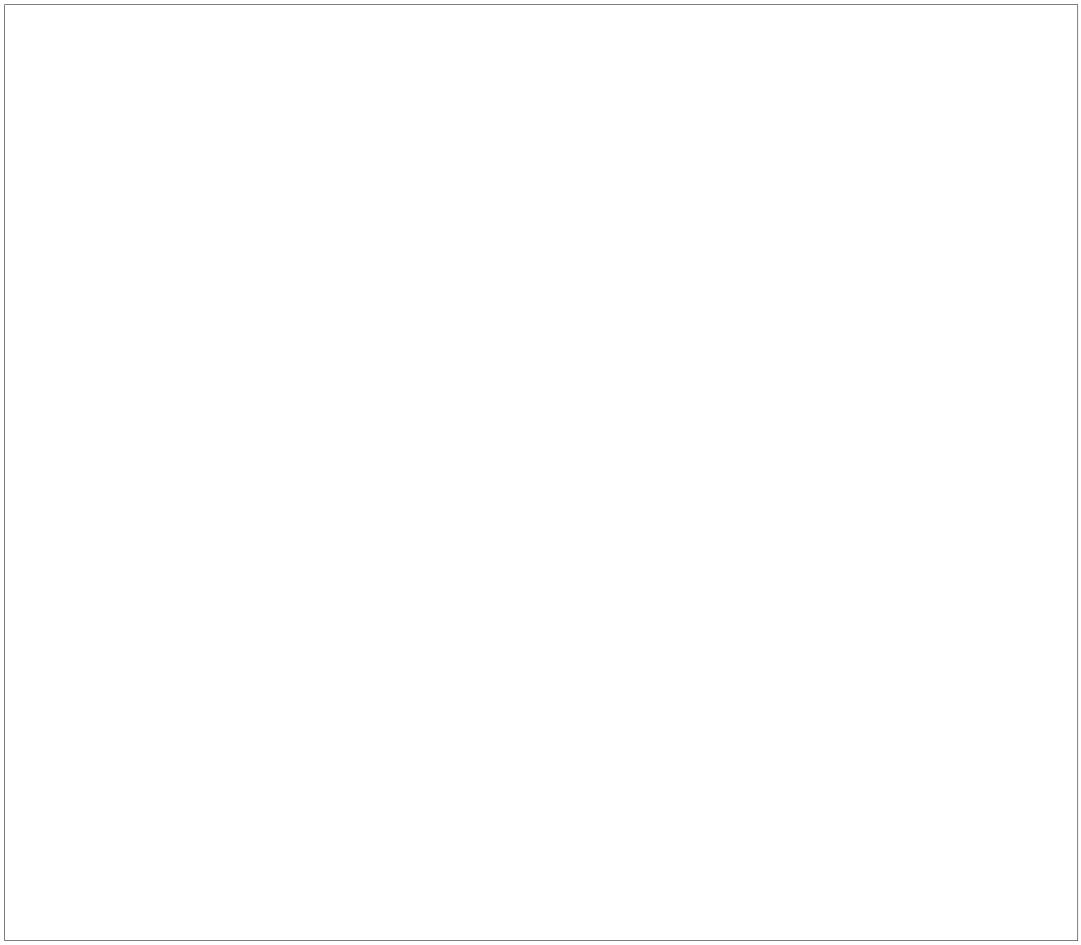
48. (TSR) A large multistory C-shaped probable headquarters/administration building was under construction near the Kozhanovichi MRBM Regimental Receiver/Bunker/Hard This building is similar to the one that was nearly complete at Konkovichi MRBM Regimental Command Post/Bunker.

Mozyr

49. (TSR) Modifications to Mozyr MRBM Division Command Post/Bunker although the facility had been completed by at least November 1978. At least two, and probably three, hardened Washer antennas had been completed as of June near the command post/bunker. In addition, a small rectangular building had been completed near the northern edge of the bunker, and a large excavation on the northern edge of the bunker had been backfilled.

Olovyannaya

50. (TSR) A new building was under construction in the antenna field of the Olovyannaya ICBM Headquarters Radio Receiver/Bunker/Hard . This building was first seen under construction in September 1978. Construction of this building may be related to that of Olovyannaya Mobile IRBM Base 1, which was first identified in an early stage of construction in May 1979.



25X1

Polotsk

51. (TSR) Excavations for modifications of the Polotsk MRBM Regimental Command Post/Bunker [redacted] By August, modifications were complete, and the excavations had been backfilled. In addition, a frequency-diverse pair of horizontal dipole antennas and two communications-related masts had been erected near the command post/bunker. The horizontal dipole antennas are oriented approximately 80 degrees toward Moscow.

25X1
25X1

Postavy

52. (TSR) [redacted] all aboveground antennas and antenna masts had been removed from Postavy MRBM Division Headquarters Radio Receiver/Bunker/Hard [redacted] An excavation was also observed on the eastern side of the bunker at that time. [redacted] the excavation had been backfilled, and two 30-meter lattice towers had been erected near the southern end of the bunker (Figure 21). This is the first time that lattice towers of this type have been observed at an SRF radio receiver facility at a deployed SS-20 base.

25X1
25X1
25X1

53. (TSR) A large C-shaped building, similar to those seen at Konkovichi and Kozhanovichi, was under construction near the Postavy MRBM Regimental Command Post/Bunker [redacted]

25X1

Rechitsa

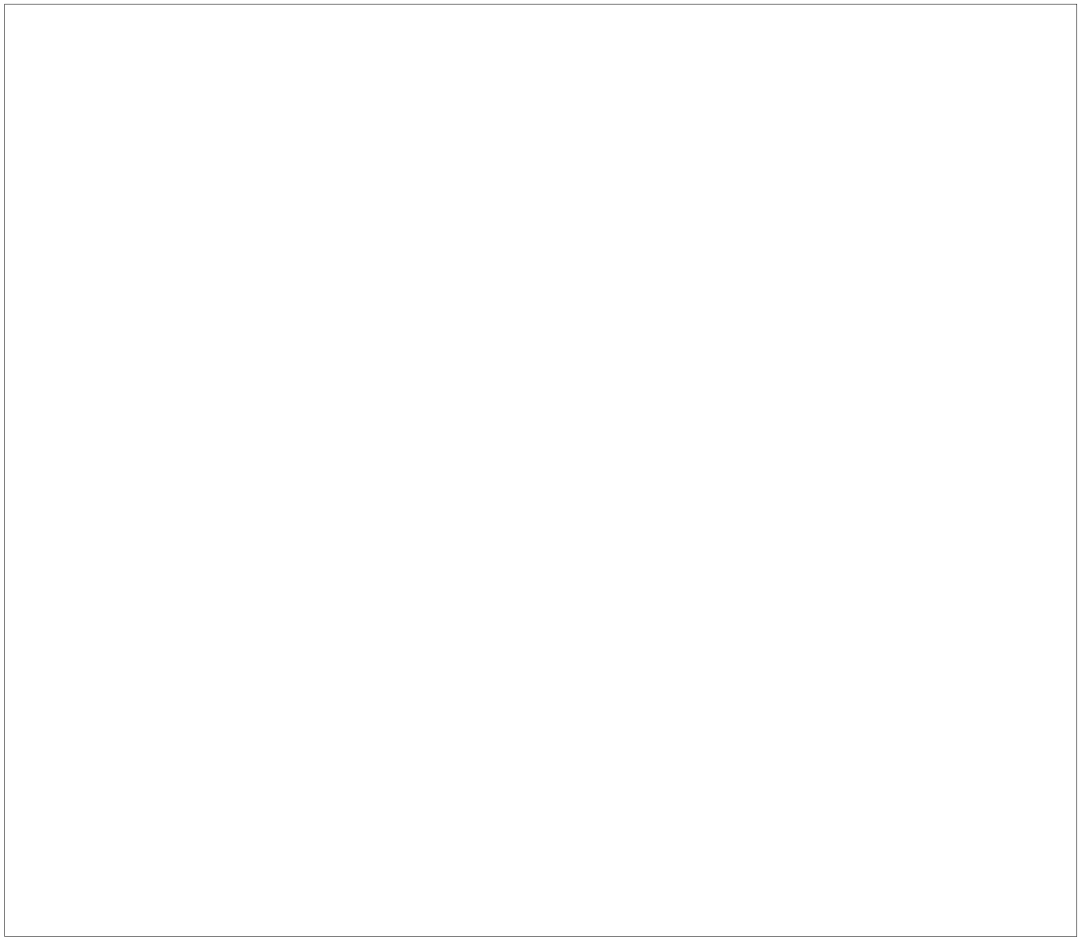
54. (TSR) At Rechitsa Probable Mobile IRBM Base, a small, single-story C-shaped building, which has been associated with the command and control of the SS-20 mobile missile systems, was nearly complete. No communications antennas have been associated yet with this facility.

Smolensk

55. (TSR [redacted] a rectangular building and an excavation—similar to those seen under construction at Chita SRF Army Command Post/Bunker/Hard—had been completed at Smolensk SRF Army Command Post/ Bunker ([redacted]

25X1
25X1

25X1



25X1

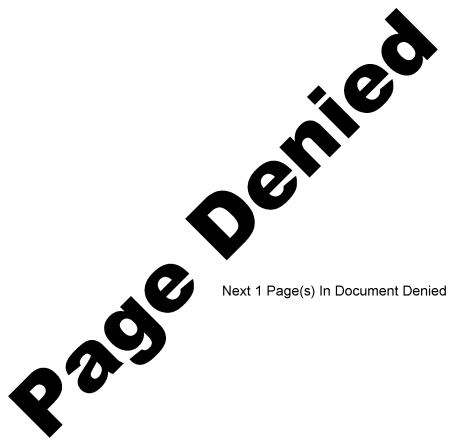
Yurya

56. (TSR) SS-20-related activity was first observed at Yurya ICBM Complex Command Post/Bunker [redacted] 25X1
[redacted] 25X1
the following modifications were underway: two large excavations had been dug into the outer sides of the dual arch-roofed bunker, footings for another 30-meter-high lattice tower were emplaced, and the 5-3-3-5 fishbone antenna had been removed (Figure 22). The antenna will probably be replaced by a 2-2-2 fishbone oriented in the same direction [redacted] 25X1
Also, a new barracks/administration building was in the early stage of construction, and an SS-18 canister was being buried near the athletic field, probably for use as a personnel/storage bunker.

Verkhnyaya Salda

57. (TSR) SS-20-related activity was first observed at Verkhnyaya Salda ICBM Complex Command Post/Bunker [redacted] 25X1
Large excavations were observed in the east and west sides of the earth-mounded command post bunker, and footings for a new 2-2-2 fishbone antenna were being emplaced near the west side of the bunker. Tree cutting indicates that the azimuth will be 25/205 degrees. Clearing for approximately five new dipole antennas was also observed.

[redacted] 25X1



Next 1 Page(s) In Document Denied

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*Extracted information is not COMINT.

REQUIREMENT

Project 130098NA

[redacted] 25X1

[redacted]