Top Secret

[redacted]

25X1

NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

basic imagery interpretation report

Developments at Selected Soviet Missile Support Equipment Research, Development, and Production Facilities (S)

STRATEGIC WEAPONS INDUSTRIAL FACILITIES
BE: Various
USSR

Top Secret

25X1

RCA-09/0007/85
OCTOBER 1985
Copy 45

DEVELOPMENTS AT SELECTED SOVIET MISSILE SUPPORT EQUIPMENT RESEARCH, DEVELOPMENT, AND PRODUCTION FACILITIES (S)

ABSTRACT

1. This report provides information on ten Soviet missile support equipment (MSE) research, development, and production facilities. The report emphasizes MSE production for strategic systems, but attention is given to tactical MSE at facilities that are involved with both strategic and tactical MSE research, development, and production. Nine of these facilities were described in the last NPIC report (Z-14612/82, *Activity and Developments at Selected Soviet Missile Support Equipment R & D and Production Facilities)* and are updated in this report. One facility—Shumerlya Missile Ground Support Equipment Plant—is included for the first time. The information cutoff date for this report is [redacted] This report contains one map, 19 annotated photographs, and seven tables. (S/WN) 25X1

INTRODUCTION

2. This report provides information on trends and developments in the research, development, and production of MSE for Soviet strategic missile systems, both deployed and under development. The ten Soviet facilities described in this report were selected because of their significance and because they collectively represent a large portion of the Soviet effort in MSE development and production. Analysis of these facilities has shown several significant trends: a significant overall increase in MSE production capacity, partially to accommodate production of MSE for new systems under flight testing and nearing deployment; increased MSE research, development, and production activity related to new and existing systems; and increased camouflage, concealment, and deception (CC&D) efforts, probably to hinder observation of the new systems. Production rate analysis for all MSE has been hindered by the lack of adequate imagery collection of these facilities. (S/WN)

3. Nine of the ten facilities included in this report (Figure 1) have been described in detail in previous NPIC reports—particularly with respect to location, physical description, security, and historical association with missile systems. Information on earlier activities and developments is available in these previous reports, which are listed under Related Documents. (S/WN)

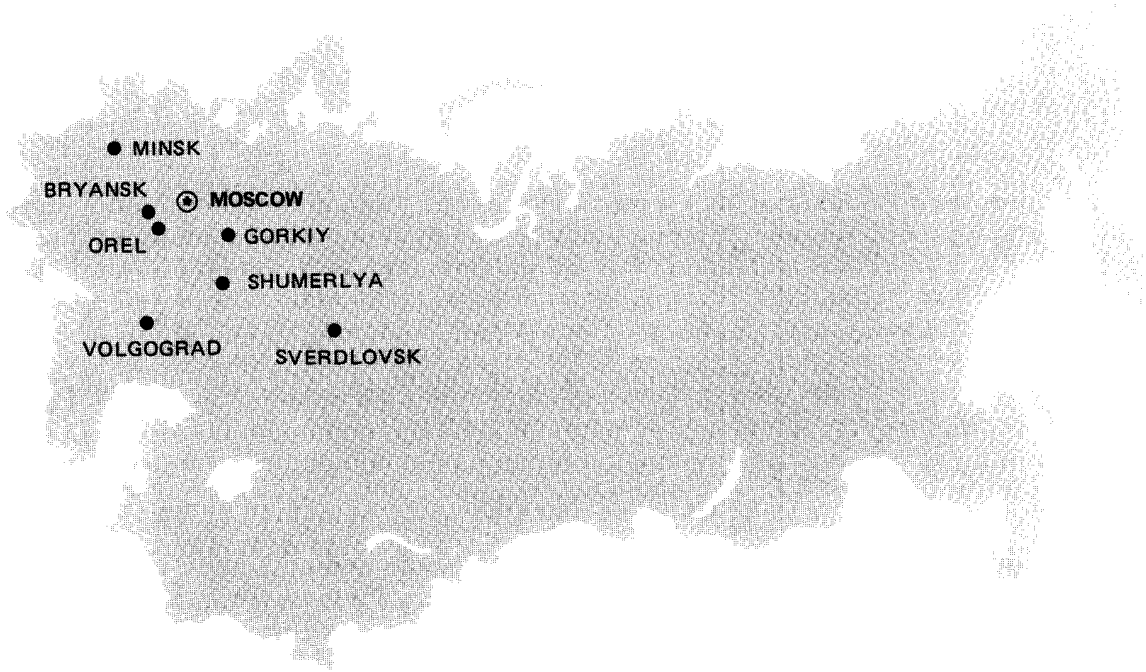
SUMMARY

4. The following is a summary of the significant developments described in this report.

- At Bryansk Road Machinery and Guided Missile Support Equipment Plant I, imagery indicated that an expansion program would soon begin. Evidence also indicates that Bryansk Plant I is still involved in the development and probably with production of MSE.
- At Bryansk Guided Missile Support Equipment Plant II, single-bay garage (SBG) components continued to be fabricated and shipped at a steady rate of approximately five SBGs per month. However, in addition to the fabrication and shipment of type B SS-20-associated SBGs, component production now includes type C SS-X-25-associated SBGs and type D SBGs. (The missile system associated with type D SBGs has not been determined.) Expansion-related activity also continued at Bryansk Plant II.
- At Gorkiy Armaments/Radar/Transporter-Erector-Launcher (TEL) Plant Novoyo Sormovo 92, a decrease in SA-10 towed launcher production rates and evidence of an apparent startup in production of SA-10B TELs were detected. Expansion-related activity also continued at Gorkiy.

[redacted] 25X1

25X1
25X1



Installation Name	Geographic Coordinates	Category	BE No	COMIREX No	NIETB (MRN No)
Bryansk Road Machinery and Guided Missile Support Equipment Plant I	53-14-57N 034-23-11E				
Bryansk Guided Missile Support Equipment Plant II	53-17-14N 034-23-51E				
Gorkiy Armaments Radar/TEL Plant Novoyo Sormovo Stalin 92	56-19-33N 043-53-46E				
Minsk Motor Vehicle and Guided Missile Support Equipment Plant	53-51-31N 027-39-31E				
Orel Road Machinery and Missile Support Equipment Plant	52-55-16N 036-01-19E				
Shumerlya Missile Ground Support Equipment Plant	55-29-10N 046-25-05E				
Sverdlovsk Guided Missile Production Plant 8	56-52-12N 060-37-05E				
Volgograd Remote Test Facility 1	48-55-10N 044-31-19E				
Volgograd Remote Test Facility 3	49-00-10N 044-34-45E				
Volgograd Steel and Machinery Plant Krasnyy Barricada 221	48-46-34N 004-34-52E				

25X1

This data is classified SECRET/WNINTEL.

FIGURE 1. LOCATIONS OF SELECTED SOVIET MSE RESEARCH, DEVELOPMENT, AND PRODUCTION FACILITIES

25X1

25X1

- At Minsk Motor Vehicle and GMSE Plant, the first phase of a large expansion program that will significantly increase production of chassis for MSE was nearly complete. Minsk was confirmed as the producer of the KY-15 TEL chassis and probably has started series production of the SS-X-25 TEL chassis.
- At Orel Road Machinery and MSE Plant, SA-5 and SA-10/SA-N-6 transporter production continued. In addition, developmental work and possibly series production of the SS-NX-21 transporter may have begun.
- Shumerlya Missile Ground Support Equipment Plant was identified as a production facility for missile support vans (MSVs) and probable new MSV variants. The first phase of an expansion program at Shumerlya was completed in early 1984. The second (and last) phase of the program will probably be completed in late 1985 or early 1986.
- At Volgograd Steel and Machinery Plant Krasnyy Barricada 221, production of TELs and MSVs for the SS-20 IRBM and TELs for the SS-21 SRBM continued. Other developments at Volgograd Plant 221 included the beginning of series production of the SS-X-25 TEL and developmental work on the KY-15 TEL and a probable new MSV.
- Testing of MSE, probably including the KY-15 TEL chassis, resumed at Volgograd Remote Test Facility 1 and continued at Volgograd Remote Test Facility 3.

BASIC DESCRIPTION

Bryansk Road Machinery and Guided Missile Support Equipment Plant I

Summary

5. Bryansk Road Machinery and Guided Missile Support Equipment Plant I (Figure 2) has historically been associated with the design, development, and production of MSE for land-based and sea-launched missile systems. The plant has been associated with the development and probable production of transporters for the SS-17, SS-18, and SS-19 missile systems and probably with the development of MSE for the SS-N-3/12 and SS-N-7/9 systems.

Activity and Developments

6. MSE has not been observed at Bryansk Plant I since sheds were constructed over the SS-17, SS-18, and SS-11/19 load simulator platforms in 1975 and 1976. However, evidence indicates that the plant is still probably associated with MSE production.

7. Although little construction took place at Bryansk Plant I during the reporting period, imagery indicated that an expansion program would soon begin. Construction of an 2,000-square-meter fabrication/assembly building (item 3, Figure 2), begun in 1979, was completed by August 1983. A 2,016-square-meter storage building (item 1), begun in February 1982, was completed by August 1983. In May 1985, construction of a probable storage/support building (item 5) began. Also during April and May 1985, a large amount of probable construction materials was delivered to the plant, and grading of a cleared area in the north-central part of the facility began. The deliveries and grading indicate that additional expansion activity probably was commencing. (S/WN)

25X1
25X1
25X1

Bryansk Guided Missile Support Equipment Plant II

Summary

8. Bryansk Guided Missile Support Equipment Plant II (Figure 3) continues to be associated with fabrication of SBG components, the probable repair of MSE for the SS-4/5, -7, and -11 missile systems, and the fabrication/refurbishment of SS-11/19 missile canisters. During the reporting period, SBG components continued to be fabricated and shipped. Toward the end of the reporting period, more type C SS-X-25-associated SBG components were probably being shipped than type A/B SS-20-associated SBG components. Type D SBG components were also identified at the plant in 1985. Probable plant-related expansion activity continued on the east side of the plant. (S/WN)

Activity and Developments

9. SBG components continued to be fabricated and shipped from Bryansk. While production rates appeared to remain basically the same throughout the reporting period (components for 4.5 to 5.5 SBGs per month), the type of SBG components being fabricated varied. (S/WN)

10. Although exact component production rates for the various SBGs being fabricated could not be determined, some trends were detected. The identification of corner posts associated exclusively with type C (Figure 4) and type D SBGs and a reduction in the number of sliding-roof end-section halves showed that, by 1985, production had changed from mainly type B to type C SBG components. The type C SBG is the only one that does not use end sections. The reuse of SBG components from SS-20 mobile missile bases undergoing dismantlement at Yurva and Verkhnyaya Salda lessened the need to produce type B SBG components. Also, the start of construction on SS-X-25 mobile bases required the changeover to type C production. (S/WN)

11. In March and April 1985, components for eight type D SBGs were stockpiled along a rail spur in the southern part of the plant. Identification of the type D components was made possible because the components were stacked in groups containing only six sliding-roof sections and by the presence of a lintel tray used exclusively in type D SBGs. Only six sliding-roof sections are used in the

25X1
25X1

construction of type D SBGs, while eight are used in the construction of types A and B SBGs and ten are used in the construction of type C SBGs. A lintel tray, approximately [redacted] is used in type D SBG construction, while an [redacted] meter lintel tray is used in the construction of types A, B, and C. The type D SBG components remained stockpiled in the same area through the end of the reporting period. It could not be determined if additional type D SBG components were being fabricated at Bryansk. (S/WN)

12. Missile support equipment associated with the SS-4/5, SS-7, and SS-11 missile systems continued to be observed at Bryansk Plant II. The MSE consisted mainly of missile transporters and was usually located on a parking apron in the northwest corner of the plant. Bryansk is probably involved in the maintenance of the MSE. A reduction in the movement and the amounts of MSE during the reporting period indicated that less MSE was being serviced at Bryansk. (S/WN)

13. Bryansk Plant II continued to be involved in the fabrication and/or refurbishment of SS-11/19 missile canisters. Because the numbers of canisters and canister segments varied throughout the reporting period, a reliable estimate of numbers of canisters handled by the plant could not be made. (S/WN)

14. Although construction within the main plant area was minimal, construction, probably for plant expansion, continued in an area outside the fence, on the east side of the plant (Figure 3). This area consists of two separately secured areas. Construction in the southern area began in mid-1982. This area is accessed by a rail spur that runs through the main plant area and by a road which does not go through the plant. The area will probably be used for support/storage. Nine support/storage buildings and one administration/security building (items 4 through 13, Figure 3) had been constructed in the southern area by the end of the reporting period. Construction in the northern area began in late 1984. A probable fabrication/assembly building (item 3) was being constructed within the northern area. This area was being separately secured from the southern area. In the main plant area, construction of the 2,048-square-meter administration/engineering building, begun in October 1979, had been completed by July 1982 (item 1). Also in the main plant area, a support building (item 2) was constructed, and a probable bunker (item 14) was being built using one SS-18 and one SS-11 canister. (S/WN)

25X1
25X1

Gorkiy Armaments/Radar/TEL Plant Novoyo Sormovo Stalin 92

Summary

15. Missile-support equipment produced at Gorkiy Armaments/Radar/TEL Plant Novoyo Sormovo Stalin 92 (Figure 5) includes SA-10 launchers, FLAP LID SA-10 radar vans and their transporters, SA-2 FAN SONG antenna trailers, SA-5 SQUARE PAIR antenna trailers, SAM-associated computer

Table 1.
MSE Observed At Gorkiy Armament/Radar/TEL Plant Novoyo Sormovo Stalin 92, June 1982–May 1985

Date	SA-10 Launchers	FLAP LID SA-10 Radar Vans	FLAP LID SA-10 Radar Van Transporters	MAZ-938 Long-Bed Chassis	SAM-Assoc Computer Vans	MAZ-543 SP Chassis	BTR 60s
[redacted]	11	3 prob	7	11	12	0	31
	8	0	6	8	14	0	30
	9	1	4	18	16	0	9
	6	0	5	20	32	1	18
	0	0	8	8	30	1	0
	1 poss	0	7	23	22	1	0
	0	0	5	28	33	0	0
	0	0	6	16	36	3	0
	0	1 prob	8	17	34	2	0
	[redacted]						

25X1
25X1

This table is classified SECRET/WNINTEL.

25X1
25X1

vans, and SS-12/SS-12 Mod 2 storage/transport canisters.

Activity and Developments

16. In late 1983, a decrease in SA-10 towed launcher production rates occurred at Plant 92 (Table 1). This drop may have coincided with or preceded the startup of production on the SA-10B TEL at the plant. Production of FLAP LID SA-10 radars appeared to have remained unchanged through the reporting period. Fabrication of SS-12/SS-12 Mod 2 storage containers also continued at Gorkiy. Numerous construction projects were underway in several areas (Table 2). (S/WN)

17. Several factors point to a decrease in the production rate of SA-10 launchers at Gorkiy in late 1983. Between late 1983 and early 1984, all MSE was removed from the western transshipment yard so that ground preparations for the construction of a new building could begin in the yard. The western transshipment yard was the primary area in which SA-10 launchers were usually observed. Since the removal of the equipment, the number of SA-10 launchers seen at the plant has dropped dramatically (Table 1). Several MAZ-938 chassis in various stages of conversion to SA-10 launchers have remained, unmoved, just north of the western transshipment yard and near the SA-10-associated assembly building, which indicates that SA-10 launcher production may have been halted in this area of the plant. The decrease in delivery of SA-10 launchers and the initial delivery of SA-10B TELs at Kapustin Yar SAM Marshalling Area (BE roughly coincided with the decrease in launcher production. While the production rate of launchers has dropped considerably, the occasional sighting of SA-10 launchers at Plant 92 (Figure 6) indicates that it probably has not halted completely. (S/WN)

18. An SA-10B TEL has not yet been identified at the plant. However, the probability that Gorkiy may be the production facility for the SA-10B TEL is based on several indications: the presence of MAZ-543 SP chassis (Figure 6), which are used in assembling the SA-10B TEL; the fact that the MAZ-543 SP is not associated with other products produced at Gorkiy; and the plant's association with SA-10 launcher production. (S/WN)

25X1
25X1

19. Major plant expansion was underway at Gorkiy (Figure 5 and Table 2). Because of the wide range of products produced, it could not be determined how much, if any, of this expansion is missile related. The construction will probably be related to several different products, however, because of the different start dates of the buildings under construction. Between June 1982 and May 1985, construction was completed on 37,200 square meters of fabrication/assembly floorspace and 19,700 square meters of administration/engineering floorspace. At the end of the reporting period, construction was continuing on an additional 29,100 square meters of fabrication/assembly floorspace and 8,500 square meters of administration/engineering floorspace. Construction had begun on what probably will be another large fabrication/assembly building (item 11, Figure 5) and on another smaller probable fabrication/assembly building (item 12). (S/WN)

Minsk Motor Vehicle and Guided Missile Support Equipment Plant

Summary

20. Minsk Motor Vehicle and Guided Missile Support Equipment Plant (Figure 7) is a major producer of chassis used in the assembly of a wide range of Soviet MSE for strategic and tactical missile systems, including chassis for all mobile ICBM and IRBM TELs. To support the need for increased chassis production for new-system MSE and/or for increased nonmilitary vehicle assembly using the same type of chassis, a large expansion program has been underway at Minsk. (S/WN)

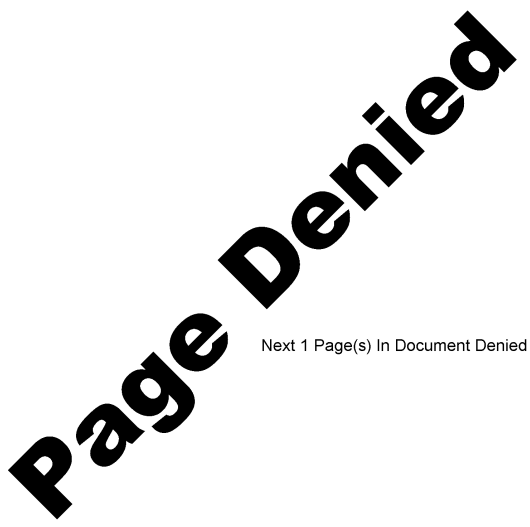
25X1

Activity and Developments

21. Five types of TEL chassis have been identified in the USSR (Figure 8): two types of meter MAZ six-axle chassis associated with the SS-

25X1

25X1
25X1



Next 1 Page(s) In Document Denied

20 and probably the SS-16; two types of MAZ six-axle chassis, one associated with the KY-15 and one that was a probable prototype for both the KY-15 and the SS-X-25; and one MAZ seven-axle chassis associated with the SS-X-25. Table 3 lists the numbers and sightings of these chassis variants at Minsk. (S/WN)

22. Both types of the MAZ six-axle (12 X 12) chassis have been used for SS-20 TEL assembly, and one or both types probably have been used for SS-16 TEL assembly. Type 1 was first observed at Minsk in May 1975, and type 2 was first observed at Minsk in May 1976. Type 2 is generally the same as type 1 except that the right front cab has been recessed and placed over the first axle. It is not known why both types are used in SS-20 TEL production. It is estimated that type 1 and type 2 chassis are being produced at Minsk at a ratio of 8 to 5. That is, for every eight type 1 chassis produced, five type 2 chassis are produced. This estimate is based on an analysis of the numbers of type 1 and type 2 chassis observed at Volgograd Steel and Machinery Plant Krasnyy Barricada 221, where type 1 and type 2 chassis are used to assemble the SS-20 TEL (Table 4). This ratio remained fairly constant from early 1978 to the present. Because chassis longer than the ter TEL chassis were not observed prior to 1979, one or both of these types probably were used for the SS-16 TEL. (S/WN)

23. Two types of the MAZ six-axle (12 X 12) chassis have been observed at Minsk. The type 1 has a cab configuration similar to that of the type 2 chassis. The type 1 chassis was first observed at Minsk in January 1979. It was again observed at Minsk in 1981 and on the Minsk ring road in January 1983. This chassis was probably a prototype chassis associated with the SS-X-25. The type 2 chassis was observed at Minsk in March 1982. This type has since been identified as the chassis for the KY-15 TEL, which was present at Kapustin Yar General Support Area in late 1984. Series

24. The MAZ seven-axle (12 X 14) chassis will be used for the SS-X-25 TEL. While this chassis has not yet been observed at Minsk, it is highly probable that Minsk is the production facility for the chassis. The chassis was first observed at Volgograd Plant 221 in September 1984, but the seventh axle and extra overall length were not detected until May 1985, when it was seen at Yoshkar Ola Mobile ICBM Base 1 (BE The chassis has a cab configuration similar to that of type 2 and the type 1. Although the meter seven-axle MAZ chassis has not yet been identified at Minsk, series production of the SS-X-25 TEL has probably begun at Volgograd Plant 221. This is probably due more to a lack of sufficient coverage of Minsk than to an active CC&D effort. (S/WN)

25. A major expansion program, begun at Minsk in March 1982, continued during this reporting period (Figure 7 and Table 5). Part of this expansion probably is for increased MSE chassis production to support new missile systems, such as the KY-15 and the SS-X-25, and possibly to replace older deployed MSE. A heating plant (item 18, Figure 7) and four large fabrication/assembly

Table 3.
Mobile IRBM and ICBM TEL Chassis Observed at Minsk Motor Vehicle and GMSE Plant, May 1975–May 1985

Date	Type 1	Type 2	Type 1	Type 2	SS-X-25
	1	0	0	0	0
	1	0	0	0	0
	0	1	0	0	0
	0	1	0	0	0
	0	2	0	0	0
	0	2	1	0	0
	1*	2	1	0	0
	1*	1	1	0	0
	0	2	0	0	0
	0	1	1	0	0
	0	1	1	0	0
	0	1	0	0	0
	0	1	0	1	0
	1	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	2	0	0	0
	1	2	0	0	0
	1	1	0	0	0
	0	0	0	0	0
	1	0	1*	0	0

*Fitted out as probable truck

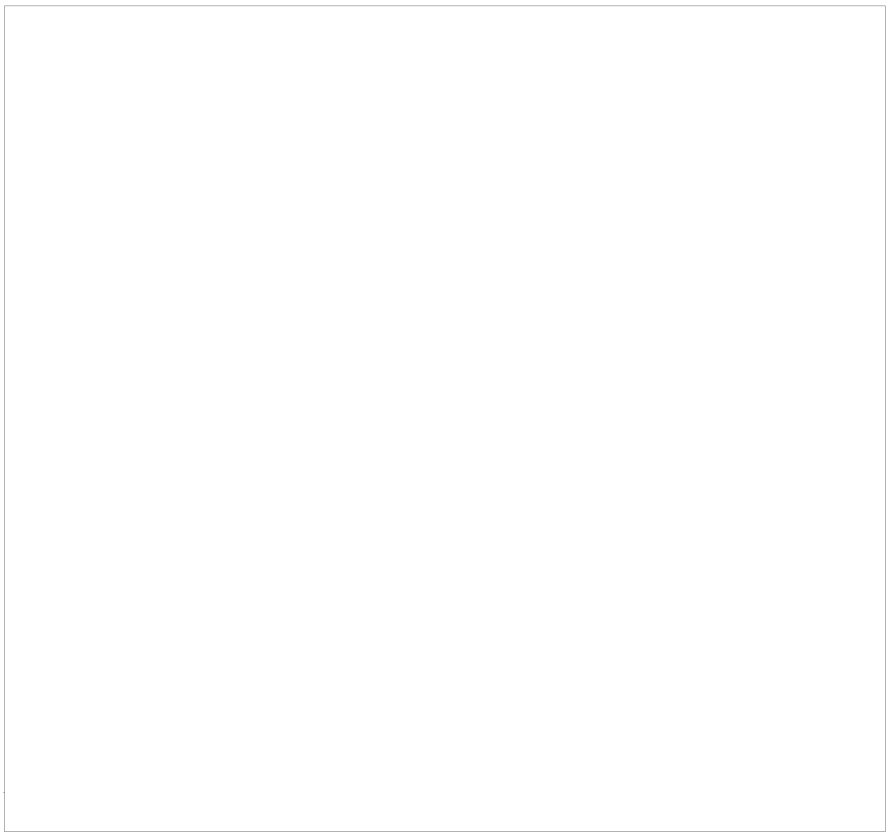
This table is classified SECRET/WN/INTEL.

Table 4.
Mobile IRBM and ICBM TEL Chassis Observed at Volgograd Steel and Machinery Plant 221, February 1978–May 1985

Date	Type 1	Type 2	Type 1	Type 2	SS-X-25
	1	0	0	0	0
	0	2	0	0	0
	0	1	0	0	0
	0	1	0	0	0
	0	1	0	0	0
	0	1	0	0	0
	1	0	0	0	0
	1	0	0	0	0
	2	1	0	0	0
	0	1	0	0	0
	1	2	0	0	0
	1	0	0	0	0
	1	2	0	0	0
	1	1	0	0	0
	3	0	0	0	0
	2	0	0	0	0
	1	0	0	0	0
	3	1	0	0	0
	1	0	0	0	0
	1	0	0	0	0
	1	1	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0

Date	Type 1	Type 2	Type 1	Type 2	SS-X-25
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	5	4	0	0	0
	5	3	0	0	0
	1	5	0	0	0
	3	2	0	0	0
	1	3	0	0	0
	2	8	0	0	0
	5	0	0	0	0
	5	0	0	0	0
	1	0	0	0	0
	2	1	0	0	0
	2	0	0	0	0
	2	0	0	0	0
	4	1	0	0	0
	2	2	0	0	0
	2	1	0	0	2
	4	4	0	0	1

25X1
25X1



25X1

Table 5.
Construction Activity at Minsk Motor Vehicle and Guided Missile Support Equipment Plant, June 1982–May 1985
(Items keyed to Figure 7)

Item	Description	Dimensions (m) L	W	H	Floorspace (sq m)	First Seen Ucon	First Seen Complete	Remarks
1	Gantry crane	144	29	8	—	Jun 82	Mar 83	
2	Admin/engr bldg add	30	16	9	960	Apr 84	—	Ucon, 2 levels
3	Unid constr	—	—	—	—		—	Ucon
4	Unid constr	—	—	—	—		—	Ucon
5	Admin/engr bldg							
a	Admin/engr sect	18	18	7	324	Jul 81	Apr 84	
b	Admin/engr sect	45	17	27	5,355	Dec 80	Apr 84	7 levels
c	Lab sec	36	36	9	2,592	Jun 82	—	Ucon, 2 levels
d	Admin/engr sect	33	8	15	792	Jun 82	—	Ucon, 3 levels
6	Fab/assem bldg							
a	Fab/assem sect	72	72	—	5,184	Apr 84	—	Ucon
b	Fab/assem sect	72	25	22	1,800	Mar 77	Apr 84	
c	Fab/assem sect	72	48	14	3,456	Mar 77	Apr 84	
d	Fab/assem sect	192	120	18	46,080	Mar 77	Apr 84	2 levels
e	Fab/assem sect	60	24	10	1,440	Apr 84	—	Ucon
f	Fab/assem sect	102	48	21	9,792	Mar 77	Apr 84	2 levels
7	Fab/assem bldg	62	13	8	806	Aug 83	—	Ucon
8	Fab/assem bldg							
a	Fab/assem sect	97	27	31	2,619	Mar 82	—	Ucon
b	Spt sect	12	9	12	96	Mar 82	—	Ucon
c	Fab/assem sect	48	10	10	480	Mar 82	—	Ucon
9	Vehicle stor shed	185	15	4	2,775	Aug 83	Apr 84	
10	Fab/assem bldg							
a	Fab/assem sect	155	48	14	7,440	Jul 83	—	Ucon; externally complete
b	Fab/assem sect	155	36	21	5,580	Jul 83	—	Ucon externally complete
11	Fab/assem bldg	—	—	—	—	Jul 84	—	Ucon (dimensions may be equal to item 10)
12	Fab/assem bldg							
a	Fab/assem sect	73	12	20	876	Mar 82	—	Ucon; externally complete
b	Fab/assem sect	203	72	11	14,616	Mar 82	—	Ucon; externally complete
c	Fab/assem sect	73	12	20	876	Mar 82	—	Ucon; externally complete
13	Fab/assem bldg	—	—	—	—	Sep 82	—	Ucon; dimensions may equal item 12
14	Forced air cooling tower	32	8	8	—	May 83		
15	Forced air cooling tower	32	8	8	—	May 83		
16	Spt bldg	22	16	—	352	Apr 84		Ucon
17	Spt bldg	30	18	5	540	Jul 83		Ucon
18	Heating plant							
a	Spt sec	65	18	7	1,170	Sep 82		
b	Spt sec	53	18	4	1,908	Sep 82		2 levels

This table is classified SECRET/WNINTEL.

25X1
25X1

buildings (items 10 through 13) were under construction in an area where the plant is being expanded on the east side of the facility. One of the buildings (item 12) was externally complete but not operational. It had been connected by corridor with the large MSE chassis production building, and the fence that separately secures the MSE-associated chassis production area had been extended around the new building. A second building (item 13) was being built adjacent to the externally completed building and will probably be identical. When complete, the second building will also probably be enclosed by the fence surrounding the MSE-associated chassis production area. (S/WN)

26. Between June 1982 and May 1985, approximately 61,000 square meters of fabrication/assembly floorspace and approximately 5,600 square meters of administration/engineering floorspace were completed at Minsk. Most of the fabrication/assembly floorspace results from the completed sections of a building (Figure 7, item 6) in the northeast corner of the plant. Production in this building, which is not in the MSE-associated chassis production area of the plant, probably will not be MSE related. At the end of the reporting period, building contruction continued on approximately 79,000 square meters of additional fabrication/assembly floorspace and 1,752 square meters of additional administration/engineering floorspace. (S/WN)

Orel Road Machinery and Missile Support Equipment Plant

Summary

27. At Orel Road Machinery and Missile Support Equipment Plant (Figure 9), transporters for Strategic Rocket Forces and for naval missile systems, as well as road machinery, are produced. Orel has been the production facility for SA-10/SA-N-6 transporters, SA-5 transporters, and SCUD resupply transporters.

Activity and Developments

28. Although production of transporters for the SA-5 and SA-10/SA-N-6 missile systems continued throughout the reporting period, production rates could not be determined because of the lack of adequate and usable coverage. (S/WN)

30. Construction activity at Orel (Figure 9) included the start of a large fabrication/assembly building, an administration/engineering building, and a probable support/storage building. Construction had begun on the large fabrication/assembly building, possibly for MSE production, by September 1983. When it is completed, probably in late 1986 or early 1987, 19,200 square meters of fabrication/assembly floorspace will have been added to the plant. Concurrently, construction began on an adjacent administration/engineering building that probably will be connected with the fabrication/assembly building by enclosed walkways. The amount of administration/engineering floorspace that will be added cannot be determined until the number of levels is known. In July 1984, construction of a probable support/storage building, 48 by 48 meters, began on the parking apron where some MSE produced at the plant is parked prior to shipping. This building may possibly be used to conceal MSE produced at the plant. (S/WN)

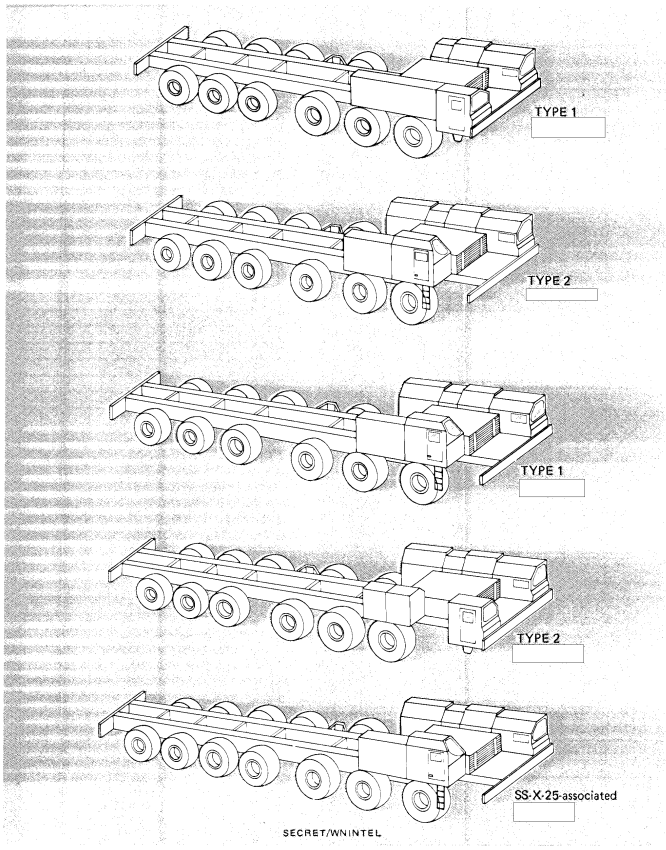


FIGURE 8. CONCEPTUAL DRAWING OF MAZ 6-AXLE AND 7-AXLE CHASSIS

25X1
25X1
25X1

Shumerlya Missile Ground Support Equipment Plant

Summary

31. Shumerlya Missile Ground Support Equipment Plant is a production facility for missile support vans. The variants of MSVs produced include the communications variant and the generator variant, both associated with the SS-20 system; a probable new MSV variant that has not yet been associated with a missile system; a MSV; and a meter probable MSV. A small, general-purpose maintenance vehicle is also produced at the plant. The plant is in the southern part of the city of Shumerlya, on the north side of the main rail line. The plant is divided into two separately secured sections—a larger west area and an east area. The completion of the first phase of an expansion program in early 1984 and the impending completion of the second phase of the expansion program indicate that MSVs for one or more of the mobile missiles undergoing flight testing will probably be produced at Shumerlya (Figure 10 and Table 6). (S/WN)

25X1
25X1
25X1
25X1

Activity and Developments

32. Shumerlya was identified as a producer of MSVs in September 1983. Although lack of adequate average precludes determining when MSV production started, the area of the plant associated with production of MSVs predates the initial deployment of SS-16/-20 missile systems. Shumerlya is one of four known plants in the Soviet Union associated with the production and outfitting of MSVs. The other three are Volgograd Steel and Machinery Plant Krasnyy Barricada 221, where box bodies have been mounted on MAZ-543 and MAZ-543 SP chassis and where outfitting of MSVs has been done since at least 1973; Moskva Missile Command and Control Equipment Plant where electronics equipment and generators have been installed on MSVs since at least 1978; and Izhevsk Radio Plant where installation of electronics equipment was first observed in January 1985. (S/WN)

25X1
25X1
25X1
25X1

25X1
25X1

25X1
25X1
25X1

Table 6.
Construction Activity at Shumerlya Missile Ground Support Equipment Plant, January 1972–May 1985
(Items keyed to Figure 10)

Item	Description	Dimensions (m) L	W	H	Floorspace (sq m)	First Seen Ucon	First Seen Complete	Remarks
1	Admin/engr bldg							
a	Admin/engr sect	28	10	7	280	Jan 79	—	Ucon: externally complete
b	Admin/engr sect	87	19	19	8,265	Jan 79	—	Ucon: externally complete
2	Fab/assem bldg	122	98	12	11,956	Jan 79	—	Ucon: externally complete
3	Spt bldg	10	8	7	80	*	Jan 72	
4	Spt bldg	13	7	7	91	*	Jan 72	
5	Spt bldg	33	18	7	594	*	Jan 72	
6	Spt bldg	115	13	6	1,495	Jan 72	Mar 73	
7	Spt bldg	28	4	4	112	Jan 79	Jan 79	
8	Spt bldg	13	13	6	169	*	Jan 72	
9	Spt bldg							
a	Spt sect	4	4	3	16	*	Jan 72	
b	Spt sect	25	10	5	250	Jan 72	Mar 73	
10	Spt bldg	18	7	3	126	*	Jan 72	
11	Spt bldg	25	13	8	325	*	Jan 72	
12	Fab/assem bldg							
a	Fab/Assem Sec	42	7	13	294	*	Jan 72	
b	Fab/assem sect	66	25	10	1,650	*	Jan 72	
c	Spt sect	12	7	2	96	*	Jan 72	
13	Spt bldg	14	11	4	151	*	Jan 72	
14	Spt bldg	67	13	6	871	*	Jan 72	
15	Spt bldg	9	5	4	45	Jan 84	Jan 84	
16	Spt bldg	6	3	3	18	Jan 84	Jan 84	
17	Spt/maint bldg							
a	Spt sect	26	19	9	494	*	Jan 72	
b	Spt sect	28	25	9	700	*	Jan 72	
18	Spt/maint bldg							
a	Spt sect	20	13	10	260	*	Jan 72	
b	Spt sect	27	13	10	351	*	Jan 72	
c	Spt sect	13	9	5	117	*	Jan 72	
d	Spt sect	17	7	4	119	*	Jan 72	
e	Spt sect	40	4	2	160	*	Jan 72	
f	Spt sect	15	13	9	195	*	Jan 72	
g	Spt sect	16	8	8	128	*	Jan 72	
h	Spt sect	5	5	6	25	*	Jan 72	
i	Spt sect	21	21	5	441	*	Jan 72	
19	Spt bldg							
a	Spt sect	15	13	11	195	*	Jan 72	
b	Spt sect	13	12	8	156	*	Jan 72	
c	Spt sect	17	12	8	204	*	Jan 72	
d	Spt sect	13	12	8	156	*	Jan 72	
20	Water tower	(62-m diam)		22	—	*	Jan 72	
21	Spt bldg	10	7	5	70	*	Jan 72	
22	Spt bldg	8	4	7	32	*	Jan 72	
23	Heating plant							
a	Spt sect	20	18	12	360	*	Jan 72	
b	Spt sect	19	7	15	133	*	Jan 72	
c	Spt sect	18	4	—	72	*	Jan 72	
d	Spt sect	10	6	5	60	*	Jan 72	
24	Stor/spt bldg	13	13	5	169	Mar 73	Mar 73	
25	Fab/assem bldg							
a	Admin/engr sect	61	10	7	610	*	Jan 72	
b	Spt sect	10	6	6	60	*	Jan 72	
c	Spt sect	10	5	5	50	*	Jan 72	
d	Fab/assem sect	96	49	7	4,704	*	Jan 72	
e	Spt sect	13	6	6	78	*	Jan 72	
f	Spt sect	8	7	4	56	*	Jan 72	
g	Spt sect	34	6	4	204	*	Jan 72	
h	Spt sect	11	8	7	88	*	Jan 72	
26	Stor/spt bldg	97	26	12	2,496	*	Jan 72	
27	Spt bldg	26	13	12	338	Feb 76	Feb 76	
28	Fab/assem bldg							
a	Admin/engr sect	70	7	5	490	*	Jan 72	
b	Fab/assem sect	145	110	12	15,950	*	Jan 72	
29	Admin/engr bldg							
a	Admin/engr sect	29	20	14	1,160	*	Jan 72	2 levels
b	Admin/engr sect	28	15	10	420	*	Jan 72	
c	Admin/engr sect	36	13	8	468	*	Jan 72	
30	Admin/engr bldg	80	19	15	6,080	*	Jan 72	4 levels
31	Stor tank	(9-m diam)		5	—	Mar 73	Mar 73	
32	Heating plant							
a	Spt sect	46	19	8	874	*	Jan 72	
b	Spt sect	13	6	4	78	*	Jan 72	
c	Spt sect	13	7	3	91	*	Jan 72	
33	Spt bldg	61	24	7	1,464	Feb 76	Feb 76	
34	Fab/assem bldg							
a	Fab/assem sect	54	24	7	1,296	Apr 83	—	Ucon
b	Fab/assem sect	24	13	7	312	Apr 83	—	Ucon
35	Spt bldg	13	7	5	91	Mar 73	Mar 73	
36	Stor tank	(15-m diam)		12	—	Mar 73	Mar 73	
37	Stor tank	(15-m diam)		12	—	Mar 73	Mar 73	
38	Stor tank	(15-m diam)		12	—	Oct 83	Nov 73	
39	Spt bldg							
a	Spt sect	5	3	2	15	Apr 83	Apr 83	
b	Spt sect	13	7	6	91	Apr 83	Apr 83	
40	Admin/engr bldg	50	19	14	3,800	Jul 79	Jan 84	4 levels
41	Fab/assem bldg	97	73	12	7,081	Jul 79	Jan 84	

*Constructed prior to January 1972.
This table is classified SECRET/WAINTEL.

25X1
25X1

33. In February 1985, a probable new meter MSV variant (Figure 11) was identified at Shumerlya. A canvas-covered circular object, approximately in diameter, on a smooth van-body roof distinguishes this vehicle from other variants of the MSV. No missile system association has been established for this MSV. (S/WN)

34. In July 1984, a version of a probable new MSV variant (Figure 12) was identified at Shumerlya. This variant was identified at Volgograd Steel and Machinery Plant Krasnyy Barricada 221 in July 1983. The probable new MSV variant was built using a MAZ-543 SP chassis. The van-body section, which has a chamfered roof, occupied the rear of the probable new MSV variant. A boxlike structure, the top of which measured occupied the meter space separating the van body and the cab. The presence of this probable new MSV variant at both Shumerlya and Volgograd Plant 221 indicates that it will be associated with mobile missiles. (S/WN)

35. In September 1983, when Shumerlya was identified as a producer of MSVs, a probable MSV was observed. This probable MSV is basically a MSV with a small boxlike extension on the rear of the flat part of the chamfered roof. This probable MSV has not yet been associated with a missile system. (S/WN)

36. It is possible that the probable MSV above and the two probable new MSV variants described previously are intended for a nonmilitary or nonmissile-related function. (S/WN)

37. Approximately 80,000 square meters of floorspace has been or soon will be completed at Shumerlya. Of this, approximately 43,000 are for fabrication/assembly, 21,000 are for administration/engineering, and 16,000 are for support (Figure 10 and Table 6). (S/WN)

38. In the east area of the Shumerlya plant, the first phase of an expansion program was completed in early 1984. This phase included the addition of two buildings (items 40 and 41, Figure 10), which added 7,081 square meters of fabrication/assembly floorspace and 3,800 square meters of administration/engineering floorspace to the plant. In early 1984, an increase in MSE and MSE chassis in this area of the plant indicated that the expansion phase had been virtually completed and production had started. (S/WN)

39. In the west area of the plant, the second phase of the expansion program (items 1 and 2), which should be completed in late 1985 or early 1986, will add a larger amount of floorspace. The timing of the expansion indicates that the additional floorspace will probably be associated with the production of MSE for a new mobile missile undergoing flight testing and nearing deployment. (S/WN)

Sverdlovsk Guided Missile Production Plant 8

Summary

40. Sverdlovsk Guided Missile Production Plant 8 was identified as the outfitter and probable final assembly facility for the SA-X-12 GLADIATOR transporter-erector-launcher and radars (TELARs) and transloaders (Figure 13).

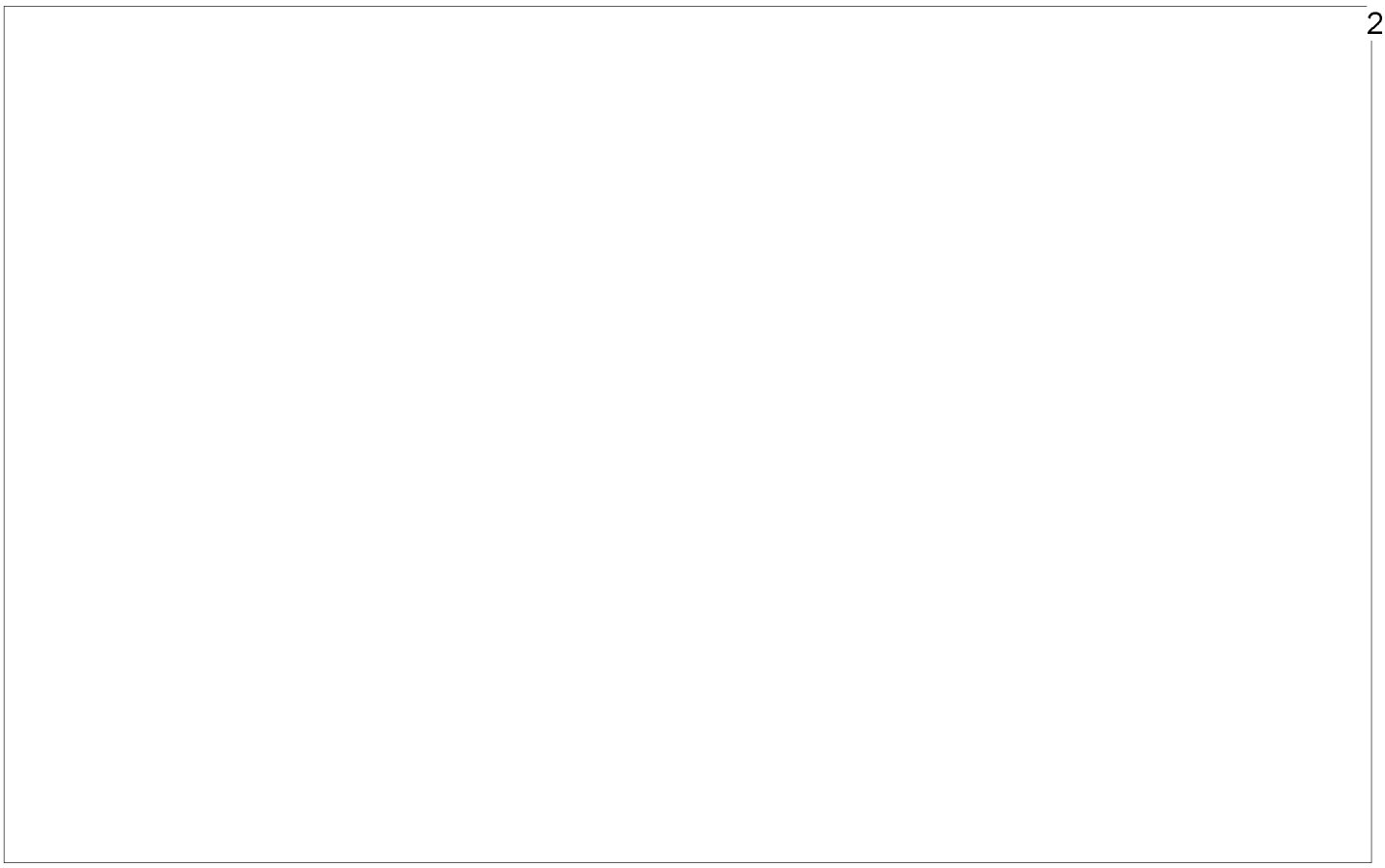
Activity and Developments

41. GLADIATOR TELARs and transloaders were identified at Sverdlovsk in January 1983 and have been seen in small numbers at the plant throughout the reporting period. (S/WN)

42. A detailed analysis of Sverdlovsk Guided Missile Production Plant 8 will be contained in a forthcoming interagency report to be published by NPIC. (S/WN)

25X1
25X1

25X1



Volgograd Steel and Machinery Plant Krasnyy Barricada 221

Summary

43. Volgograd Steel and Machinery Plant Krasnyy Barricada 221 (Figure 14) is a major producer of MSE for Soviet mobile missile systems. TELs for the SS-X-25, KY-15, SS-16/20, SS-21, and SS-23 are being or have been produced there. The plant also has a history of involvement in the SHADDOCK, FROG, SCUD, and SCALEBOARD systems. Volgograd has also produced variants of [redacted] and [redacted] MSVs. Recently, at least two and possibly three new probable MSV variants—each probably associated with new mobile missile systems—have been observed at Volgograd Plant 221. MAZ-543 SP cranes are also produced there. Table 7 lists the MSE observed at the plant during the reporting period. In addition to MSE, Volgograd is involved in the fitting out of missile canisters[6] [7] and in the production of guns for both naval and army systems.[2] [redacted]

Activity and Developments

44. During the reporting period, developmental work on the SS-X-25 and KY-15 TELs continued, series production of the SS-X-25 TEL began, observations of SS-20 TEL chassis resumed after a two-year period during which none was observed, and an increase in CC&D efforts and new construction activity were noted. (S/WN)

45. Series production of the SS-X-25 TEL probably began at Volgograd Plant 221 in early 1985. Two SS-X-25 TEL chassis were identified in the main MSE storage area at Plant 221 in October 1984. On [redacted] four SS-X-25 TEL chassis (Figure 15) were observed in the MSE storage yard. The presence of four SS-X-25 TEL chassis indicates that series production of the SS-X-25 TEL had begun. (S/WN) 25X1

46. Volgograd Plant 221 will also probably be the series production facility for the KY-15 TEL. On [redacted] canvas- and snow-covered TEL (Figure 16) was observed in the yard. The TEL's length indicated that it was a KY-15 25X1 25X1 25X1

25X1
25X1

25X1
25X1

Construction Activity, June 1982–May [redacted]

25X1

Item	Description	Dimensions (m) L	W	H	Floorspace (sq m)	First Seen Ucon	First Seen Complete	Remarks
1	Fab/assem bldg							
a	Fab/assem sect	209	8	18	5,016	Jun 78	—	3 levels; ucon; externally complete
b	Fab/assem sect	209	36	45	7,524	Jun 78	—	Ucon; externally complete
c	Fab/assem sect	185	18	21	9,990	Jun 78	—	3 levels; ucon; externally complete
d	Fab/assem sect	206	18	18	3,708	Jun 78	—	Ucon; externally complete
e	Admin/engr sect	21	18	18	2,646	Sep 81	—	7 levels; ucon; externally complete
2	Gantry crane	120	31	14	—	Jul 83	Jun 84	
3	Fab/assem bldg add	48	48	14	2,304	Oct 83	—	Ucon
4	Fab/assem bldg add	270	37	20	9,990	Nov 84	—	Ucon
5	Fab/assem bldg add	24	18	16	432	[redacted]	—	Ucon
6	Gantry crane	142	18	14	—	Feb 83	Aug 84	

25X1

This list is classified SECRET/WNINTEL.

25X1

[redacted]

25X1

25X1

25X1

Table 7.
MSE Observed at Volgograd Steel and Machinery Plant 221, June 1982–May 1985

Date	Chassis				MSV Variants			Vehicles				Crane	
	[redacted]						New Prob Mobile Msl-Assoc	SS-21 TEL/ Rsply	SS-23 TEL/ Rsply	MAZ-543	MAZ-543 SP	MAZ-543 SP	25X1
	Var 1	Var 2	Var 2	TEL									
[redacted]	0	0	0	0	0	2	0	0	0	0	0	1	25X1
	0	0	0	0	0	0	2	0	0	0	0	1	
	0	0	0	0	1	1	2	2	0	0	1	2	
	5	4	0	0	0	0	2	2	1	0	2	4	
	5	3	0	0	0	1	2	0	0	0	2	4	
	1	5	0	0	0	1	2	1	0	0	2	5	
	2	3	0	0	0	0	2	2	0	0	2	5	
	1	3	0	0	0	0	2	4	0	0	0	4	
	2	8	0	0	0	0	2	2	0	0	1	4	
	5	0	0	0	1	0	0	1	1	0	0	3	
	5	0	0	0	0	0	2	4	1	0	1	0	
	1	0	0	0	2	0	2	1	0	0	3	0	
	2	1	0	0	1	1	2	2	0	1	1	2	
	2	0	0	0	2	0	0	0	0	1	1	1	
	2	0	0	0	2	0	0	0	0	1	4	1	
	4	1	0	0	0	1	2	1	0	0	4	1	
	2	2	0	0	0	0	0	2	0	0	0	0	
	2	1	0	2	1	0	0	3	0	0	0	0	
	3	4	0	1	1	0	2	3	0	0	1	0	
[redacted]													25X1

This table is classified SECRET/WNINTEL.

TEL, although the canvas and snow precluded positive identification. The identification of a KY-15 TEL chassis at Volgograd Remote Test Facility 1 and a KY-15 dolly at Volgograd Remote Test Facility 3 provides additional evidence that Volgograd Plant 221 is engaged in developmental work on the KY-15 TEL and that it will probably be the KY-15 TEL series production facility. (S/WN)

47. In May 1983, nine SS-20 TEL chassis were at the plant, the first time in two years that they had been observed there. The reappearance of SS-20 TEL chassis indicates either the resumption of production or the end of a period during which all SS-20 TEL production activity was concealed. SS-20 TEL chassis continued to be observed through the end of the reporting period. (S/WN)

48. Production of MSVs continued at Volgograd Plant 221 through the reporting period. In addition, at least two, and possibly three, new probable MSV variants were being produced. The variants are probably associated with new mobile missile systems. (S/WN)

49. The first new probable mobile missile-associated MSV variant was observed on [redacted] 25X1
[redacted] when two were in the main MSE storage 25X1
area at the plant. These MSVs were [redacted] 25X1
long and assembled on a MAZ-543 SP chassis. Each has a [redacted] chamfer-roofed van body. A 25X1
[redacted] gap separates the van body and the cab. 25X1
A boxlike structure, the top of which measures [redacted] 25X1
[redacted] is centered in the gap. No more 25X1
than two of these MSVs were observed at any time at the plant. This MSV variant was subsequently identified at Shumerlya Missile Ground Support Equipment Plant, which also produces MSVs (Figure 12). The system association of this variant has not been determined. (S/WN)

50. The second new probable mobile missile-associated MSV variant was the [redacted] 25X1
MSV. This variant was first identified at Shumerlya in 1983; it was also identified at Volgograd in early 1985. It is similar in appearance to the [redacted] 25X1
MSV except that a [redacted] rectangular object extends from the rear of the flat part of the 25X1

[redacted] 25X1

chamfer-roofed van body, giving the new MSV an overall length of [redacted] (S/WN)

51. The third probable mobile missile-associated MSV variant (item 10, Figure 15) is [redacted] meters long and appears to have a split-cab, MAZ-543 chassis. This differs from other [redacted] MSVs, which use MAZ-543 SP chassis. Moreover, the van body is not as far forward as the van body of the SS-20-associated, [redacted] MSV. Canvas concealed further details of this MSV variant. (S/WN)

52. The use of canvas to conceal details of the MSVs at Volgograd began in late 1984. Previously, MSVs were parked uncovered in the MSE storage area. The use of canvas to conceal details of TEL chassis at Volgograd began in May 1983; the canvas was used increasingly to conceal axle and cab configurations. (S/WN)

53. Construction activity underway at the plant (Figure 14) included expansion in the MSE-associated area of the plant (items 2 and 3, Figure 14); the start of construction of a large addition to the fabrication/assembly building in the northeast corner of the plant (item 4); the start of a smaller addition to the same fabrication/assembly building (item 5); the continuing construction and external completion of a large fabrication/assembly building that has been under construction since mid-1978 (item 1); and the construction of two large gantry cranes over two new shipping/receiving areas (items 2 and 6). (S/WN)

54. Expansion in the MSE-associated area of the plant consisted of the construction of an addition (item 3) to the MSE-associated fabrication/assembly building adjacent to the main MSE storage area and construction of a gantry crane (item 2). Construction of the 48 by 48 by 14 meter addition began in October 1983. This addition will probably be rail served and will probably be operational in late 1985 or early 1986. Between July 1983 and June 1984, a gantry crane with a 120- by 31-meter apron was constructed in the MSE-associated area. In late 1984 and early 1985, a large number of various-sized crates/construction materials were placed on the apron. The crates remained through the reporting period and probably contain machinery and/or construction materials related to the expansion. (S/WN)

55. It is not known if other construction at the plant is MSE related. The large fabrication/assembly building (item 1) in the central part of the plant, which has been under construction since 1978, was externally complete by early 1985. When this building becomes operational, approximately 24,000 square meters of fabrication/assembly floorspace will have been added. Although the timing of its completion coincides with new-system MSE production, the building probably is not MSE associated. (S/WN) 25X1 25X1 25X1 25X1

Volgograd Remote Test Facility 1

Summary

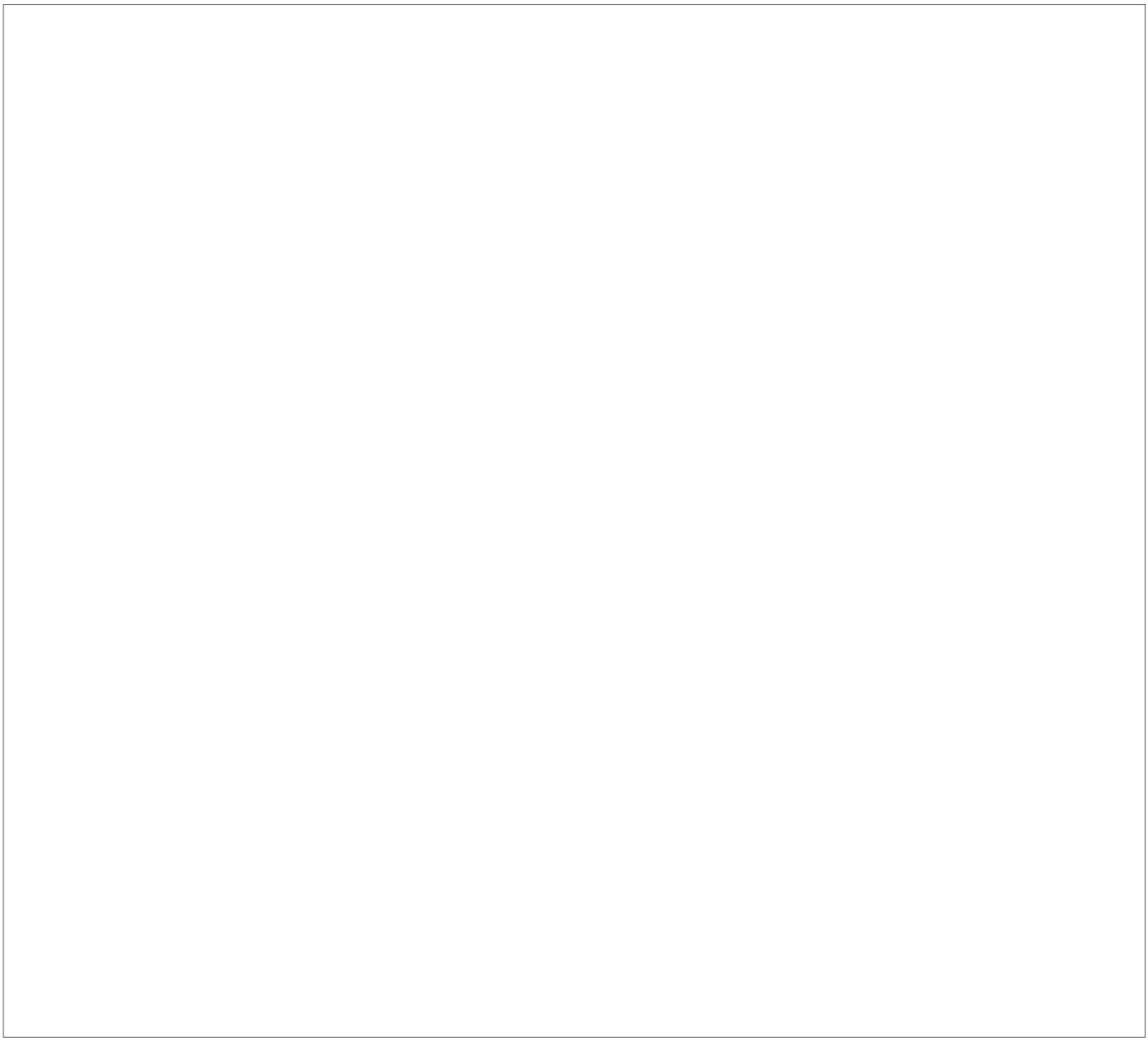
56. Volgograd Remote Test Facility 1 (RTF 1; Figure 17) is used for the testing of MSE produced at Volgograd Steel and Machinery Plant Krasnyy Barricada 221. Testing of MSE resumed at RTF 1 in September 1984. No MSE testing had been observed since June 1981. The new testing included KY-15 TEL chassis and other possible KY-15-associated MSE. No significant improvements were made to RTF 1 during the reporting period. (S/WN)

Activity and Developments

57. On [redacted] 12 canvas-covered missile support vehicles/chassis were observed at RTF 1. The MSE included two [redacted] MAZ six-axle chassis, one MAZ-543 chassis, four probable MSVs, four MAZ-500-series prime movers, and one small unidentified vehicle. Although evidence of vehicular activity at and near RTF 1 indicated that some MSE testing was being conducted at the facility, this was the first sighting of MSE at the facility since an SS-21 TEL/resupply vehicle was observed in 1981. By [redacted] netting had been placed over the canvas-covered vehicles. None of the vehicles present during this reporting period was over [redacted] long. Between [redacted] new vehicles were brought in to replace some of the chassis present. One of the vehicles was replaced by a KY-15 TEL chassis. On enhanced imagery of [redacted] the vehicles under the netting included a [redacted] KY-15 TEL chassis (Figure 18). (Also present were three [redacted] MAZ six-axle TEL chassis, one MAZ-543 truck, one MAZ-543 chassis, three MAZ-500-series prime movers, and three vehicles that could not be identified because of canvas and net covering.) This switching of vehicles under the netting and parking of vehicles in the same locations under the netting 25X1 25X1 25X1 25X1 25X1 25X1 25X1 25X1 25X1 25X1

25X1
25X1

25X1



Plant Krasnyy Barricada 221. A test program involving the SS-20 TEL chassis took place between late 1982 and mid-1983. The presence of a KY-15 canister dolly (Figure 19) in the main support area of RTF 3, a KY-15 TEL chassis at RTF 1, and a probable KY-15 TEL at Volgograd Plant 221 indicates that tests of MSE associated with these systems have probably been conducted at RTF 3, even though MSE has not been observed associated with these systems at RTF 3. Construction of a drive-through shed and the start of construction of two probable vehicle sheds indicate preparations for testing of new MSE and/or for a more active CC&D effort at the facility. (S/WN)

Activity and Developments

59. The program involving the testing of the SS-20 TEL chassis took place at RTF 3 from September 1982 through mid-1983. The latter part of this program coincided with renewed observations of SS-20 TELs at Volgograd Plant 221 in May 1983. Beginning in May 1983, MAZ six-axle, SS-20-associated TEL chassis were observed at Plant 221 after a two-year period during which none was observed. During the testing period, one to three MAZ six-axle TELs/TEL chassis were observed at RTF 3. Through most of the test period, a [redacted] meter-long load simulator was observed on one of the TELs being tested. (S/WN) 25X1

25X1
25X1

60. From the end of the SS-20 TEL test program at RTF 3 in mid-1983 until the end of this reporting period, no MSE was observed being actively tested at the facility. However, toward the end of the reporting period, probable testing of the KY-15 TEL and the KY-15 TEL chassis and possible testing of SS-X-25 equipment took place. Evidence supporting the testing of KY-15-associated MSE at RTF 3 includes the arrivals of a KY-15 TEL chassis at RTF 1 and a [redacted] KY-15 TEL at Volgograd Plant 221 in late 1984; moreover, related KY-15 TEL chassis testing has been underway at RTF 1 since at least [redacted] With the startup of SS-X-25 TEL production at Plant 221 in early 1985, testing of SS-X-25 MSE has probably also been conducted at RTF 3. (S/WN)

61. In March 1984, construction began on a 60- by 20-meter drive-through shed and two other structures on pad C, the concrete pad nearest the main support facility at RTF 3 (Figure 20). A door, [redacted] wide and [redacted] high, was installed at each end. The door is large enough to accomodate all mobile missile-associated MSE. The shed, completed by October 1984, provided additional space to store equipment being tested, thus preventing observation. At about the same time, construction had begun on two 20- by 20-meter probable MSE storage sheds. Wall stanchions had been erected, after which construction was halted. It had not resumed by the end of the reporting period. (S/WN) 25X1 25X1 25X1

REFERENCES

IMAGERY

All relevant satellite imagery acquired through [redacted] was used in the preparation of this report. (S/WN) 25X1

MAPS OR CHARTS

SAC/DMA. USATC, Series 200, Sheets 154-14, 154-25, 156-18, 161-05, 166-05, 167-05, 167-18, 167-19, 168-14, 235-16, and 235-21, scale 1:2,000,000 (S)

DOCUMENTS

1. Reference available on request.
2. Reference available on request.
3. DIA. DDB-1921-34-84, *USSR: Artillery Production Facilities (U)*, Dec 84, (SECRET [redacted] 25X1
4. Reference available on request.
5. Reference available on request.
6. Reference available on request.
7. Reference available on request.

RELATED DOCUMENTS

NPIC. Z-14612/82, RCA-09-0023/82, *Activity and Developments at Selected Soviet Missile Support Equipment R&D and Production Facilities (S)*, Nov 82 (SECRET [redacted] 25X1

NPIC. [redacted] RCA-09/0012/80, *Activity and Developments at Selected Soviet Missile Support Equipment Research, Development, and Production Facilities (TSR)*, Jul 80 (TOP SECRET [redacted] 25X1 25X1 25X1

NPIC. [redacted] RCA-09/0003/79, *Developments at Selected Soviet Missile Research and Development and Production Facilities (S)*, Feb 79 (TOP SECRET [redacted] 25X1 25X1

NPIC [redacted] RCA-09/0020/78, *Developments at Selected Soviet Missile Research and Development and Production Facilities (S)*, Sep 78 (TOP SECRET [redacted] 25X1 25X1

REQUIREMENT

COMIREX J99
Project 545033J

Comments and queries regarding this report are welcome. They may be directed to [redacted] Soviet Missiles and Space Division, Imagery Exploitation Group, NPIC, [redacted] 25X1 25X1 25X1 25X1

Top Secret

Sanitized Copy Approved for Release 2010/10/20 : CIA-RDP85T00840R000302340001-6