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TOP SECRET [redacted]  
Approved For Release 2003/12/19 : CIA-RDP78T04759A009100010143-9  
5 December 1969  
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MEMORANDUM FOR: Chief, PO4/SOC, NSA

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ATTENTION: [redacted]

SUBJECT: Communications Facilities at the Kapustin Yar SAM Test Range and the Emba Missile Test Center

REFERENCE: NSA Requirement NSA/SOC/R-55-70 (NPIC Project 250592)

1. This memorandum is a partial response to an NSA requirement concerning communications at Soviet Missile Test Centers. This portion describes the microwave and other communications facilities at the Kapustin Yar SAM Test Range and the Emba Missile Test Center. The SSM communications facilities at the Kapustin Yar/Vladimirovka Missile Test Center and the Tyuratam Missile Test Center will be published at a later date.

2. Three types of communications systems are deployed at the Kapustin Yar SAM Test Range: landline or cable-connected communications, R-400 microwave, and troposcatter dishes.

a. Tracking facilities 1 through 10, the precision tracking radar facility, the electronics test facility, and the SAM range communications facility are interconnected by land cables. The SAM range communications facility links these landline cable-connected facilities with the downrange SAM facilities via the R-400 microwave and troposcatter systems.

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b. The R-400 microwave system utilizes one or two [redacted] [redacted] parabolic reflectors mounted on a mast approximately [redacted] (100 feet) high. Eight facilities at the SAM range have one microwave mast each. The only change involving the microwave system since [redacted] has been at tracking facility 10, where there is only one of two previously reported microwave masts.

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c. Four SAM facilities contain the 10-meter [redacted] open-mesh, parabolic troposcatter dishes for interrange communications. In [redacted] [redacted] two [redacted] (60-foot) diameter troposcatter dishes were observed at the R & D launch area at the SAM rangehead. One dish is oriented on a [redacted] the other on a 335-degree azimuth. No receiving station has been identified with either dish. The size of the two dishes suggests that the receiving station may be outside of the SAM range.

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Declass Review by NIMA / DoD

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GROUP I

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SECRET [redacted]

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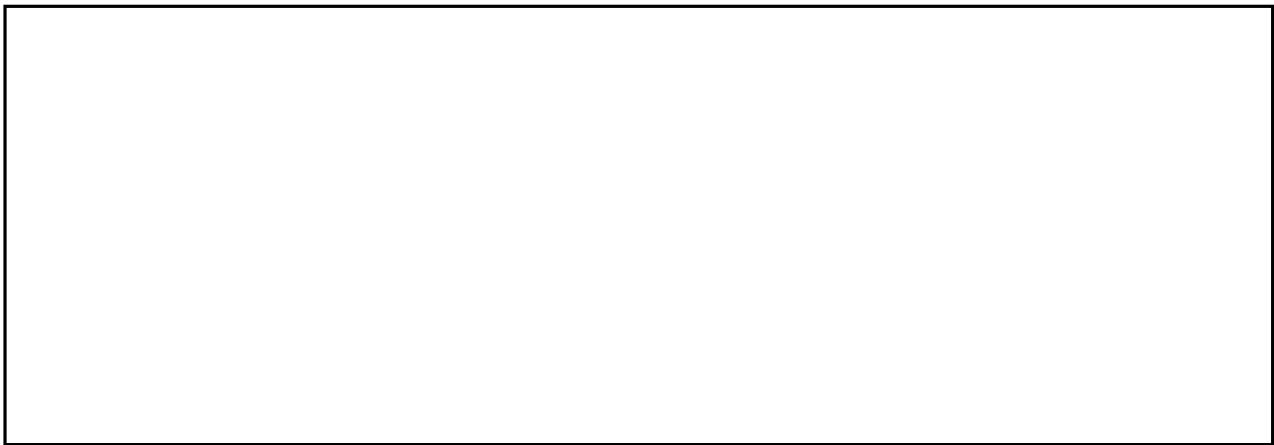
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3. Attachment 1 is a line drawing of the Kapustin Yar SAM Range showing the locations of the communications systems. Attachment 2 lists the facilities and the type of communication systems identified.

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a. Tracking facilities 2 and 3 at Emba do not contain microwave antennas. Line drawings of interferometers under construction at tracking facilities 4 and 5 are shown in Attachments 3 and 4. Photography of tracking facilities 6 and 7 in the past year has not been of sufficient interpretability to determine whether the dual-mounted antennas at each facility link the two together or serve some other facility.

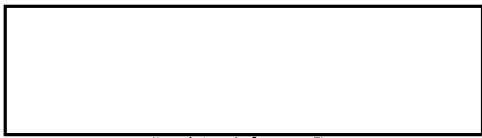
b. Other communications systems at the Emba Missile Test Center (excluding high frequency) include underground cables, open wire telephone, and VHF radio. DIA report [redacted] Soviet Tactical Missile Range, August 1969 (TOP SECRET [redacted]), provides a complete description and line drawing of communications facilities at the Emba Missile Test Center.

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6. For further information, please contact [redacted] NPIC, extension [redacted]

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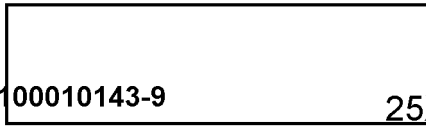
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Chief, Imagery Exploitation Group  
NPIC

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Attachments:

- 3 line drawings
- 1 table

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