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TCS 1851/64-KH
M/EB 222/64
27 April 1964
Copy

MEMORANDUM FOR: Chief, Ballistic Missiles and Space Division, OSI

25X1A

ATTENTION:

THROUGH: Chief, Requirements Branch, Reconnaissance Group, CGS

FROM: Chief, CIA/PID (NPIC)

SUBJECT: Search for HF Broadcast Stations within 100 Nautical Miles
of all Missile Launch Complexes in the USSR

REFERENCES: (a) Requirement C-SI-4-81,170
(b) CIA/PID Project C 496-64
(c) Memorandum M/EB 198/64
(d) EDL-M660-HF Signal Sources

1. This memorandum is in partial response to your requirement dated 11 March 1964, requesting the location of all HF (4-25 mc) radio broadcasting stations within 100 nautical miles of all Soviet ICBM, IRBM, MRBM launch complexes and missile test centers, and the Shuang-Cheng-Tzu Missile Test Center in China that contain antennas whose orientations pass over the launch complex. CIA/PID/MEB Memo 198/64 dated 16 April 1964 reported the results of our work on the missile test centers and ICBM launch complexes. This memo covers the HF broadcast/communication stations located within 100 nautical miles of the IR/MRBM launch complexes which contain antennas whose orientations pass over the launch complexes.

2. A re-analysis of all previously reported HF broadcast/communication stations reveals the following stations which contain antennas whose orientations pass over an IR/MRBM launch complex. Reciprocal orientations of both dipoles and curtain arrays were utilized. An asterisk by a station indicates it was previously reported under a different IR/MRBM launch complex. Item numbers relate to 88 IR/MRBM launch complexes listed in an alphabetical form. Those numbers not listed indicate that no HF stations were identified that fit the parameters of this study.

2. Aktyubinsk

HF stations at:

- a. 49-59-24N 36-19-30E
- b. 49-58-05N 36-18-15E
- c. 49-59-00N 36-22-00E
- d. 49-55-20N 36-20-40E

These stations require detailed interpretation.

DECLASSIFICATION REVIEW BY NIMA / DoD

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GROUP 1 Excluded from automatic downgrading and declassification

8-12508

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4. Anastasyevka
- 25X1D a. 48-28-55N 135-13-40E
Orientation to launch complex (OLC) [redacted] degrees.
Distance to launch complex (DLC) 18 to 20 nautical miles.
Station consists of 13 rhombics.
i. One rhombic oriented 65/245 degrees
Estimated nominal design frequency (EDF) 11 mc
- 25X1D b. 48-26-15N 135-24-00E
OLC [redacted] degrees
DLC 18 to 20 nautical miles
Station consists of at least 8 rhombics.
i. One rhombic oriented [redacted] degrees 25X1D
EDF 11.6 mc
- c. HF stations at:
48-32N 135-03E
48-25N 135-21E
48-27N 135-20E
48-28N 135-20E
48-28N 135-05E
These stations require detailed interpretation.
5. Balta
- 25X1D 47-57N 30-54E
OLC 275 to [redacted] degrees
DLC 55 nautical miles
This station requires detailed interpretation.
6. Barno-Orenburgskoye
- 25X1D a. 43-32N 131-56E
OLC [redacted] degrees
DLC 49 to 51 nautical miles
Station consists of two HF linear arrays
- 25X1D i. One linear array 3,570 feet long
Oriented [redacted] degrees
EDF 7.5 mc
8. Belokorovichi
- 25X1D a. 50-29N 30-41E
OLC [redacted] degrees
DLC 103 to 109 nautical miles
Station consists of numerous curtain arrays, 8 rhombics, four V antennas, 5 horizontal dipoles, 6 cone antennas
- 25X1D i. Rhombic oriented [redacted] degrees
ii. Curtain oriented [redacted] degrees
iii. V antenna oriented 305 degrees

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- b. 50-37N 25-35E
OLC 65 to 75 degrees
DLC 100 nautical miles.
Station consists of numerous rhombics.
This station requires detailed interpretation.

25X1D

- 10. Borshchev
 - a. 49-54N 24-40E
OLC [redacted] degrees
DLC 82 to 90 nautical miles
Station consists of numerous curtain arrays.
 - i. Several curtains oriented 130/310 degrees

25X1D

- 11. Brest
 - *a. 50-37N 25-35E
OLC [redacted] degrees
DLC 93 to 95 nautical miles
Station consists of half-rhombics and V antennas.
This station requires detailed interpretation.

- 12. Brody
 - *a. 49-54N 24-40E
OLC 60 degrees
DLC 24 nautical miles
Station consists of numerous curtain arrays.
Several curtains oriented 65/245 degrees.

- *b. 50-37N 25-35E
OLC 205 to 230 degrees
DLC 30 nautical miles
Station consists of numerous rhombics.
This station requires detailed interpretation.

25X1D

- 13. Bykhov
 - a. 53-25N 28-31E
OLC [redacted] degrees
DLC 67 nautical miles
Station consists of two vertical radiators and one
HF linear array.
 - i. One HF linear array 6,775 feet long oriented
60/240 degrees
EDL 14.5 mc

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25X1D

14. Derazhnya
 - *a. 49-54N 24-40E
 - OLC [redacted] degrees
 - DLC 101 nautical miles
 - Station consists of numerous curtain arrays.
 - i. Several curtains oriented 90/270 degreesEDF undetermined
 - b. 50-37N 25-35E
 - OLC 130 to 140 degrees
 - DLC 100 nautical miles
 - Station consists of numerous rhombics.
 - Station requires detailed interpretation.
17. Drogobych
 - *a. 49-54N 24-40E
 - OLC 235 degrees
 - DLC 52 nautical miles
 - Station consists of numerous curtain arrays.
 - i. Several curtains oriented 65/245 degrees.
18. Dyatlovo
 - a. 55-11N 23-48E
 - Station consists of 6 to 10 probable towers.
 - Station requires detailed interpretation.
21. Granov
 - *a. 50-29N 30-41E
 - OLC [redacted] 210 degrees
 - DLC 103 to 111 nautical miles
 - Station consists of numerous curtain arrays, 8 rhombics, four V antennas, 5 horizontal dipoles, 6 cone antennas.
 - i. One rhombic oriented 30/210 degrees
22. Gresk
 - *a. 53-25N 28-31E
 - OLC 235 to 255 degrees
 - DLC 25 to 31 nautical miles
 - Station consists of two vertical radiators and one HF linear array.
 - i. One linear array 6,775 feet long oriented 60/240 degreesEDF 14.5 mc

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- 23. Groznyy
 - a. 42-03N 44-01E
OLC [redacted] degrees
DLC 72 to 85 nautical miles
Station consists of 33 curtain arrays and 2 rhombics.
 - i. One curtain oriented 45/225 degrees
EDF 2 or 4 bay 11.3 or 18.7 mc
 - ii. One curtain oriented [redacted] degrees
EDG 4 or 8 bay 10.4 or 18.7 mc
- 24. Gusev
 - a. 54-50-15N 19-56-10E
Station requires detailed interpretation.
 - *b. 55-11N 23-48E
Station requires detailed interpretation.
- 25. Gvardeysk
 - *a. 54-40-15N 19-56-10E
Station requires detailed interpretation.
 - *b. 55-11N 23-48E
Station requires detailed interpretation.
- 26. Jelgava
 - *a. 55-11N 23-48E
Station requires detailed interpretation.
- 27. Jonava
 - *a. 55-11N 23-48E
Station requires detailed interpretation.
- 28. Kamenets-Podolskiy
 - *a. 49-54N 24-40E
OLC [redacted] degrees
DLC 102 to 109 nautical miles
Station consists of numerous curtain arrays.
 - i. Several curtains at 130/310 degrees
- 29. Kivertsy
 - *a. 50-37N 25-35E
OLC 350 to 10 degrees
DLC 15 nautical miles
Station consists of half rhombics and V antennas.
Station requires detailed interpretation.

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- 25X1D
31. Korosten
*a. 50-29N 30-41E
OLC 285 [redacted] degrees
DLC 86 to 93 nautical miles
Station consists of numerous curtain arrays, rhombics, and V antennas.
i. Several curtain oriented [redacted] degrees
EDF undetermined
ii. One rhombic oriented [redacted] degrees
EDF undetermined
- 25X1D
25X1D
32. Kraskino
*a. 43-32N 131-56E
OLC 230 degrees
DLC 74 nautical miles
Station consists of two HF linear arrays.
i. One array 6,545 feet long oriented [redacted] degrees
EDF 7 mc
- 25X1D
34. Krasnoznamensk
*a. 54-40-15N 19-56-10E
Station requires detailed interpretation.
*b. 55-11N 23-48E
Station requires detailed interpretation.
35. Kremovo
*a. 43-32N 131-56E
OLC [redacted] degrees
DLC 37 nautical miles
Station consists of two HF linear arrays.
i. One linear array 6,545 feet long oriented [redacted] degrees
EDF 7 mc
- 25X1D
25X1D
38. Lebedin
HF stations at
*a. 49-59-24N 36-19-30E
*b. 49-58-05N 36-18-15E
*c. 49-59-00N 36-22-00E
*d. 49-55-20N 36-20-40E
These stations require detailed interpretation.
39. Lida
*a. 55-11N 23-48E
Station requires detailed interpretation.

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40. Lutsk
- 25X1D *a. 49-54N 24-40E
OLC [REDACTED] degrees
DLC 54-58 nautical miles
Station consists of numerous curtain arrays.
i. Several curtains oriented 0/180 degrees
EDF undetermined
- *b. 50-37N 27-35E
Station consists of half rhombics and V antennas.
Station requires detailed interpretation.
43. Moskovitsy
- 25X1D a. 59-39N 30-41E
OLC [REDACTED] degrees
DLC 46-57 nautical miles
Station consists of one HF linear array, 24 curtain arrays,
two vertical radiators.
i. Linear array oriented 80/260 degrees
EDF 3.5 mc
25X1D ii. Five curtain arrays oriented [REDACTED] degrees
EDF undetermined
- 25X1D b. 59-52-30N 30-28-10E
OLC 240 to [REDACTED] degrees
DLC 45 to 57 nautical miles
Station consists of two probable rhombics and six probable
curtains.
25X1D i. 3 curtains oriented [REDACTED] degrees
EDF undetermined
ii. 3 curtains oriented [REDACTED] degrees
EDF undetermined
- c. 59-43-50N 30-02-20E
Station requires detailed interpretation.
- d. 59-43-20N 30-12-10E
Station requires detailed interpretation.
45. Nadvornaya
- 25X1D *a. 49-54N 24-40E
OLC [REDACTED] degrees
DLC 76 to 77 nautical miles
Station consists of numerous curtain arrays.
i. Several curtains at 0/180 degrees
EDF undetermined

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47. Novosysoyevka
*a. 43-32N 131-56E
25X1D OLC [redacted] degrees
DLC 72 to 75 nautical miles
Station consists of two HF linear arrays.
25X1D i. One array 6,545 feet long oriented [redacted] degrees
EDF 7 mc
48. Ostrog
*a. 49-54N 24-40E
25X1D OLC [redacted] to 75 degrees
DLC 81 to 82 nautical miles
Station consists of numerous curtain arrays.
i. Several curtains at 90/270 degrees
EDF undetermined
ii. Several curtains at 65/245 degrees
EDF undetermined
*b. 50-37N 25-35E
OLC 110 to 120 degrees
DLC 80 nautical miles
Station consists of half rhombics and V antennas.
Station requires detailed interpretation.
51. Pervomaysk
25X1D *a. 45-57N 30-54E
OLC [redacted] to 150 degrees
DLC 1 to 5 nautical miles
Station requires detailed interpretation.
52. Pinsk
*a. 50-37N 25-35E
OLC 5 degrees
DLC 95 nautical miles
Station consists of half rhombics and V antennas.
Station requires detailed interpretation.
60. Sary Ozek
25X1D a. 43-29-45N 77-00-20E
OLC 15 to [redacted] degrees
DLC 63 to 67 nautical miles
Station consists of numerous curtain arrays and six rhombics.
25X1D i. One rhombic oriented [redacted] degrees
EDF 14.6 mc
b. 43-20-45N 76-49-45E
Station requires detailed interpretation.

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- 61. Sateikiiai
 - *a. 55-11N 23-48E
Station requires detailed interpretation.
- 62. Simferopol
 - a. 43-33-00N 33-33-30E
Station requires detailed interpretation.
- 64. Smorgon
 - *a. 55-11N 23-48E
Station requires detailed interpretation.
- 65. Sokal
 - *a. 50-37N 25-35E
OLC 250 to 260 degrees
DLC 50 nautical miles
Station consists of half rhombics and V antennas.
Station requires detailed interpretation.
- 66. Sovetsk
 - *a. 55-11N 23-48E
Station requires detailed interpretation.
 - *b. 54-40-15N 19-56-10E
Station requires detailed interpretation.
- 68. Taurage
 - *a. 55-11N 23-48E
Station requires detailed interpretation.
 - *b. 54-40-15N 19-56-10E
Station requires detailed interpretation.
- 69. Taybolu
 - a. 68-07N 33-14E
OLC [redacted] to 15 degrees
DLC 19 to 23 nautical miles
Station consists of 8 rhombics and one tall tower.
 - i. Two rhombics oriented [redacted] degrees
EDF undetermined
 - ii. One rhombic oriented [redacted] degrees
EDF undetermined
- 72. Ukmerge
 - *a. 55-11N 23-48E
Station requires detailed interpretation.

25X1D

25X1D

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in the USSR

73. Uman

25X1D *a. 50-29N 30-41E
OLC [redacted] degrees °
DLC 91 to 96 nautical miles
Station consists of numerous curtain arrays, rhombics and
V antennas.
25X1D i. One V antenna oriented [redacted] degrees
EDF undetermined

78. Yelsk

25X1D *a. 50-29N 30-41E
OLC [redacted] degrees
DLC 92 to 94 nautical miles
Station consists of numerous curtain arrays, rhombics and
V antennas.
25X1D i. One rhombic oriented [redacted] degrees
EDF undetermined
25X1D ii. One V antenna oriented [redacted] degrees
EDF undetermined
iii. One V antenna oriented [redacted] degrees
EDF undetermined

79. Zagare

*a. 55-11N 23-48E
Station requires detailed interpretation.

80. Zhitomir

25X1D *a. 50-29N 30-41E
OLC [redacted] to 260 degrees
DLC 92 to 95 nautical miles
Station consists of numerous curtain arrays, rhombics and
V antennas.
25X1D i. Three curtains oriented [redacted] degrees
EDF undetermined
ii. Two rhombics oriented [redacted] degrees
EDF undetermined
iii. Two rhombics oriented [redacted] degrees
EDF undetermined

83. Znamensk

*a. 55-11N 23-48E
Station requires detailed interpretation.
*b. 54-40-14N 19-56-10E
Station requires detailed interpretation.

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3. HF stations within approximately 100 nautical miles of launch complexes which contain antennas whose orientations pass over launch complexes were identified at 5 ICBM and 23 IR/MRBM launch complexes.

25X1A 4. The photo analysts on this project are [REDACTED], 25X1A [REDACTED] who may be contacted on extension 2421 should you have any further questions concerning this project.

5. This project is not considered to be complete. It is estimated that three months additional work is required to complete this requirement.

[REDACTED]

25X1A

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