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CENTRAL INTELLIGENCE AGENCY

REPORT

INFORMATION REPORT

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1. On 15 January 1951, the Zentrallaboratorium fuer Signal- und Sonderanlagen (Central Laboratory for Signal and Special Installations) (ZLSS) and Radio Plant in Koepenick, successor plants of the former GEMA enterprise incorporated into the Association of Nationalized Radio and Teletype Plants (VVB RFT), were declared Schwerpunktbetriebe (enterprise of major importance for the national economy. (1)

2. [redacted] in early 1951 [redacted] the two firms [redacted] were [redacted] under the management of Director Boer (fnu):

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a. ZLSS: General manager: Director Paulussen (fnu)

Technical Director: Hoffke (fnu)

Construction of Transmitters: Chief: Dr. Rudolf Kaiser, who has served in this capacity since August 1950. Meinhard (fnu), Gutzeit (fnu), and Grimm (fnu) were assigned to the drafting section and were also charged with industrial planning.

Ship Radio Equipment: Graduate engineers Huettmann (fnu), Nowak (fnu), Roscher (fnu), Kotischke (fnu), Horra (fnu).

Ship Instruments: Doberenz (fnu), Wagner (fnu), drafting section.

Measuring Instruments: Chief: Dr. Weber (fnu); five assistants.

Railroad Signal and Safety Devices: Seven engineers work in the drafting section.

Mechanical Equipment for the Postal Service: Chief: Laurinat (fnu). Special laboratories were available.

b. Radio Plant in Koepenick: General management: Director Herrmann (fnu); technical management: Schidlowski (fnu); technical laboratory: Dr. Fischer (fnu). A chemical laboratory as well as production and assembly facilities were available.

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In late November 1950 the plant had the following work force:

Central Laboratory: 485 male and 169 female workers  
 Radio Plant 454 male and 189 female workers  
 Administration 189 male and 136 female workers.

3. In December 1950 the following work was being done:

a. Radio Transmitter Section

Work on the Zwilling transmitter, scheduled to have a capacity of 2x150 kw, was still in its initial stage. (2) By order of the Post- und Fernmeldetechnik Zentralamt (Central Office for Postal and Telecommunication Technics) (PFZ), a five-kw transmitter for the Ruegen Radio station was being developed. This transmitter was required to change waves in the 13 to 100-meter band within 30 seconds. Work was also done on a 10-kw transmitter operating on a range from 80 to 200 meters and another 10-kw transmitter for a range from 500 to 1,000 meters. Both transmitters were earmarked for the Ruegen Radio station. To facilitate rapid re-tuning of the antenna, an antenna was developed which could be re-tuned by pulling a cable. The utilization of such an antenna was reportedly planned for both the Ruegen Radio station and the Zwilling transmitter. The principles of this type of antenna were discussed in [redacted] on 18 September 1950, [redacted] Investigation on the Range of Applications of the Cable Dipole Principle, USA Patent Serial No 112270, filed on 25 August 1949, with Special Reference to Radio Antennae and Transformers Operating on Medium Waves from 170 to 600 meters. A cable-pulled antenna working on this principle and using waves in the 15 to 200-meter band was built in Norddeich in 1939. In the above-mentioned report the following suggestions were made:

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- (1) Model experiments with meter waves on a cable-pulled antenna having greater anti-fading effect and requiring lower antenna masts (wave band: 170 to 600 meters) (3)
- (2) Development of a grounded telescopic mast only 30 meters high as support for an antenna designed for operations on a wave band of 170 to 600 meters.
- (3) Construction of an adjustable transformer for the antenna described above.

When the model of such a cable-pulled antenna was built, one of the mechanics suggested that the heavy copper cables be replaced by perlon ropes braided with copper wire.

b. Ship Radio Equipment Section

- (1) Development of an all wave receiver fitted with 3 to 10 circuits for frequencies of about 50 kc.
- (2) Development of a DF installation.
- (3) Development of a floating automatic maritime emergency signal transmitter with a manually operated dynamo as power supply. It was planned to build this transmitter in quantity. (4)

c. Apparatus Division

Development of measuring instruments for decimeter sets. Repair and conversion of old Michael decimeter sets. The manufacture of 80 Michael-type sets was allegedly planned. In 1950, several transmitters operating

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on wave lengths from 80 cm to 5 meters and fitted with concentric-line resonators and LD-5 type tubes were built for laboratory purposes. (5)

d. Ultrasonic Frequency Division

The experiments conducted by Graduate Engineer Solger had been discontinued for some time but were scheduled to be resumed under the supervision of another engineer. For these experiments sound generators and receivers and soundproof containers had been used for depths of up to 250 meters. (6)

e. Signal equipment and a limited number of oscillographs were manufactured in the radio plant. Old German radio sets for tanks, about 100 of which were stored in a workshop, were being repaired.

4. Groups of **Russian** civilians who inspected the plant limited their interest almost exclusively to the development of the all wave receiver.
5. From late November to 21 December 1950, a German group led by Graduate Engineer Novak. (fnu), was in Prague to assemble a 5-kw short-wave transmitter built at the ZLSS.

Comments.

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- (1) The decision to make the two plants Schwerpunktsbetriebe was taken at the time the first groups of German radio specialists returned to Germany from the U.S.S.R. Many of the German experts found employment at these plants.
- (2) It is believed that the Zwilling transmitter is to replace the demolished transmitter in Tegel.
- (3) For sketch of a cable-pulled antenna, see Annex.
- (4) This statement is not quite clear. It refers either to a distress buoy or a distress signal transmitter carried in a rubber raft similar to the former German SN-4 set.
- (5) Michael-type sets are light decimeter sets having two channels, one for telephone and another one for teletype operation. In the former German Army **leichte** Richtverbindungskompanien (directional wireless companies) attached to army headquarters were equipped with such instruments. Orders for Michael-type sets were placed with the Radio Plant in Leipzig by the Volkspolizei.
- (6) After the deportation of Helmut Zimmer, Engineer Solger continued these experiments with ultrasonic frequencies in an effort to develop proximity fuses for mines. **The Russians seem to have developed a renewed interest in this project.**

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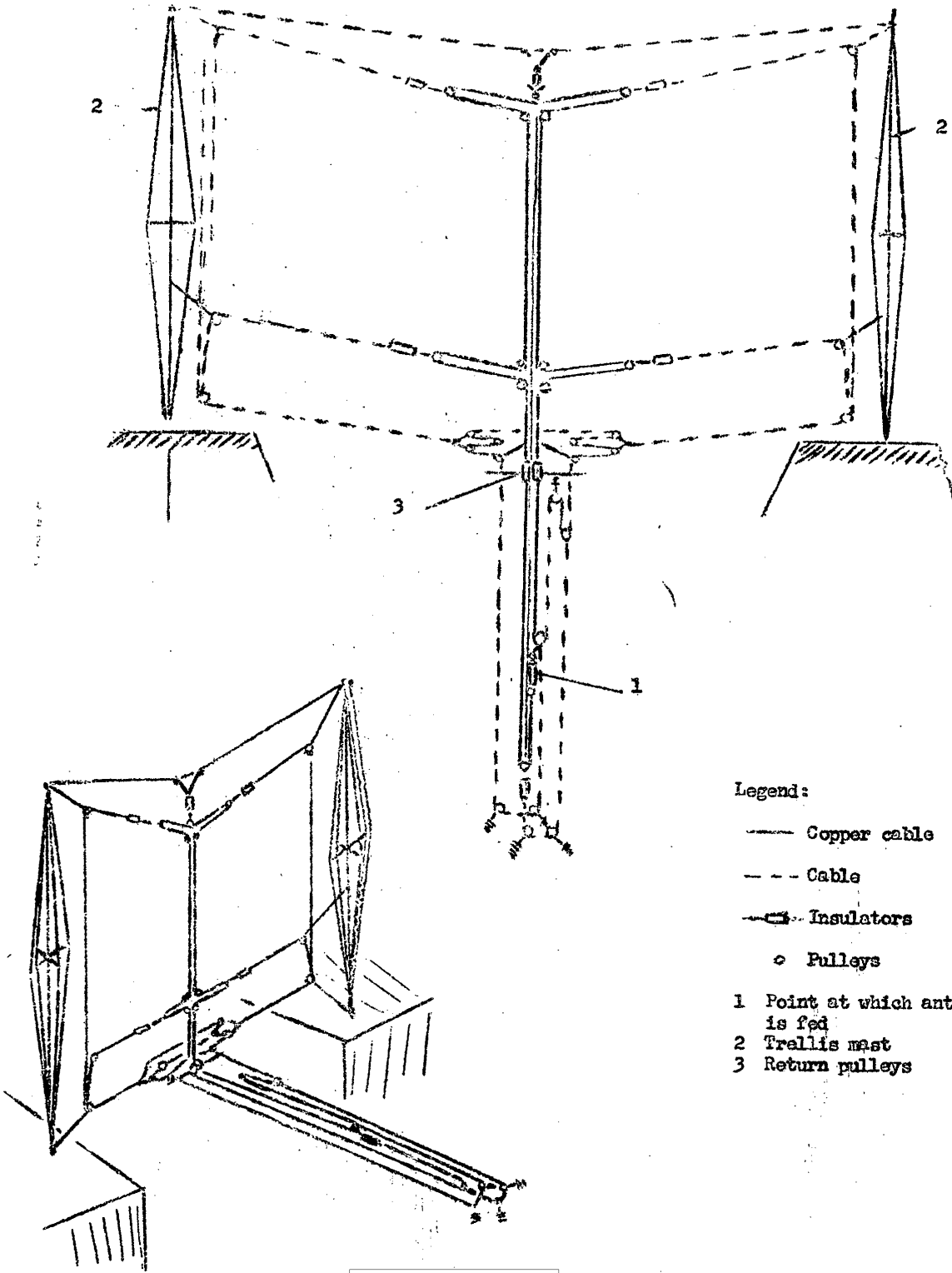
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Annex

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Schematic Diagram of a Novel-Type Cable-Pulled Antenna



Legends:

- Copper cable
- - - Cable
- ▭ Insulators
- Pulleys

- 1 Point at which antenna is fed
- 2 Trallis mast
- 3 Return pulleys

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