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SECURITY INFORMATION

REPORT

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THIS IS UNEVALUATED INFORMATION 50X1-HUM

1. work at Zeiss, Jena -research laboratory, ZBL

The following persons worked in this shop: LOTZ--foreman, ENGLER, SCHUPKE, BERRINGER, SCHREIBER, DINGER, and Miss HOFFMAN. The group in this shop was looked upon as politically unreliable by the Communists. 50X1-HUM

it was rumored that a "trusty informer" was to be placed in the group as soon as a "good reason" could be found. 50X1-HUM

2. a motor-generator set for the electron microscope. 50X1-HUM
The motor-generator-exciter were on a single shaft and mounted on a cast iron base about 60 by 20 centimeters. The motor operated on a 50 cycle 220 volts supply line with a variable series resistor for speed control. It drew six amperes at 16,000 rpm. with an output of one hp. The power factor was 0.6 at 10,000 rpm. and 1.0 at 20,000 rpm. The armature was air cooled, 10 centimeters in diameter, and had 16 slots. There were 48 segments on the collector. Great care was taken in balancing the moving parts as well as in lapping the bearings. A coin could be balanced on its edge any place on the machine while it was operating at 30,000 rpm. The generator output was 220 volts, two to three amperes, and 800 cycles at 15,000 rpm. The generator output was fed into a step-up (50 kilovolt) transformer enclosed in oil. The current was then rectified by a V60/11t rectifier tube. This tube required 1.6 amperes, at 3.8 volts, to heat the filament. The plate current was 2.5 milliamperes.

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at 50 to 60 kilovolts. The tube was pear-shaped, about 30 centimeters long and immersed in an oil bath. Sphere gaps were used to measure the high potential. The exciter for the fields was a small four-volt machine.

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4. rebuilt motor to be used for driving a camera to take 10 to 40 pictures per second of processes in Jenapharm. This motor was provided with three sets of windings, and its speed was variable from about 1,000 to 5,000 rpm.

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5. One of the problems at Zeiss was to construct high speed grinding equipment. Very high speed grinding will eliminate much rough polishing and is much faster. a motor which turned 30,000 rpm. It could be geared to drive a wheel or spindle at twice this speed. Another motor, which could run at 60,000 rpm., was almost complete This was to be used to drive an ultracentrifuge. There were two sets of ball bearings at each end of the shaft. No separate races were used, but grooves were cut directly in the axle shaft to guide the balls. All parts were especially heat-treated and lapped into position. The axle had a hardness of 800-900 Rockwell.

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6. test and remagnetize the 4.5 watt motor . Such jobs always came in as "Rush".

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7. A high speed motor was also produced at Zeiss, Jena. The monthly demand sometimes ran as high as 80 per month.

8. There was a great deal of friction between the foreman of the electrical power supply shop and the leader of the electron microscope design work. GUYENOT had charge of the latter, and LOTZ's laboratory worked on the power pack. It was desired that the microscope be operated at 50,000 volts, but sparking always took place when the potential exceeded 20,000. It was hoped and claimed by some that the instrument gave a magnification of 20,000 but in reality 4,000 was rarely exceeded. GUYENOT insisted that the accessories made by LOTZ were at fault, so he had AEG, Berlin, and Koch and Stersel, Dresden, each build a power unit. These were about twice as large, heavy, and bulky as the LOTZ unit and gave no better results. The upshot was that, GOERLICH was appointed to find out where the trouble was. GUYENOT formerly worked on the A-1 apparatus and really was poorly trained to take over the electron microscope.

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9.

10. GOERLICH, BRAUN, ROHRTANZ, and ERLER-- all of whome actively embraced the Soviet ideology in Krasnogorsk-- will try to seize power and communize the Zeiss workers. BRAUN is personnel leader; GOERLICH and ROHRTANZ are chiefs in the scientific section. an attempt will be made to have ROHRTANZ or GOERLICH displace SCHRADE as scientific director.

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