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CENTRAL INTELLIGENCE AGENCY

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INFORMATION REPORT

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25X1

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CIRCULATE

SUPPLEMENT TO REPORT NO. [redacted]

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[redacted]

THIS IS UNEVALUATED INFORMATION

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[redacted]

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1. Scientific Research Institute [redacted] (Nauchno Issledovatelskiy Institut) (NII) was assigned to the Ministry of the Communications Equipment Industry. Prior to February 1948, a group of German experts living in Ilinskoye worked at the institute. Special Bureau No 1 (SB 1) in Monino, which consisted of German engineers only, was assigned to NII [redacted] After a fire had destroyed the institute, the group of German experts from Ilinskoye worked at SB 1 in Monino.

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2. In September 1950, part of the German experts from Monino moved to Moscow-Kuntsevo and had to sign contracts to remain for another four years in the U.S.S.R. Their

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25X1 [redacted] these Germans, who had to work 12 hours a day including Sundays, were assigned to the Soviet Ministry of State Security headed by Beriya. The Germans who were not transferred to Kuntsevo were returned to the Soviet Zone of Germany in April 1952. (1)

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3. NII [redacted] was located about 500 meters west of the Novaya railroad station of the Moscow interurban railroad system on the Moscow-Ramenskoye line, about 400 meters south of the Shosse Entusiastov. The institute was located in a former telephone equipment plant, which discontinued its production in 1947. A total of 2,000 persons working one shift was assigned to the institute; 500 were office and guard personnel, 500 were assigned to production work proper, while about 1,000 were designers or research and laboratory personnel. The 16 Germans working at

25X1 NII [redacted] all of whom had come from Bleicherode, lived in Ilinskoye, five stations before Ramenskoye on the line to Ryazan. Until February 1948, they travelled daily by rail to the institute. (2)

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4. The chief mission of the German engineers working at NII [redacted] was to reconstruct the steering devices developed during World War II for rocket weapons. The Germans were either assigned to individual groups of Soviet engineers or entrusted with special missions. Work performed included the reconstruction of the Wolman method developed for the tracing of the trajectory of a large rocket. The principle of this method was as follows: An Ortler type set mounted in the A-4 type rocket receives the waves of one kilowatt ultra-short wave transmitter operating in the 5 to 10 meter-range and, after transforming the frequency of the waves, reflects them to the ground. The location and speed of the rocket will then be determined by three

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radio receivers located at three different points. Ortler type sets were available in Bleicherode. Modified Strassburg type receivers as used for the Hawaii method were selected as ground radio receivers. [redacted] In connection with this type of work, [redacted] the German LS 500 type output tube was replaced by the Soviet version of an American tetrode provided with an external anode and compressed air cooling. This tetrode was manufactured in Leningrad. (3)

5. A modified version of the Messina set, used for the transmission of measured values from the A-4 rocket, was also reconstructed at the NII [redacted] Another mission accomplished was the reconstruction of the Hawaii method invented by Dr Werner Buschbeck. The purpose of this method is to keep the A-4 rocket in a vertical position during take-offs. This was brought about by the utilization of two dipole antennas 30 λ apart from each other. A guide beam with A-N identification signals transmitted by these two dipoles is received by the Strassburg type radio receiver of the A-4 rocket. By mixing the signals received by the Strassburg set with the guide beam, which is three or four meters wide, the A-4 will be kept within this width during the take-off performance. This method was designed for the A-4 series of remote-controlled rockets. (4)

6. One group of German experts worked on measurements of antennas and on radio wave diagrams for ultra-short wave antennas. Details on these activities were not available [redacted] Measurements on the door antenna for the Ortler set, which were begun at the Lohra bureau of the Central Works in Bleicherode prior to 1946, were not continued. These measurements were connected with the intention of utilizing an insulated section of the outer skin of the A-4 rocket as antenna. (5) Other work conducted at the NII [redacted] concerned problems of high-frequency ceramics and layer resistances. [redacted]

7. The group of engineers engaged in the field of integration devices designed one set each working on a mechanical and an electrolytic basis. The sets were to be used in rockets for the calculation of mean paths. The related work was continued in SB 1. The engineer in charge of this project went to Kuntsevo in 1950.

8. Two Germans were assigned to the FMS train parked near the institute. (FMS - Fahrbare Meteorologische Station, i.e. Mobile Meteorological Station, a code designation for mobile rocket launching sites.) This train was still parked there in 1948. Details were not available [redacted] Dr Johannes Tschauner made calculations on trajectories of rockets. This engineer was among the group of German experts transferred to Kuntsevo in 1950. An original A-4 rocket was available at the institute for instrument tests. The work on steering devices to be used for rockets was based on incomplete former German documents and modern technical literature from western nations which was procured via the Lenin Library. However, it took up to two weeks before this literature could be obtained, a fact which greatly hampered research work. (6)

9. Special Bureau No 1 (SB 1) was located in a sanatorium in Losino-Petrovskiy, formerly Losino-Petrovskoye, near Monino. It consisted of design bureaus, laboratories, and a small workshop. Major mechanical work connected with the development of steering devices required for the A-4 rocket was performed at NII [redacted] SB 1 was headed by a German expert to whom was attached a Soviet nachalnik and some Soviet engineers. The number of persons working at SB 1 totaled 80, 40 of whom were Soviets. The group of 40 Germans consisted of the 16 Germans working in NII [redacted] prior to February 1946 and 24 assistants who were deported from Bleicherode to Monino in October 1946. Typical of the conditions under which the Germans had to work was the fact that the group of engineers from Ilinskoye had to travel seven

hours every day to their place of work so that only five hours remained for their work. It was not before 1950 that this group moved to Monino. After the Germans left in 1952 the house in which the institute of the Germans was located was reconverted into a sanatorium. (7)

10. Secret and non-classified work was conducted at SB 1. Some of the German experts coming from NII [redacted] were exclusively assigned to non-classified missions. After the group of engineers transferred to Kuntsevo had left the installations, only non-classified work was done at SB 1. [redacted] this work had no other purpose but to retain the Germans until they had forgotten the secret work previously done by them. The really important work at SB 1 was directed by Dr Werner Buschbeck, who was assigned the mission of designing a target-seeking device for an AA rocket and to construct a prototype of such a device. The composition of the group of engineers transferred to Kuntsevo showed that the Soviets were greatly interested in this type of work. According to rumors, a group of German experts familiar with steering devices was also located at Kuntsevo. (8) These experts had reportedly come from the Askania Works. [redacted] the work conducted on target-seeking devices. [redacted] many experiments were made. [redacted] the final device developed by Dr Buschbeck worked on the following principle. Beams were radiated against an airborne target by means of an American set which probably was an SCR 584 and operated on a wave length of about 10 meters. The reflected beams were to be intercepted by the target-seeking device, which had to transform them into steering impulses. The trajectory of the AA rocket then resulted in the famous "Hundekurve" (dog's curve) (sic). In September 1950, [redacted] a test with this target-seeking device, [redacted] this device consisted of a parabolic reflector 25 centimeters in diameter, which was fitted with a small antenna, which, allegedly, made 30,000 rotations per minute. The airborne target, a twin-engine plane, flew at an altitude of 700 to 800 meters. The target-seeking device began to orient itself toward the plane when it was 20 km away. The target-seeking device was housed in a cabin the walls of which consisted of foam trolitul, a type of synthetic material. All the secret work conducted at SB 1 was connected with target-seeking devices and steering devices for AA rockets. Some engineers worked on oscillators, others on special equipment of the target-seeking head such as impulse amplifiers, etc. Current supply sets and mains rectifiers were also built. A control desk was built for practical tests to be performed with target-seeking devices. The mathematical department of SB 1 made extensive calculations on trajectories of rockets. Furthermore, a training model to illustrate the stick control as used for the Schmetterling type AA rocket and the HS-293 set was also built. A very difficult task was the order to provide a gyroscope with a very high degree of damping. The gyroscope, captured German equipment, was fitted with a ball three centimeters in diameter functioning as a rotor. The entire gyroscope was housed in a case 10x10x10 centimeters in size. As usually, the gyroscope was operated by potentiometers. The damping was to be effected by eddy current brakes. Although the pertinent development work was a success, the degree of damping demanded by the Soviets was not reached. Further details were not available [redacted]

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11. Non-classified work conducted at SB 1 included the construction of a wide-band amplifier. On the basis of technical publications, the Soviets demanded an amplification from 25 c/s to 100 kc/s, with a linearity of amplification of ±1 decible and a degree of amplification of 5,000. The solution for this task was copied from technical magazines. Another mission accomplished was the construction of a quartz clock, which, having an output frequency of 100 kc/s, was to perform frequency division down to 1 kc/s. There was little sense in this kind of work, since the accuracy of no 100 kc/s-quartz was exactly the same. An engraving machine for instrument scales was also built. This machine was admired by the Soviets. Designs for a field strength meter also had to be submitted. (5) The development of a ferrograph, which was started in 1952 was not completed. (9)

25X1 12. [redacted] Karl August Muennich probably conducted launching tests for A-4 rockets in the Kazakh steppe in 1948. [redacted] Muennich 25X1 was unable to pinpoint the location where these tests were made, because the windows of the plane which had taken him there were blinded. In general, 25X1 [redacted] many of the missions accomplished by the German experts in the U.S.S.R. will be of great importance for the Soviets. This applies particularly to the work done by Dr Helmut Faulstich and Dr Werner Buschbeck, two outstanding men in their respective fields of work. (10) 25X1

13. [redacted]

14. Regarding conditions prevailing in the U.S.S.R., [redacted] the bulk 25X1 of the Soviet people are very bitter about the fact that living conditions in the country did not improve after the war in spite of all the promises made by the Communist Party. The contact of Soviet soldiers with the Western world, particularly in the Soviet Zone of Germany, has had a demoralizing effect and pierced the iron curtain. However, the Soviets, although critical of their 25X1 regime, are aware that an open rebellion would be crushed without difficulty by the State Security Police. Many parents influence their children in taking a positive attitude toward religion. A surprisingly large number of juveniles attended the Easter ceremonies in Ilinskoye and Monino, although the Komsomol organization had forbidden its members to participate in these celebrations. The planned economy does not work, since the plans made are not realistic. The only exceptions to this are the establishments placed under the supervision of Beriya. Listening to foreign broadcasting stations is not forbidden. [redacted] 25X1 [redacted] a very large number of people [redacted] tuned in to the 25X1 transmissions of RIAS, Berlin, the BBC, and the Voice of America. However, transmissions in Russian are always jammed with a varying degree of efficiency. The periodical America was often seen [redacted] in Moscow. In the mean time, the Soviets have started a publication called The U.S.S.R. designed to 25X1 compete with the USA-sponsored magazine. The latter publication has a wide circulation.

25X1 [redacted] Comments.

(1) The present report is the first to furnish information on the assignment of German engineers working on steering devices for rocket weapons. Previously it had been believed that these engineers, who lived in Ilinskoye, worked at the Aerodynamic and Hydrodynamic Institute. [redacted] . It is 25X1 [redacted] for the first time that the group of German engineers from Monino worked at Special Bureau No 1. The information on the German experts who 25X1 moved to Moscow-Kuntsevo in September 1950 refers to Dr Buschbeck's organization, which was previously believed to have been transferred to Lenin- 25X1 grad. [redacted] . The statement that this group worked under Beriya's Ministry of State Security appears credible but requires confirmation.

(2) For location plan and layout sketch of NII [redacted] see Annexes 1 and 2. 25X1

(3) In Leningrad, tubes are manufactured at the Svetlana [redacted] and possibly also at the Incandescent Lamp Works. 25X1

(4) The data on the Wolman and Hawaii methods refer to the status they had reached in 1945. The Strassburg type receiver operated in the 48 to 49.8 kc/s range. The possibility of the utilization of the Wolman and Hawaii methods for long-distance rockets cannot be commented on before more detailed information on their further development in the U.S.S.R. and the technical capabilities of the Soviet industry in this field have been received.

(5) Information on these measurements of antennas conducted at Lohra was transmitted previously.

25X1 (6) [redacted]

(7) The statement that the group of German engineers in Monino was deactivated confirms previous information. [redacted] 25X1

(8) This group of engineers who worked under graduate engineer Waldemar Moeller had moved from Upravlencheskiy to Monino. After December 1950, their address 25X1 was Moscow, [redacted]

(9) The various development projects worked on at the SB 1 cannot be commented on in detail before information has been received on mass production of sets developed by the German engineer. However, it appears that the Soviets set great store by all the work done in the field of antiaircraft rockets. This assumption is supported by the fact that very efficient experts were assigned to the group of engineers charged with these missions and that they had to sign a contract for four more years in the U.S.S.R. It furthermore appears noteworthy that this group was, allegedly, subordinate to Beriya's Ministry of State Security.

25X1 (10) [redacted] the launching of rockets was observed east-southeast of Stalingrad and in the Tashkent area. The opinion [redacted] that Dr 25X1 Faulstich and Dr Buschbeck accomplished their missions for the Soviets may be true. However, the data available in this field is too scarce to allow a definite judgment on the success the Soviets had with the development of effective antiaircraft rockets or long-distance rockets.

(11) For tabulation of personnel, see Annex 3. The personnel mentioned in the tabulation are commented on as follows:

Major Tunik is believed to be identical with one Tunik, who, according to Soviet press reports, was awarded the Stalin prize in March 1950 for the development of new radio sets. According to unconfirmed information, Fleischer returned to the Soviet Zone of Germany. It is believed that Tschauner is identical with Dr Tschorner, information on whom was transmitted 25X1 previously. [redacted] It remains to be determined which of the two names is the correct form. The Soviet supervisors mentioned in the tabulation are reported for the first time.

25X1

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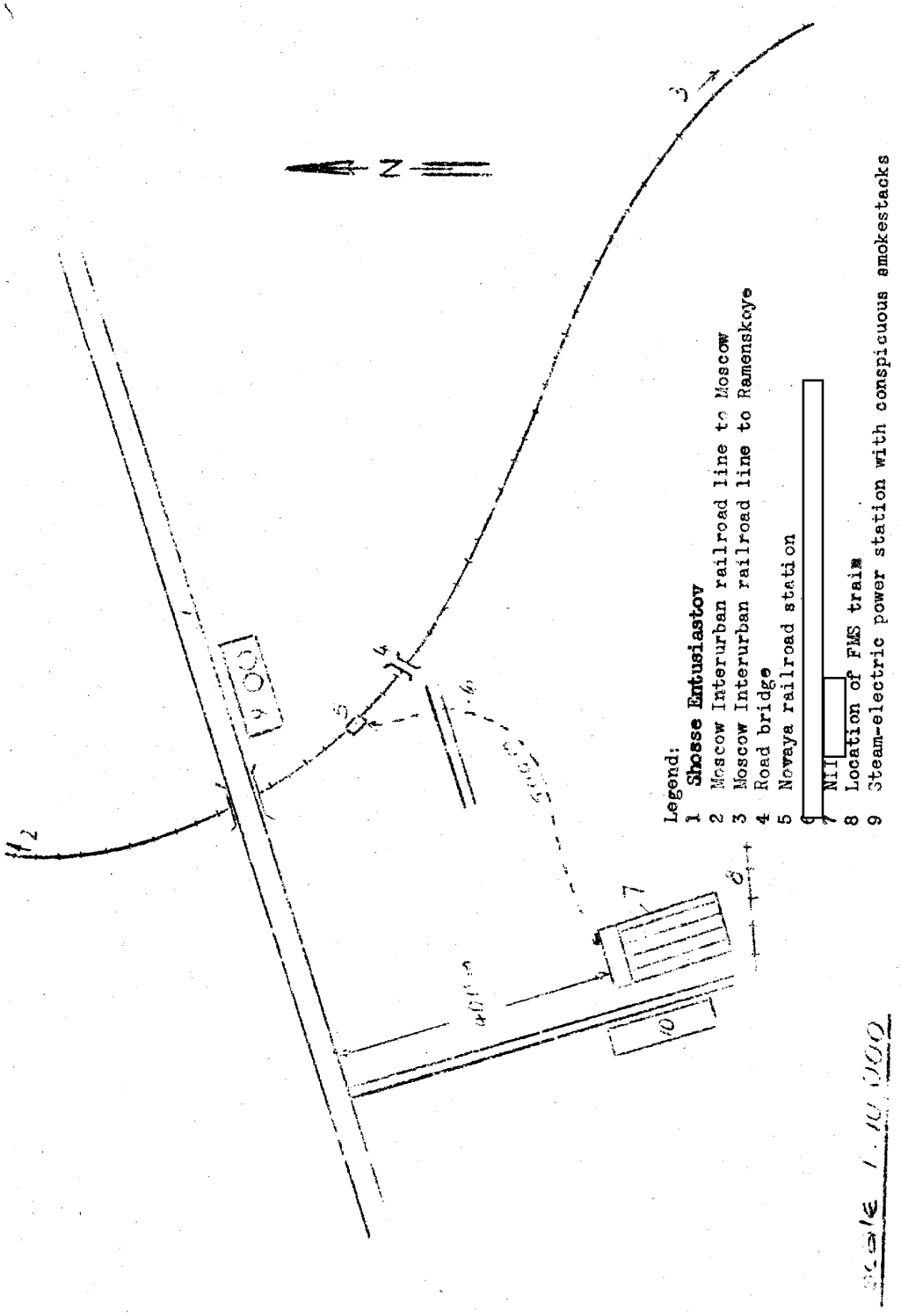
Attachment 1



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Attachment 2

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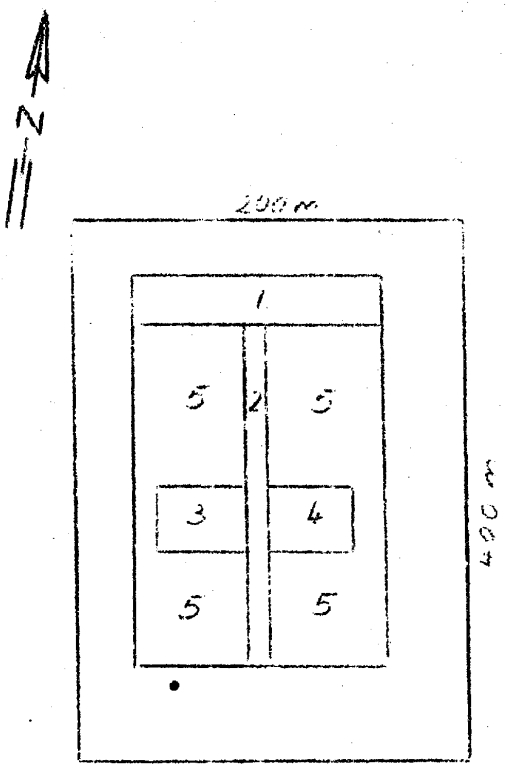
Layout sketch of [redacted]



not to scale

Legend.

1 Offices and design bureaus, ground floor and two stories.

2 Central hallway.

3 Laboratories.

4 Design offices, mostly occupied by Germans.

5 Workshops working for the requirements of the institute.

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Attachment 3

Tabulation of Personnel Assigned to NII [redacted] and SB [redacted] 25X1

Note: A + added to a name indicates that the person concerned returned to the Soviet Zone of Germany in April 1952. 25X1
An o behind a name indicates that the engineer was transferred to Moscow-Kuntsevo in September 1950.

25X1 1. German experts working at NII [redacted] prior to February 1948

Soviet supervisors

Maksimov (fnu), general manager;
Ryanskiy (fnu), chief engineer;
Preobrashinskiy (fnu), chief designer (?) ; [sic; Preobrazhenskiy ?]
Ushakov (fnu), liaison engineer to the ministry;
Kachedikov (fnu), in charge of the welfare of the German engineers in 1946;
Boguslavskiy (fnu), Lieutenant Colonel and chief engineer, chief of the Germans working at the institute.

German experts working on the development of the Hawaii and Wolman methods:

Dr Heinz Koser +, born about 1908, formerly employed at the Gema Plant in Berlin-Koepenick, took a leading part in the development of German radar equipment.
Hans-Georg Vulpius +, graduate engineer, born in 1903, an expert in the field of ultra-short wave installations.
Major Tunik (fnu) from Leningrad was the leading Russian in this group.

Experts engaged in antenna measurements:

Dr Peter Neidhardt +, born in 1910, an expert for guide beam installations.
Horst Kiesewald, a very able skilled worker, born in 1924.

Experts working on the Messina set:

Dr Helmut Faulstich o, born about 1920.
Guenther Hintze +, an able high-frequency engineer.
Rudolf Weber +, graduate engineer, born about 1912.

High-frequency ceramics:

Herbert Henniger +, graduate engineer, an excellent scientist. 25X1

Assigned to the FMS train:

Alexander Robbi +, a physicist, born about 1910.
Alois Fleischer, engineer.

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Wiring diagrams for A-4 rockets:

Karl August Luennich +, born about 1920, from Peenemuende.

Experts working on integrators:

Dr Ferdinand Ruhle o, born about 1908.
Wille Scholz +, master electrician, an old Communist.

German scientists assigned to various groups:

Dr Heinrich Wilhelmi +, born about 1905, a very able specialist in the field of precision mechanics and calculating machines. He constructed an engraving machine for instrument scales.
Dr Eng. Ernst Gehrmann +, born about 1903, worked on thermostats and air conditioning installations and related matters.
Dr Johannes Tschauner o, born about 1905. He calculated trajectories and worked on control problems.

2. German experts assigned to SB No 1 in Monino.

Soviet personnel assigned to this bureau included Lieutenant Colonel Kashnitskiy (fnu), one Sokorin (fnu), an expert detached from NII [redacted] and one Vashmyanin (fnu), who was in charge of welfare matters.
Josef Eitzenberger o, graduate engineer, born about 1897, an expert in the field of high-frequency techniques, chief of SB No 1.
Dr Joachim Troeger +, born 1902, Eitzenberger's deputy. 25X1

SECRET

Group of engineers working in the field of target-seeking devices:
Dr Werner Eliseus Buschbeck o, an eminent scientist.
Richard Kauczor o, high school teacher, mathematician.
Hasseroth (fnu) +, a mechanic.
Faulstich, Hintze, Weber, and Robbi later joined this group. See section 1 of the list.
Professor Ostermann (fnu) o, worked on oscillators.
Experts working on auxiliary equipment for target-seeking devices:
Kummer (fnu) o, engineer
Kralicek (fnu) o, "
Stick control techniques:
Zeletzki (fnu) +, chief engineer, and Tschauner (see above).
Gyroscopic stabilization:
Hans Heilbronn o, graduate engineer.
Mathematicians:
Dr Geyer (fnu) +
Dr Karl Anton Borkmann +
Power supply installations:
Bert Joswig o, graduate engineer, in addition to Troeger and Muennich (see above)
Quartz clock:
Klages (fnu) +, engineer, in addition to Vulpius, Moser, Gehrmann, Kiesewald, and Zeletzki (see above)
Integrators:
Ruhle and Scholz (see above)
Other engineers:
Hans Kuhl o, graduate engineer.
Kuehn (fnu) +, engineer, an expert in the field of control desk mechanics, an active Communist;
Gerhard Biener +, a very able control desk technician;
Willi Pein +, a master mechanic.