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COUNTRY	East Germany	REPORT	
SUBJECT	Long-Range Plan to Expedite the Development of Automation Technology in East Germany in 1957-1960, <i>planned production for all types of measuring and controlling instruments, signal equipment, transmitters and</i>	DATE DISTR.	14 MAY 1958
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The following information has been excerpted from a photocopy of a di25X1ve entitled "Long-Range Plan to Expedite the Development of Factory Measuring, Control, and Regulating Technology" (Perspektivplan zur schnelleren Entwicklung der Betriebsmess- Steuerungs- und Regelungstechnik), signed by Rudi Mueller, Deputy Minister of General Machine Construction, and Heinz Knop for Trautmann (fnu), Head of the Main Administration Factory Measuring, Control, and Regulating Technology (HV BMSR) of the Ministry of General Machine Construction. The document is not dated, but several instances indicate that it was probably prepared in the summer of 1957. There are four main sections:

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- I. Technical Application of Measuring, Regulating, and Control Installations in the Nationalized Economy
- II. Organization of the Industry
- III. Development of the Enterprises of the HV BMSR
- IV. Measures for Expanded Production in 1958

- 1. A long-range plan to expedite the development of automation technology was recommended in a decision of the Kollegium of the Ministry of General Machine Construction, dated 24 April 1957. Subsequently, on 3 June 1957, the Minister for General Machine Construction decreed that space should be made available to the HV BMSR in the Karl-Marx-Stadt area. As a result of these two actions, the long-range plan was prepared.
- 2. Main Section I of the plan outlines the application of automation equipment to the following industries: coal; power; metallurgy; chemistry; synthetics and rubber; cement, glass and ceramics; construction; machine tool; traffic; conveyers (transport); food; and electronics.
- 3. Main Section II describes the organization of the industry and the responsibility of the Main Administration to the industry.

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S-E-C-R-E-T

25X1

- 2 -

- a. The three basic responsibilities of the HV BMSR are:
- (1). Counseling and guiding functions in connection with the installation of factory measuring, control, and regulating installations in all industrial branches of the nationalized economy.
 - (2). Projecting and assembly of factory measuring, control, and regulating installations in already existing or still to be erected facilities in all industrial branches of the nationalized economy.
 - (3). Guidance of (a) enterprises subordinate to the HV BMSR, and (b) enterprises which belong to the factory measuring, control, and regulating technology industrial branch but are not under the jurisdiction of the HV BMSR.
- b. The structure of the HV BMSR is as follows:
- (1). New Technology Sector - for the development of factory measuring, control, and regulating installations.
 - (2). Consultant Sector - for the direct guidance of enterprises which are subordinate to the HV BMSR and those which belong to the factory measuring, control, and regulating technology industrial branch but are not under the jurisdiction of the HV BMSR.
- c. Priority tasks of the two sectors of the HV BMSR are:
- (1). The New Technology Sector has a counseling function in connection with the installation of factory measuring, control, and regulating equipment in facilities already in existence or still to be constructed, in order to achieve a maximum mechanization and automation of the various industries. The following two enterprises assist it in its functions:
 - (a). VEB WTBG-I. Formerly the coordination department of the VEB Wissenschaftlich-Technisches Buero fuer Geraetebau (Scientific-Technical Bureau for Instrument Construction) (WTBG), this is to be an enterprise, with the following responsibilities:
 - (i). Coordination of all research and development work in the field of factory measuring, control, and regulating technology for all enterprises of the industrial branch.
 - (ii). Evaluation of the requirements of the economy collected in the New Technology Sector and implementation of necessary basic research.
 - (iii). Execution of surveys concerning the types of factory measuring, control, and regulating equipment (mechanical, hydraulic, pneumatic, electronic) proposed for use in new installations.
 - (iv). Central documentation center for the entire industrial branch.
 - (v). Central office for international cooperation for the entire industrial branch.

S-E-C-R-E-T

25X1

S-E-C-R-E-T

25X1

- 3 -

- (vi). Guidance and coordination of enterprise development bureaus and preliminary work on patents for the entire industrial branch.
- (vii). Central office for standardization and norms for the entire industrial branch.
- (b). VEB Projektierungs- und Anlagenbau. (See paragraph 4, b, below)
- (i). Projecting and assembly of complete installations for all industrial branches of the national economy.
- (ii). Servicing and maintenance of factory measuring, control, and regulating equipment for all branches of the national economy, including customer service.
- (iii). Results achieved during the projecting work which pertain to new installations are turned over to WTBG-I for further development.
- (iv). All production orders developing out of the projecting work are to be transferred to the appropriate enterprises.
- (c). The establishment of VEB WTBG-I and VEB Projektierungs- und Anlagenbau is to be concluded by the end of 1958, so that the necessary coordinating work for the factory measuring, control, and regulating equipment industrial branch can be handled in 1959.
- (2) The Consultant Sector's tasks correspond basically to the responsibilities of similar groups in other main administrations of the Ministry of General Machine Construction. In general, its responsibilities are to guide and supervise all enterprises, not only those under the HV BMSR, which produce factory measuring, control, and regulating equipment.¹
4. Main Section III describes the planned development of enterprises under the jurisdiction of HV BMSR.
- a. VEB Wissenschaftlich-technisches Buero fuer Geraetebau, Berlin (WTBG-II)
- (See paragraph 3 above.) When the coordination department of the WTBG, as it has heretofore existed, is separated from the main enterprise during 1958, it will be known as WTBG-I; the main scientific industrial enterprise will be called WTBG-II.
- (1) WTBG-II is to be a scientific industrial enterprise for electronic measuring, regulating, and control technology, with the responsibility for developing electronic automation equipment. The production capacity of the enterprise is to be confined to the production of prototypes, zero-series of items developed by the enterprise, and special items which are not produced in series. There must be space

S-E-C-R-E-T

25X1

S-E-C-R-E-T

25X1

- 4 -

available for a yearly production worth about 10 million DME. Items developed by WTBG-II are to be transferred to other enterprises, such as the VEB (K) Pruefgeraete Weida, VEB Frankonia Beierfeld, etc., for series production. The tasks of the WTBG-II will be as follows:

- (a). Development, zero-series production, and special installation production of electronic regulating equipment, especially for the power, metallurgical, and coal industries.
 - (b). Development, zero-series production, and special production of electronic control equipment, especially for remote-control and power vehicle control (diesel reverse control: Dieselumkehrsteuerung).
 - (c). Development, zero-series production, and special production in the field of magnetic amplifiers.
 - (d). Development and zero-series production in the field of electronic factory measuring and control installations (controlling and regulating interval calculator: Kontroll- und Regelspannenrechner).
- (2). Production will develop as follows (in million DME):
- | | 1957 | 1958 | 1959 | 1960 |
|-------|------|------|------|------|
| Total | 6.0 | 7.0 | 8.0 | 10.0 |
- (3). The following measures will be taken to implement the above program:

- (a). The entire research and development sector is presently located on the premises of the VEB Werk fuer Fernmeldewesen (WF), Berlin-Oberschoeneweide. This space is needed by the WF factory, so another site must be found for the WTBG. To date, this search for a relocation has been fruitless; a new building commensurate with the size of the enterprise must be under construction by 1959 at the latest, if new premises are not found.
- (b). The production sector is located in the former Eltros factory, which was taken over by the main administration in 1956. The present available production capacity is a maximum of 7 million DME per year, for prototypes, zero-series, and special production, even though the former Eltros production was largely transferred elsewhere. Another site must be found, in conjunction with the research and development relocation effort, and construction work begun by 1959.
- (c). For these two projects, for which no preliminary planning has yet taken place, a total outlay of 4.5 million DME has been set by the main administration.
- (d). Subcontracted development tasks in the field of high frequency meteorology are to be transferred to the VEB Funkwerk Koepenick.
- (e). The production of wristwatches, which currently accounts for about 1 million DME, is to be phased out by the end of 1958.
- (f). The Coordinating Department is to be attached to the main enterprise. Modifications will be made in the main enterprise to provide space for the department until it is relocated.

S-E-C-R-E-T

25X1

S-E-C-R-E-T

25X1

- 5 -

b. VEB Projektierungs- und Anlagenbau, Teltow

- (1). This enterprise is to be established in 1958 on the site of the VEB Geraete- und Reglerwerke (GRW), Teltow. It will be made up of of the pyrometric (waermetechnische) departments of the district (Bezirk) offices of the RFT Anlagenbau. A two-story building, to cost 1.2 million DME, with about 1,800 square meters of floor space, is to be constructed in 1959. Pending completion of the new building, the enterprise is to be allocated space in the GRW buildings.
- (2). The VEB Projektierungs- und Anlagenbau is to execute all projecting and assembly work. Projecting departments presently belonging to the GRW, Messgeraetewerk Quedlinburg, WTEG, Werk fuer Signal- und Sicherungstechnik Berlin, and Intron Leipzig will be transferred administratively to the new enterprise. After the construction of the new building, all of the departments will be physically consolidated in the one location.
- (3). Assembly work in 1960 is estimated at 17 million DME.

c. VEB Geraete- und Reglerwerke Teltow (GRW)

- (1). The GRW is to be a production enterprise with a research and development program commensurate with the size of the enterprise. When construction work is concluded, the following tasks will be handled:
- (a). Development and production of hydraulic and combined hydraulic regulating equipment.
- (b). Development and production of pneumatic low-pressure and normal-pressure measuring and regulating equipment for the power, metallurgical, construction materials, and other pertinent industries.
- (c). Development and production of volumetric flowmeters of various types.
- (2). Production of tachometers and chronometers is to be shifted to Frankonia Beierfeld.
- (3). Subcontracting work, including navigation equipment, oscillating measuring and geophysical instruments, will be retained, inasmuch as the transfer of this production is presently not feasible.
- (4). Production will develop as follows (in million DME):

	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>
Total	33.5	36.5	42.0	54.0
Automatic temperature and pressure regulators	11.2	14.0	18.0	25.0
Volumetric flowmeters	-	1.2	3.0	7.0
Miscellaneous control and measuring equipment	4.9	3.0	-	-
Precision special equipment	9.6	9.0	9.0	9.0
Assemblies	4.3	5.5	7.0	9.0

S-E-C-R-E-T

25X1

S-E-C-R-E-T

25X1

- 7 -

(2). Production is to develop as follows (in million DME):

	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>
	5.2	5.5	6.0	7.0

(3). The following measures are to be taken to implement the above program:

- (a). Shift of production of gas analysis devices, estimated at about 300,000 DME, to the VEB Junkalor Dessau.
- (b). Shift of production of mercury float flowmeters (Quecksilber-Schwimmernengenmesser) to the VEB Messgeraete- und Armaturenwerk Karl Marx (MAW), Magdeburg.
- (c). Technological reorganization of the enterprise to assume production of component assemblies for hydraulic regulators and of volumetric flowmeters.

e. VEB Messgeraetewerk Quedlinburg

(1). This is to be a production enterprise with a research and development program commensurate with the size of the enterprise. Upon completion of construction work, it will manufacture direct temperature control equipment, pneumatic regulators, and combined electric-pneumatic regulators.

(2). Priority tasks are:

- (a). Development and production of electric-pneumatic measuring and regulating equipment for the rubber, climate technology (Klimatechnik), chemistry, liquor and foods industries.
- (b). Development and production of pneumatic normal-pressure measuring and regulating installations for the above industries.
- (c). Development and production of direct temperature control equipment including cold-control regulating equipment (kaelte-technische Regelgeraete).
- (d). Development and production of pneumatic adjustable elements (Stellglieder).

(3). Production is to develop as follows (in million DME):

	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>
Total	21.3	24.5	27.0	34.0
Cast iron (ton)	300	450	450	450
Electric measuring equipment	1.4	0.8	-	-
Automatic temperature and pressure regulators	6.8	10.0	17.0	23.0
Control and measuring equipment	7.9	5.5	0.5	-

(4). The following measures are to be taken to implement the above program:

- (a) ...
- (b) ...
- (c) ...

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25X1

S-E-C-R-E-T

- 8 -

- (4). No subcontracting work will be handled in 1960. Subcontracts presently being executed are to be shifted as follows:
- (a). Production of mechanical automatic thermometers and combination measuring equipment, estimated at 3.2 million DME, to VEB Frankonia Beierfeld.
 - (b). Speed measuring program, estimated at 2.4 million DME, to Beierfeld.
 - (c). Electric indicator and recorder production, based on galvanometer principle, estimated at 1.4 million DME, to MAW Magdeburg.
 - (d). Volumetric flowmeter production, estimated at 1.8 million DME, to GRW Teltow.
- (5). The transfer of production elsewhere will release about 2,500 square meters of space, which will be used for increased production of thermoregulators.

S-E-C-R-E-T

25X1

S-E-C-R-E-T

- 9 -

25X1

(6). The following measures are to be taken to implement the above program:

- (a). Technological reorganization to utilize space released by the transfer of the electropneumatic measuring equipment and regulator production; this is planned to result in a 300% increase in production.
- (b). Technical reorganization and increased production of direct thermoregulators and pneumatic regulator fittings, to result in a 250% production increase.
- (c). New construction of a 2,300 square meter production area, to be utilized for pneumatic measuring and regulating equipment production (Building 52). The projecting of this construction program (260,000 DME) is to be realized in 1957. The completed design is to be ready for execution by the third quarter of 1958.
- (d). Enlargement of the present special fittings foundry to provide for the increased production of regulator fittings. The design is to be projected in 1957 and to be carried out in 1958. Construction ^{costs are} estimated at 400,000 DME, to be made available in 1958.
- (e). Enlargement of the projecting and development buildings, to meet the requirements of the enlarged development sector, will cost about 105,000 DME. The funds are to be made available in 1957 by the HV BMSR. This will conclude the construction and expansion program of the enterprise.

f. VEB Junkalor Dessau

- (1). This is to be a production enterprise with a research and development program commensurate with the size of the enterprise. Upon completion of construction work, the enterprise will implement the development and production projects for the evolutionary flowmeter (radzierende Mengemesser) and physical gas analysis technology sectors.
- (2). Priority tasks of the enterprise are:
 - (a). Development and production of evolutionary flowmeters as the sole producer for all pertinent areas.
 - (b). Development and production of chemical gas analysis equipment as the sole producer for all pertinent areas.
 - (c). Development and production of physical analysis equipment as the sole producer for all pertinent areas.
 - (d). Erection of a central Schrankbau for all HV BMSR enterprises.

S-E-C-R-E-T

25X1

S-E-C-R-E-T

25X1

- 10 -

- (3). Production is to develop as follows (in million DME):

	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>
Total	11.8	12.1	13.0	14.0
Oil coolers	0.8	1.2	-	-
Compressors	0.9	0.2	-	-
Heating and ventilating	3.2	2.0	-	-
Sheet radiators	1.2	0.6	-	-
<u>Schrankbau</u>	-	1.5	2.0	2.0
Control and measuring equipment	3.0	5.0	9.0	12.0
Special precision devices	1.0	0.8	-	-

- (4). Measures to be taken to implement the above program are as follows:

- (a). Production of ventilators, gas air heaters, and concave blade ventilators is to be shifted elsewhere; estimated value - about 940,000 DME.
- (b). Meteorological and airplane flight equipment is to be transferred elsewhere; the approximate value is 1,780,000 DME. Space freed by this transfer will be used for the production of gas analysis equipment.
- (c). Production of oil coolers, valued at about 1,200,000 DME, is to be transferred to another plant. The space freed by this transfer is to be used for the production of physical measuring equipment.
- (d). Production of wall ventilating/heating units is to be shifted to another plant.
- (e). A precision machinery workshop for chemical and analytic equipment is to be constructed. Construction will begin in 1957, with an allocation of 450,000 DME. The second construction phase is to be completed in 1958 at a total of 650,000 DME.
- (f). The transfer of subcontract work is to be concluded in 1959. Attempts are currently being made to locate enterprises not under HV BMSR who can take over the work. Space freed by the transfer elsewhere of heating and ventilating equipment production is to be utilized for the Schrankbau, if not otherwise allocated (see (b) and (c) above).

g. VEB Werk fuer Signal- und Sicherungstechnik Berlin (WSSB)

- (1). This is to be a production enterprise with a research and development program commensurate with the size of the enterprise. The Projecting and Installations (Projektierungs- und Anlagenbau) Sector of this enterprise is not to be incorporated in the new VEB Projektierungs- und Anlagenbau, but is to remain in the enterprise, since its entire production forms a special category of factory measuring, control, and regulating equipment technology. Upon completion of the construction of installations covering the requirements of the enterprise, the enterprise will carry out all of the development, projecting, and production for the pertinent areas of application.

S-E-C-R-E-T

25X1

25X1

S-E-C-R-E-T

- 11 -

- (2). The production program is to be as follows:
- (a). Development and production of signal and safety technical installations for the (East German) railroads.
 - (b). Development and production of signal and safety installations for other industrial track operations (Spurplanfunktion).
- (3). Production is to develop as follows (in million DME):

	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>
Total	29.5	32.8	34.1	38.0
Automatic dial offices	10.0	7.5	2.0	-
Remote control and transmitter equipment	1.4	0.8	-	-
Electric signal and safety stations	10.9	16.0	22.0	26.0
Assemblies	3.5	4.7	6.0	7.5

- (4). Measures to be taken to implement the above program are as follows:
- (a). Production of automatic dial offices is to be shifted elsewhere.
 - (b). Production of remote control and transmitter equipment is to be shifted elsewhere.
 - (c). Production of electric household equipment (ovens, etc.) is to be discontinued.
 - (d). Space freed by the transfer elsewhere of subcontract work is to be used for the manufacture of signal and safety equipment.
 - (e). Construction of a dope-spraying shop (Spritzlackiererei) is to be started in 1957 and completed by the first quarter of 1958.
 - (f). Machine tool construction is to be expanded to produce machine tools, training aids, and equipment needed for production. Costs are estimated at about 530,000 DME. This is to be completed in late 1958.
 - (g). With the production transfers noted in (a), (b), and (c) above, no further subcontract work will be handled by this enterprise.

h. VEB Werk fuer industrielle Elektronik - Intron - Leipzig

- (1). This is to be a scientific industrial enterprise for electronic measuring, regulating, and control technology. The enterprise is to concentrate on prototype and zero-series production, plus special production which does not involve series production. There must be a production area available which is sufficient for a yearly production of 6 million DME.
- (2). All devices which have been developed as far as the zero-series stage and are to be series produced, will be transferred to the VEB (K) Pruefgeraete Weida. Weida is a production enterprise with 300 employees at the present time, with appropriate production facilities. It could be expanded to employ about one thousand workers. Weida is to be taken over by HV BMSR; preliminary arrangements have been successfully negotiated with the district (Bezirk) authorities.

S-E-C-R-E-T

25X1

S-E-C-R-E-T

25X1

- 12 -

- (3). Production, including zero-series, is to include the following:
- (a). Development, zero-series, and special production of electronic control equipment for the machine tool, textile machinery, poly-graphic machinery, and other industries.
 - (b). Development, zero-series, and special production of electronic regulating and registering installations, optical-electronic altimeters, preset course installations, etc.
 - (c). Development and production of measuring and regulating equipment with the use of isotopes, in conjunction with VEB Vakutronik Dresden.
 - (d). Development and production of control installations for atomic power plants.

- (4). Production is to develop as follows (in million DME):

	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>
Total	2	3	4.5	6

- (5). No subcontract work is handled by this enterprise.
- (6). Proposed construction includes the following:
- (a). Production area capacity increase of 800 square meters in 1957.
 - (b). Projecting and construction of an additional production area of about 1,000 square meters, to be ready for use in early 1959.
 - (c). Enlargement of the research and development sector, requiring an addition of an about 800 square meters production area to the present development building.
 - (d). Construction of a two-story building to provide additional production areas, described in (b) and (c), at a cost of about 2.5 million DME, with construction costs of about 1.8 million DME. In order to have this completed in 1959, about 1.5 million DME must be made available in 1958.

i. VEB Frankonia Beierfeld

- (1). This enterprise is to be converted to a straight production enterprise, doing only series production. There will be a small development staff to handle matters that are not taken care of by other enterprises of the main administration.
- (2). Total construction work is to be completed by late 1958, so that adequate production areas will be available for 1959 production.
- (3). In 1957, 150 workers are to be hired; this is to be continued until there are 1,250 workers in 1959. A large percentage of women can be utilized in the labor force of this enterprise.

S-E-C-R-E-T

25X1

S-E-C-R-E-T

25X1

- 13 -

(4). The production program includes:

- (a). Tachometers, including lamps, and chronometers, comprising production transferred from the GRW Teltow; estimated value - 4.9 million DME.
- (b). Automatic thermometers, combination measuring instruments, and the entire speed measuring program transferred from Quedlinburg; estimated value - about 5.6 million DME.
- (c). Dial registering and pressure reducing manometers, transferred from MAW Magdeburg; estimated value - about 12 million DME.
- (d). Completion of electronic remote control installations or stations for indirect regulating stations, transferred from WTBG; value - about 4 million DME.

(5). The production program is to be carried out in Frankonia-Beierfeld (17 million DME) and in the branch plant at Erla (9.5 million DME). Production is to be expanded as follows:

	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>
Total	-	3.0	20.0	25.0

(6). The following measures are to be taken to implement the above program:

- (a). Installation of equipment, especially machine tools, which will include about 180 items.
- (b). Execution of the first construction phase in 1957 at a cost of 2 million DME, including construction costs of 1.3 million DME.
- (c). Execution of the second construction phase at a cost of 2.8 million DME, including construction costs of 500,000 DME.
- (d). Construction is to be completed by the end of 1958, in order to permit the planned volume production in 1959.

5. Section IV deals with measures to be taken by the HV BMSR to increase production in 1958; the three priority tasks are as follows:

a. Preliminary planning for subordinate enterprises:

- (1). Transfer of production with exact time schedules and decisions on where such production is to take place.
- (2). Establishment of construction investment means up to 1960.
- (3). Review of technological possibilities in view of the production areas made available through transfer of production elsewhere and through new construction.

b. Support for enterprises of the factory measuring, control, and regulating technology industry which are not under the HV BMSR:

- (1). Extent and development of production to 1960.
- (2). Type of production.

S-E-C-R-E-T

25X1

S-E-C-R-E-T

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25X1

- 14 -

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c. Construction investments for 1958; equipment is not included

The amounts, in

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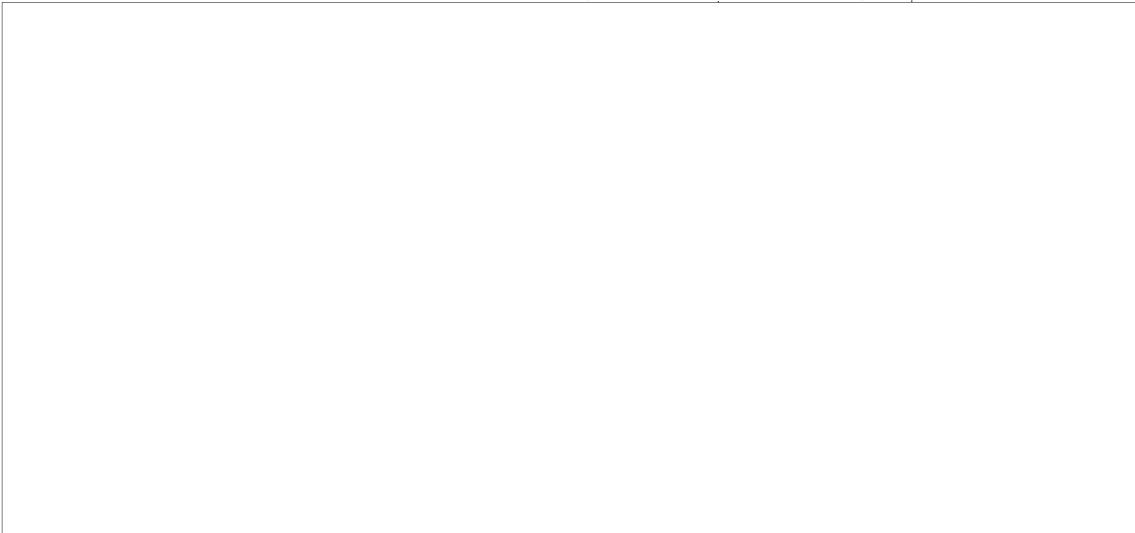
thousand DME, planned for each enterprise are:

Frankonia Beierfeld	600
Quedlinburg (production building)	650
Junkalor Dessau	650
Quedlinburg (foundry)	300
WSSB Berlin	450
Intron Leipzig	800
Various	350
Total:	3,800 thousand DME

6. A summary of the amounts to be expended in developing the production of the enterprises of the HV BMSR is attached as Anlage No. 2. These amounts have appeared above in connection with the description of each enterprise. The totals, in million DME, are:

<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>
110.0	124.4	154.6	188.8

25X1



S-E-C-R-E-T

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25X1

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Next 32 Page(s) In Document Denied