

SECRET

Approved For Release 2000/04/17 : CIA-RDP79T01003A001900170001-2

203

Current Support Brief

SLOWDOWN IN DEVELOPMENT
OF SIBERIAN POWER FACILITIES OVERDUE



CIA/RR CB 64-22

March 1964

CENTRAL INTELLIGENCE AGENCY

Office of Research and Reports

SECRET

GROUP 1
Excluded from automatic
downgrading and
declassification

Approved For Release 2000/04/17 : CIA-RDP79T01003A001900170001-2

Approved For Release 2000/04/17 : CIA-RDP79T01003A001900170001-2

W A R N I N G

This material contains information affecting the National Defense of the United States within the meaning of the espionage laws, Title 18, USC, Secs. 793 and 794, the transmission or revelation of which in any manner to an unauthorized person is prohibited by law.

Approved For Release 2000/04/17 : CIA-RDP79T01003A001900170001-2

SLOWDOWN IN DEVELOPMENT
OF SIBERIAN POWER FACILITIES OVERDUE

The USSR recently announced completion of the first section of the Bratsk Hydroelectric Powerplant (GES) in Irkutskaya Oblast. With an installed generating capacity of 3,600 megawatts (mw), the plant is 900 mw short of the 4,500 mw called for in the final design. A subsequent announcement revealed that the priority for work on the Ust'-Ilimsk GES, which is intended to supply power for the Bratsk Aluminum Plant now under construction, is being reexamined by Gosplan. These announcements are a reaction to a surplus of power that has been growing steadily in the area for 3 years and now amounts to about 2,000 mw. It may be that the belated reassessment resulted from a general review of investment schedules occasioned by need for investment in priority industries, such as the chemical industry. It is doubtful, however, that construction of additional power-generating capacity in the area would have been delayed if the additional capacity were genuinely needed. The economies that can be achieved during the next few years by such delays are not large. Postponing installation of four generating units (each with a capacity of 225 mw) at the Bratsk GES will result in an immediate saving of only about 20 million rubles.* Postponing construction of the Ust'-Ilimsk GES might save, in the course of the next 3 years, an additional sum of 150 million rubles.

1. Bratsk GES

Postponing the installation of some generating equipment in the Bratsk GES will have no significant effect on production by this plant in the next few years. This powerplant has been successively planned for several levels of capacity. Originally it was to have had a capacity of 3,200 mw. Later the 16 proposed 200-mw units were rerated at 225 mw, and the capacity was increased to 3,600 mw. Subsequently, plans were made to increase capacity to 4,500 mw by installing four more units that would provide a useful reserve for peak load operation of the future integrated Siberian power network. Whatever the planned generating capacity, however, the available water supply is sufficient

* Ruble values in this publication are given in new rubles established by the Soviet currency reform of 1 January 1961. A nominal rate of exchange based on the gold content of the respective currencies is 0.90 ruble to US \$1. This rate should not be interpreted as an estimate of the equivalent dollar value of similar US goods or services.

only to support an annual production of about 22 billion kilowatt-hours (kwh), an amount that could be produced with 2,600 mw of generating capacity if it were operated continuously. Because there are fluctuations in the volume of river flow and because hydroelectric capacity provides cheap peak load power, the normal operating load would be about 2,000 mw, with peak loads of 3,000 to 3,600 mw.

The present installed capacity of 3,600 mw in 16 hydrogenerators is more than enough to cover expected loads for several years. Recent statements indicate that production during 1964-65 will be about 11 billion to 12 billion kwh per year and that the reservoir was only about one-third full at the end of 1963. To fill the reservoir completely while producing 11 billion to 12 billion kwh of electricity annually will require at least another 2-1/2 years.* Therefore, the full rated production of 22 billion kwh per year is not likely before 1967.

The 16th turbine, produced by the Leningrad Turbine Plant in April 1963, reportedly was the last machine that will be produced for Bratsk until some unspecified date. 2/ The remaining four generating units can be installed readily whenever they are required. It is not likely that work on structures for the powerplant will be stopped, because the project is so near to completion and construction crews and equipment are already assembled. Only about 100,000 cubic meters of the required 4.8 million cubic meters of concrete remain to be poured. 3/ Soviet statements indicate that work on the powerhouse and clearing of the reservoir still are in progress. Most of the investment already has

* The total volume of the reservoir for the Bratsk GES is 179 billion cubic meters, and the average annual river flow is 92 billion cubic meters. The average annual river flow may be equated with production of 22 billion kwh when the optimum water level reaches about 100 meters. At the end of 1963 the level of water had reached 80 meters, and the volume of the reservoir was 67 billion cubic meters. 1/ Because production of power in a hydroelectric powerplant is a function of water flow and pressure (the height of the water), production of 11 billion to 12 billion kwh annually at an operating level of less than 100 meters will require the passage of somewhat more water per kilowatt-hour produced. If production for the next 3 years averages 11 billion to 12 billion kwh, the amount of water passed through the plant each year will amount to slightly more than 50 billion cubic meters, and the volume stored will amount to approximately 40 billion cubic meters. At that rate the reservoir would be full late in 1966. Alternatively, annual production of power could be increased and the rate of filling of the reservoir decreased, or vice versa.

been made in this powerplant, and deferring its completion would represent at best a saving of perhaps 10 percent, or 50 million to 70 million rubles, of which about 20 million rubles can be attributed to the cost of the last four generating units.

2. Ust'-Ilimsk GES

A Soviet press release early in January indicated a possibility that construction of the Ust'-Ilimsk GES (on the Angara River about 250 kilometers downstream from Bratsk) might be postponed. 4/ Later in the month an official of Gosplan stated that preparatory work at the site was continuing, but he acknowledged that the project was being restudied to decide whether the Ust'-Ilimsk GES or the Sayan GES in Krasnoyarskiy Kray should be built first. 5/ The next Five Year Plan calls for construction on both of these projects.

The target date for initial operation of the Ust'-Ilimsk GES was 1969-70, but work at the powerplant site is barely underway. High-tension lines, a highway, and a railroad to serve the project are under construction but are not yet finished. 6/

The Ust'-Ilimsk GES is to be almost identical in capacity and output to the Bratsk GES, and it has been designed in a manner that will permit use of the same construction techniques and the same equipment employed in the construction of the Bratsk GES. Transfer of construction workers from Bratsk to Ust'-Ilimsk was to take place as work ended on the Bratsk project. Postponing construction of the Ust'-Ilimsk project may release a labor force roughly equivalent to the 50,000 construction workers employed at Bratsk. Some construction equipment also could be transferred, but much of it is specialized and would be of little use except in construction of hydroelectric powerplants. The project ultimately will require an investment of about 470 million to 500 million rubles, of which 60 to 65 percent probably would be invested in the last 3 or 4 years of construction.

The question of which of the two powerplants to build first -- the Sayan GES or the Ust'-Ilimsk GES -- depends on the development of consumers to utilize the output of the two plants. The Ust'-Ilimsk GES will be a prime source of power for the Bratsk Aluminum Plant. The press release in January which indicated possible postponement of the Ust'-Ilimsk GES suggested that plans for the aluminum plant also were undergoing review and that work on the project might be slowed.

The economic plan for 1964-65, however, called for no decrease in the rate of construction. 7/ If the aluminum plant is to begin operation on schedule -- 4 or 5 years before initial operation of the Ust'-Ilimsk GES -- the Bratsk GES will have to supply the required power for the first few years. The aluminum plant will consume some 16 billion kwh annually when completed, 8/ and the Ust'-Ilimsk GES will be needed by the time the aluminum plant reaches about one-half of its planned capacity. At present, there appears to be no pressing need to build the Sayan GES unless it is to supply power to industry in the nearby Kuzbas, where power now is generated in high-cost thermal electric powerplants.

3. Surplus Power

Current reexamination or alternation of plans for the development of generating capacity in Siberia stems from the fact that capacity has grown faster than consumers to utilize it. A surplus of electric power began to develop in the Irkutsk-Bratsk district in the fall of 1961, 9/ about 1 month before initial operation of the Bratsk GES. As early as January 1961, Khrushchev stated that there would be no local consumers to use the power generated at Bratsk 10/ and in April 1963 he belabored the point again. 11/ In May 1963, P. S. Neporozhniy, Chairman of the State Committee for Power and Electrification, announced a surplus of 1,000 mw of generating capacity in the Irkutsk-Bratsk district. 12/ The director of the Bratsk GES complained in October 1963 that planned local consumers of power from Bratsk, particularly the aluminum plant, were only in the preparatory stages of construction and that erection of lines to transmit power away from the area was far behind schedule. 13/ In spite of the growing surplus of power at Bratsk, additional generating capacity was being installed in thermal electric powerplants of the Irkutsk Power System, sufficient apparently to match expanding demands for power in the industrial district along the Trans-Siberian Railroad. From May, when the 1,000-mw surplus was announced, to the end of 1963, 1,350 additional mw of capacity were installed in the Bratsk GES, increasing the surplus to at least 2,000 mw, an amount almost equal to all capacity now installed in the Irkutsk Power System, excluding the Bratsk GES.

The cause of this gross imbalance between generating capacity and consumers is open to speculation. The impending surplus certainly was known to Soviet planners as long as 3 years ago. Nevertheless, there seemed to be some sense of urgency not only about completing the Bratsk project but also about building additional thermal electric powerplants.

The explanation of these developments may lie, at least partly, in the magnitude of the Bratsk undertaking and in an installation of comparable magnitude, the Angarsk Gaseous Diffusion Plant. Situated in a sparsely settled region where support facilities were virtually nonexistent, the Bratsk project was kept on schedule at the expense of other nearby industrial sites that were planned originally for simultaneous development. 14/ Similarly, building the gaseous diffusion plant at Angarsk probably retarded general industrial construction along the Trans-Siberian Railroad and at the same time created a great demand for electric power to satisfy the nuclear materials industry. Indeed, it appears to be possible that the presence of the gaseous diffusion complex alone may have stimulated planners to overestimate actual power needs greatly, particularly if they could not foresee that construction of other industry would fall far behind plan schedules.

Whatever the actual situation, postponement of the Ust'-Ilimsk project and of the installation of the last four generating units at the Bratsk GES would be a propitious, although belated, move.

Sources:

1. Ekonomicheskaya gazeta, 25 Jan 64, p. 42-43. U.
2. FBIS. Economic Abstract Card, 63 L2719, 11 Apr 63.
OFF USE.

25X1A [REDACTED] p. 2. OFF USE.

3. Sovetskaya Rossiya, 16 Jan 64, p. 1. U.
4. Komsomol'skaya pravda, 4 Jan 64. U.
5. Ibid., 28 Jan 64. U.
6. Gt Brit, BBC. Summary of World Broadcasts, weekly supplement no 248, Pt I, USSR, 24 Jan 64, p. B-13. U.
Stroitel'naya gazeta, 30 Aug 63, p. 1. U.
Izvestiya, 31 Oct 63. U.
7. Izvestiya, 17 Dec 63, p. 4. U.

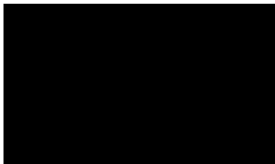
25X1A 8. [REDACTED] C.

9. Ekonomicheskaya gazeta, 16 Oct 61, p. 38. U.
10. FBIS. Daily Report (USSR and East Europe), no 2, supplement, 24 Jan 61, p. 12. OFF USE.
11. FBIS. Daily Report (USSR and East Europe), no 82, 26 Apr 63, p. cc-40. OFF USE.
12. Izvestiya, 25 May 63, p. 6. U.
13. Stroitel'naya gazeta, 25 Sep 63. U.
14. Izvestiya, 2 Dec 60, p. 2. U.
Ibid., 24 Feb 61. U.
Ibid., 24 Aug 61, p. 3. U.

25X1A

Analyst:

Coord:



Approved For Release 2000/04/17 : CIA-RDP79T01003A001900170001-2

SECRET

SECRET

Approved For Release 2000/04/17 : CIA-RDP79T01003A001900170001-2

Analyst: [REDACTED] R/ER
 (Project 26.5116) 25X1A

Approved For Release 2000/04/17 : CIA-RDP79T01003A001900170001-2
 OFFICE OF RESEARCH AND REPORTS

Control Section



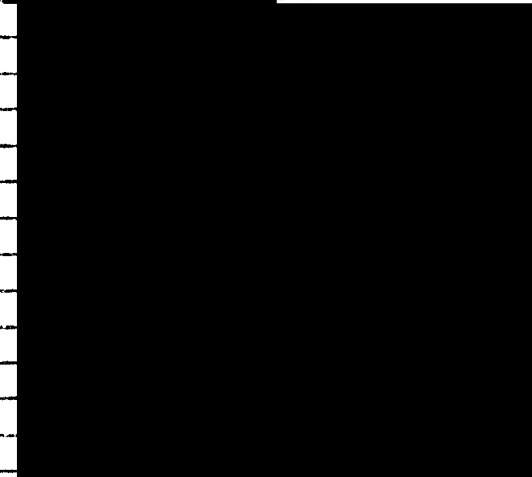
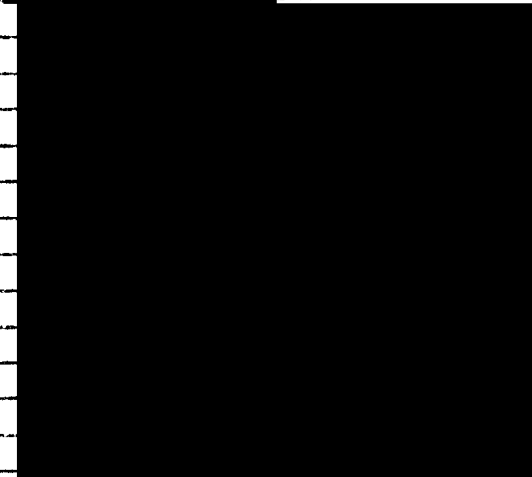
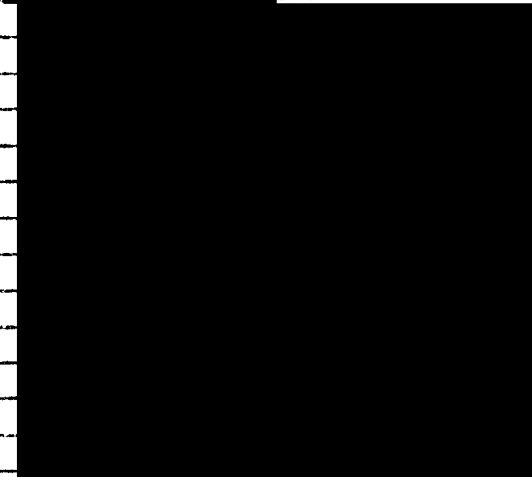
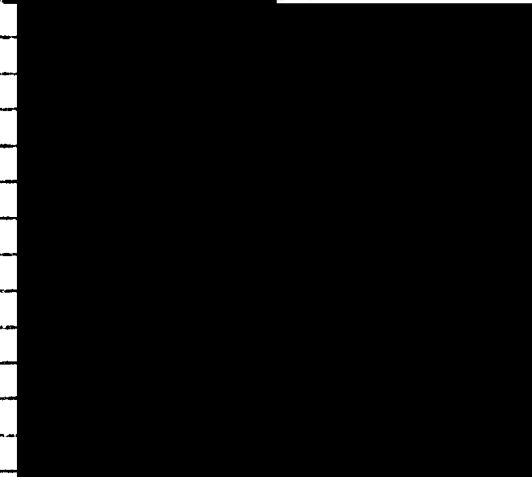
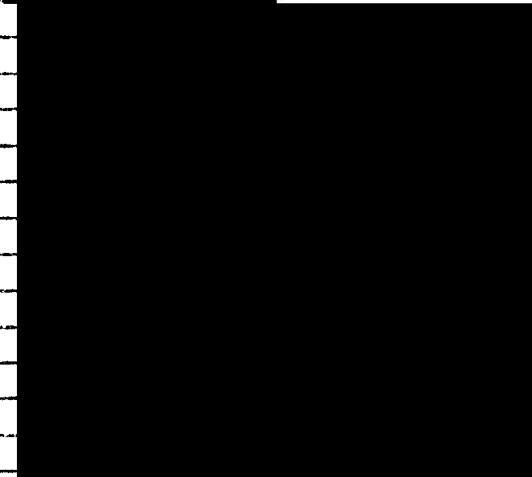
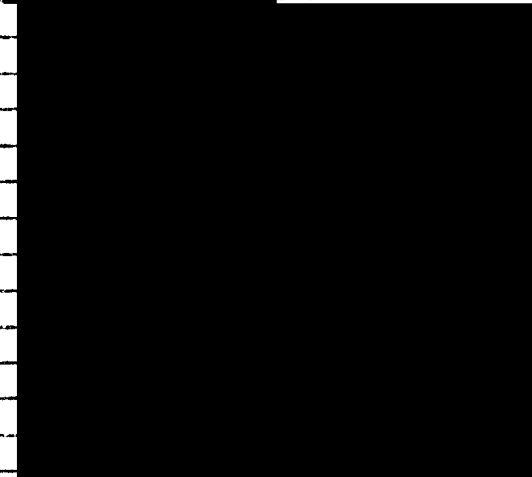
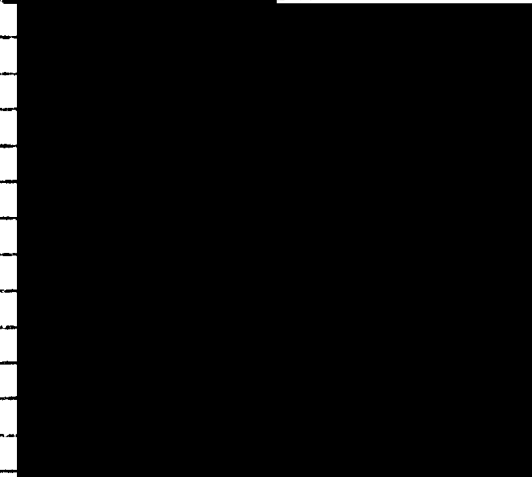
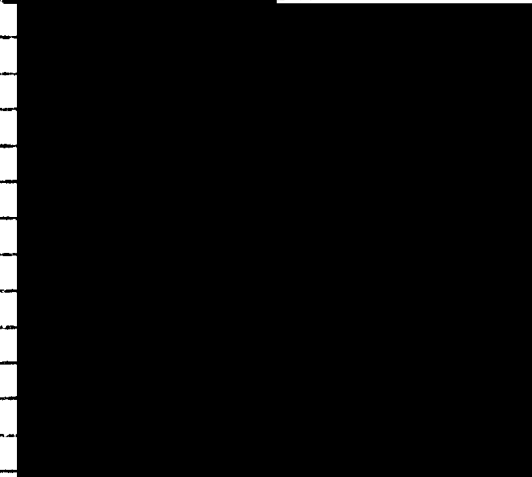
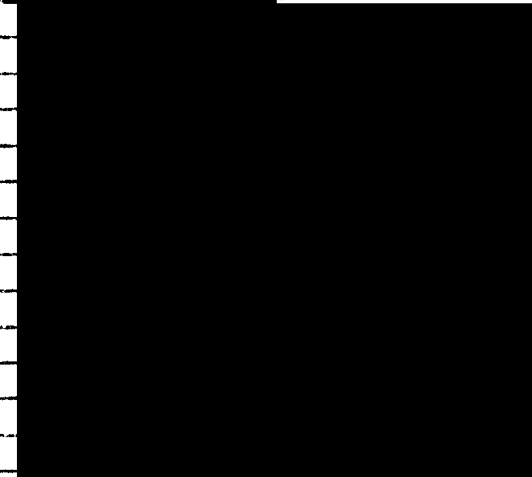
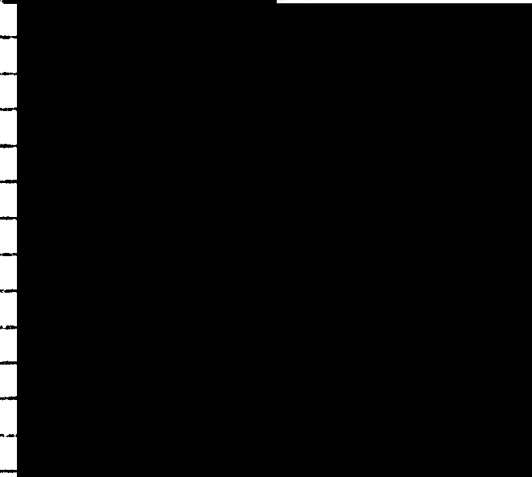
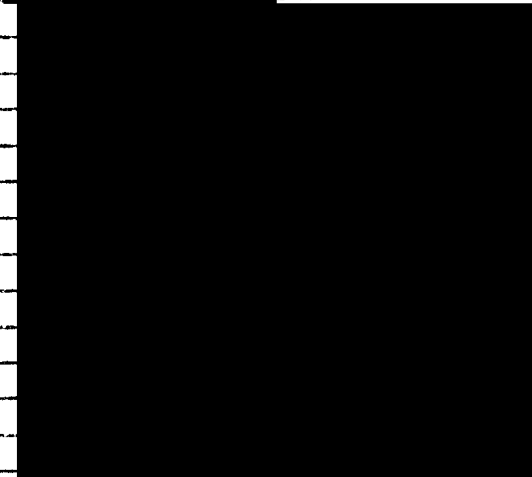
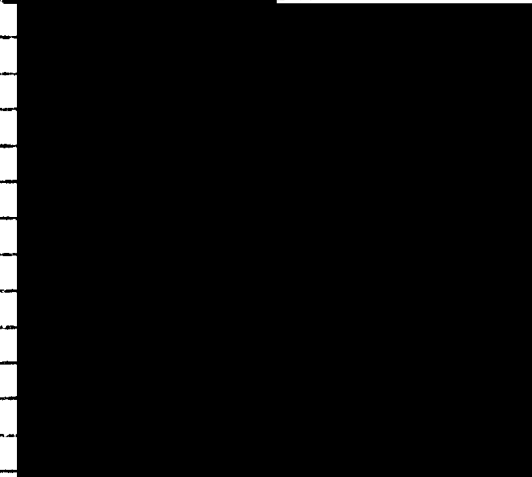
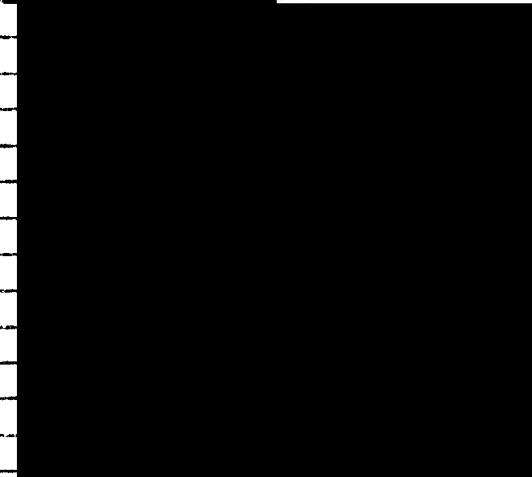

Control Sheet

SECRET

GROUP 1
 Excluded from automatic
 downgrading and
 declassification

Series Number CIA/RR CB 64-22
 Date of Document March 1964

Classification _____
 Number of Copies 230

<u>Copy No.</u>	<u>Recipient</u>	<u>Date</u>	<u>Returned</u>
33	AD/RR	23 Mar 64	
34	DAD/RR	"	3 Apr 64
170 - 205	St/P/C		
170	 OCR 25X1A	25 Mar 64	
171	 St/P	"	
172		26 Mar 64	
173 - 176		"	
177	 25X1C	"	
178		"	
179 - 181		"	
182		"	
183		"	
184		"	
185		"	
186		"	
187		27 Mar 64	
188		28 Apr 64	
189 - 191		"	
192	OB/HRG/CGS, 3F30, Hq.	26 Mar 64	
193 - 205	Filed in St/P/C	25 Mar 64	
193-195	R/ER	26 Mar 64	
84-86	Ret'd by R/ER/AN	3 Apr 64	
196-201	Dept. of State in State Post	6 Apr 64	
84	A/U	8 Apr 64	
85	St/PR for DDP/WE	12 Apr 64	
1422	Ret'd by O/OZI	28 Apr 64	
70	Rec'd in St/P/C	11 May 64	
22, 34, 86	Records Cent	7 May 64	
202	 by for FSTC Doc. Lib./Army	9 Jul 65	
1, 70	IC		
204, 205	RR 25X1A	4 Aug 65	

SECRET

Approved For Release 2000/04/17 : CIA-RDP79T01003A001900170001-2

SUBJECT: Distribution of Current Support Brief No. 64-22, Slowdown
in Development of Siberian Power Facilities Overdue --- March 1964

(Secret)

<u>Copy No.</u>	<u>Recipient</u>
1	O/DDI, Room 7E32, Hdqtrs.
2 - 3	NIC
4 - 12	OCI Internal
13 - 15	ONE
16 - 21	St/CS/RR
22	O/DDI - Chester Cooper
23 - 31	NSA/C312
32	NSAL
33 - 230	ORR Distribution, St/A/Document Support Section, Room GH0915, Hdqtrs. (sent direct to St/A/DSS, 25 Mar 64).

(Distributed by OCR)

SECRET

GROUP 1
Excluded from automatic
downgrading and
declassification

Approved For Release 2000/04/17 : CIA-RDP79T01003A001900170001-2

SECRET

St/A/DSS Distribution of Current Support Brief No. 64-22, Slowdown in
Development Approved For Release 2000/04/17 : CIA-RDP79T01003A001900170001-2

<u>Copy No.</u>	<u>Recipient</u>
33	AD/RR
34	BA/D/RR
35	Ch/E
36	St/PR
37 - 41	D/A (1 each branch)
42 - 47	D/MS (1 each branch)
48 - 53	D/R (1 each branch)
54	Chief, Military-Economic Research Area
55 - 59	Programs Division (1 each branch)
60 - 65	Forces Division (1 each branch)
66	Plans and Support Staff
67 - 75	D/I (1 each branch)
76 - 77	D/GG
78 - 79	D/GC
80	D/GC/X
81 - 86	RID/AN, Unit 4, Room 1B4004, Hq.
87	St/P/A 25X1A
88	St/FM
89	Analyst/Branch [REDACTED] R/EP)
90	GR/CR
91	BR/CR
92	FIB/SR/CR, Room 1G27, Hq.
93	Library/CR
94	IPI/CR
95	VMR, A-18
96	AD/OO
97	Chief, FDD
98	CD/OO
99	OCI/RP/PS, Room 7G15, Hq.
100	DDI/CGS, Room 7F35, Hq.
101	DDI/CGS/HR, Room 3F30, Hq.
102 - 104	OSI
105	OBI
106 - 107	OTR/IS/IP, Room 532, Broyhill Bldg. (1 - OTR/SIC)
108	NPIC/CSD/REF, Room 1S518, Bldg. 213
109x - 150	Defense Intelligence Agency, DIASA-2, Room 2D233, Pentagon Executive Secretary of Defense, ISA
151 - 154	USIA, Warren Phelps, IRR/D, Room 701, Walker Johnson Building, 1734 New York Avenue, N. W.
155 - 166	State, INR Communications Center, Room 7818, State Dept. Bldg.
167 - 168	Dr. Neilson Debevoise, NSC, Room 365, Executive Office Building
169	Frank M. Charrette, Agency for International Development, Chief, Statistics and Reports Division, Room 802, State Annex No. 1
170 - 205	St/P/C, Room 4F41, Hq. (held in St/P/C, 25 Mar 64).
206 - 230	Records Center
109	Commandant Nat'l. War College, Ft. Leslie McNair, Attn: Classified Records Section, Rm. 26, Nat'l. War College Bldg., Wash. 25, D. C.
110 - 111	Ass't. Secretary of Defense, ISA, Room 4D825, Pentagon

SECRET

GROUP 1
Excluded from automatic
downgrading and
declassification

SECRET

Approved For Release 2000/04/17 : CIA-RDP79T01003A001900170001-2

6 April 1964

MEMORANDUM FOR: Chief, Dissemination Control Branch, DD/CR
FROM : Chief, Publications Staff, ORR
SUBJECT : Transmittal of Material

It is requested that the attached copies of CIA/RR CB 64-22, Slowdown in Development of Siberian Power Facilities Overdue, March 1964, Secret, be forwarded as follows:

State, INR Communications Center,
Room 7818, State Dept. Bldg.
For Embassies in Moscow, Bonn, Frankfurt,
Geneva, London, & Tokyo

25X1A



Attachments:

Copies #196 - #201 of CB 64-22

ACTION COMPLETED

The dissemination requested by
this memorandum has been completed.

BY: *NDB*

Date: *7 April 64*

SECRET

GROUP 1
Excluded from automatic
downgrading and
declassification

Approved For Release 2000/04/17 : CIA-RDP79T01003A001900170001-2

Subject CIA/RR CB 64-22 (26,5116)
Analyst and Branch [redacted] - E/EP

25X1A Date Initials Remarks 25X1C

SECURITY

Unedited draft
 Edited draft
 Other

- a. Text check
- b. Source check
- c. Releasable to:

25X1C	Yes	No
[redacted]		
[redacted]		
[redacted]		
[redacted]		
[redacted]		
[redacted]		
[redacted]		
Other		

DISTRIBUTION

#1 sent to AD/RR
#2 sent to DDI
#3 checked for release

OL/PSD notified to Disseminate

25 MAR 64 JMB

Deletions for [redacted]
Remove page 7.

24 APR 64 JMB

Deletions for [redacted] 25X1C
Retype cover - omit all
but the title, classification,
date, + copy number.
Remove page ?.

Group 1
Excluded from automatic
downgrading and
declassification

SECRET

Approved For Release 2000/04/17 : CIA-RDP79T01003A001900170001-2

Project No. 26.5116 Report Series CIA/RR CB 64-22

Title Slowdown in Development of Siberian Power Facilities Overdue
(Secret) 25X1A

Responsible Analyst and Branch [Redacted] R/EP

RECOMMENDED DISTRIBUTION TO STATE POSTS

<u>Bloc</u>	<u>Far East</u>	<u>ARA</u>
Berlin, Germany	Bangkok, Thailand	Mexico
Bucharest, Romania	Djakarta, Indonesia	Guatemala
Budapest, Hungary	Hong Kong	Panama
Moscow, USSR	Rangoon, Burma	Brazillia, Brazil
Prague, Czechoslovakia	Kuala Lumpur, Malaya	Buenos Aires, Argentina
Sofia, Bulgaria	Saigon, Vietnam	Bogota, Colombia
Warsaw, Poland	Seoul, Korea	Santiago, Chile
	Singapore, British Malaya	La Paz, Bolivia
	Taipei, Formosa	Montevideo, Uruguay
<u>Europe</u>	✓Tokyo, Japan	Caracas, Venezuela
Belgrade, Yugoslavia	Vientiane, Laos	
Bern, Switzerland	Phnom Penh, Cambodia	<u>Africa</u>
Bonn, Germany	Colombo, Ceylon	Yaonde, Cameroun
Brussels, Belgium		Leopoldville, Congo
Copenhagen, Denmark	<u>Near East & South Asia</u>	Addis Ababa, Ethiopia
Frankfurt, Germany	Ankara, Turkey	Accra, Ghana
Geneva, Switzerland	Athens, Greece	Abidjan, Ivory Coast
Helsinki, Finland	Cairo, Egypt	Nairobi, Kenya
The Hague, Netherlands	Damascus, Syria	Monrovia, Liberia
Lisbon, Portugal	Kabul, Afghanistan	Tripoli, Libya
London, England	Karachi, Pakistan	Rabat, Morocco
Luxembourg, Luxembourg	New Delhi, India	Lagos, Nigeria
Madrid, Spain	Nicosia, Cyprus	Mogadiscio, Somal
Oslo, Norway	Tehran, Iran	Khartoum, Sudan
Paris, France	Baghdad, Iraq	Tunis, Tunisia
Rome, Italy	Tel Aviv, Israel	Pretoria, South Africa
Stockholm, Sweden	Beirut, Lebanon	Algiers, Algeria
Vienna, Austria	Amman, Jordon	Cotonou, Dahomey
	Jidda, Saudi Arabia	Dakar, Senegal
<u>Pacific</u>		Bamako, Mali
Wellington, New Zealand	<u>Ottawa, Canada</u>	
Manila, Philippines		
Canberra, Australia		
Melbourne, Australia		

SECRET

GROUP 1
Excluded from automatic
downgrading and
declassification