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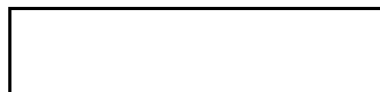
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3 September 1963

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 63-70, Soviet Capabilities to Support Expansion of India's Steel Industry, 26 August 1963, Confidential, be forwarded as follows:

State, INR Communications Center,  
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Attachments:  
Copies #205 - #214 of CB 63-70

cc: CGS/EB

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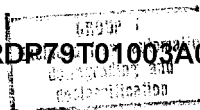
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Date: *3 Sept 63*

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Current Support Brief

SOVIET CAPABILITIES  
TO SUPPORT EXPANSION OF INDIA'S STEEL INDUSTRY



26 August 1963

CIA/RR CB 63-70

**CENTRAL INTELLIGENCE AGENCY**

Office of Research and Reports

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SOVIET CAPABILITIES  
TO SUPPORT EXPANSION OF INDIA'S STEEL INDUSTRY

Should the US refuse to aid India in the development of the Bokaro steel plant, the importance of the plant to India's economic planning probably would prompt India to turn to the USSR for such assistance. Economic and technological considerations at home and the limited success of large-scale economic assistance programs abroad appear to dictate against the USSR undertaking the project. Political expedience, however, could override the economic factors to the extent that the USSR would agree to construct the Bokaro plant or, alternatively, propose the expansion of the Bhilai plant beyond that presently planned. Even if the USSR were to undertake the Bokaro project, more than half of the future expansion of the Indian steel industry through 1971 would come from non-Communist sources.

1. Expansion of Steel Production and Demand in India

Since India achieved independence shortly after World War II, the Indian economy has developed through successive 5-year plans. During 1951-61, the first two plan periods, industrial production rose 7 percent annually, but the consumption of finished steel products increased at an annual rate of 13 percent, or from 1.3 million tons in 1952 to 3.9 million tons in 1961. Domestic production of steel did not meet consumption in any year during 1951-61. Net imports rose from 154,000 tons in 1952 to more than 1 million tons per year beginning in 1957.

Official projections of the industrial growth of India indicate that consumption of rolled steel will increase to 9 million tons in 1966 and to 14 million tons in 1971. Planned production of rolled steel will fall short of expected consumption, resulting in significant deficits each year during the period, with anticipated imports rising from 1.3 million tons in 1966 to 2.6 million tons in 1971.

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Significant expansion of India's steelmaking capacity is planned during the current and following 5-year periods (1962-66 and 1967-71), as shown in Table 1. A total of 10.2 million tons of crude steel, an increase of 4 million tons over present capacity, is planned for 1966 and, although no definite plan has been announced, Indian planners are thinking in terms of 18 million tons in 1971.

Table 1

India: Steel Capacity and Production  
1962 and Plans for 1966 and 1971

	Million Metric Tons		
	<u>1962 a/</u>	<u>1966 Plan</u>	<u>1971 Plan</u>
Crude steel			
Capacity	6.2	10.2	18.0 b/
Production	5.4		
Rolled steel			
Production	3.9	7.7	11.4
Imports	0.9 c/	1.3	2.6
Consumption	4.8	9.0	14.0

a. Data are for fiscal year 1963, which ended in March 1963.

b. Not an official plan, but the figure that Indian planners currently are considering.

c. Imports represent a decline of 0.2 million tons from those of fiscal year 1962.

During 1962-66, steelmaking capacity is to be expanded by 2.9 million tons in India's three government-owned plants: Bhilai, built by the USSR; Rourkela, built by West Germany; and Durgapur, built by the UK. Bhilai is to be expanded from 1 million to 2.5 million tons; Rourkela

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from 1 million to 1.8 million tons; and Durgapur from 1 million to 1.6 million tons. Financial and technical aid and equipment for each of these plants will be provided by the foreign government which originally built it. No expansion is planned for privately owned Indian steel plants during 1962-66. Consequently, although total crude steel capacity is planned to reach 10.2 million tons by 1966, expansion planned to meet that goal falls short of requirements by 1.1 million tons, and there is no foreseeable way in which this deficit could be made up.

Further expansion of India's steelmaking capacity is contemplated during 1967-71. Privately owned plants are to expand capacity by 2 million tons and the publicly owned sector is to increase capacity by 5.7 million tons. Indian planners count on significant further expansion at each of the three existing government-owned plants, in addition to the construction of the first stage of the Bokaro plant (with a capacity of 1.4 million tons by 1971) and the construction of one or more other government-owned plants with combined capacity of 2.2 million tons. This program will leave India more than 1 million tons short of the tentative goal of 18 million tons, but the USSR has stated that by 1971 it could easily expand the capacity of the Bhilai plant to 4 million tons instead of the 3 million tons now planned.

India will need considerable foreign financial and technical aid and equipment to develop its steel industry as planned through 1971. If West Germany and the UK continue to support the expansion of the Rourkela and Durgapur plants beyond the commitments through 1966, India must look principally to the US or the USSR for development of the Bokaro and other plants planned through 1971. The USSR already is committed to expanding the Bhilai plant to 2.5 million tons by 1966, as noted above, and has expressed a willingness to expand that plant further during 1967-71. India and the USSR also have had preliminary talks concerning Soviet aid to construct a fifth government-owned plant. Such a possibility calls for an appraisal of the capability of the USSR to provide the Bokaro plant, should the US fail to do so.

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2. Soviet Capabilities

a. Equipment and Construction Considerations

For the USSR to meet India's schedule for the Bokaro plant, construction and installation of basic facilities should begin in 1964 or early in 1965. This schedule is based on the assumption that the USSR would require no less time to manufacture, assemble, and install the equipment than was estimated in a report by US Steel Corporation\* on the proposed project. This study, which assumes a contract date of mid-1963, schedules start-up operations for January 1968 and estimates that full capacity would be reached in 1971.

Soviet planners currently are subjecting the plans for further expansion of steel industry capacity in the USSR for 1964-65 to intensive reexamination. There are as yet no firm indications of the impact this appraisal may have on expansion of steel plants in 1964-65 -- a period when the USSR would have to initiate production of some of the equipment for the Bokaro plant under the schedule presented in the US Steel report. The original maximum targets for adding new capacity in the USSR probably have been discarded, in view of the problems encountered to date in expanding capacity and the fact that, despite lags in installing new facilities, production during 1959-62 was considerably larger than was expected on the basis of the original control figures of the Seven Year Plan for those years, as shown in Table 2. The excesses in these 4 years reportedly totaled 2.5 million tons of pig iron, about 13 million tons of crude steel, and 11 million tons of rolled steel.

Even on the assumption that Soviet steel plans for expanding production are now focused on the original minimum goals of the Seven Year Plan, considerable difficulty would be encountered in meeting these requirements and, in addition, in supplying equipment for Bokaro. This difficulty would be particularly apparent if it is assumed that India's

\* A Techno-Economic Survey of a Proposed Integrated Steel Plant at Bokaro, Bihar State, India, prepared by the United States Steel Corporation for the Agency for International Development, March 1963.

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Table 2

USSR: New Capacity for the Ferrous Metallurgical Industry a/  
Planned 1959-65 and Commissioned 1959-62

Type of Capacity	Planned 1959-65				Commissioned
	Original Seven Year Plan		Revised Plan	1959-62	
	Minimum	Maximum			
Blast furnace	24	30	30	12.7	
Steelmaking	28	36	36	16.3	
Rolling mill	23	29	29	11.0	

a. Excluding additions to capacity resulting from enlarging existing facilities and from technological and other sources of increased production from existing facilities.

planners would require equipment from the USSR similar to that specified in the US Steel report. The report included two 170-ton basic oxygen converters for the first stage of the plant. The largest converters of this type built by the USSR so far are 100-ton units. Although designs for a 250-ton furnace reportedly have been completed, none has been built, and present indications are that none is now scheduled until 1966. Moreover, the Soviet oxygen-converter program has lagged throughout the plan period, not only because of prolonged delays in designing and building converters but also because of failures in producing the necessary high-capacity oxygen generating stations. One new converter has been installed, 3 more are to be in operation by the end of 1963, and 10 additional units are planned to be in production by the end of 1964. If these plans are met it would leave at least two and possibly five units to be installed in 1965 according to the original program for 1959-65.

Although the USSR could substitute open hearth furnaces in the Bokaro plant for the proposed oxygen converters, such alternatives would



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not be available in equipment for rolling and finishing lines. It is in the production and installation of finishing facilities that the USSR is most deficient and has fallen considerably behind schedule during the current plan period. To supply the rolling and finishing equipment proposed for Bokaro not only would delay further the Soviet program but also would further postpone the achievement of the variety and quality of steel mill products required by Soviet steel-consuming industries.

Additional demands on Soviet metallurgical equipment plants during 1963-65 are those generated by Soviet export commitments to the European Satellites. In general, the shipment of most of this equipment to the Satellites is scheduled to be completed by the end of 1965, although deliveries may extend beyond that date because of delays that have developed in meeting some of these commitments. Should it become expedient to do so, the USSR might encourage the Satellites to turn to Free World suppliers in order to use available Soviet resources for the Bokaro project.

The USSR has only relatively small programs for metallurgical plants in the Free World, aside from commitments to supply equipment for expanding the Bhilai plant in India and the Helwan project in the United Arab Republic.

b. Financial Considerations

There is evidence in the decline of Sino-Soviet Bloc extensions of economic aid to underdeveloped countries -- only \$90 million between January and June 1963 -- that disappointment with results of aid already extended, together with pressures in the domestic economy, has caused some reassessment by the Bloc of its foreign aid program. Soviet leaders have spoken of the limited potential to the USSR of foreign aid and have suggested that underdeveloped countries should rely more on their own resources or seek more aid from the West and the UN. In negotiations with India particularly, the USSR has sought to link future aid more closely with bilateral trade, suggesting that it would construct consumer goods plants, repayment for which would be made by exports of the products from these plants. In recent weeks, however, and partly

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in response to growing Chinese criticism, Soviet leaders have vigorously reaffirmed their interest in the foreign lending program. For over-all policy reasons, the USSR could decide to take on a major project such as Bokaro which the US has publicly let fall.

On the other hand, the very magnitude of the Bokaro project may well give the USSR pause. The foreign aid component of the project has been placed by the US Steel survey team at \$892 million by 1971, including all the auxiliaries necessary to expand the plant later to 4 million tons. At this level, it would dwarf any project that the USSR has undertaken so far in the foreign aid field. This project would more than double Soviet aid to India -- already the largest recipient of Soviet economic assistance in the Free World (\$811.1 million extended since 1955).

The Soviet-built steel plant at Bhilai -- for which \$249.2 million in Soviet aid has been committed -- has been an outstanding success. Production at Bhilai during the fiscal year ending 31 March 1963 has exceeded rated capacity, and expansion of the plant from 1 million to 2.5 million tons of ingot steel capacity is well underway. Thus it could be said that the USSR already has extracted the maximum advantage that is to be gained from providing steel mills to India. There also apparently is some risk, particularly if the USSR were to attempt to install the very modern type of equipment envisioned in the US Steel report, that Bokaro would not be the success that Bhilai has been. The US Steel report contained reservations about the site as a source of labor supply and about the lack of planning for a coordinated supply of raw materials to the plant.

The \$811.1 million total of Soviet grants and credits to India (only \$2.3 million has been in form of grants) already has been fully obligated, with an estimated \$295.1 million drawn as of 30 June 1963. Repayment on Bhilai has started, and the due dates for beginning repayment on the Bloc credits are approaching. Although payment is to be in rupees or in Indian exports and thus does not constitute a direct drawing on India's low reserves of hard currency, the burden of meeting its export obligations to the USSR will be heavy for India at a time when it also is hoping to expand sales to hard currency areas.

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If construction of the Bokaro plant were undertaken by the USSR under terms similar to those for Bhilai and other Soviet projects in India, repayment probably would be over a 12-year period, beginning after completion and at 2.5 percent interest. The first stage of Bokaro is not to be finished until 1971, sufficiently far off so that India presumably would not yet begin to worry about repayment problems. In any event, expansion of steel capacity is a vital part of India's economic planning, and India has been pressing hard for a favorable US decision on Bokaro. It is accordingly unlikely that India would hesitate through concern over repayment problems to ask the USSR to take up the project if the US turns it down. This is particularly likely when it is considered that the rolled steel produced by the Bokaro plant would save approximately \$200 million annually in foreign exchange.

Analyst:

Coord:



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