

CENTRAL INTELLIGENCE AGENCY
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MEMORANDUM FOR: Rebecca Wright
Ocean Mining Administration
Department of the Interior

SUBJECT : Nickel Production in Communist
Countries

Attached is the information on Communist countries' nickel production, plans for expansion of production capacity, and capability for exporting nickel that you requested on 17 March. The information is unclassified but should not be attributed to this Agency. If you have further questions on this subject, please call [redacted]

Office of Economic Research

Attachment:
as stated.



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Nickel Production in Communist Countries

SUMMARY

The USSR is the world's second largest producer of nickel, its annual output being exceeded only by that of Canada. It has only limited export capabilities at present, but a multi-billion ruble project is underway in Northern Siberia which will make possible substantial increase in exports not only of nickel but also of platinum-group metals and copper.

Cuba is the only other important producer of nickel among the Communist countries. It plans substantial increases in production with aid from the USSR and Eastern Europe. The assisting countries are scheduled to be the principal recipients of the increased output. However, by helping to meet Communist needs Cuban nickel may free Soviet nickel for export to non-Communist countries.

The Communist countries of China and Eastern Europe are essentially "have-not" countries with respect to nickel. China imports most of the nickel it needs from non-Communist countries. Eastern Europe relies mainly on the USSR and Cuba for its supplies. Yugoslavia is somewhat of an exception. It now imports nickel but with foreign assistance plans to become an exporter of ferronickel in 1979.

I. Present Production

The USSR is by far the largest Communist producer of nickel. Soviet output in 1975 is estimated at about 180,000 metric tons or about two-thirds of Canadian output.*

The Communist countries of China and Eastern Europe produce only small amounts of nickel. Their combined annual output is less than 10,000 tons. Cuba, however, is an important producer with an annual output of about 35,000 tons divided about equally between nickel oxide and sulfide concentrates.

II. Present Supply Relationships

The USSR, an importer of nickel in the early 1960s, became an exporter in the latter half of the 1960s. Annual exports have fluctuated but have averaged about 20,000 tons in recent years. The principal recipients have been non-Communist countries (West Germany, Japan, the United States, and the UK). Most of the remainder has gone to Eastern Europe and only very small amounts to Communist China. The USSR, on balance, is only a small net exporter of nickel because it receives about half of Cuba's output of nickel as partial repayment for its extensive economic assistance to that country.

* Soviet output includes smelter products such as nickel oxide and ferronickel as well as fully refined nickel. Soviet smelter-refinery output is now about equal to that of Canada. The latter's total output also includes ores and concentrates which are exported, principally to the UK, Norway, and Japan, for smelting and refining.

Eastern Europe also imports nickel from Cuba to supplement the amounts received from the USSR. In contrast to Eastern Europe, Communist China imports most of its nickel from non-Communist countries, mainly Canada. China has imported only very small amounts of nickel from the USSR and Cuba in recent years. In 1973 and 1974 China imported about 30,000 tons of nickel per year from all sources.

III. The Soviet Nickel Industry

The USSR has extensive reserves of nickel about equal to those of Canada and exceeded only by those of Cuba and New Caledonia. About 80% of the reserves are in the form of copper-nickel sulfide deposits on the Kola Peninsula and at Noril'sk and the nearby Talnakh region in the Soviet North. The remaining deposits consist of lateric deposits in the Urals, the Ukraine, and Kazakhstan and of nickel-cobalt arsenides in Tannu-Tuva. Another potentially important source is a copper-nickel deposit discovered in recent years near Nizhne Angarsk at the Northern end of Lake Baikal.

The deposits at Noril'sk account for about half of Soviet nickel output. The other principal sources are the deposits on the Kola Peninsula and in the Urals. A relatively new but small producer of nickel is a ferronickel plant at Pobugskoye in the Ukraine. It was put into operation in 1973.

The USSR is concentrating most of its efforts for

expansion of nickel production on a major development project at Noril'sk. The project was initiated in the early 1960s after discovery of rich deposits nearby at Talnakh. Several mines have been developed but large-scale exploitation has been held back by difficulties encountered by the Soviets in developing satisfactory technology for processing the ores at Talnakh, which differ considerably from the ores of the older Noril'sk deposits. One step taken by the Soviets to move ahead with the project has been to purchase "flash-smelting" equipment and technology from Finland for the processing of nickel and copper concentrates. Deliveries of equipment are scheduled to be completed in 1977. However, additional mine development and construction of concentrating facilities, refineries, and other production and ancillary facilities probably will continue into the 1980s. Aggregate Soviet investment in the Noril'sk project may reach several billion rubles. The deposits in the Noril'sk area are roughly comparable to those of the International Nickel Company at Sudbury, Ontario in that they are a rich source not only of nickel but also of copper, cobalt, platinum-group metals, and various rare metals.

IV. Production Plans

A. USSR

The USSR has announced plans to increase its production of nickel by 20% to 30% during 1976-80. Based on the estimated output of 180,000 tons in 1975, this target

implies production of 216,000 to 234,000 tons in 1980. Most of the increase is scheduled to come from Noril'sk. No formal goals have been set for the period beyond 1980, but substantial increases in production probably will be realized. Noril'sk alone, according to some indications, may attain an annual output of 300,000 tons. At least moderate increases in production are likely at other producing sites by means of enlargement and modernization of facilities. A long-deferred project for expansion of nickel production at Burukhtal in the Urals could also be reactivated. The Soviets might also resume their earlier -- and unsuccessful -- efforts to obtain foreign participants in the Burukhtal venture.

B. Cuba

Cuba plans a major increase in its production of nickel, but target dates for completion of the expansion projects are not known. The two existing US-built plants at Nicaro and Moa Bay are to be reconstructed and expanded with Soviet assistance to boost annual output by 10,000 tons. The USSR is also providing assistance for construction of a new plant at Punta Gorda with an annual output of 30,000 tons. Provision is made for subsequent enlargement of the plant. Another 30,000 ton plant is to be built with financial help from the Council for Mutual Economic Assistance, the Soviet-East European counterpart

to the Common Market.

C. Yugoslavia

Yugoslavia plans to construct a mining and ferro-nickel complex in Macedonia by 1979. The project is being financed by credits from the US Export-Import Bank, various commercial banks, Yugoslav banks, and the Polish and Soviet governments. Technical assistance is being provided by a US firm. Planned annual output is about 64,000 tons of ferronickel with a nickel content of 16,000 tons.

V. Export Prospects

No dramatic increase in exports of Soviet nickel is likely in the remainder of the 1970s. The Soviet plan to increase output by 20% to 30% by 1980 implies an estimated increase in annual output of 36,000 to 54,000 tons, of which an important share would be required for domestic use. However, in the 1980s -- as work on the Noril'sk project moves ahead and nears completion -- the Soviets will have large amounts of nickel available for export. Annual Soviet exports could eventually approach and even exceed 100,000 tons if the Noril'sk combine reaches the size suggested by available evidence. The Soviets have particular incentive to push ahead steadily on development of the Noril'sk complex because of its valuable co-products, platinum-group metals and copper, which are also sources of

foreign exchange earnings.

Cuba's capability to export nickel will be increased dramatically when all scheduled expansion projects are completed. Progress on these projects is likely to be slow, however, judging by the past records of Soviet and East European assistance on metallurgical projects. As a result, only moderate increase in Cuban export of nickel is likely during the remainder of the decade, and most of this is earmarked for the assisting countries. In the 1980s, the projected increases in Cuban output -- if they materialize -- may prove more than adequate for East European and Soviet needs and may provide a surplus for export to non-Communist markets.

Yugoslavia plans to export about 14,000 tons of the 16,000 tons of contained nickel in its planned output of ferronickel. Poland is to receive 2,500 tons annually for 15 years and is negotiating for larger amounts. Most of the remainder will be marketed in non-Communist countries according to available information.