## **Baoshan Steel Works**

By Ikuo Hirata

After years of twists and turns, construction work on the first phase of the Baoshan Steel Works in Shanghai—built with technical cooperation from Nippon Steel Corp.—has been completed, and start-up of the blast furnace is expected to come by the end of September.

Since the project began in late 1978, it has taken the Chinese government a full seven years to bring it to an end. Ignition of the blast furnace, originally scheduled for 1980, was delayed for five years, and production capacity itself slashed in half from 6 million tons a year to 3 million tons. Indeed, the whole project was once cast in doubt by China's shifting economic policy. Baoshan will soon go on stream, but its future is still shrouded in uncertainty.

The Baoshan project was contained in the 10-year National Economic Development Plan the Chinese government announced in 1978. It was, in fact, earmarked as a top-priority project in China's Four Modernizations program.

According to the original plan, Baoshan was to have been an integrated steel works, consisting of two blast furnaces, each with a 4,063 cubic-meter inner volume, three converters, and three rolling mills—one cold rolling, one hot rolling and one seamless steel tube rolling.

Nippon Steel was involved in the project right from the beginning. In fact, the design of Baoshan was patterned after the Japanese steelmaker's Kimitsu and Oita works. In addition to design work, Nippon Steel provided guidance in operational control and is a supplier of principal plant and equipment, from pig iron smelting to steel casting facilities. For



Expansion of the Baoshan project is vital to China's development.

the rest, China invited international bidding, finally awarding tenders to Japan's Mitsubishi group and several West German interests.

To some extent, the Chinese authorities were aware of the huge scale of the project they had embarked upon, particularly in terms of finance. In June 1979, shortly after construction work began, the Japanese side accepted a Chinese request for deferred payments, and the Export-Import Bank of Japan decided to extend suppliers credit at 7.25 percent interest per annum.

But that was only the beginning. As China's economic development heated up, the Chinese found themselves pouring too much money into industrial projects. The result was a sharp disequilibrium in capital investments. Money was running short, and price pressures gave way to inflation. The Chinese government was forced into a sweeping readjustment of its economic plans, and the Baoshan project felt the ax.

The first half of 1981 brought a spate of cancellations of plant orders and requests for postponement of delivery dates. By September of the same year, the Japanese government decided to extend some ¥300 billion (\$1.25 billion) in a loan package for the Baoshan project and another complex in Daqing. The package consisted of ¥130 billion in low-interest, yen-denominated loans, ¥100 billion in a Japan Exim. Bank loan and ¥70 billion in commercial bank loans.

The credit put Baoshan back on the track, and construction resumed after the Chinese decided to downsize the project by eliminating one blast furnace.

To help train Chinese technicians to operate the facility, Nippon Steel accepted a total of 1,200 trainees from China, offering instruction at its Kimitsu, Oita and Yawata works. In addition, Nippon Steel sent 320 of its own staff to China for on-the-spot guidance during the final stages of construction.

Yet, there is still no telling when Baoshan will be restored to the 6-millionton capacity originally planned. China's

State Council decided in 1983 to proceed with the second phase of the project, including the construction of a second blast furnace, and there are reports that China has already placed orders for equipment connected with the second stage. But the time still does not seem ripe for China to build another blast furnace at Baoshan.

To be sure, China wants very much to expand production capacity. Steel production in China grew from 160,000 tons (on a crude steel basis) a year at the time of the 1949 revolution to 37.1 million tons in 1982, but China needs an estimated annual production capacity of nearly 80 million tons by the year 2000 if it is to accomplish its modernization program.

For some years, China has tried to modernize its steel production facilities in Wuhan, Taiyuan, Anshan, Shoudu and other major steel works. However, there is a limit to how much extra output can be tapped by upgrading existing facilities alone. A second blast furnace at Baoshan must be very high on China's list of investment priorities.

Moreover, expansion of the Baoshan project makes a lot of economic sense. It would help create jobs, and over the long run it would help conserve China's foreign exchange holdings through import substitution (currently China imports around 20% of its steel requirements). It would also contribute toward more efficient use of China's abundant reserves of coal, iron ore and other natural resources.

Yet China's financial position appears shaky. Its foreign exchange reserves are declining, and so far its economic opendoor policy seems to be going nowhere. Moreover, expansion of the Baoshan project is a very expensive proposition, with estimates running as high as another \(\fmathbf{Y}\)1.2 trillion (\\$5 billion) to raise production to 6 million tons a year.

Even if China manages to arrange fresh credit from Japan or other foreign countries, it will still only be deferring payments for a few more years. It would still have trouble paying back the debts when they came due unless it could boost its foreign exchange earnings through exports.

Hence, the prospects for expansion at Baoshan remain unclear. Although China has tentatively decided on raising production, it cannot ignore the foreign exchange situation and other unfavorable economic factors. The Chinese government will be moving very carefully as it decides whether or not to give the final go-ahead in Baoshan.