

A Study of the Early Construction of the Wuhan Iron and Steel Company

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Abstract: In 1954, the construction of Wuhan Iron and Steel Company started, which is one of the large-scale iron and steel enterprises invested and constructed by the state after the founding of New China. The construction of Wuhan Iron and Steel Company was carried out under the policy of state-owned national construction. The site of Wuhan Iron and Steel Company was determined by experts. New China planned to allocate people, money and materials as the basis for the construction of Wuhan Iron and Steel Company. In 1956, WISCO planned to start a total of 17 projects, and in 1957, a total of 23 system projects, 136 projects and 313 individual projects were under construction at Wuhan Iron and Steel Company. In 1958, WISCO No.1 Blast Furnace went into operation, and No.1 Blast Furnace is the first modernized blast furnace for iron production built by Wuhan Iron and Steel Company. The brilliant construction achievements of Wuhan Iron and Steel Company fully demonstrated the inevitability of exploring the development of iron and steel business in a state-owned and nationalized way in the Chinese society since the modern times.

Keywords: Wuhan Iron and Steel Company; New China; Construction; State-owned; State-run

1. Introduction

Wuhan is located in the hinterland of the East Asian continent, with convenient land and water transportation, very conducive to the construction of iron and steel industry. At the end of the Qing Dynasty, Wuhan iron and steel industry development is located in the forefront of the country, the Republic of China in the early period, Wuhan iron and steel industry is still developed. After the outbreak

of the Anti-Japanese War, the steel plants and equipment in Wuhan were either destroyed or moved westward to the inland, and the development of the iron and steel industry fell into a stagnation, and was not restored after the victory of the war. After the founding of New China, the construction of iron and steel industry in Wuhan entered a brand-new stage of development. 1954, Wuhan Iron and Steel Company began construction, which is one of the large-scale iron and steel enterprises invested by the state after the founding of New China. The early construction of Wuhan Iron and Steel Company reflects the stage-by-stage characteristics of the development of Chinese iron and steel industry construction in the middle of the 20th century, which is an issue worth examining.

2. The Construction Basis of Wuhan Iron and Steel

During the late Qing and Republican period, there was the famous Hanyang Iron Works in Wuhan area, which was subordinate to the huge scale Hanye Ping Company. Hanyang Iron Works used to be the main steel production enterprise in modern China, with a large number of infrastructures such as plants and mines, advanced machines and all kinds of smelting equipment. Hanyang Iron and Steel Works was located at the foot of Dabie Mountain (commonly known as Turtle Mountain) in Hanyang, covering an area of about 47,000 square meters, and had built four iron furnaces successively. 1 and No. 2 furnaces had a daily production capacity of 100 tons, and ceased to be smelted in 1919; and No. 3 and No. 4 furnaces had a daily production capacity of 230-250 tons. Every year in November, a total of about 220,000 tons of pig iron can be produced. The steel mill has 7 blast furnaces with a capacity of 30 tons, producing 260 tons of steel per day, and

1 furnace with a capacity of 150 tons of blending iron juice, which can produce about 70,000 to 80,000 tons of steel per year in November. The steel and iron factories had 18 gas furnaces, a steel drying factory, a steel bar factory, and other complete ancillary buildings and supporting facilities, and could make 300 pieces of 20-foot rails in a day and night. [1] At this stage, the iron and steel industry in the Wuhan area was relatively well developed, and the iron and steel smelting bases in the Hanyang area formed a production linkage mechanism with the raw material bases in Daye and Pingxiang.

During the War of Resistance Against Japanese Aggression, the construction of iron and steel industry in Wuhan area suffered a major setback. After the end of the war, the national government constructed new iron and steel enterprises in central China, but not in the Wuhan area. On July 10, 1946, the Daye Factory and Mines Custodian Office was renamed as the Preparatory Office of China Central Iron and Steel Company of the Resource Committee, with the Chief Engineer's Office, the Secretary's Office, the General Affairs Group, the Civil Construction Group, the Electromechanical Group, the Mining Group, the Smelting Group, the Accounting Group, the Public Works Group, the Transportation Group, and the Group set up a class, and the basic of new iron and steel enterprise The basic organizational structure of the new steel enterprise was formed. [2] However, this steel enterprise did not carry out steel production and construction in Wuhan. Because of the lack of investment in the construction of the steel industry, "At the beginning of 1948, there were 233 factories with power equipment in the Wuhan industry, including 68 machinery factories, 21 textile dyeing and finishing factories, 32 flour milling factories, 18 cigarette factories, 3 electric power factories, 2 match factories, 39 printing factories, 27 soap factories, and 23 other factories." [3] No steel industry related businesses existed in the Wuhan area.

During the War of Liberation, steel enterprises in Wuhan and central China were confiscated by the People's Government. On May 14, 1949, the "Fourth Field" liberated Huangshi Harbor and Lime Kiln, on the 15th Daye, and on the 16th Tieshan. On the 16th and 17th, the People's Liberation Army (PLAAF) Fourth

Field Army liberated Hankou, Wuchang, and Hanyang. On May 22nd. The Wuhan Military Management Committee (WMC) was established, with a Material Takeover Department under the WMC organization, whose function was to "take over and dispose of the enemy's industries and public materials and property, confiscate bureaucratic capital, and directly administer enterprises belonging to the state for future transfer to the nationwide people's government." Huagang's properties in Wuhan and Daye were taken over, and on June 16, the military representative issued an order to the head office stating: "The Company shall be changed to the Wuhan Military Control Commission Huazhong Iron and Steel Company as of this date."

At the early stage of the founding of New China, there was no actual production of iron and steel enterprises in the Wuhan area, and there were only affiliates related to the iron and steel industry, which was the Hankou Office of the Central China Iron and Steel Company received by the People's Government, which could be counted as part of the affiliates of the iron and steel enterprises. This was the weak foundation for the construction of iron and steel enterprises in the Wuhan area at the early stage of the founding of New China.

Under such circumstances, the construction of Wuhan Iron and Steel could only be carried out as a state-owned public construction. After the founding of New China, the development of iron and steel industry was an urgent need, and on September 21, 1949 the Chinese People's Political Consultative Conference was held. One of the requirements for the industry was, "Regarding the industry: it should focus on the planned and systematic restoration and development of heavy industries, such as mining, iron and steel industry, power industry, machine manufacturing industry, electrical appliances industry and the main chemical industry, etc., in order to create the basis for the industrialization of the country. At the same time, the production of textiles and other light industries conducive to the well-being of the nation should be restored and increased in order to supply the needs of the people for daily consumption." Heavy industry, including the iron and steel industry, became a key sector for industrial development. The idea of state-run heavy industry was written into the

Common Program in the following terms: "All undertakings that are related to the lifeblood of the national economy and are sufficient to manipulate the livelihood of the nation should be operated by the state in a unified manner. All state-owned resources and enterprises shall be the public property of the entire people, the main material basis for the development of production and economic prosperity in the People's Republic and the leading force of the entire social economy." Xu [4] shows the determination of the people's government to state-run the iron and steel business.

3. Early Input of Wuhan Iron and Steel

The site of Wuhan Iron and Steel Company was determined by experts. The construction of a very large-scale steel enterprise, at that time China did not yet have the ability to do so, Central China Iron and Steel Company only to carry out some basic exploration and design work, the important work was done by experts. "The first phase of the WISCO project was commissioned to the Expert and was divided into three stages: preliminary design, technical design, and construction design." At the beginning of 1954, the expert group came to Wuhan, inspected the area around Qingshan in Wuhan City, and put forward the "Opinion on the Selection of the Plant Site" on March 26th. On April 13th, the Central Committee of Finance and Economy forwarded to the Central and Southern Bureau the opinion of Comrade Guo Vel, Vice Minister of the Expert's Ministry of Foreign Trade, on the site of the automobile plant of the Daye Iron and Steel Works and the issue of the expansion of the Daye Special Steel Plant. In his opinion, Guo Weiwei suggested that the Wuhan Iron and Steel Company should be built in the Qingshan area of Wuhan and be separated from the Daye Iron and Steel Factory in Huangshi.

The expert's opinion was: "Technically, both Qingshan and Xiaolu can build steel plants, but politically and economically, Guo Weiwei advocated to build the steel plant in Qingshan, because it is problematic to put a 1.5 million-ton steel plant with the possibility of expansion and a special steel plant with the possibility of expanding to 500,000 tons (e.g., in Xiaolu), which is a big deal and must be carefully considered. This is a big matter and must be carefully considered. Secondly,

Wuhan is a big industrial city in China, and building a steel plant in Qingshan would be more favorable to transform it into an industrial city. Thirdly, the proximity of Qingshan to Hankou made it more convenient for railroads to connect and for workers to come from. Fourthly, the new iron and steel works would have a large amount of transportation and water supply and drainage, and should be close to the Yangtze River. Therefore, Kuovel thought that Qingshan was more suitable for the construction of a steel plant than Gialu. And he instructed Belyanchikov (director of the Ferrous Metallurgy Design Institute) to make detailed calculations from economic and technical points of view. (After the conversation, Belyanchikov had already handed over to Kuovel the proposal for choosing the site of the plant and told us: this is the final proposal, in which it is considered that building a plant in Gailu is technically difficult in terms of basic engineering and water supply and drainage.)" [5].

Subsequently, by the State Planning Commission, the State Construction Committee on May 12 of the same year officially approved the Wuhan Castle Peak as the site of the plant, the approval letter said: "On the Wuhan Iron and Steel Company design plan task book of the review of the views of the plant site mentioned in the comments are noted, the Commission agreed to Wuhan Iron and Steel Plant in Wuchang fourteen kilometers east of the construction of the Castle Peak area, and designate the Ministry of Heavy Industry for the General A, please immediately proceed with the work of surveying and designing the outside works of the plant and so on." [6] When the state approved the use of Qingshan as the site of the plant, a group of experts from the former Expert suggested that it would be appropriate for the new plant to be named after the place name of Wuhan. The central government adopted this suggestion, and in September 1954, the Iron and Steel Bureau of the Ministry of Heavy Industry announced at a meeting of the managers of Huagang that the Central China Iron and Steel Company would be renamed Wuhan Iron and Steel Company at the end of 1954.³ The initial stage of the Wuhan Iron and Steel Company was planned at the time.

At that time, the plan of Wuhan Iron and Steel Company's initial cadre configuration is: "infrastructure according to the establishment of administrative cadres need to 7063 people, the existing 4271 people, in three years can be raised 447 people, the lack of general cadres 2,298 people can be resolved by their own training, there is still a lack of section cadres 86 people, the South Central Bureau of the allocation of production management cadres according to the establishment of the need for 3,080 people, the infrastructure can be transferred to the 39 people (division level or above), there is still a lack of section cadres. Division level or above), still missing 3014 people, 63 people at the division level, 565 people at the section level, plus the lack of 86 people at the section level cadres in infrastructure, a total of 651 people, general cadres 2327 people. I hope that the South Central Bureau can be deployed this year to technical cadres in the infrastructure, the need for 4,036 people, the existing 1,420 people, there is a shortage of 2,616 people, hoping that the South Central to solve part of the problem. Production needs 3920 technical cadres, hope the central government to solve." [7]

The people's government mobilized forces from all over the country to participate in the design and construction of the new iron and steel plant, which was far beyond the capacity of the Central China Iron and Steel Company alone. None of the three main construction forces for the new steel plant were from the former Central China Iron and Steel Company. In May 1952, "the first battalion of the 19th independent regiment of the base of Shaoyang area in Hunan Province was transferred to the preparatory office of the 315th plant, and was assigned to the Geological Exploration Team and the Engineering Geology Team. This was the first major force in building WISCO." In December, "a large number of cadres from Henan Shouchuan, Jiangxi Fuliang, Hubei Yichang and other areas were transferred to WISCO. This is the second major force for building WISCO." In November 1954, "The Second Highway Division of the Chinese People's Liberation Army was transferred to Huagang. This was the third major force in building Wugang." A large number of technicians were mobilized during the exploration and construction of WISCO, with 5,481 cadres deployed by the government and

26,770 technicians supported by related departments from 1952 to 1957. "The people of the whole country, especially the people of Hubei Province and Wuhan City, gave support and help in the exploration and design of WISCO, equipment manufacturing, raw material supply, transportation, technical force and material and cultural life of the workers, which was an important guarantee that the construction of WISCO could be carried out smoothly." [8] The preparations for the construction of Wuhan Iron and Steel Company completely exceeded the manpower and technical force that the former Central China Iron and Steel Company could provide, and the people's government re-planned and redeployed people, money and materials as the basis for the construction of Wuhan Iron and Steel Company.

4. Achievements of Wuhan Iron and Steel Construction

Under the overall guidance of the central government, the basic construction of WISCO was moving forward. 1956, the Ministry of Metallurgy issued the construction tasks for the first phase and the second phase of WISCO, of which the first phase of WISCO was designed in accordance with the scale of 150 tons of steel per annum, and according to the design tasks, the construction was divided into two phases: May 1955-April 1957 for the construction preparation phase; April 1957-1960 for the first phase of 1.5 million tons of steel; October 1957 for the first phase of 1.5 million tons of steel; and October 1960 for the first phase of the first phase of 1.5 million tons of steel. October for the first phase of 1.5 million tons of steel production scale of the basic formation of the construction stage. 1955 WISCO officially started construction, until 1958 to enter the construction, production and progress at the same time stage.

In 1956, WISCO planned to start 17 projects and 69 sub-projects, including 7 projects and 34 sub-projects in Qingshan, 7 projects and 27 sub-projects in Tieshan, and 3 projects and 8 sub-projects in Liulai Manganese Mining. 1956 WISCO's plan was completed well, with a total of 97.8% of the national plan, 12.8% more than that of 1955, and the actual workload was equivalent to 3% of that of 1955. The completed workload was equivalent to 3.5

times of 1955, and the magnitude of the completed plan also increased by 13%. In particular, the Daye Iron Mine exceeded the annual plan by 14.56%, and the two major projects of the Iron Mine, the infrastructure stripping project exceeded the plan by 3.57%, and the mine railroad exceeded the plan by 56.66% [9].

In 1957, WISCO had 23 system projects, 136 projects and 313 individual projects under construction, except for the company's steelmaking and milky steel system, other system projects started full-scale construction. The state approved the construction of WISCO's total annual investment of 171,750,000 yuan, of which 115,051.6 thousand yuan for construction and safety works, 36,721.3 thousand yuan for machinery and equipment, and 9,733.6 thousand yuan for other capital construction. 1957 WISCO completed 77.58% of the total national investment plan, of which the Qingshan Industrial Zone completed 79.59% of the annual plan, the Daye Iron Ore Mine 93.9%, the Wulong Quan Mine completed 50.73%, Jiaozuo Clay Mine completed 78.98% and Gongxian High Alumina Clay Mine completed 99.66%. Compared with 1956, although the proportion of planned investment completion decreased, in terms of total investment and actual construction completion, 1957 was more than two times higher than 1956. It shows that the volume of WISCO's capital works construction was rising and growing rapidly year by year [10].

WISCO's capital works were constructed in a relatively solid manner, and all kinds of projects also basically moved forward in accordance with the designed tasks. Although it did not complete 100% of the planned tasks for each year, it was a reasonable situation given that the targets themselves were set at a high level. However, the task design also has many problems, the plan preparation lacks the spirit of serious researchers and investigators, in the preparation of the design, but for the equipment conditions, material supply, production and infrastructure convergence are not considered comprehensively. And mostly from the subjective will, one-sidedly emphasize more and faster, blindly increase investment and projects, ignoring the actual situation. At the same time in the production and saving movement, and strive to save, not

according to the Expert's design for construction, thus affecting the accuracy of the plan.

In 1958, the No.1 blast furnace of WISCO was officially put into production. Blast furnace No. 1 is the first iron producing modern blast furnace built by WISCO, and it is one of the most important construction projects of WISCO, and its commissioning can provide a guarantee for WISCO's iron and steel production, which is of great significance. The construction of No.1 blast furnace started since July 1, 1957, and the main features of its construction are: large number, large parts, precise technical requirements and numerous work processes. The time of iron production had been advanced for 4 times, and finally the first furnace of molten iron flowed out on September 12, 1958, and was put into production more than 9 months earlier than the original plan. According to the general plan of WISCO, the No.1 blast furnace was originally scheduled to be put into production at the end of the first quarter of 1959, and at the beginning of 1957, according to the needs of the national pig iron balance, the Ministry of Metallurgy and WISCO jointly decided to advance the time of the No.1 blast furnace putting into operation to the end of 1958, and in 1958, under the situation of the "Great Leap Forward" of the whole country, WISCO launched the "Great Refinement", which was a great success in WISCO. In 1958, under the situation of national "Great Leap Forward", WISCO launched the "Great Steelmaking" campaign, and decided to advance the iron production time of the blast furnace by three months to October 1, and strive to produce 130,000,000 tons of iron in the year. And strive to produce 135,000 tons of iron during the year.

On February 22, 1958, Hubei Province to Wuhan City and Wuhan Iron and Steel issued "to strive for the rectification of all victories, set off a production climax, to ensure that the first blast furnace into production early" instructions. The instruction pointed out that "in order to realize in fifteen years or a little more time in the production of steel and other important industrial products to catch up with or exceed the United Kingdom, steel production in 1962 to reach the goal of one thousand two hundred tons, must ensure that the No. 1 blast furnace put into production

early." Immediately thereafter, WISCO in order to implement the instructions of Hubei Province, to WISCO workers put forward the "hard fighting in July, to ensure that the blast furnace iron" "three years of hard fighting for the completion of the steel plant" slogan, to inspire the workers to produce confidence. In order to encourage the workers of WISCO to build the No.1 blast furnace as soon as possible, Wuhan decided to reward the workers of WISCO and the collaborating units when the blast furnace produced iron. Under various incentives and mandatory requirements, the No. 1 blast furnace site presents a scene in full swing, in order to cooperate with the No. 1 blast furnace put into production in advance, WISCO companies are speeding up the construction of the blast furnace. In such a day under the thousand strength, the first blast furnace than "eleven" out of the iron plan 18 days ahead of schedule, at 3:25 pm on September 13th flowed out of the first furnace of molten iron. The blast furnace operated normally after iron output, the iron output gradually increased, and the furnace output and daily output were slowly close to the design index [11].

Blast Furnace No. 1 has made great contributions to the steel production and economic development of WISCO and the whole country, producing 54,261,600 tons of pig iron in total until 2019, when Blast Furnace No. 1 was announced to be permanently shut down due to the aging of its facilities.

5. Conclusion

The iron and steel industry of New China was built up by the continuous investment of the People's Government. In the early period of New China, the construction of large-scale iron and steel enterprises in Wuhan area was mainly the result of reinvestment by the People's Government, and the history of the construction of Wuhan Iron and Steel Company is sufficient to reflect this situation. The brilliant construction achievement of Wuhan Iron and Steel Company fully demonstrates the inevitability of exploring the development of iron and steel business in a state-owned and state-run way in Chinese society since modern times.

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References

- [1] Chen Kai, "An Analysis of the Relationship between Yangzi Machine Factory and Han Ye Ping Company", *Journal of Anqing Normal University (Social Science Edition)*, 3rd edition, 2023, pp. 95-100.
- [2] Zhang Houquan, "History of the Han Ye Ping Company", Beijing: Social Science Literature Press, 2014, p. 520.
- [3] Peng Jian, "Trying to Analyze the Recovery and Difficulty of National Industry in Wuhan after the Victory of the War", *Wuhan Studies*, No. 1, 2022, pp. 132-148.
- [4] Xu Chen, "Constitutional Road and China's Destiny Chinese Modern Constitutional Literature Selection 1840-1949 Next", Beijing: Central Compilation and Translation Press, 2017, p. 458.
- [5] Dai Qiwei and Zhang Taishan, editors, *Selected Archives of Central China Iron and Steel Company*, Changchun: Changchun Publishing House, 2016, pp. 478-481.
- [6] Yuan Li: "The Spine of the Rise of a Great City - A Primer on Wuhan's "First Five-Year Plan" Key Engineering Projects", *Archival Memory*, No. 2, 2022, pp. 27-31.
- [7] Sun Changzhi and Xie Nianyu: "WISCO, I'll Write a Golden Resume for You", WISCO Factory History Office: WISCO Historical Words, 3rd Collection, Beijing: China Literature Union Publishing Company, 1986, p. 498.
- [8] Shi Yali, "Wuhan Iron and Steel Company: A Study of the Founding Process and Its Experience", *Journal of Huaiyin Normal College (Philosophy and Social Science Edition)*, No. 3, 2023, pp. 288-292.
- [9] Bi Chuanshu: *Wuhan Iron and Steel Company*, Beijing: Knowledge Publishing House, 1988, p. 7.

[10] Tu Wenxue: "Old Trees Spring Deeper and More Flowers--Wuhan Industrialization and Urban Modernization in the 1950s", Wuhan Literature and History Materials, Issue 1, 2019, pp. 5-13.

[11] Zhong Gang, "The Mission and Glory of No. 1 Blast Furnace of WISCO", Wuhan Literary and Historical Materials, No. 2, 2022, pp. 50-55.