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Shou-rong Zhang: a Short Biography

Shou-rong Zhang

Chief Engineer

Wuhan Iron and Steel Company



Mr. Shou-rong Zhang graduated from Department of Metallurgy, Beiyang University in 1949 and joined ANSTEEL or the Angang Steel Company to carry on resuming production work in September in 1949. During this period, he served as blast furnace foreman, production chief, engineer and assistant director. In 1957, Mr. Zhang joined Wuhan Iron and Steel Company (WISCO) to manage the first stage project of construction and production work and served as production chief, engineer, director of the central research laboratory, deputy chief engineer of iron-making plant, deputy chief engineer of company, deputy general manager of company, and chief engineer of company. He engaged in steel plant design, construction, production and technical work which include the research on blast furnace performance, injection, prolongation of blast furnace (BF) campaign life and converter blowing; the application and innovation of 1.7 m mill project; the technique updating of old factory etc. Among these researches, the New Technology Development and Innovation of 1.7 m Mill System was awarded the Supreme National Science and Technology Prizes in 1990. Mr. Zhang won the title of model worker of Hubei Province in 1988, won the National May 1 Labor Medal in 1990, was elected as a member of Chinese Academy of Engineering in 1995, was elected as a foreign associate of the Mexican Academy of Engineering in 1997, was elected as vice chairman of the International Association for Continuing Engineering Education (1992 to 1998), was elected as vice chairman of Association for Science and Technology of Hubei Province (1992 to 2002) and won the Chinese Academy of Engineering Guanghua Science and Technology Award in 2002.

In the 1950s, Mr. Zhang carried out the burden distribution control technique for blast furnaces in ANSTEEL Company and achieved the best record in blast furnace production of ANSTEEL. These techniques were popularized all over the country. Mr. Zhang was in charge of the construction of No.1 blast furnace of WISCO which was the biggest one at that time in China and was operated and managed successfully. In the 1960s, facing the disadvantageous situation, Mr. Zhang solved the problems of slacken wind performance and obtained smooth production. In the 1970s, he was in charge of the technological modification of iron-making system of WISCO and proposed the project of utilizing the 1,515 m³ blast furnace equipment to construct a 2,516 m³ blast furnace in WISCO. Based on the researches of the 1960s and the 1970s, Mr. Zhang put forward “the proposal for increasing the productivity of BFs to 1.8 and decreasing

the coke rate to 450 kg/t, and realized the targets of annual production of iron and steel 400 million tons.”

From the 1980s on, Mr. Zhang organized a number of major technological innovative projects which included “the restoration of the facilitation of 1,700 mm rolling system and the application of new technologies in the system” and “the modification of the shortcomings in the rolling mill system and the development of new technologies in the system”, resulted in expected results: fulfillment of the designed capacity and economical profit. “The combined blowing of converters” enhanced the oxygen steelmaking technology getting into world level and was awarded the Science and Technology Prize. “The whole continuous casting technology” promoted the No.2 steelmaking plant realized 100% continuous casting productions (the first one in China). “The development of large-scale casting machine” led to the construction of the first slab casting machine in WISCO and was awarded the National Prize of Science and Technology. “The development of weathering-proof steel” and “the development of rare earth steel” facilitated the productions of rare earth steel in China and were awarded the Prizes of Science and Technology. Mr. Zhang integrated new technologies related to iron-making from eight counties and applied to the construction of new No.3 BF in WISCO and promoted the campaign life prolonged to 15.6 years without intermediate repair.

Entering the 21st century, Mr. Zhang made great progress in researching the prolongation of campaign life and intensification of blast furnace performance. The campaign lives of No.6, No.7 and No.8 blast furnace of WISCO were set the goal of 20–25 years. And the productivity of No.8 BF was set to 70 t/ m² health area per day.

On basis of iron-making experience Mr. Zhang edited *The Iron-making 40 Years in WISCO* and *Long Campaign Life of Blast Furnace in WISCO*. He contributed greatly to the construction of 3,200 m³ and 4,000 m³ blast furnaces, 450 m² sintering machines and Ezhou 5 million ton pellet plant project during the “Ninth Five-Year Plan” and “Tenth Five-Year Plan”. Mr. Zhang has involved greatly in the development and reformation of Chinese iron and steel industry as well as international academic activities and established a high reputation. He published more than 100 papers in Chinese and English.

In recent years, Mr. Zhang engaged in the “process control of blast furnaces and sustainable development of iron and steel industry”. He is now devoting to the construction of Fangcheng steel project which will be an advanced new generation steel complex in 21st century.