

Success Story

*Yokogawa Successfully Completes DCS Renovation
Project at Fourth Phase of Caustic Soda Plant in China*

SP Chemicals (Taixing) Co., Ltd.

Location: Taixing, Jiangsu Province, China
Order date: April 2015
Completion: October 2015
Industry: Chemical (Base Chemical)



新浦化学（泰兴）有限公司

Executive Summary

SP Chemicals (Taixing) Co., Ltd. is a wholly-owned subsidiary of the Singapore-based SP Chemicals Pte Ltd. Founded on December 30, 1995, the company has built and operates a chemical plant in the Taixing Economic Development Zone that has passed through several expansion phases, at a total cost of 710.52 million U.S. dollars. The facilities currently in operation at this plant annually produce 750,000 tons of caustic soda, 500,000 tons of vinyl chloride monomer (VCM), 320,000 tons of styrene monomer, 185,000 tons of nitrobenzene, and 130,000 tons of aniline and captive CHP. Also in Taixing, the company operates a light hydrocarbon plant (1.1 million tons per annum) and associated storage facilities with a total capacity of 400,000 cubic meters.

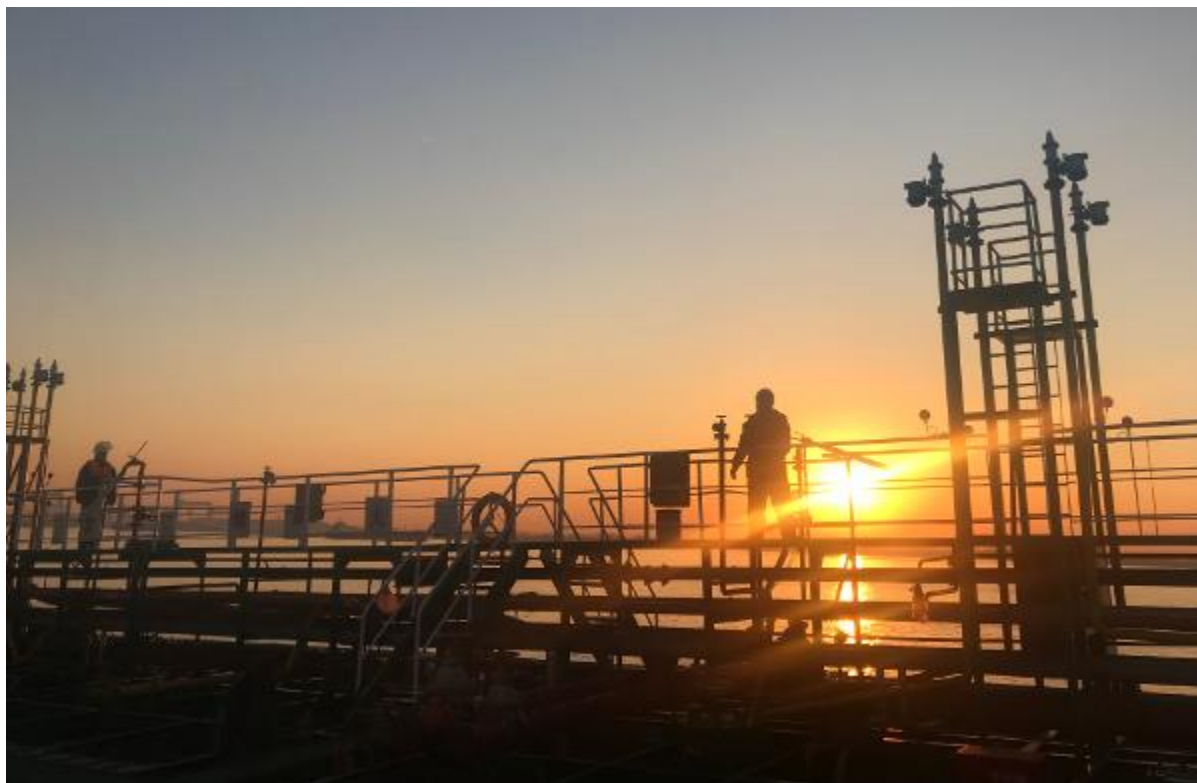
At its Taixing chemical plant, SP Chemicals uses a total of five separate Yokogawa distributed control systems (DCSs) as well as transmitters, flowmeters, pH meters, and chromatographs. In this project, Yokogawa China Co., Ltd. replaced the control system that controlled the ion exchange membrane electrolyzer unit for the production of fourth phase of caustic soda with the CENTUM VP distributed control system (DCS).

The Challenges and the Solutions

This project was undertaken to upgrade the caustic soda and aniline production facility that was built at the Taixing plant in 2006. That particular facility is capable of producing 150,000 tons per year of fourth phase of caustic soda and 45,000 tons per year of aniline. As the control system for the ion exchange membrane electrolyzer unit was outmoded and in need of replacement, the decision was made by SP Chemicals to replace it with the Yokogawa CENTUM VP DCS.

The caustic soda and aniline production equipment at this facility had a total of 1,800 I/O points. The challenge was to retrofit the original system hardware and software with the CENTUM VP DCS while retaining the use of the original cabling and cabinets. To ensure consistency between the original and replacement hardware and software and the overall integrity of the control functions, Yokogawa was asked to configure the new system based on information and data that it gleaned by analyzing the original system. And as the plant could only be shut down for just 10 days, the amount of time available for system installation and cutover was very limited. Moreover, factory acceptance testing of the new system had to be done with the hardware on special mounting plates, not in cabinets.





For this project, Yokogawa China formed a team of engineers, technicians, and salespeople. Using system upgrade tools that had been independently developed by Yokogawa, the team was able to efficiently gather information on the configuration of the original system hardware and software that was needed to ensure a quality result. Through a joint effort by personnel from Yokogawa and SP Chemicals and effective communication at all stages of this project, installation and cutover was completed in just five days. Startup of the new system went off without a hitch, and it has been operating smoothly ever since.

Customer Satisfaction

"We are grateful to Yokogawa for its effort in providing us an advanced control system that solved a number of problems," commented Zhang Xiangming, an instrument engineer in the maintenance division of SP Chemical (Taixing) Co., Ltd. "With its extraordinary performance and safe operation, CENTUM VP ensures stable and reliable control of production at our plant facilities, for improved overall efficiency. We look forward to working again with Yokogawa, which is such an excellent supplier."

For more Information and Contact

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