

Good Chemistry Behind a New Plastics Production Plant

The COVER STORY: PLANT SAFETY

By Nato Flores

Constructing any commercial facility can have its challenges. Building a chemical plant, with its inherent safety and environmental requirements, can be particularly formidable. The teams behind Huntsman, a global manufacturer and marketer of differentiated chemicals, and Tower General Contractors, the largest minority-owned construction firm in Los Angeles, can attest to that. Furthermore, they serve as a classic example of the success that can be achieved in this type of endeavor through a longstanding partnership.

The relationship between Huntsman and Tower is not incidental to the success of the project. Approximately 15 years ago, a predecessor company to the current Huntsman decided to update the administrative areas and to expand parts of its existing chemical plant in Los Angeles. It wanted a contractor who could navigate the complex building codes of LA and who had the know-how to build a multifaceted industrial compound. The two companies have been working together ever since. Today, Huntsman has 13,000 employees and operates from multiple locations worldwide.

The Current Project

Tower is in the final stages of constructing a design/build relocation of an existing Huntsman production line in Los Angeles. Tower's job was to design and construct the production facilities and install the production equipment. This involves all aspects including architecture as well as civil, structural, mechanical, electrical, process, environmental, and fire engineering disciplines.

Upon Huntsman's request for a proposal to relocate the production facilities to the Los Angeles facility, Tower assembled a design team to study the production process. The firm then created a flow diagram of the process and initial drawings, from which it developed a preliminary estimate and schedule. Based on the estimate (plus or minus 20 percent), Huntsman gave Tower a green light to proceed with the design. After the design was complete, Tower prepared a final construction estimate in line with the city of Los Angeles' corrected drawings. Based on that estimate and the schedule, Tower was given authorization to move forward with the construction.

Some of the equipment for the plant was relocated to the current site. As a result, coordination with Huntsman production schedules was important so that the company could meet all its delivery commitments to its customers.

The new production building will have a variety of distinctive features, including an

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explosion-proof electrical charging room and a roof designed to move up and down on rails to dissipate effects of potential explosions, since powders are used extensively in the production processes. Other aspects of the plant were designed with protection of the environment in mind. For example, dust and fume collection equipment is used extensively, as are under-floor containment chambers to protect against potential spills.

The 40,469-square-foot, \$20 million building, located on the border between the cities of Los Angeles and Glendale, approximately 10 miles north of downtown LA, represents the culmination of an eight-phase project for Huntsman. The project was conducted in multiple phases so as not to adversely affect the ongoing production at the plant. In both the design and construction phases of the project, Tower had to take into account these ongoing operations. There is probably not one area of the plant that is not affected by the project. Slated for completion at the end of the month, the plant has a footprint of approximately five acres of land.

The goal of the project is to expand the production capacity of the plant as well as to introduce product lines that were previously manufactured at other plants. From its new chemical production facility, Huntsman will manufacture epoxy, polyurethane, and methacrylate structural adhesives that will be shipped around the globe. These materials are used for bonding and assembly in the aerospace industry in a new generation of passenger jets including Boeing's new 787 Dreamliner as well as automotive, DVD, recreation, appliance, business equipment, OEM, electrical, electronic, and industrial applications. The facility will be operational 24 hours a day, five days a week, with 125 employees.

Safety and the Environment

"Our new plant will have outstanding environmental and safety features, which, in fact, exceed the LA code," explained Paul Hu, project manager of Huntsman. "This engineering accomplishment is made even more significant by Tower General's ability to move sensitive and complex equipment to LA and the company's unique capability to build a plant within the LA city limits that conforms and actually surpasses all codes and requirements."

Indeed, it speaks volumes for both companies that a chemical plant is being built in the city of Los Angeles, one of the most environmentally sensitive cities in the country, with the complete approval of the city and without protest.

According to Glenn Bauernschmidt, site manager of Huntsman Advanced Materials, "Our new Huntsman facility demonstrates what makes the firm's business relationship with Tower General such a productive one and serves as a model of how chemical companies can work with builders to the benefit of all."

Hu points out that one of the principles in Huntsman's corporate mission statement is to operate safe, clean, efficient facilities in an environmentally and socially responsible manner. Bauernschmidt adds: "Working with Tower, which has exhibited unique expertise in delivering complex construction services, including equipment installation, on major industrial facility construction projects, has

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enabled us to stay true to our mission. This has benefited both our businesses and, importantly, maintained the integrity in the area in which we are building." Nato Flores is president and CEO of Tower General Contractors, one of the leading construction firms in the LA area.ITH Clhuntsman_report?ITH Clhuntsman2?'Aspects of the plant are being designed with protection of the environment in mind'

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