Armed With Safety & Efficiency

?By Greg Carrino
The mission of the National Fire Protection Association (NFPA) is to reduce fire and other hazards by providing and advocating consensus codes and standards, research, training and education. The association provides the materials needed to assist companies in preventing fires by educating them on proper handling techniques of assorted chemicals. For the liquefied petroleum gas (LPG) industry, the NFPA 58: Liquefied Petroleum Gas Code was recently updated. NFPA 58 grants readers the basis for creating a safe work environment for the storage, handling and transportation of LPG.

Eastern Liquids LLC and Targa Midstream Services' large-scale LPG storage and distribution terminal was featured throughout the NFPA 58 as an example of how things should be done. According to Robert B. Nicholson III, president/CEO of Eastern Propane Corp. and Eastern Liquids LLC, "The [Sparta Junction] terminal was designed for the most safe, efficient and user-friendly handling and transfer of propane from railcar to storage, and then to transport truck and local delivery vehicles."

Based on a partnership in which Targa provides the sales, marketing and supply side of the equation, while Eastern Liquids manages the operations, the Sparta Junction terminal serves as a wholesale product distribution point for propane distribution companies. This portion of the terminal involves eight railcar unloading stations, four transport loading stations, one transport unloading station, four bobtail loading stations and one truck scale—with room for expansion. This facility incorporates 240,000 gallons of overall storage capacity with four 60,000-gallon storage tanks, and can accommodate up to 60 railcars on side-track storage.

Nicholson worked with engineer Jerry Stocker, president of Thomas Associates, to plan the facility; the team tried to think out-of-the-box. "We wanted to be recognized as an industry-leading state-of-the-art facility when it came to safety and efficiency. Our volumes continue to increase because the word is getting out that transports can come and get loaded quicker, and be processed more efficiently than any other rail terminals in the region," Nicholson explains.

The word is certainly spreading as anticipated. The terminal's volume for 2008 is expected to reach 15.2 million gallons supplied by Targa via 508 railcars. That volume is expected to continue to grow, and the company anticipates it may level off with the current infrastructure at 25 million gallons.

"We went to several terminals to see what they were using and interviewed terminal managers, along with all the key people who operated each facility, in order to make the most informed decision on all of our equipment needs. We really did some grassroots research on this—you need to do more than just Google," claims Peter Gilman, Sparta Junction general manager. "I think the most important

thing we did was to get the opinions of the guys that operate the equipment on a day-to-day basis. That's what really counts."

One of the key areas of Sparta Junction is the railcar unloading area. Unloading railcars, no matter what product is being unloaded, can be a difficult and high-risk job. The loading arms at the Eastern facility were chosen for many reasons, but safety, ease of use and durability were among the top factors considered. "We built this terminal with the volume of 30 million gallons in mind. To do that, we needed the best of everything. The best tanks, the best catwalks, the best loading arms …" says Gilman. "When we traveled around to see what some of the best terminals in the country were using, OPW loading arms kept coming up on the radar screen. That's why we went in that direction."

At the heart of the loading system are OPW A-frame loading arms. The A-frame is ideal for unloading LPG due to its flexibility, long reach and ease of use. "It's very important that it's easy to pull and maneuver the loading arms," explains Gilman. "The underlying theme at this facility was to make it safe, and when we looked at using this particular loading arm, that was a major consideration—to be easy to pull it across the railcar and down to the manway."

Eastern Liquids unloads the railcars from the top of each car. An elevated metal catwalk divides the two sets of four railcars with moveable metal gangways, which allow access to each car. All OPW loading arms must be able to extend from the rack to the top of the railcar, allowing each operator to safely access the manway.

Eastern Liquids' plant manager Larry Woodburn continues to reinforce safely unloading railcars at the facility: "The OPW loading arms are a great back-saver. They are easy to operate and maneuver vs. the old style we used, because you had to drag the heavy hose across the top of the railcar. OPW loading arms also improve the overall safety of unloading an LPG railcar. For example, in the winter these railcars get snow and ice on them, and when you're lugging around the hose, you run the risk of a slip hazard. With OPW loading arms, you don't."

Each loading arm is supported by OPW's new Endura™ dual-split flange (DSF) swivels, which are designed to combine high load-bearing capability, redundant sealing and leak detection with easy maintenance. The DSF also offers replaceable dual- and single-race bearing modules, and the option to provide an inert gas purge. The Endura™ can handle the weight inherent in the LPG unloading process, thanks to its user-friendly counterbalance technology.

Eastern intends to construct a new office and materials-handling training center at Sparta Junction to offer training on the proper handling and transfer of propane, as well as other bulk materials," notes Nicholson. "The training center will benefit the industry by offering a virtual classroom with hands-on training at the same location." If and when Eastern Liquids and Targa continue to expand their reach into the northeastern U.S., it is certain that safety and proper planning would go into every step. They may even go by the book—NFPA 58.
n??More information is available by contacting OPW Engineered Systems, Lebanon, OH, or sales and marketing director Greg Carrino at 513.696.1500 or gcarrino@opw-

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