



# SAFE TRANSFER

*Robert B. Nicholson III, President/CEO (left), and Peter Gilman, General Manager, with Eastern Liquids, LLC stand between railcars being unloaded via OPW loading arms at the company's LPG terminal.*

By Greg Carrino

## Eastern Liquids, Targa Midstream Services and OPW Engineered Systems create safe, efficient and ergonomically appealing transfer of propane

The mission of the National Fire Protection Association (NFPA) is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus codes and standards, research, training and education. To meet this goal, the association provides certain materials needed for various industries to assist companies in preventing fires by educating them on proper handling techniques of assorted chemicals. The various codes and standards published by the NFPA number in the hundreds and range in topics from the "Standard for Portable Fire Extinguishers" to the "Code for Model Rocketry."

For the liquefied petroleum gas (LPG) industry, *NFPA 58: Liquefied Petroleum Gas Code, 2008 Edition* was recently updated and published, and is considered by many to be the "Bible" of the industry. NFPA 58 provides readers with the basis for creating a safe work environment for the storage, handling and transportation of LPG.

So, imagine how delighted a company would be if its large-scale LPG storage and distribution terminal were featured multiple times throughout the NFPA 58 edition as an example of how things should be done. As readers flip through the codebook, they will notice a well-designed, state-of-the-art terminal facility featured on many pages. That facility is the Sparta, NJ-based Eastern Liquids, LLC and Targa Midstream Services, LP terminal.

“This expansion at the Sparta Junction location opened in December of 2005 and was built with safety as the No. 1 priority,” said Robert B. Nicholson III, President/CEO of Eastern Propane Corporation and Eastern Liquids, LLC. “To be included in NFPA 58 is truly an honor and not something we take lightly. The 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 (bobtails).”

## Lay of the Land



*Standing on top of the railcars, you get a good feel for the well-planned layout of the Sparta Junction LPG terminal. (Above) Bobtail and transport loading areas were constructed on opposite ends of the main storage tanks, which include four 60,000-gallon storage tanks. (Right) Trucks are weighed as they enter and leave the LPG terminal through the main entrance.*



Based on a partnership where 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 regional and national propane distribution companies. End-users of the propane are northeastern United States residences and businesses that use the product predominantly for winter season heating, as well as water heating, cooking, laundry drying, lighting and the growing engine-fuel market. Housed on roughly 40 acres (20 developed acres), this portion of the Sparta Junction terminal incorporates eight railcar unloading stations, four transport loading stations, one transport unloading station, four bobtail

loading stations and one truck scale with plenty of room for expansion. This facility at the terminal has 240,000 gallons of overall storage capacity featuring four 60,000-gallon storage tanks, and has the ability to accommodate up to 60 railcars on side-track storage. In addition to the existing features, the terminal is poised for future growth and, of course, focused on continuing safety through education.

During the planning stages, Nicholson worked with engineer Jerry Stocker, President of Thomas Associates in Lebanon, NJ, who has designed and enhanced many of Eastern’s other LPG facilities. The team tried to think out-of-the-box on the Sparta Junction facility in regards to its approach to safety and efficiency.

“We wanted to be recognized as the industry’s leading, state-of-the-art facility when it came to safety and

efficiency. We currently have three winters under our belt operating at this facility and our volumes continue to increase because the word is getting out there that transports can come and get loaded quicker and be processed more

efficiently than any other rail terminals in the region,” said Nicholson.

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 will level off with the current infrastructure at 25 million gallons.

## Equipping Sparta Junction

Since safety is the top priority at Sparta Junction, the company took the hands-on approach when it designed the facility and selected the equipment used throughout

the terminal. After all, the equipment is used every day, many times a day and Eastern wanted to make sure that everything would run smoothly from day one and for many years to come.

“We went to several terminals to see what they were using and interviewed terminal managers, along with all the key people that 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,” said Peter Gilman, General Manager at Sparta Junction. “You need to go out to other facilities and see what works and what makes sense. 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 the Sparta Junction terminal 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, however



Larry Woodburn, Peter Gilman, Robert B. Nicholson III and Chris Bilancia stand on one of the LPG railcars at the Sparta Junction terminal. The OPW loading arms the company installed in 2006 have performed perfectly since day one.

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*Peter Gilman, General Manager, Eastern Liquids, LLC*

safety, ease-of-use and durability were among the top factors considered when the company looked at the various possibilities.

“The loading arms that Eastern originally had were some of the best available at that time. But we wanted to build this terminal as one of the most state-of-the-art facilities. 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, and that is why we chose OPW loading arms,” said 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 used at the Sparta facility you will find “A” Frame Loading Arms (LPG-32-F) designed and manufactured by Lebanon, OH-based OPW Engineered Systems. One of the most popular loading-arm configurations, OPW’s “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



Larry Woodburn, Plant Manager, and Chris Bilancia, Operations Specialist, use the OPW loading arms every day to unload LPG from railcars from Targa Midstream Services, LP. They appreciate the ease-of-use and added safety the “A” frame loading arms provide.

arms. It makes all the difference in the world and, again, that speaks to safety,” explained 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 allowing 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.

Larry Woodburn, Eastern Liquids’ Plant Manager, continued to reinforce the focus on safely unloading railcars at the facility.

“I use the OPW loading arms each and every day,” he said. “The OPW loading arms are a great back-saver. They are very easy to operate and maneuver versus the old style we used where you have to drag the heavy hose across the top of the railcar. The OPW loading arms certainly 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 old hose style, you can run the risk of a slip hazard. With the OPW loading arms, you don’t have that,” said Woodburn.

Each loading arm is supported by OPW’s new Endura™ Dual Split Flange (DSF) swivels, the only swivels available that combine the features of high load-bearing capability, redundant sealing and leak detection with easy maintenance. The Endura™ DSF swivels also feature replaceable dual- and single-race bearing modules, and the option to provide an inert gas purge. The Endura™ is specifically engineered to handle the weight inherent in the LPG unloading process like that at the Sparta Junction facility.

“The swivels have performed perfectly. We grease them about every four months and they do just fine,” said Woodburn. “The swivels hold a lot of weight but operate as smooth as the day they were installed.”

## Future Plans

“As we are currently celebrating our 70th year in the propane industry, Eastern is in the property site development and building design stage to construct a new office and regional materials handling training center at Sparta Junction that will train on the proper handling and transfer of propane, as well as other bulk materials that are handled at the rail terminal, such as bulk-liquid and solid-food-grade products,” noted Nicholson. “The industry benefit of the training center will offer state-of-the-art virtual classroom training with hands-on training at the same location.”

If and when Targa and Eastern Liquids continue to expand their reach into the Northeastern U.S., it is a certainty that safety and proper planning will go into every step. In fact, they might even go by the book—NFPA 58.

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For more information on the propane Loading Arm systems, Endura™ Dual Split Flange Swivels, or other products from OPW Engineered Systems, Lebanon, OH, please contact Greg Carrino, Director of Sales & Marketing, at [gcarrino@opw-es.com](mailto:gcarrino@opw-es.com) or (513) 696-1500.