

Preserving Natural Resources Is Good Business for Weldship Corporation

A CryoGas International Business Profile



Photo credit: Weldship Corporation

Weldship Corporation (www.weldship.com) recently completed a major solar panel installation at the company's Bethlehem, PA headquarters in an effort to go green. By channeling energy from the sun, Weldship plans to decrease its dependency on traditional non-renewable power sources. Creating electricity with solar cells, or photovoltaics, is a process that Weldship knows well through its years of involvement in the shipment of electronic gases to photovoltaic manufacturers. Weldship makes a complete line of compressed gas tube trailers and ISO (International Organization for Standardization) containers that are used to transport many of the electronic grade gases used in the photovoltaic cell manufacturing process.

The solar process begins when thermonuclear explosions within the sun generate a great amount of energy that fuses atoms of hydrogen into helium. Energy is emitted during the reaction, which the sun releases as radiation. Traveling at the speed of light, this radiation can be absorbed by solar panels and reapplied as an energy source. With the sun producing massive amounts of energy, Weldship looks to harvest this abundant resource and help preserve the environment by reducing its use of fossil fuels.

Weldship's million-dollar clean energy project consists of the installation of 831 solar panels on its Bethlehem, PA facility. The panels cover 15,000 square feet of roof and create

a 191-kilowatt infrastructure. Excess power gained from the solar panels will be yielded and supplied back to the grid via Pennsylvania Power and Light. The project, which began in November 2009, is now complete.

According to Weldship President Bob Arcieri, "We are proud to participate in this important project, which will decrease our reliance on non-renewable energy sources and dependence on foreign oil while reducing our cost of operations."

Growing with Its Markets

Weldship Corporation, as we know it today, began in 1971 when founder John Evans purchased the tube trailer maintenance facilities of Air Reduction Company in Hellertown, PA. That facility manufactured, hydro tested, and serviced an expanding fleet of conventional tube trailers. In 1980 a second plant in Bethlehem, PA was acquired to manufacture jumbo tube trailers, a function it continues to perform today.

Bob Arcieri and Bill Angus acquired Weldship Corporation in 1990. "Before we bought the business, we surveyed the industry to see what the future might hold for us," says Arcieri, company President, "and the feedback was not all positive. Some thought the tube trailer was a dinosaur, destined to become extinct by newer technologies. We thought differently, and we're glad we did.

We are very fortunate that our business has experienced significant growth consistently for the past twenty years."

In the 1990s Weldship began to expand to serve growing markets. In 1998 Weldship's Bethlehem plant was renovated and expanded to become a state-of-the-art facility with capabilities for acoustic emission, ultrasonic and hydrostatic testing, painting, and maintenance. The facility has served as a model for Weldship's further expansion. The capacity and geographic location of the plant allows Weldship to deliver quality and convenient service to the company's extensive lease fleet, as well as to that of its customers in the industrial gas and chemical industries.

Weldship acquired Texas Trailer Corporation (TTC) (www.texatrailer.com) of Gainesville, TX in 1999. This represented a first component of Weldship's expansion plan. TTC manufactures and refurbishes CO₂ semi-trailers and DOT 51-IMO intermodal containers, as well as retesting and assembling tube trailers and ISO equipment, serving both the domestic and international marketplace. Through its association with Weldship, TTC incorporates testing and refurbishing of high-pressure tube trailers and assemblies in its existing high quality product line.

Since 1990 when Arcieri and Angus acquired Weldship, they have seen the company grow in four different areas within the



An ISO container, manufactured to hold an electronic grade gas, is being lowered onto a truck to be shipped overseas.



A Weldship employee demonstrates the art of orbital welding at their facility in Bethlehem, PA.

industry. In the early 1990s, Weldship experienced the expansion of domestic tube trailer sales and leasing, primarily for the hydrogen and helium markets. Between 1995 and 2000, the domestic sales of hydrogen and helium increased as did the popularity of other specialty gas tube trailers. Also during this time period, Weldship experienced growth in its international business and began to see a significant increase in demand overseas for ISO containers in which to ship hydrogen, helium, and other specialty gases. With its expansion into the electronic grade gas market on a global basis, Weldship assumed responsibilities for the standardization of its equipment to meet and exceed international specifications and regulatory transportation codes.

The most recent growth trend in international markets was fueled by the high demand for electronic, chemical, and specialty gases that began around 2001 and continues to this day. Over the past ten years increased demand for computers, cell phones, flat screen technology, and most recently, solar cells, has created a manufacturing boom in the electronics industry. The manufacture of these products requires electronic grade gases. With many manufacturing plants and product sources located overseas, demand for ISO containers, or MEGC's (Multiple Element Gas Containers), in which to ship these gases has increased.

Weldship continues to plan and assess the need for other locations globally in response to both market growth and the company's own expansion plans, which include improved customer service through convenient proximity in both the national and international markets.

High Expectations

Orbital welding is one of the high-tech procedures that Weldship specializes in. It is a particular form of welding that uses a machine to arc the metal being fused together at a 360-degree angle. This type of welding is critical in the fabricating of the high purity manifolds that are designed to be used in filling and discharging tubes of high purity electronic gas.

"The electronic gas market has very high expectations," says Bill Angus, Vice President of Operations. "ISO container frames have to be built to withstand the rigors of international shipping. Manifolds require orbital welding and x-raying to prevent leaks and ensure clean welds. Vessel interiors are conditioned to remove particulates and dew point levels are

drawn down to 1ppm. Codes and regulations are constantly changing, as is the need to keep licensing agreements with the many countries to which we ship our containers. Our quality system is constantly audited so our procedures must be consistently on target." (See "Weldship Receives License Renewal," *CGI, August/September 2010, p. 16.*)

Qualifying High-Pressure Tubes

Weldship's in-house engineering and manufacturing professionals design, manufacture, and test containers to qualify them to transport high-pressure tubes containing compressed gases, liquefied gases, and chemicals. The team responds to customers' needs by producing the highest quality, most cost-effective, and safe containers available in the industry. Attending surveyors from the American Bureau of Shipping (ABS) monitor the production process, including the testing and certifying of each finished container. Weldship's engineering division will design certified ISO containers for any size project or for any product, and can provide this type of storage for all gases, liquefied gases, and chemicals.

The equipment used in the electronic gas segment requires the same periodic retest and inspections that apply to industrial gases. Weldship provides acoustic emission and ultrasonic testing to re-qualify containers, making sure the internal condition of the vessels are not compromised, or contaminated. ISO containers are designed and manufactured in a way that allows the tubes to be tested in place. This makes it possible for containers to be examined at the customer's location, which eliminates shipping and transportation costs.

Weldship also holds a special permit from the Department of Transportation (DOT) that grants a ten-year retest period instead of the standard five-year retest period, which has been in effect for gases transported by tubes. (See "Weldship Gets Special Permit for 10-Year Tube Retesting," *CGI, April 2009, p. 6.*)

Other Green Initiatives

"Supplying trailers, ISO containers, and ton tanks for the gases used in processes that make photovoltaic equipment is not the only way that Weldship participates in sustaining a green planet," says Jim Cielinski, General Sales Manager. "Weldship also manufactures trailers and ground storage modules for the transportation and transfer of compressed natural gas, which is used as an alternative fuel for trucks, buses, and automobiles. We

have also manufactured hydrogen fueling stations for the modern day automobile." Hoping to reduce the amount of pollution from the fumes emitted from traditional gasoline, Weldship is proud to support the effort to go green with new hydrogen station solutions. (See "Weldship Plays Role in Developing the Hydrogen Economy," *CGI, July 2006, p. 42.*)

Staying Ahead of the Curve

Being a supplier to a constantly advancing industry, Weldship needs to stay ahead of the curve and be prepared for any and all changes. "We may see a surge of business with a particular gas one year, and the following year see a completely different gas product taking the front seat," Cielinski reports. "Trends come and go and we always need to be prepared for whatever demand may be."

Delivering industrial gases and chemicals takes planning, attention to detail, and careful handling. For example, in order to adhere to rules and regulations, Weldship must comply with mandatory valve, safety, and weight requirements for each custom trailer. Weldship ensures their customer's journey will be a smooth one from start to finish. The company's ability to adapt to the rapid technological changes in the industry has earned Weldship the reputation as a world leader in the manufacturing and testing of tube trailers and gas storage systems.

With Weldship, the customer gets the solutions they need, whether for a single trailer, a storage facility, or an entire fleet, and equipment is available for sale or lease to fit customers' needs. By focusing on being the best in the business as well as a constant innovator within the industry, Weldship is working to preserve our natural resources in the process, and is truly a company for all continents, all products, and all environments. ■



Acoustic emission testing in progress at Weldship's facility in Bethlehem, PA.