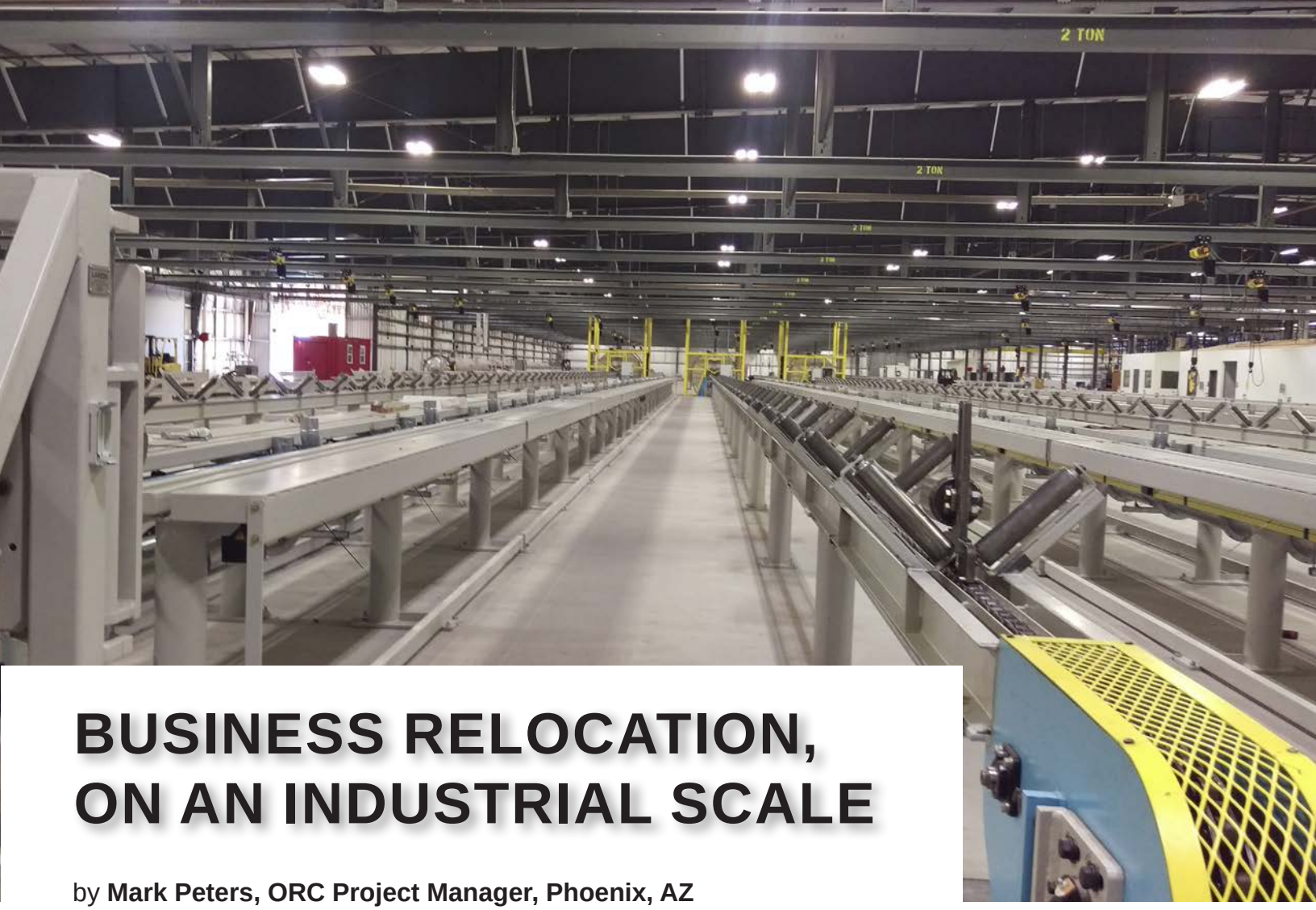


BUSINESS RELOCATION, ON AN INDUSTRIAL SCALE

by **Mark Peters, ORC Project Manager, Phoenix, AZ**

Have you ever attended an initial walk-through for a business relocation and felt like you were watching an episode of *How It's Made*? Well, typically, when you begin the relocation process of a manufacturing facility of any scale, this metaphor is reality. That is, you must first understand what the product is and how it is made before you can successfully begin the relocation process.

This situation could not have been truer than the recent relocation completed as part of ADOT's South Mountain Freeway Project handled by ORC's Phoenix Office led by Jana Barrett as Project Manager. The project required a total relocation of the facility, under—you guessed it—a very aggressive timeline. As part of a federal-aid project, the business was eligible for reimbursement of certain business relocation expenses under the Uniform Act.

The displaced business manufactures high pressure hoses used in the oil industry. Many of the hoses manufactured are destined for off-shore drilling rigs, with some being tested as high as 22,500 PSI before leaving the facility. If you have seen the movie about the Deepwater Horizon, you know that drilling for oil involves huge amounts of pressure.

So, how do they make those hoses? Well, it is a complicated and fascinating process worthy of its own *How It's Made* episode. However, this article will focus on the relocation process and its challenges and solutions.

During the initial walk-through, it was apparent that not only was the business operation specialized, but so was most of equipment used in the production process. The other observation was that the equipment appeared older and had been modified and retrofitted over the years. While the equipment was grandfathered in at its current location, relocating this equipment to a replacement site would require significant code and safety upgrades to meet current standards. The walk-through also illuminated the sheer size of some of the equipment, with length, height, and weight all presenting moving challenges. Originally, the larger equipment was either transported and delivered to the displacement site well before the existence of current U.S. DOT regulations, and/or was fabricated on-site. Cutting the larger equipment into smaller pieces to be reconstructed at the replacement site, as well as obtaining oversized transportation permits, initially seemed an ideal strategy for moving the larger equipment.

The first step in the relocation process was to bring inspectors to evaluate all 178 pieces of equipment to determine any compliance issues with NFPA 79 Electrical Standards, UL 1995 Safety Standards, and all other applicable standards. While the inspection report findings varied among equipment, most of the equipment revealed significant non-compliance issues that would have to be corrected before recommissioning at the replacement site. The cost estimates to correct the identified deficiencies in most cases exceeded the purchase price of new replacement equipment. Consequently, a considerable amount of the existing equipment was determined to be eligible for replacement through §24.301(g)(16) – Purchase of Substitute Personal Property.

Another challenge this relocation posed involved a requirement by the American Petroleum Institute (API). The Displacee's manufacturing line must be certified by the API before any product can leave the facility. This means that the replacement facility needed to be fully operational to receive the

The displaced business manufactures high pressure hoses, many of which are used on off shore oil drilling platforms like the one shown here.

API certification. What's more, the API does not allow for simultaneous operations at two separate locations under a single certification, and obtaining a second certification for the replacement site was not an option. The Displacee is considered a small supplier in the drilling hose industry and they differentiate themselves through their ability to produce and ship a hose within 48 hours. Most larger hose manufacturers do not offer this level of customer service, and when an oil rig is shut down because of a failed hose, the downtime cost is tremendous.

Thus, through their quick manufacturing turnaround time, the Displacee established a lucrative niche market and feared that the downtime which would be experienced as part of the relocation process would disrupt their ability to serve this market. The Displacee's concern was that any amount of downtime would result in a loss of orders, and ultimately long-term customers, as they would have to find alternative suppliers and would not likely return to the Displacee in the future. To address this concern, a relocation scenario to reduce risk of losing business was devised: Upon turning

lights off at the displacement site, the replacement site had to be fully ready and operational for the API certification to be transferred.

The tedious process of relocating the business began. It was soon determined that, given the requirements set forth by the API certification process combined with the level of modifications required by the existing equipment, nearly 95% of all the equipment required replacement through the purchase of substitute personal property. While purchasing new equipment simplified the relocation process by removing the need to update and move existing equipment, the special nature of the replacement equipment required most of it to be designed and built from scratch. The customized construction of the replacement equipment threatened to interfere with the relocation's tight timeliness as the lead time for design and delivery of some of the more sophisticated and vital equipment was 48-50 weeks, with an additional 2-4 weeks for commissioning and troubleshooting. This meant that for the mandatory vacate date to be met there could be no delays to the projected lead times and commissioning of the replacement equipment. This scenario required continuous monitoring of the progress on each piece of equipment along with proactive measures as needed to prevent any delays from occurring.

The Displacee opted to build a replacement site from the ground up due to the low inventory of available industrial property in the Phoenix market combined with the replacement building's specialized needs. This option allowed for efficiencies in the design and integration of the various connections required by the machinery, i.e. electric, gas, water, steam, compressed air, etc. in the overall design and construction process. However, this option did present a major challenge regarding the segregation of cost directly related to the eligible equipment hookups versus the general construction cost of the building, as vendors typically combine all costs or provide limited detail on project cost breakdown. This situation applied to the charges from the various professional service providers that prepared the

MANUFACTURING FACILITY RELOCATION OVERVIEW

Business Overview

- Business Type: Manufacturing facility (high pressure hoses for oil and gas industry)
- Large facility that included specialty equipment, most of which was large in size
  - A lot of this equipment was old, and had been modified over the years
- Inspection found that some of the equipment was non-compliant, and would need to be corrected before recommissioning at replacement site

Displacee's Concerns

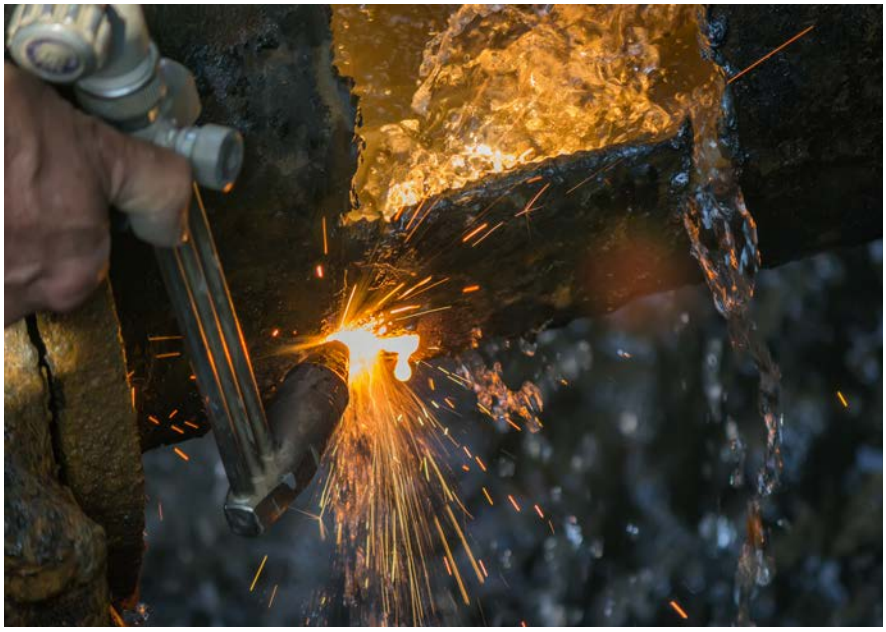
- Feared any downtime may disrupt their ability to serve their clients
- Displacee's new location had to be fully operational to be certified by the American Petroleum Institute
- A search of available replacement sites revealed a low inventory of suitable locations
- Displacee raised concerns over the amount of money needed to reestablish at the new site

Summary of Relocation

- Business opted to build a new replacement site due to lack of suitable industrial property
- Replaced most equipment with substitute personal property; this brought the old equipment up to code
- An expedited claim process was set up to quickly reimburse the business for out of pocket expenses

The displaced business had several pieces of old equipment that had been modified over the years.

equipment layout and specifications (i.e., engineers and architects), as well as to the various trades up to and including the GC for the project. Securing the information needed to determine the eligible relocation costs involved persistent emails and phone calls to the various vendors along with copious amounts of pleading for their cooperation and patience with these seemingly extraneous requests.



An Oxyhydrogen Torch - one of the many pieces of unique equipment used by the displaced business

The sheer size and complexity of this relocation along with the aggressive timeline meant that the Displacee would need to outlay large sums of money quickly on the replacement site. The Displacee raised concerns that anticipated cash flow to keep the project moving at the accelerated pace would be a challenge. To help alleviate this situation an expedited claim process was established so that reimbursement checks could be generated in days instead of the typical timeframe of a couple weeks. Additionally, direct payment arrangements were made with many of the vendors as the expedited processing allowed checks to be delivered that met their strict payment terms. ADOT's commitment and responsiveness with the expedited process helped to overcome this challenge.

Fast forward two (2) years, and ultimately what you have is a brand-new facility with the latest technology and a greatly improved work–safety environment. The before and after photos are a testament to the level of effort involved on this relocation and a demonstration of just what can be accomplished when a displacee and agency work closely together to facilitate a win-win conclusion to an extremely difficult situation. And, to boot, the relocation was concluded within the project's timeline. As you can see, above all, the successful relocation of any business, whether large or small, first requires a thorough understanding of *How It Works*.

As a sidebar to this article: A keenly interesting aspect of these complex relocations stems from the equipment that the relocation agent must familiarize him/herself with during the process. For instance, this relocation presented some rather ominous-looking machinery, with names reminiscent of a medieval torture device, such as the Vulcanizer, the Sprialator, and the Ergoflex. However, when described by the Displacee, one piece of equipment seemed to have morphed straight from a science fiction novel—the Water Torch. As its name implies, the Water Torch generates a high-temperature flame capable of cutting or welding metals, with distilled water and electricity serving as the only "fuel" to produce the flame.

The Water Torch, or to use its more technical term, Oxyhydrogen Torch, produces a very high-temperature flame through the process of water electrolysis. An electric current is used to dissociate the water molecules from H2O to H2 and O2. The molecules are then mixed to create Oxyhydrogen, a highly flammable gas that, when burned, produces a byproduct that converts back to H2O. Even more amazing than this ingenious process is that this technology has been around since the 1800's. Now, this sounds more like an episode of *Bill Nye the Science Guy*! And that is it for this episode of *How It's Made*. ■