

A helping hand

COUPLINGS Effective implementation of terminal and truck loading equipment can support the cause of environmental protection. *Dave Morrow** looks at how choosing the most appropriate and effective equipment can make the difference

Since the 1960s, 'environmental protection' has been a catch phrase used by individuals or groups that look to minimise the adverse effects that human activity can have on the environment. This commitment to protecting the environment has led to the creation of myriad local, state and federal regulations that restrict the types, and amounts, of hazardous materials that can be introduced into the atmosphere, the soil or the water supply, or inadvertently ingested by humans.

Hand-in-hand with the legislation that has been produced by governmental entities, environmental protection is also the responsibility of all people, who must take great pains to eliminate activities that can harm the environment, such as littering or introducing hazardous household items into the water supply.

While protecting the environment - and optimising the health and safety of the planet's residents - is an admirable goal, the simple fact remains that any number of industries rely on hazardous materials to manufacture goods or supply services that all of us use or take advantage of in our everyday lives. Many of these hazardous materials, from the natural gas that heats our homes to the gasoline that powers our vehicles, are also in constant motion, moving from the oilfield to the refinery to the bulk plant to the service station to the end-user's house or automobile.

Keeping these types of substances from infecting the environment is one of the main concerns for those companies that produce, transport, store and handle them. With responsible business practices, as well as increased regulatory and environmental regulations, mandating that the connections for the transfer of hazardous fluids be able to safely prevent dangerous product spills and the release of fugitive emissions and volatile organic compounds (VOCs) into the atmosphere, there is a need for handling equipment that can prevent environmentally damaging spills or leaks from occurring.

Challenge the industry

Keeping hazardous fluids and materials contained is oftentimes easier said than done. Speaking specifically of the handling and transfer of such fuels as LPG or gasoline, there are any number of points in the supply chain where things can go wrong. One constant concern is that a pull-away will occur during a loading or



Proper equipment can guard against the worst outcomes of simple mistakes

unloading operation.

When a pull-away - which takes place when a truck, railcar, barge or ship leaves a docking site before the transfer hoses are disconnected from it - occurs, the consequences for the facility itself, plant personnel and the environment can be catastrophic. In fact, the BEST result that can be expected when a pull-away incident occurs is damage to or destruction of the transport, piping, support structures and access equipment. While that sounds bad, it pales in comparison to the WORST things that can happen: a severe environmental release, fire and personal injury, up to and including death.

The adverse effects associated with a pull-away

incident are not only immediate, but can be far-reaching, not to mention the cleanup costs that can be incurred. In addition to actual litigation or cleanup costs, another consideration is the bad publicity and subsequent harm to the facility's reputation that can result from a high-profile environmental or personal-injury incident.

The overriding challenge, then, for the producers, handlers and transporters of hazardous materials is to do the best they can to eliminate or minimise risks in their operations. The only way to do this is identify the best companies and systems, ones that can deliver the most effective and reliable performance in hazardous materials handling operations.

Offering a solution

OPW Engineered Systems, based in Lebanon, Ohio, and a division of the OPW Fluid Transfer Group, has made a commitment to being a leading manufacturer of systems for the safe and efficient loading and unloading of hazardous materials, whether by tank truck, railcar, barge or ship, or with loading arms or hoses.

One of OPW's latest innovations is the NTS-PU Series safety breakaway coupling, which has been designed to protect loading facilities by safely and reliably preventing product spills when a pull-away incident occurs. Should the transport vessel pull away from a loading/unloading site while the hose is still attached, separation will occur courtesy of a simple straight or angular pulling force on the hose line.

The NTS-PU coupling achieves this through its design: it consists of two halves, male and female, each equipped with spring-loaded non-return valves that are held together by spring-loaded cams for rapid hookup. When a pre-determined pulling force is reached, separation will occur. Upon separation, both spring-loaded valves - which are open during product transfer - will close, preventing any product spill or leakage from occurring while simultaneously protecting the environment, the loading station and any site personnel that may be in the vicinity.

Since OPW has designed the NTS-PU

coupling without shear pins, no destruction or damage will occur to the coupling during separation. This also means that after depressurising and emptying the hose, the coupling can be easily reassembled without the need of any special tools or spare parts. This simple operation also means that it is very easy for the operator to test and verify that the system is operating properly.

The NTS-PU Series safety breakaway couplings are available in four sizes from 1" to 4", with 316 stainless steel and anodised aluminum as the standard materials of construction, though others are available upon request, and seals available in fluorocarbon, EPDM and Chemraz®. The stainless steel NTS-PU couplings have a pressure rating of 360 psi for all sizes, with aluminum couplings rated at 232 psi.

OPW also offers the NTS-SZ Series safety breakaway coupling. The NTS-SZ model features cable-release operation that is designed to protect against unintended pull-aways. When a pull-away occurs, the tensile force travels along the cable, leaving the hose or loading arm tension-free at all times. When the pre-determined pull force is reached, the coupling's spring-loaded valves shut both ends, enabling separation to occur.

Both the NTS-PU and NTS-SZ Series safety

breakaway couplings are engineered to meet OPW's field-proven 'Safer. Cleaner. Faster' standards:

- **Safer** – Reliably prevents damage, spills and injury during pull-away incidents
- **Cleaner** – Spring-energised valves provide maximum protection with minimum product loss
- **Faster** – Quickly re-connects to minimise system downtime.

As mentioned, helping to protect the environment is a responsibility that no one should ignore. That responsibility should be at the top of the agenda for anyone involved in an industry that manufactures, handles, uses or transports hazardous fluids or other materials. Properly containing these substances and taking all measures necessary to prevent their entry into the environment will help ensure that no unfortunate accidents occur.

To aid in this cause, OPW Engineered Systems, for more than 25 years, has been setting the pace in engineering, developing and manufacturing equipment and systems that are up to the task of hazardous materials containment.

**Dave Morrow is a product manager for OPW Engineered Systems; he can be reached at (+1 513) 305 2059 or dmorrow@opw-es.com.*

www.opw-es.com