

Dow Corning Corporation
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Two Improvements Help Chemical Transportation and Handling

“The main purpose of the [Responsible Care®](#) Distribution Code is to be committed to making sure products are transported safely,” says Wayne Winslow, senior environmental specialist. “We’ve recently incorporated two significant improvements to minimize the potential of an accidental environmental release during loading, unloading, or transportation.”

Automatic shut-off hose. The U.S. Department of Transportation developed a regulation requiring trucks that transport liquefied compressed gases to have an automatic shut-off capability. That means that the flow of product must automatically stop within 20 seconds – without human intervention – when there is a complete separation of the liquid delivery hose. Dow Corning needed an “intelligent” hose to use when loading and unloading tanker trailers carrying products such as liquid anhydrous hydrogen chloride (HCl), methyl chloride, trimethylsilane, and propylene waste.

“We learned about the Smart-Hose* technology through our involvement with the Chlorine Institute,” says Brian Klouse, operations leader, tri-chlor supply chain. After six months of testing this “smart” hose, Dow Corning has implemented its use at the Midland site, with expectations of including Carrollton, Kentucky, and Hemlock Semiconductor Corporation (HSC) in the future.

Tanker trailer improvements. “Dow Corning has always pursued the use of technology that improves safety and minimizes risk in transporting hazardous chemicals over public roadways,” says Jerry Kaczynski, senior engineering specialist. “When we learned that there were new

valves available that would provide greater protection, a plan was developed to modify all of the tanker trailers that transport anhydrous HCl.”

The pneumatic valves are always in a closed position during transport – instead of traditionally relying on the closure of excess-flow valves to stop the flow during an incident. There is also less exposed piping on the bottom of the trailers, reducing potential damage in the event of an accident. The new pneumatic valves also allow the implementation of remote-shutdown technology during loading and unloading.

“Operators in a control room are able to push a button to shut down the chemical’s flow if necessary,” says Kaczynski. “In the past, if a hose would fracture, it would have taken a lot of time to isolate the tanker. For example, personnel would have had to suit up in the appropriate safety gear and place portable hardware over the leaks or close manual valves. The new valves are located directly on the tank and can be shut down with the touch of a button.”

“Operators provided feedback on the initial operations,” says Klouse. “Since startup, all of the comments received have been positive.”

“These modifications also allow for faster loading and unloading, which may reduce the number of trailers needed on the road. Two of our Midland trailers have already been modified, and another is in the process of being converted,” says Winslow. Two more will be completed in 2002 and another in 2003. The modified trailers are being used for transportation between the Midland site and HSC, with future implementation in Carrollton a possibility.

These improvements support our commitment to building a sustainable future by assuring that we are a positive influence in the communities we impact through our business operations.

*Trademark of Smart-Hose Technologies, Inc.

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[Responsible Care](#): [link to Dow Corning's Responsible Care site]