

CASE STUDY

TopWorx Lights Help Critical Operation Run Smoothly at Vulcan Chemicals

Vulcan Chemicals' facility in Geismar, Louisiana specializes in making chlorine.

Within the process of making chlorine is a critical and potentially costly stage that involves heating Teflon-coated diaphragm cathodes in a giant oven. This cathode oven has six spring-loaded, side-mounted thermocouples strategically oriented on the oven, and two clamps extending from the hood to the lower portion of the oven.

The thermocouples help ensure an even heat distribution throughout the oven and the clamps keep the hood tightly shut. In the past, if the hood "open" button were pressed after the heating process was completed and the thermocouples and clamps were still in place, then the entire unit – thermocouples, clamps and the oven itself - would be badly damaged.

In short, Vulcan needed a way to make sure situations like this never happened again. **To replace a damaged oven would cost nearly \$600,000 and take about nine months to receive and install.** Additionally, Vulcan would stand to lose over \$2,000 per day in revenue while waiting for a new oven. As you can see, a mistake could be ill afforded.

Enter TopWorx. After Mike Anderson, of TopWorx Distributor Desselle-Maggard (DMC), and Ken Garner, a Project Engineer at Vulcan, assessed the situation, it was recommended that eight LPS proximity sensors from TopWorx be installed in series with the six thermocouples and the two hood clamps. Soon after, these proximity sensors, complete with bright red LEDs for local troubleshooting, were put into place and tied into the hydraulic mechanism logic.

Now, the TopWorx proximity sensors prevent the hydraulic system from opening the hood unless all eight sensors are energized, thus eliminating the possibility of damage to the oven or any of its components.

TopWorx proximity sensors combine revolutionary BriteLite LED display and unique sensor technology in an easy-to-install package that improves plant safety and awareness. Each LPS contains a hermetically sealed switch completely encapsulated from the environment in a 316 stainless steel enclosure.

Since installation, operations personnel at Vulcan have experienced no problems with the cathode oven and have been pleased with this TopWorx product because of the bright illumination of each individual sensor. Garner stated, "The TopWorx products we installed cover both functionality and cost issues." "They allow our operators to immediately see if the thermocouples are in proper location before and at the end of an oven cycle. And since these ovens are quite expensive, with the cathodes costing in the neighborhood of \$20,000 alone, it became imperative to have these sensors in place."

This "bright" idea from TopWorx has helped Vulcan Chemicals put a potentially costly problem in the dark and out of sight.

About TopWorx

TopWorx is the leading supplier of field networking, valve control and process sensing solutions for the process industries. TopWorx valve networking and control solutions support multiple bus protocols, carry a variety of global approvals and operate in the most demanding plant environments. Whether rotary or linear, bus or conventional, hazardous or general purpose, TopWorx has a suitable solution.

For more information about TopWorx visit www.topworx.com.

"The TopWorx products we installed cover both functionality and cost issues... they allow our operators to immediately see if the thermocouples are in proper location... it became imperative to have these sensors in place."

Ken Garner, Vulcan Chemicals
Geismar, Louisiana



Ken Garner (right) of Vulcan Chemicals with TopWorx Distributor Mike Anderson at Vulcan's Geismar, Louisiana facility.



The TopWorx position sensor lights the way for facility operations.

