Applications Case Study

Railcar Tanker Offloading

The Challenge

A manufacturer of Zinc Chloride transports Hydrochloric Acid (HCL) in railcars to it's facility to use as stock feed. During the offloading period of 24-72 hours, gas detectors have to be in place to provide alarm notification of any leaks near the connections on top of the railcar tankers.

The Solution

During offloading, four wireless HCL gas detectors are magnetically attached to the hand-rail of the filling platform. The HCL detectors are attached to 16" long 1/8" thick, black anodized, metal mounting bars. Each mounting bar has 2x 65lb. magnets, one at each end. The detectors are attached to the bars, which in-turn are magnetically attached to the hand-rail of the filling platform. The filling platforms are on the outside wall of the process area which is located inside the process building. The location of the control panel is on an inside wall of the process area. The controller has a combination horn/strobe for alarming when a leak is detected outside.

During offloading, the wireless detectors transmit a signal to the controller every six seconds. Once a leak is detected the data is sent back to the controller over the standard transmission and the alarms are activated.

Once the offloading occurred, the detectors are removed from the filling platforms and placed next to the control panel and the system is deactivated.

Wireless Controller

The detectors and controller use 900 MHz, Spread Spectrum, Frequency Hopping radios with the ability to adjust "no comm." time-out frequency, number of retries and verified "handshaking" between detectors and controller. The "handshaking" is a feature which allows each detector, which broadcasts the data, to receive a confirmation of the data transmission from the controller. These wireless units are powered by 3.6V Lithium Ion batteries with life expectancy of 6-12 months. The controller is powered by local 120VAC.

GDS Corp supplies a wide range of gas detectors and systems. The wireless system utilizes the "universal" GASMAX transmitter which is same transmitter that is used in the 2-wire, 3 wire and wireless gas detectors minimizing costs and providing a consistent solution to the customer's needs. For more information, please visit our website at **www.gdscorp.com**.

GDS Corp
Gas and Flame Detection

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