

Integration, Ease of Use Provides Safety and Peace of Mind for this Bulk Gasoline Offloading Terminal



Overview

A major petroleum refiner operates multiple facilities and locations that serve many applications. One such facility is a terminal for storage and bulk offloading of gasoline which operates 24 hours a day, 7 days a week. At this facility, tanker trucks will pull up to the facility, attach a transfer hose to their truck, and fill the truck with gasoline. The unit is fitted with a Vapor Recover Unit (VRU), which captures the vapors off the top of the truck to evacuate the truck as it is being filled, as opposed to being released into the atmosphere.

Challenge

The function of the VRU is to capture the vapors so that they are not released into the atmosphere. Unfortunately, these vapors (mostly propane, butane, and pentane) are volatile process fluids that are quick to escape through any small leaks. This application has in-process instrumentation, pipe joints, and valves subject to varying pressure and vibration that over time can develop leaks. In this case, an in-process gauge had formed a leak that went undetected. This led to the initiative to install gas detection on location to monitor for vapor leaks. Not only assets were at risk, but personnel safety as well. The system would need to be installed in a brownfield application where wiring was not already available, there is lots of foot and vehicle traffic, and the system needed to function as an Independent Protection Layer (IPL).



Solution

The customer decided that wireless gas detection would be a preferential approach to augment as an additional IPL to the existing fire and gas system. Wireless made sense because the cost of wiring an independent gas detection system where there was no wiring available would be costly and time consuming. The Vanguard was chosen as an ideal candidate for this application to solve the problem over other wireless gas detectors due to its long battery life, use of an open wireless protocol (*WirelessHART*), and general ease of use for the installers and maintenance personnel.

Key Results



Seamless integration with WirelessHART system



Ease of maintenance



Easy, One-Button Calibration