

Chemical Plant Boosts Safety, Productivity with SVIP Custom Gas Monitoring System

Background: National Fire Protection codes have become increasingly rigorous in extending the requirements of flammable gas monitoring at industrial sites. One example is NFPA Section 54, which puts additional safeguards in place for the purging of fuel gas from pipelines and storage areas. In addition, hazardous areas exposed to steam, dust clouds, moisture and airborne particulates are being evaluated more closely to ensure that the measured level of contamination is truly representative of that inhaled by a worker.

Challenge: A major chemical manufacturer wanted to implement gas monitoring in an area classified Class 1, Div 1 because of the presence of hydrocarbon gases. The area had no existing gas monitoring equipment and posed a challenge to engineers; it was remote; difficult to access; open to rain; dirty and dimly lit. An optimized monitoring system, it seemed, required more than gas monitors and smart sensors; it required a complementary mix of electrical and communications cabling and equipment, along with a reliable pump.

Resolution: Honeywell Analytics Custom Design Group created a self-contained, sample-draw gas monitoring system that continuously monitors oxygen levels and flammable gas build-up in the hazardous area, at a fraction of the expected cost. This was accomplished by assembling all components of the system on a single sheet-metal panel (see photo: model **SVIP3403-3**) and mounting the panel outside the hazardous area, on a wall in the control room. The unique system design consists of an XNX Universal Transmitter and attached catalytic bead sensor for detecting hydrocarbon gases; a high-powered aspirated pump to pull the sampled air through the system; and flexible tubing stretching from the panel in the control room to the hazardous area up to 300 feet away. At the point of monitoring, the sample air is dried and scrubbed of contaminants, then pulled downstream by the high-powered pump and filtration unit to provide for precise gas analysis and data collection. In the control room, plant managers view these gas readings clearly on the XNX display, the industry's largest backlight display.

The custom configuration enabled the chemical manufacturer to cost effectively extend gas monitoring to an area of the plant not previously monitored, yet prone to gas build-up. Now plant managers can act quicker to mitigate the consequences of a gas build-up, schedule appropriate maintenance schedules and use additional gas data to evaluate ways to improve process gas delivery. The manufacturer obtained a state-of-the-art gas monitoring system without the added expense of having to install explosion-proof instrumentation, electronics and conduit in the classified area.

Custom Gas Detection/Air Sampling Systems for monitoring combustible & toxic gases in severe areas



SVIP One-Point Sampling System



SVIP Two-Point Sampling System
Model No. SVIP3403-3