

# APPLICATION NEWSLETTER

**PROBLEM:** Measuring fuel line pressure:

The instrumentation engineer for a manufacturer of back up fuel and power systems needed a reliable, switched, DP indicator. He needed the indicator to monitor the pressure difference in two fuel sources.

Many manufacturers use natural gas as the primary fuel to fire boilers and burners used in their manufacturing process. These manufacturers cannot tolerate down time due to fluctuations in or loss of natural gas pressure. This is a fairly common occurrence in some rural areas. To insure that there is fuel to fire the burners, manufacturers in these areas use propane storage tanks as an alternative fuel source.

The engineer needed a DP Indicator to monitor the pressure difference between the propane tank and natural gas lines. The DP indicator would show when the natural gas pressure drops relative to the propane pressure. When this differential exceeded a preset amount, a relay would open a solenoid valve allowing propane to flow to the burners. As the natural gas pressure came back up the

indicator's switch would open, closing the valve and shutting off the propane flow.

The switched DP indicator had to be rugged, accurate and simple to install and maintain. Furthermore, it had to be safe to operate in a potentially explosive environment.

**SOLUTION:** The Meriam 1226X DP indicator solved this application problem. The bellows assembly and indicator movement are time proven mechanisms that continue to indicate differential pressure in the most adverse conditions including loss of electrical power. During power outages local indication was required to maintain manual control of the gas flow. The gauge with SPDT relays was mounted in an explosion proof enclosure. This enclosure was rated for Class I, Div. I, Group D environments which includes natural gas and propane. The gauge was calibrated with a center zero scale. This allowed the operator to note whether the natural gas pressure or the propane pressure was higher and by how much.

