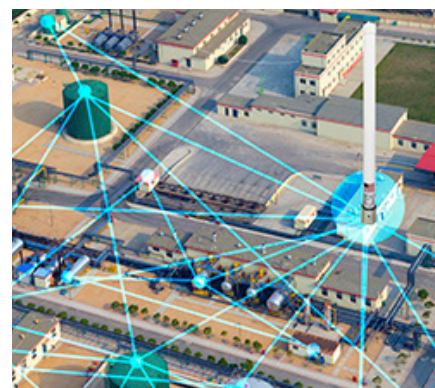# APPLICATION SPOTLIGHT
Wireless Monitoring of Pump Status

# Wireless System Provides Real-Time Visibility to Pump Status



**APPLICATION:**

A midstream gas distribution company had no visibility into pump operations that drain flood-prone areas housing critical equipment. The pumps guard against equipment flood damage that could result in costly maintenance and replacement costs.

**PRODUCT SUPPLIED:**

SignalFire Wireless Sensing System including:
• Discrete input A2 long range node
• Multi I/O module with discrete outputs
• Gateway Stick
• Solar Powered Repeater Station

**CHALLENGE:**

Pumps remove water in flood-prone areas to protect equipment from water damage. As pumps turn on/off remotely based on water presence, operators cannot confirm if they start and operate properly. A damaged starter or other problem could halt operations even after an operator turns on a pump. Should pumps not operate properly or at all, sites could become flooded, resulting in damage to equipment located at those areas. Workers needed real-time operational status of flood pumps without travelling to each individually or visiting different control buildings.

**SOLUTION:**

A SignalFire Remote Sensing System (SRFSS) provides wireless visibility into pump operations, indicating operational on/off status. By connecting the existing on/off dry contacts from the pump to an A2 wireless node equipped with digital inputs it then provides the measured signals to a gateway located on building rooftops 2.5 miles away. The Gateway stores the most recent readings of all nodes in the network in Modbus format. An interface with a multi I/O module forwards data to a PLC for wireless remote monitoring and control of different pumps. Operators have remote access to the PLC from a centrally-located control room that ties into all buildings.

A mesh network supports radio transmission of readings from A2 long range Nodes to the Gateway. A Parallel Repeater Station provides a secure, robust and redundant communication path for the data signal. As the gas distribution company adds more pumps, the mesh network supports additional nodes, enabling coverage of hundreds of square miles.

SIGNALFIRE
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