



At Vopak Terminals North America's Galena Park terminal, Emerson Process Management's PlantWeb field-based automation architecture manages a product treatment unit and four associated tanks.

Automating intelligence

Vopak Terminals' Galena Park, Texas, facility features a million barrel terminal for its liquid bulk storage and chemical distributing operation. Vopak decided to move toward automated instrument readings and control. PlantWeb field-based architecture, intelligent level gauges and transmitters from Emerson Process Management (formerly known as Fisher-Rosemount) provide accurate and reliable readings, with self-monitoring and frequent calibration.

Emerson Process Management created PlantWeb to improve its client's business operations. The system combines intelligent field devices, open standards, modular software and automation in one package.

PlantWeb's open, field-based automation allows the system to be installed much quicker than alternatives,

such as a PLC-based SCADA system or a distributed control system. Vopak's schedule didn't allow much time to install the system. As a result of using PlantWeb, the company estimates as much as 75 percent savings on total installed cost. The company began using this system in June, 1999.



"We have found cutting-edge technology that has easy and cost-effective entry at a bulk terminal," says Edward Lux, Vopak manager. PlantWeb architecture pools computer power in smart transmitters and control valves and links them into a communications network using Foundation fieldbus. This

allows communication between devices and with Emerson's DeltaV automation systems. These devices monitor pressures, temperatures, levels and, if necessary, control valves.

PlantWeb also enables Vopak to provide Web-based direct monitoring and control of its inventories to its clients. The DeltaV system passes real-time data on customers' inventories and utility usage to a legacy computer system via the site's main LAN. This allows customers to access data via a dial-up modem. Soon, clients will be able to access this information on the Internet. Vopak also hopes to implement business-to-business integration of supply-chain management systems.

Emerson's Asset Management Solutions (AMS) software offers tools for remote instrument configuration, calibration, diagnostics and preventive maintenance. Instant instrument commissioning is achieved with the click of a mouse. "Icons for those instruments started popping up on the screen and I

think I commissioned 16 of them in ten minutes," says Mike Chilapowski, a Vopak operator and instrument technician.

Initial installation included one operator station and four DeltaV controllers—each managing a group of tanks and their associated processing equipment or loading stations for trucks or railcars. The total installed cost was approximately \$110,000, including 30 smart instruments on three Foundation fieldbus segments and two HART lines, plus connection to seven conventional analog signals, 12 discrete signals and four MODBUS channels. The intelligent instruments include Rosemount Model 3244MV multivariable temperature transmitters, Rosemount Model 3051 differential pressure transmitters, Rosemount Model 8800C vortex transmitters, a Fisher Controls DVC 5000f Fieldvue valve controller and a Micro Motion Model 5300 Coriolis mass flow and density transmitter. ☺

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