



DeltaV Product Information CD

SUCCESS STORIES

Montana-Dakota Utilities Company

PlantWeb Automation Keeps Generating Plant Steaming

The first field-based process control system to run a utility generating plant has successfully gone on line at the 52.1 MW, lignite/gas-fired Lewis & Clark Station, Montana-Dakota Utilities Company.

The relatively low cost automation, which replaced 1958 pneumatic controls, delivers smoother control and is making for fewer trips, safer boiler operation, and higher efficiencies. The automation has also reduced operating manpower and is extending station life. Previously, the plant couldn't qualify for spinning reserve duty because too much time was required to increase load. Today, load can be raised 5 MW in less than 10 minutes.

The revolutionary PlantWeb field-based process control architecture from Fisher-Rosemount relies on compact and modular DeltaV controllers mounted near the equipment controlled in unairconditioned cabinets, minimizing field wiring. Versatile FOUNDATION fieldbus control communications, PC workstations, an Ethernet supervisory network, and Windows-based configuration software programmable by MDU engineers round out the technology. Montana Dakota Utilities investigated installing a conventional DCS to automate the station, but determined that the projected high cost might not be recoverable.

All station equipment except the turbine and coal handling was automated. Included were the boiler, burner management, natural gas delivery, fuel/air ratio, mills, burner tilt, sootblowers, condensate and feedwater systems, fans and dampers, air heater, precipitator, scrubber, ash handling, intake house screen and pumps, water treatment plant, and fire system start. The redundant, FM-approved burner management system is the first anywhere to reside in DeltaV controllers.

PlantWeb's fieldbus communications makes for the lowest controls cost and the greatest versatility -- no I/O modules, ability to distribute intelligence, exhaustive data collection, and remote diagnostics, calibration, and maintenance capabilities. Hundreds of variables are now gathered and trended every half-second. MDU estimates fieldbus saved \$100,000 in wiring costs alone.

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