



A Rockwell Automation Company

El Paso Corporation - Colorado Interstate Gas WIC Station As-Built Drawings

The Client:

El Paso's interstate transmission system spans the nation, border to border and coast to coast. The nationwide pipeline system is consolidated into three regional operations.

The Western Pipeline group consists of El Paso Natural Gas Company and Colorado Interstate Gas Company and is headquartered in Colorado Springs, Colorado.

Colorado Interstate Gas (CIG) is a major transporter of natural gas in the Rocky Mountain region. The Colorado Interstate Gas system is connected to nearly every major supply basin in the Rocky Mountains as well as production areas in the Texas Panhandle, western Oklahoma, western Kansas, and Wyoming.

The Requirement:

El Paso required someone to engineer electrical and control systems schematic "As-Built" drawings for three El Paso Compressor Stations located in southern Wyoming. The compressor stations were Muddy Gap, WIC Laramie, and WIC Harold Burrow at Rawlins.

The as-build project consisted of the station and

turbine compressor control system drawings. Each WIC station has two unit PLC control panels and one station PLC control panel.

The control system was interconnected using Allen-Bradley 1756 ControlLogix PLCs and 1794 Flex I/O PLC hardware and software.

The Design Solution:

Hinz was contracted to supply the "As Built" electrical and control systems schematic drawings for the three stations. A total of 182 drawings were produced and field verified.

The station was operational at the time the project was executed, and the goal of the project was to provide the station with detailed documentation to maintain the PLC control system. The CG-1 turbine and station control panels, along with installation and associated electrical drawings, were provided as part of deliverables by others.

The first step was to create electrical and PLC control systems schematic drawings for Station and Unit control panels at each of the three stations. The drawings were created in the Hinz office and conformed to El Paso Corporation drawing standards and format. The drawings contained PLC control system hardware and I/O terminal block wiring using Allen-Bradley ControlLogix, I/O modules for analog, discrete, RTD, and network signals. Allen-Bradley Flex I/O modules were also included in the control system drawings.

Next a Hinz Project Engineer traveled to each compressor station to field verify or "as-build" each new drawing. The drawings were "red-lined" while at site and then the changes were made on the AutoCAD drawing back at the engineering office. An El Paso field technician, intimate with control system details at each site, was present to assist in the verification process by opening control panels and J-boxes and to provide information about present wiring.

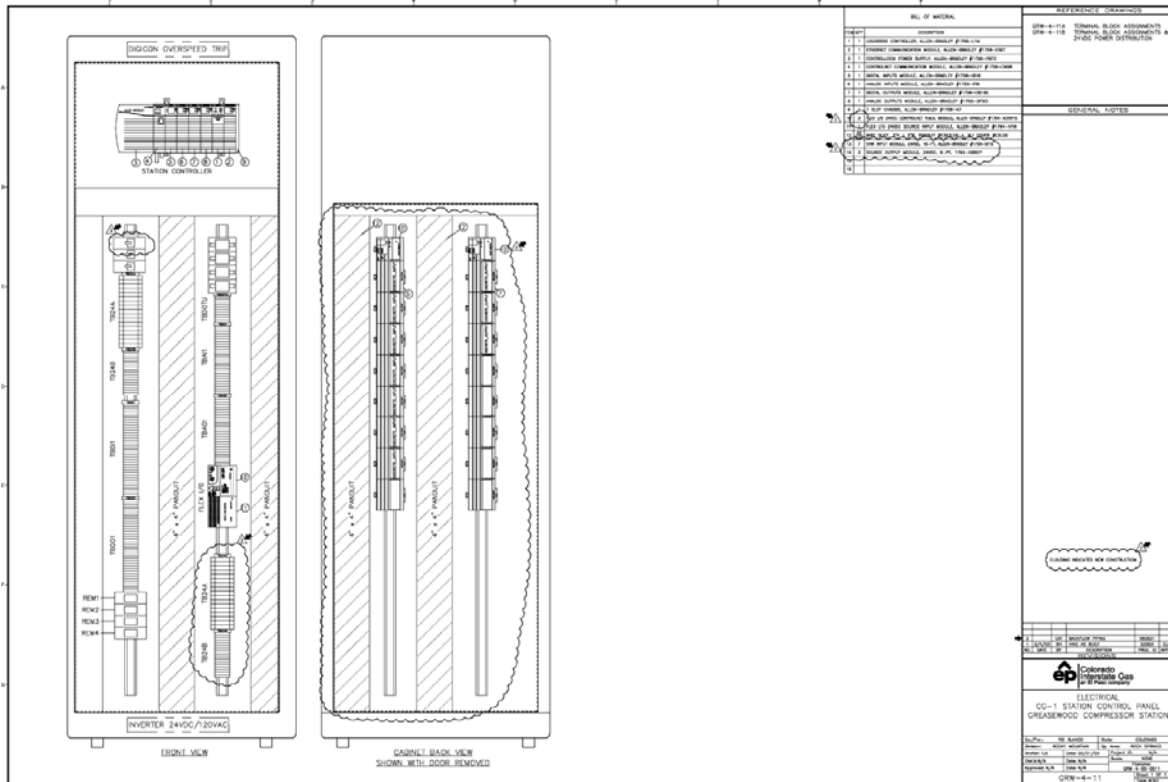
Executing the project in this manner allowed Hinz to ensure that accurate information was placed upon each of the drawings, and minimized errors in the conversion process.

Subsequent to completing this scope El Paso added "as-built" drawings for the Flame Detection System, the Combustible Gas Detection System, and the Emergency Shutdown System (ESD) at the three compressor stations. The work approach for this additional scope was similar to the first phase of the project.



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System Specifications:

- (1) Station SCADA Node, Intellution Fix32 HMI Version 7.1
- (2) Unit Allen-Bradley PanelView OIT
- (1) Station PLC Allen-Bradley ControlLogix5550 with I/O Modules
- (2) Unit PLC Allen-Bradley ControlLogix5550 with I/O Modules
- (2) Governor PLC Allen-Bradley ControlLogix5550 with I/O Modules
- (8) Allen-Bradley Flex I/O Drops using 1794-ACNR Communication Modules
- (2) Auxiliary Gas Detectors
- PLC to SCADA Node Communications via Ethernet
- Unit PLC, Gov PLC, Station PLC, and Flex-I/O Communications via Allen-Bradley ControlNet

For further information or to contact a Hinz office near you, please check our website at:

www.hinz.com