



A Rockwell Automation Company

Equitable Resources SCADA System

The Client:

Equitable Resources (NYSE: EQT) is an integrated energy company with emphasis on Appalachian area natural gas supply, transmission and distribution. Equitable Resources consists of two primary business segments: Equitable Utilities and Equitable Production.

EQUITABLE UTILITIES includes three integrated divisions: a regulated natural gas distribution operation, an interstate pipeline business, and a non-regulated marketing business for natural gas and natural gas products.

- **Equitable Gas Company** provides natural gas distribution services to over 260,000 residential, commercial and industrial customers located mainly in the city of Pittsburgh and surrounding municipalities in southwestern Pennsylvania, northern West Virginia and field line sales in eastern Kentucky.

- **Equitrans** specializes in the transportation and storage of natural gas. Equitrans LP provides gathering, storage and transmission services in the western Pennsylvania and northern West Virginia regions.

- **Equitable Energy** is the marketing and trading arm of Equitable Resources.

EQUITABLE PRODUCTION is the largest natural gas supplier in the Appalachian Basin, with reserves in excess of 2.0 trillion cubic feet, including undeveloped reserves of 583 billion cubic feet. Equitable Production includes approximately 12,000 gross productive wells and 6,600 miles of gathering systems. In addition to processing and selling natural gas liquids, the segment engages in producing, gathering and selling natural gas in the Appalachian Basin .

The Requirement:

In 2001 EQT made a strategic direction to optimize its SCADA controls to a single systems solution. Competitive pressures from energy deregulation were driving the company to optimize the way it operated its pipelines, better manage its deliveries and receipts to and from suppliers/gas transmission partners, as well as consolidate buy/sell gas accounting information into a central location for strategic management of its business.

To realize the economic benefits that a common system would bring, it was critical that the first phase of a base platform for the Equitable Production Division be installed

and commissioned before the end of December, 2002, and the 2nd phase be commissioned by April, 2003, for the gas transmission/utilities division, and the 3rd phase, involving a tightly-coupled gas management and accounting system, before the start of the 2003 heating season. Given that the Equitable contract for a turnkey system integration package using a Telvent OASyS baseline was awarded to Hinz in late August, 2002, this tight delivery mandate made the project an extreme challenge in experienced project management, proactive technical leadership and focused system integration development.

The Design Solution:

The system architecture was designed around a highly distributed system to allow nine compressor stations to act as stand-alone, data gathering and archiving engines for local control capabilities. Two separate control centers in different cities were provided to allow different company divisions exclusivity in controlling their segment of the pipeline operations.

The primary SCADA master software for the main control center was OASyS from Telvent Automation. This system was comprised of dual redundant servers on dual networks with hot fail over.

A unique design factor was the use of the shared corporate WAN/LAN to accommodate the SCADA communications, which is typically isolated on its own SCADA networks.

In addition to the Master Control Center (MCC) there will be a Backup Control Center (BCC) at Hartson Compressor

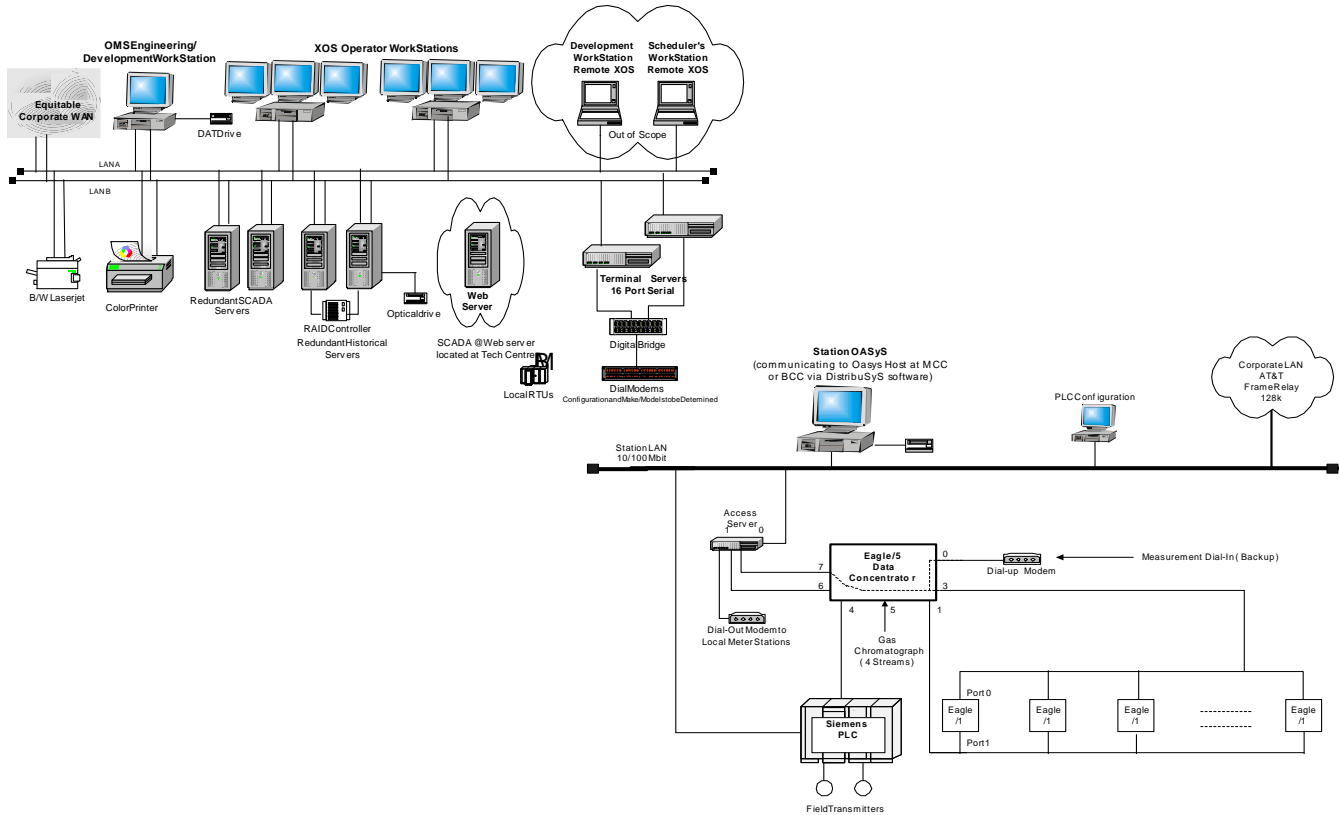
Station that will provide all SCADA functionality in the event of a catastrophic failure at Tepe. This system is identical to what is located at the MCC but with no hardware or software redundancy.

The utilities system is comprised of nine compressor stations, each consisting of a single monitor SCADA Operator/Server station, a Siemens PLC, an Eagle/5 Data Concentrator RTU and multiple Eagle/1 flow measurement RTUs. The Compressor Station OASyS Workstation polls all devices at this location and transfers this data via the Corporate WAN to the SCADA Master at Tepe using the OASyS proprietary DistribuSys Application Software. The SCADA software at each of these Compressor sites has all the functionality of the main SCADA Master but with a reduced point count. It is intended that each of these sites be fully self-contained in order to reduce the SCADA traffic load on the WAN.



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System Specifications:

Software - Telvent OASyS 6.2NT SCADA System, Telvent DistribuSys Replication, History Upload Application, Gas Chromatograph Spreading Application, Telvent Gas Management and Accounting System (GMAS) for over 1000 telemetered and untelemetered meters, Talon Gas History Data Loading Application

Servers - Dell 4600 PowerEdge Servers, 1.8GHz Xeon - Dual Processor, 1 Gbyte Dell PowerVault 220 Disk Array, RAID 5 controllers

Station OASyS - DELL Precision 340, 2.0GHz P4, 1 Gbyte Memory

Operator stations - Dell Precision 340 Workstations, 1.6GHz P4, 256 Mbytes Memory with multiple 20" flat screen monitors and dual Network Interface Cards.

Network Switches - Cisco 2900 Series

Access Servers - InReach 8/20 Port (Originally Xyplex)

Protocols - Eagle Series V, Barton Adept, Flow Automation Superflow, Eagle HEX ASCII, Mercury ECAT, Altronic Modbus

Total System Database:

- Database Size (hard and soft points) = over 11,000 points
- Utility Company Displays = 247
- Production Company Displays = 207
- Modified Baseline Drawings = 152

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

www.hinz.com