



A Rockwell Automation Company

## ConocoPhillips Canada Ltd. Wembley DCS

### The Client:

Founded in 1875, Conoco (NYSE:COC) has more than 126 years of experience in the energy industry. A fully integrated energy company, it is involved in every aspect of the oil and natural gas industry, including worldwide exploration, production, transportation, marketing, refining and power.

With the acquisition of Gulf Canada Resources in July 2001, Conoco added more than 1 billion barrels of oil, equivalent (BOE) to its worldwide reserves, which now total 3.7 billion BOE. The company's total worldwide oil production is also expected to increase

to 335 million BOE in 2001.

Conoco's North American liquids production -- crude oil, syncrude and natural gas liquids (NGLs) -- will more than double and liquids reserves will more than triple as a result of the Gulf Canada acquisition.

The Wembley Plant, located near Grande Prairie, Alberta currently processes a feed stream of 100mcf/d of wet and sour natural gas to produce sales gas, NGL product, LPG product, and condensate.

### The Requirement:

Conoco's Provox control system at the Wembley Gas Plant was becoming increasingly difficult and costly to maintain. Replacement parts were difficult to obtain and system maintenance was expensive as there were no local staff qualified to perform the work. When it was determined that the plant would be expanding (with the addition of Plant 3), the decision was made to replace the antiquated system.

The project requirement was to replace the Provox

system (including the control room console and controller panels) with a control system that could maintain existing functionality for the operation of Plants 1 and 2, provide adequate expansion capability to accommodate the addition of Plant 3, and be maintained by Conoco personnel. The replacement of the Provox system was to take place during the plant turnaround and the Plant 3 expansion was to occur later that year.

### The Design Solution:

Fisher-Rosemount's DeltaV control system was selected as the replacement. The system is composed of one ProfessionalPLUS station, two operator stations with dual monitors, one application station, and two redundant controllers.

The ProfessionalPLUS station serves as the engineering and configuration interface for the system.

The operator stations serve to operate the process and view the continuous history.

The application station is used to archive historical data and in the future may serve to integrate non-DeltaV applications and plant networks into the DeltaV system.

The controllers perform control functions and manage communication between the I/O subsystem and the

control network. Redundant controllers were chosen for increased reliability.

The DeltaV control network serves as the communication medium for all nodes on the system. A redundant network was implemented for increased reliability.

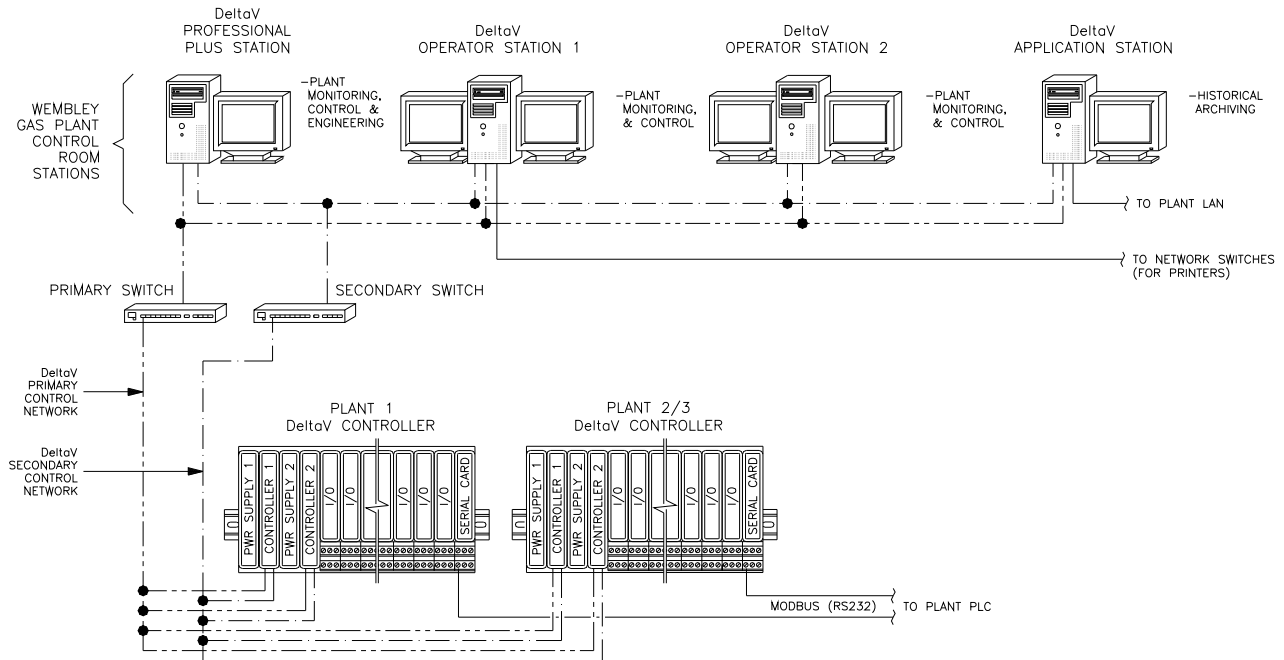
A Serial Card, connected to each of the controllers, is used to communicate to the plant PLC (primarily used for discrete control) via Modbus protocol. The DeltaV operator interface provides monitoring and control of these discrete devices.

Two new controller panels were manufactured and tested off site prior to site installation in order to minimize down time during installation.



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## System Specifications:

- 1 - ProfessionalPLUS Workstation
- 2 -Operator Workstations (dual monitor)
- 1 -Application Workstation
- 2 MD Controllers (with redundancy)
- 280 Analog Input Channels (4-20 mA)
- 168 Analog Outputs Channels (4-20 mA)
- 64 Thermocouple Inputs Channels (type T and type K)

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

[www.hinz.com](http://www.hinz.com)