



A Rockwell Automation Company

Probe Exploration Inc. Leduc 10-22 Sour Compressor Station

The Client:

Probe Exploration Inc. is a publicly traded exploration and development company based in Calgary, Alberta.

The Company's activities are focused on oil and gas

exploration and production in high-reward areas primarily in central Alberta.

The Requirement:

Continued additions in production in the Leduc field necessitated the expansion of gathering and transportation facilities in the area. The new sour compression station is a gathering point for several well sites and satellites and provides transportation of liquids to the nearby Devon gas plant as well as compression of dry gas into the Probe gathering system.

The new station was to include a satellite manifold separator package, inlet separator package, compressor package and a dehydration package. All new equipment was to be skid mounted containing, for the most part, standalone controlling devices to enable

ease of relocation. The incoming power was monitored using a Multilin SR735 feeder relay. The compressor skid contained a reciprocating compressor driven by a 4160 Volt, 500 HP electric motor. Control of the electric motor was accomplished via a Multilin 269 plus, while control of the compressor package was through a Flexiguard controller. The Dehydrator re-boiler made use of a Canalta controller. Operator call-out control was maintained through an OWL. The PLC was used to integrate all these devices and oversee station control and provide the operations staff with an overview of operations via a Human-Machine Interface (HMI) package.

The Design Solution:

An Allen-Bradley 5-30 processor is used to perform the station control. The PLC I/O onsite is a mix of 24 VDC discrete inputs and outputs, with an analog module used to monitor H₂S and LEL gas levels in the various buildings. PLC programming was accomplished using RSLogix 5 programming software.

A DELL Pentium PC running Windows NT as an operating system, with RS-View 300 installed is used as the operator interface for the site. Ease of use in the interface design ensured the operator had simple point and click control to maneuver through all screens. Alarm annunciation and logging is maintained on a HMI screen, as well as on a hard copy generated on the attached printer.

The PC is interfaced with the PLC using an Allen-Bradley KTX card, and because the RSLogix 5 software was also installed, logic changes can be made from the OIT. The PC also makes use of an APC UPS which provided a constant power source, and in the event of an extended power outage, ensures proper

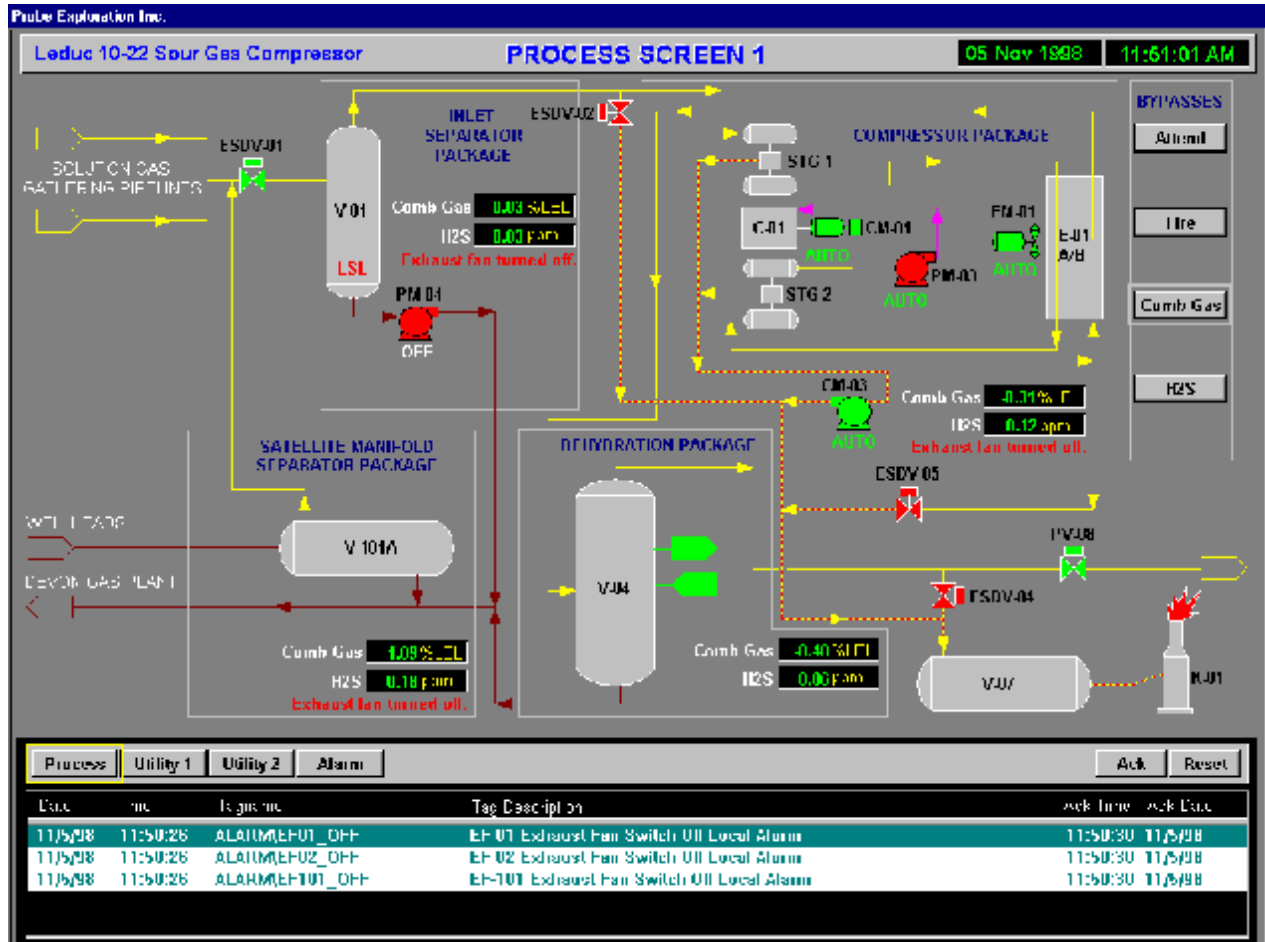
shutdown of the system. The PC also runs PC Anywhere in the background and has a modem attached which enables remote dial-in monitoring and editing capabilities.

The PLC performs the integration between various controllers on-site via discrete communications. This enables the PLC to monitor the controllers for alarms while also allowing it to give devices a remote shutdown if operating conditions necessitate. The PLC monitors the status of the Flexiguard, Canalta, Net Safety Fire, Flare and Multilin Controllers. In addition to monitoring the standalone controllers, the PLC also controls the ESD system, gas detection, various auxiliary systems, and handles all alarming, callouts and bypasses. There are eight different process call-outs that can be initiated by the PLC when the site is unmanned. If there is a problem in any of the areas the applicable call-out is generated to the OWL which notifies the operator.



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System Specifications:

- Allen Bradley 5-30 Processor
- Allen-Bradley 16 point Analog Input module
- Allen-Bradley 24VDC 16 point Input module
- Allen-Bradley 24VDC 16 point Output module
- DELL Pentium PC with:
 - Allen-Bradley KTX Interface Card
 - US Robotics 56k External Modem
 - RS-Logix 5.0 Programming Software
 - RS-View 300 HMI Software
 - PC Anywhere 8.0
 - APC Powerchute

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

www.hinz.com