



A Rockwell Automation Company

Enbridge Pipeline Inc. SCADA (PCS) Support

The Client:

Enbridge Pipelines Inc. owns and operates a pipeline network spanning from Normal Wells, NWT, to Montreal Quebec. They are the longest petroleum transmission pipeline utility company in the world.

Enbridge's entire system consists of over 7000 miles of pipeline linking Western Canada to refining centers

and markets in Eastern Canada and the Midwestern United States. Enbridge transports NGL, refined products, gasoline, diesel, light, heavy and synthetic crude oil. The entire system is controlled from Enbridge's control center in Edmonton, Alberta.

The Requirement:

Enbridge Pipelines had acquired Consumer's Gas, the commercial and residential natural gas distributor for Ontario. Vector Pipeline was due to come online in December 2000, and Enbridge was the operating partner.

Many tasks were required to bring these systems into Enbridge. Control of the Consumers Gas SCADA needed to be moved to Edmonton, and the new Vector system had to be put in place. Enbridge wanted to combine these systems, having one set of trained operators to control both. With an eye to the future, but a commitment to the Agilent SCADA platform, RTAP, Enbridge wanted to move to a newer, Windows NT-based SCADA (Supervisory Control and Data Acquisition) product for their consoles.

Consumers Gas was the first hurdle. An aging system which communicated with proprietary hardware

throughout Ontario was in place. Natural gas consumption forecasting is an essential part of a distribution system and needed to be added to the new system, but was a new experience for the pipeline oriented Enbridge SCADA. Finally, as the roll over was to take place in winter interruption of service was not an option, so each module needed to be verified with utmost care to prevent the loss of heat to the homes of Ontario's residents.

The Vector pipeline was the second hurdle for the new SCADA system. BSAP IP was the chosen protocol. Drivers had to be developed and verified for RTAP. A site-by-site verification had to be performed along the pipeline, assuring communications, instrumentation, and RTU control from the SCADA in Edmonton.

The Design Solution:

Hinz provided support to Enbridge in the form of commissioning, verification, and correction of the RTAP SCADA system. Hinz personnel were involved in the testing of the data link and point verification throughout both systems, making changes as necessary to develop a fully functional SCADA system. Graphics, SCADA logic, database integrity and

communications were tested, repaired, and brought online. Hinz's experience in developing systems in the past allowed an efficient commissioning schedule to be maintained. This experience also helped prevent a potential disaster should there have been a failure in the Consumers Gas distribution system.

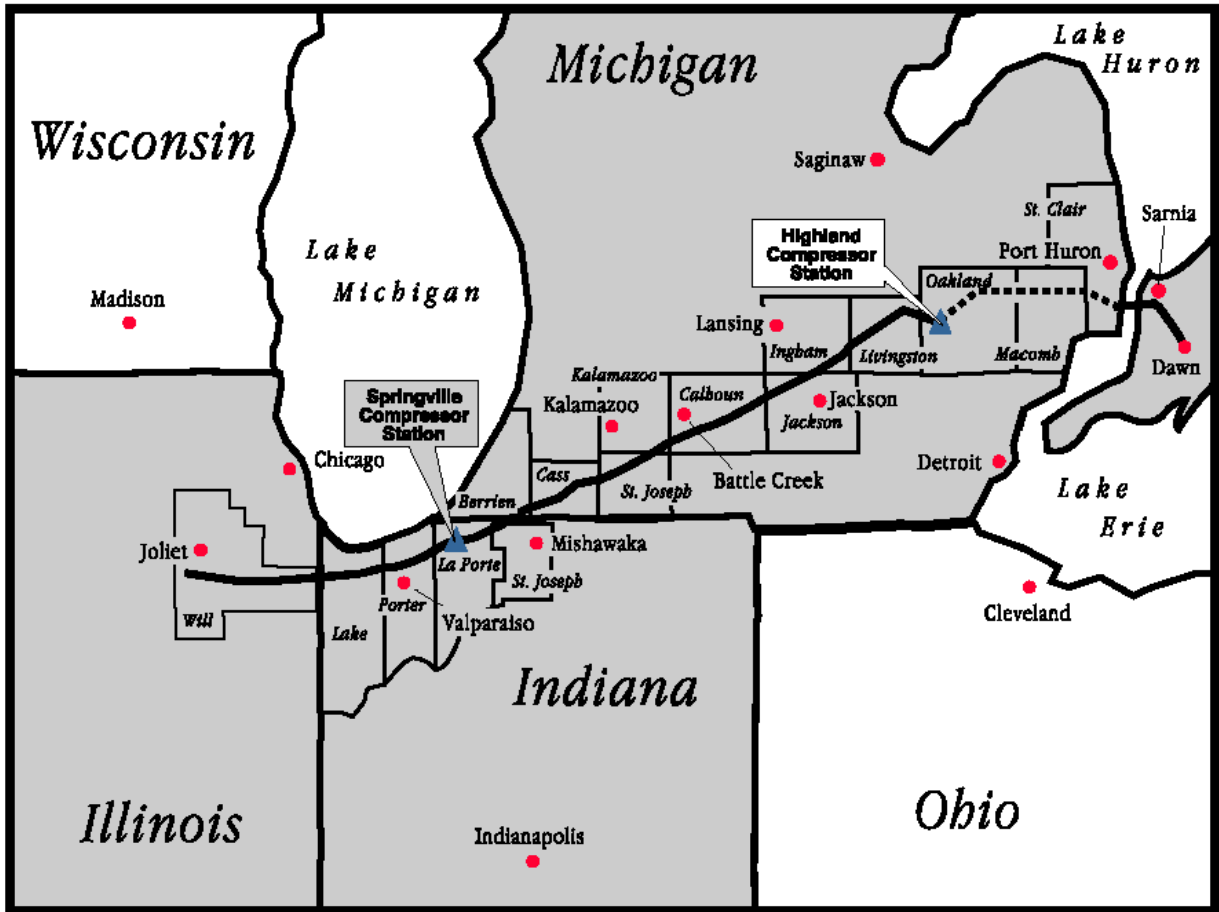


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Vector Pipeline



New Construction

Leased Existing Pipeline

Compressor Station

System Specifications:

- Agilent - RTAP (HP)
- MS - Windows 2000
- BSAP-IP

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

www.hinz.com