HINZ
A Rockwell Automation Company

Amoco Canada Petroleum Company Ltd.
Cochin Pipeline Truck Loadout Facilities

The Client:

Amoco Canada Petroleum Company Ltd. operates the Cochin Pipeline on behalf of Dow Chemicals of Canada Ltd., NOVA Corporation of Alberta, Petro-Canada Inc., and Shell Canada Ltd. The pipeline consists of approximately 3000 km (1900 miles) of 30 cm (12") pipe. The system ships products from Fort Saskatchewan, just outside of Edmonton, Canada, then continues through Alberta, Saskatchewan, North Dakota, Minnesota, Iowa, Illinois, Michigan, ending in Windsor and Sarnia. The pipeline is designed to transport light hydrocarbon liquids, primarily ethane, propane, ethylene, butane and NGLs. The system has 5 truck loadout facilities located on the pipeline for delivery of propane to the North Eastern States.

The Requirement:

The original truck loadout control systems had grown obsolete over time. With the installation of a new SCADA system on the pipeline and to better serve customers and interface with the new SCADA system the existing loadout system needed upgrading.

The goals of the new system were to provide a state-of-the-art control and information system that would:

- Provide point of sale transaction processing
- Ease of use for the truck drivers and terminal operators
- Greater access of information for the Customers and Carriers
- Integration of accounting and administration operations of terminal databases from the business server located in the Control Center, Fort Saskatchewan
- Utilize industry standard hardware and software products that are readily available, widely supported, modular and expandable

The Design Solution:

Hinz was contracted by Amoco Canada Petroleum Limited to provide engineering and integration services for the project. The project consisted of integrating the loadout system into the local operator interface for the SCADA system installed at each site (For information, please refer to the story sheet Cochin Pipeline Control System Overview). The platform utilized in the SCADA system is Unix on SUN Microsystems workstations.

The loadout system was developed in the relational database SYBASE, which is the same database Amoco's business system is based on. Transaction processing, product allocations, and database management is communicated to the business system over X.25 VSAT satellite communications. Site security, authorization and identification is provided through magnetic pass cards and personal identification numbers. The truck driver interface, consisting of the card reader and ASCII terminal, operates similar to an automated banking machine, providing ease of use. The terminal operator manages the loadout system security and database on his SCADA workstation through database forms in a separate window from his terminal operations.

In order to minimize the inconvenience to the terminal customers, the existing loadout system needed to be replaced within a very short time frame. Replacement of the existing systems, including wiring, commissioning and startup, averaged four days. To further complicate the replacement, the new loadout system had to support existing communications to the business system for a period of time before the new system was available.

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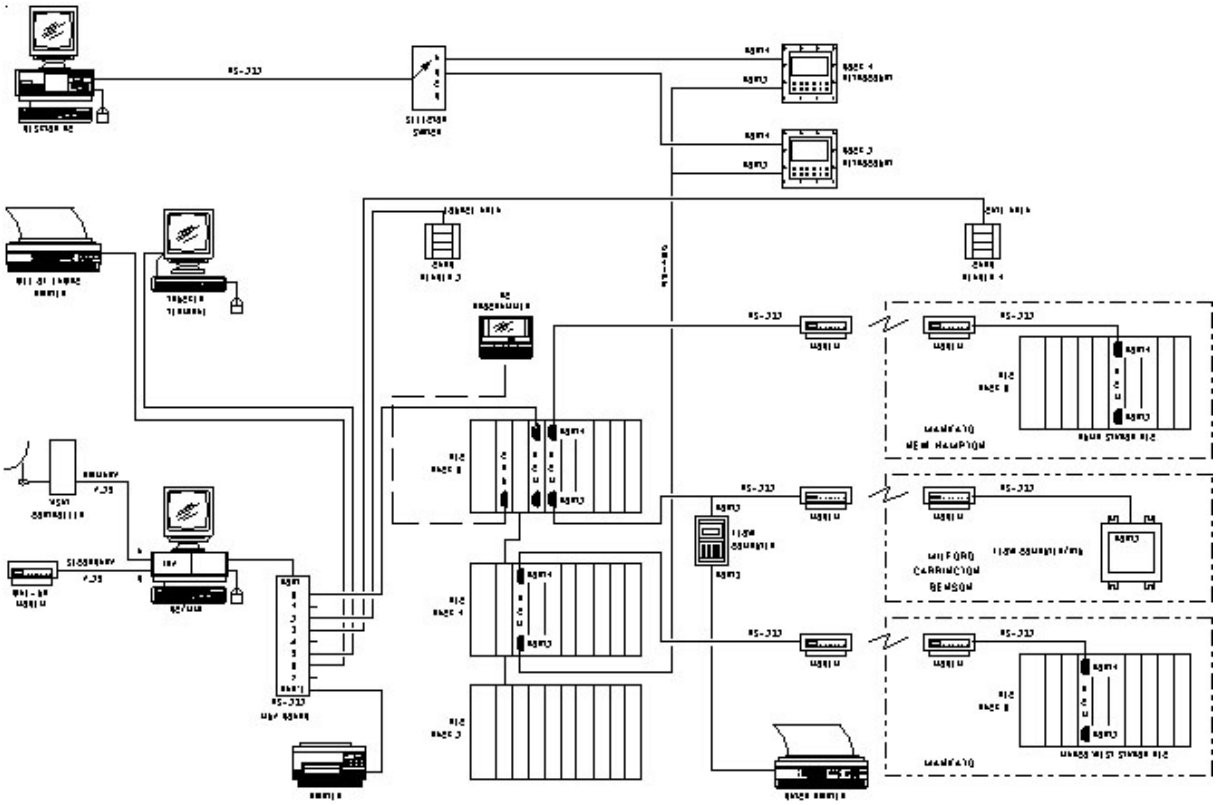

System Specifications:

- Daniel Flow Computers
- GE Fanuc series 90-70 PLCs with Co-Pro Modules
- SUN Workstations with Optical Media
- Open Client/Server Architecture
- Local Area Network Technology
- Truck Driver Interface System
- SUN UNIX Operating System
- Valmet OASyS SCADA Software
- Satellite Communications System (VSAT)
- X.25 Communications Protocol
- Sybase Relational Database Management System
- Truck Loadout Database Replication

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

www.hinz.com

"Automation and Power Specialists"

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