

## Hinz Automation Inc.

### Shell Canada Limited

#### The Client:

Shell Canada Limited is a leader as a major Oil and Gas company in Canada. In Alberta, Shell Canada has a strong presence in both conventional and enhanced recovery in Oil and Gas reserves. In a strategic plan to decommission the

Innisfail Gas Plant, local area reserves needed to be transported to an alternate processing plant. The Innisfail site is now owned and operated by Samson Canada.

#### The Requirement:

To enable decommissioning of the Innisfail Gas Plant, a new pipeline was constructed to transport area reserves to an alternate processing plant. The new pipeline design required 9 Line Break Valves (LBV's). In addition, a prototype installation of pipeline electric heat tracing was being installed which required a total of 12 electric power delivery points. The electric tracing provided a requirement for additional

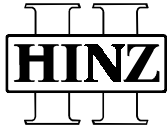
alarm monitoring including; power loss, electrical ground fault, open tracing circuit, and high/low temperature alarms for all tracers. Existing Shell Canada sites in the area had been successfully utilizing AMOCAM RTU's. A graphical operator interface was to be installed to scan all RTU's and run on a personal computer DOS platform. The system was to monitor the pipeline as well as provide detailed data on the electric heat tracing performance.

#### The Design Solution:

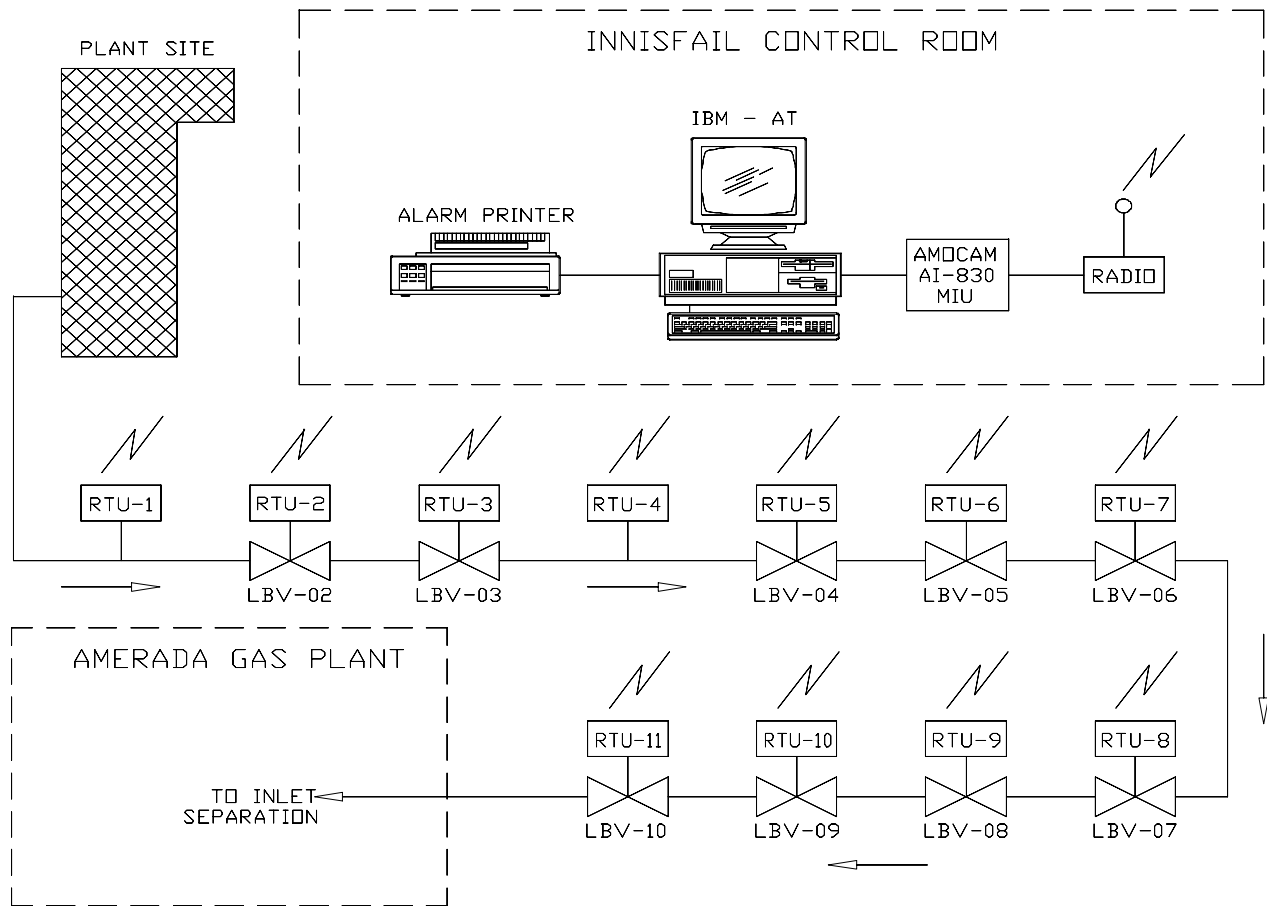
The solution was to install an Intellution FIX graphics package running on an IBM-AT. RTU's selected were AMOCAM 574's. A new AMOCAM driver written by AMOCAM and Intellution was created to interface the FIX package to an AMOCAM 830 Master Interface Unit. The AMOCAM 830 controls the Radio interface for the General Electric Radio. Polling times are adjustable in the FIX package. Typical RTU data for a Line Break Valve (LBV) includes; open, close, and travel status, line pressure, corrosion monitoring, line temperature, and LBV auto close inhibit. The Electric Heat Trace monitoring, listed in the Requirement above, was also installed.

A graphical tabular representation of the RTU Communications summary was generated to depict the health of the Radio and RTU system. The quantity of scans including valid replies, invalid replies, no reply, and retry's is displayed.

Power for the RTU's and electric heat tracing was supplied by TransAlta Utilities overhead lines. Each RTU site included a small RTU building housing the RTU and 120V or 600V electrical distribution equipment for the heat tracing. The pipeline heating cable is a series resistance type fed by 600V in lengths up to 2,200 metres. The pipeline has 12 power feed points. Three of these power feed points are limited to 120VAC for RTU control voltage as well as smaller heating cables used on the LBV's. Temperature sensing is accomplished by various RTD's wired into Pypotenax HT3 electronic heat trace controllers which provide monitoring. The pipeline is maintained at approximately 38°C to prevent the formation of hydrates. This is the first natural gas pipeline installed with electric heat tracing. It is calculated that the capital cost of fuel gas lines balance the cost of electrical controls and utility connections, while the electrical operating costs are deemed lower.



# Innisfail Gas Pipeline SCADA System



## System Specifications:

- 1 IBM-AT Master Computer
- 1 Intellution FIX Graphics Package
- 11 AMOCAM 574 RTU's
- 12 Graphical Pages with Approximately 240 Tags
- GE Radio System

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