

Pembina's SCADA System

Pembina employs Supervisory Control and Data Acquisition (SCADA) technology on all of its pipeline systems. The SCADA systems allow for continuous electronic monitoring and control of the pipeline systems from dedicated computer consoles located in our Edmonton Control Center. Trained Operators monitor the pipeline systems 24 hours per day, 365 days per year. The SCADA systems and associated leak detection software continuously monitor pipeline flow and operating conditions. Line balance calculations are performed regularly and system alarms are triggered when imbalances are detected.

When SCADA alarms are triggered, Control Center operators and shift foremen implement structured protocols to investigate the alarm, isolate the affected pipeline and, when necessary, initiate line shut-in procedures. These activities are conducted in accordance with Pembina's Leak Detection Protocol Manual. On many of Pembina's pipeline systems, protocol procedures are further enhanced by an automatic shutdown system. At each pump station, Programmable Logic Controllers at the stations initiate shutdown procedures when conditions such as a communication failure or a low or high pressure condition is detected. Also, if uncommanded changes in block valve status (closed/in transit) along the line are detected by the SCADA system, then the system automatically shuts down all operating pumps on the pipeline system.

As a further means of validating overall SCADA system performance, and to test control center response, Pembina routinely conducts leak tests whereby hydrocarbons are temporarily diverted away from the pipeline into tanker trucks without the prior knowledge of control center operators. These "leak tests" trigger SCADA alarms and require appropriate Control Center Operator intervention. In addition, Pembina maintains a back-up control center at our Drayton Valley field office.

Pembina is committed to progressively upgrading our SCADA and leak detection systems. Older technology SCADA systems are being systematically upgraded to state-of-the-art SCADA platforms and numerous enhancements and refinements have been made throughout the field operations.

Through Pembina's use, testing, and upgrade of our SCADA and leak detection systems, we remain prepared to detect a variance in pipeline operating conditions and to initiate appropriate corrective actions.