

# Case History

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## Synfuels - Gas Pipeline Monitoring & Leak Detection

Synfuels NZ Ltd (now trading as Methanex) has a pipeline running from its methanol/synthetic petrol plant at Motonui to a tank farm 20 km away in Omata. There is another pipeline, called the loading line, from Omata to the port of New Plymouth 1 km away. The pipeline was constructed in 1985 and a Plessey SCADA system with 7 Dataterm RTU's was installed as part of the initial project.

In 1992 Abbey Systems was commissioned to upgrade the existing Plessey system. The Control centre was the focus of much of the upgrading. The job involved total replacement of the existing (but obsolete) computers, modems and local RTU's; the remote Dataterms were retained. The system is now performing the following functions: leak detection, valve control, flow recording and plant alarms.

### Leak Detection

A key feature of this application is the pipeline leak detection sub-system. Flow totals and



rates are measured at each end of the pipeline. The inflow is compared with the outflow and if there is a statistically significant difference a leak is assumed to exist. The leak detection system caters for pressure waves, flow fluctuations and other pipeline characteristics.

There are two levels of leak detection: Fast leak, intended to rapidly detect and alarm large leaks; and slow leak, which is capable of detecting small leaks by examining flow mass over a 3 hour period of time.



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