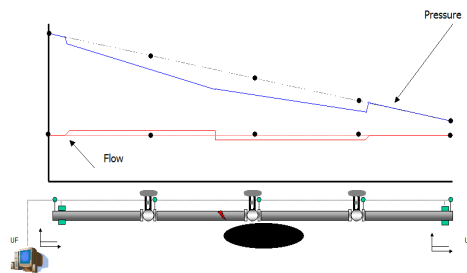


Longannet Leak Detection System

System : Longannet
 Location : Scotland (UK)
 Scope : Leak Detection
 End User : UniPen
 Installation date : 1996
 Pipe Length : 12km
 Fluid : Gas

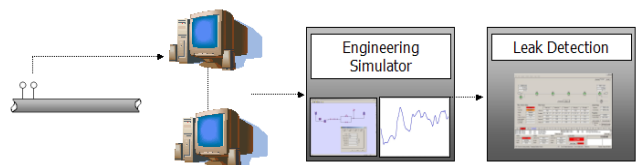


Simulator Scope

The scope of supply includes for a simulator that models the gas pipeline in real time mode. A detailed model simulates the complete dynamic flow, pressure and thermodynamic variance to accurately determine the changing line-pack conditions. These line-pack calculations are used to correct the inventory term in the volumetric balance to determine the presence of a leak.

System Benefits

The simulator operates in real time and is continually updated by the flow, pressure and temperature measurements. Automated tuning routines are also included to correct for long-term drift in the measurements and the slow deterioration in the pipeline condition. The balance between the inflow and the outflow from the pipeline is calculated and corrected for the change in linepack. If the balance is in excess of the sensitivity settings for the system a leak alarm is raised directly on the leak detection system and its location is determined. The system operates in a hot-hot dual redundant mode in conjunction with a dual redundant SCADA system.



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