

Critical Duties At Mossmorran

FLOAT LEVEL SWITCHES – A TRADITIONAL TECHNOLOGY CONTINUES TO PROVE ITSELF

At the time of its commissioning in 1985 the Fife ethylene plant at Mossmorran, was the most highly evolved plant of its type in the world.

By definition the technology used throughout the plant, was the most advanced available and cutting edge solutions were applied in all major engineering disciplines ranging from DCS to Instrumentation. Due to the nature of ethylene, and the ethane from which it is produced, selection of critical shut down systems and in particular level monitoring instruments throughout the entire processing complex required careful consideration.

Not only was there an emphasis on total reliability of shut down logic, but to compound equipment selection difficulties temperatures across the plant varied between 800°C and -120°C. Ron John (Instrument Engineer for EXXON) recalls at the time of installation in 1985/86 the only physical measurement technique; aside from Nucleonic, capable of meeting the necessary requirements were magnetically coupled buoyancy devices. Not only were the cryogenic conditions demanding but also in event of failure,

safety and the possibility of fugitive emissions had to be considered. The Besta magnetic signal transmission design provides a truly glandless non-seal design with an extreme operating temperature and pressure range. Even with today's array of level technologies, if a 100% process seal is required under fail conditions, the only other technique that can operate on Cryogenic process's is Nucleonic.

Over one hundred ABLE level systems mounted in custom designed and PMI tested chambers were eventually specified and supplied to fulfil tasks ranging from shutdown alarm interlock systems to process control. Since start up in 1985 they have performed with no major component failure thereby contributing to the reliable and safe operation of the entire plant.

**For more information, please contact ABLE Instruments
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