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Nucleonic Gauges Measure Up On Diesel Storage

Situated approximately 145 nautical miles east of Aberdeen and 160 nautical miles south west of Stavangar, Norway, the Everest Field was discovered in February 1982. Consent to develop the Everest and Lomond fields and the Central Area Transmission System was granted to Amoex on 9 May 1991. The North Everest and Lomond Platform first started exporting gas to the onshore terminal in Teeside in May 1993 and condensate to the BP Forties pipeline within the AMOCO portfolio. In 1998, AMOCO merged with BP.

Crane Pedestal Structure

Detector Mounting Position

Source Holder

Energy Services giant, Wood Group Engineering, was recently tasked to carry out modifications to the diesel storage facility on both Lomond and North Everest platforms to find a reliable method of level measurement to prevent diesel spillage in to the North Sea. The storage tanks hold a significant, circa 300 tonnes of diesel a piece.

Originally, DP cells were used for this measurement and were considered again for the modifications along with displacer units and radio frequency (RF) technology. However, the decision was to find a level detection technology with higher accuracy and reliability more suitable for use on the diesel storage tanks. After thorough consideration, Wood Group Engineering selected ABLE's Nucleonic level detectors as the best solution for the measurement.

The Nucleonic level instrumentation has been fitted to the two diesel storage tanks located on both platforms. These tanks store diesel fuel as a contingency should the platform's own fuel gas system become unavailable. Diesel fuel is also supplied to utility systems and users such as cranes, lifeboats and portable diesel driven equipment.

The design of the diesel storage tanks includes a vent at the top of the tank that could potentially allow diesel overflow to the platforms open drains system. If an overflow was to occur, there is the possibility that diesel fuel may drain to sea via the open drains system (if the drains were swamped with diesel) resulting in a potential environmental incident. The change in design of existing instrumentation to precise nucleonic level instrumentation provides the platforms with more accurate information and assurance that the probability of a potential incident is minimised.

The output from the nucleonic instrumentation has increased the reliability in the operation of the diesel systems. Robust and reliable instrumentation is critical for this application as the diesel storage tanks form part of the platforms crane pedestal structure. The cranes are situated on north and south sides of the platforms and exposed to all weather conditions, which can be particularly ruthless during winter storms. The ABLE Nucleonic Level Detectors are fitted on the side of the diesel tanks close to an access platform for personnel to monitor the condition of the instrumentation and allow maintenance.

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