

Offshore Intake Pipeline Maintenance Using Pigging System

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ABSTRACT

This paper presents a case study of the pigging system designed for the Sea Water Reverse Osmosis plant at MRPL - Mangalore Desalination Project. Mangalore Refinery and Petrochemicals Limited (MRPL), Central Public Sector Enterprise (CPSE) under the Ministry of Petroleum & Natural Gas. MRPL project site is located in the hilly terrain, north of Mangalore city, in Dakshina Kannada District of Karnataka State (India). MRPL intends to install a Sea Water Reverse Osmosis based Desalination Plant at Tannirbhavi village, Mangalore, Karnataka, India to meet the present and future potable water demand of the Refinery.

The plant has a total product water capacity of 30 MLD, which is intended to be expanded up to 70 MLD in future. The plant requires a sea intake and outfall pipeline system. Taking into the criticality of potable water for the refinery, MRPL has decided for having a pigging solution for the sea intake pipeline as a maintenance measure. The proposed pigging system design has been incorporated into the design of the sea intake pipeline and pumping station.

The paper presents the design evaluation process that has been done for careful selection of the pig entry point at the intake sump location ie. By a provision of pigging loading point inside the sump pit at the same elevation of the intake pipe invert level for easy pig negotiation and smooth movement of the pig.

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