



MAREN MAXIMIZES RELIABILITY AND COMPACTNESS OF OFFSHORE WATER TREATMENT PLANTS WITH ROSEMOUNT MAGNETIC FLOW METERS

Customer

Maren Engineering Corporation delivers integrated water and waste water treatment solutions for industrial purposes including oil & gas, petrochemical and power generation plants, and civil applications. Maren Engineering Corporation operates in three locations in Italy and is a major participant in the global water treatment market.

Application

Water treatment plant for the first FLNG (Floating Liquefied Natural Gas) plant in the world, offshore West Australia

Challenge

The FLNG plant requires demineralized water and treated condensate to be used in boilers and steam turbines. A primary plant is treating desalinated water, purifying it to demineralized quality. Another stage of the plant includes the treatment of steam condensate and allowing the reintroduction into the boiler system.

The main challenges in a water treatment plant installed in an offshore or shipboard location are to provide the treatment required with the lowest weight and smallest footprint, or size, possible. In this specific case, the water treatment plant had to be installed in the hull of the ship, and while the hull was under construction; it cannot be removed, the space is very limited, and any maintenance activity must be clearly identified from the initial design phase and reduced in time. The reliability of the instruments must be the highest possible, since there is no way to remove the skids after installation. When maintenance of the meters is required, they must be accessible, easy to manage, and simple to troubleshoot.

Results

- Reduction of skid footprint and weight by up to 3%
- 100% reliability over past 10 years (100 installed meters)
- 50% reduction in scheduled maintenance

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“Rosemount™ magnetic flow meters show the highest reliability of the market and allow us to provide high reliable water treatment plants, reducing weight of our water treatment skids and providing added value to our end-users.”

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Alessio Liati
Marketing & Sales Manager

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Solution

Maren Engineering Corporation has decided to solve this challenge by implementing Emerson magmeter technology and has recognized the robust, unique design of the Emerson magnetic flow meter. The all-welded sensor design, combined with a transmitter design that provides full isolation of the electronics, virtually eliminating failure due to moisture or contamination of critical components – one of the most common causes of electronics failure.

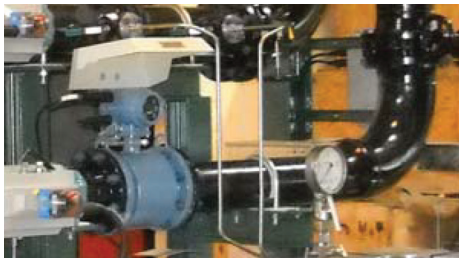
To further improve shipboard reliability, the electronic components, mounting, and interconnections are designed to perform in applications that can experience high levels of vibration. The small footprint and minimal straight pipe installation requirement allowed Maren to reduce the skid size by 2% to 3%, with similar reduction of weight. These values simplify installation of the skids in offshore or onboard treatment plants, where overall weights and sizes are critical to success. The compactness of skids enabled by Rosemount magnetic flow meters allowed Maren to guarantee easy accessibility. All maintenance activities can be performed without adding permanent ladders and platforms, reducing the time and cost of maintenance by 50%.

The Rosemount™ magnetic flow meters used by Maren over the last 10 years have provided 100% reliability (total 100 installed mags), proving outstanding service levels within complex water applications.

Emerson global presence, after-sales services at virtually any location in the World, and the ability to manage complex international projects were decisive factors for Maren, distinguishing Emerson from the competition.



Water Treatment Skid



Rosemount Magnetic Flow Meter within a skid mounted unit



Water demineralization unit mounted in the FLNG plant

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