Customer Success Story

Location: Multiple, Nigeria

AMI desalination systems provide water security for offshore vessel crews

In offshore environments, access to freshwater sources may be limited or unavailable. AMI desalination systems offer a solution.

Challenge

A global energy company is a leader in the oil and gas industry, including exploration, production, refining and distribution of petroleum products.

The company owns and operates several FPSO Floating Production Storage and Offloading (FPSO) vessels as part of its offshore production infrastructure. The FPSO receives crude oil from production wells located on the seabed, where the oil reserves lie at a depth of more than 1000 meters (3300 feet).

Another company provides semi-submersible Accommodation, Safety, and Support Vessels (ASVs) to the oil company. These ASVs can accommodate up to 500 people each and serve as housing for personnel working on FPSOs. After completing contracts with the oil company, these vessels may be deployed to various locations worldwide.

One of the ASVs was positioned off the Nigerian coast. It was in dire need of new desalination systems to treat seawater sourced feedwater with a TDS level of 35,000 ppm.

The client required an urgent timeline of two weeks for completion. The desalination systems needed to be compact enough to fit the available space on the vessel.

The client reached out to Applied Membranes for help.

Solution

Applied Membranes designed, built, and commissioned two (2) custom-engineered desalination **SWRO** systems with a total capacity of **60 GPM (14 m3/h)**. These systems were custom-built to fit inside the footprint on the vessel.

AMI systems were constructed with 316 stainless steel and high-pressure hoses to ensure corrosion resistance and reliability in the demanding offshore environment.

Applied Membranes built these systems under urgent timelines and delivered to specifications. Dimensions of the systems were optimized to fit the available space on the ASV.

Key Features:

- Antiscalant
- Chemical injection system
- Clean-in-place system
- Programmable Logic Controller (PLC)

Results

Applied Membranes successfully completed a rush order for custom-built desalination systems for an offshore oil rig operating off the Nigerian coast.

Rapid response: AMI responded quickly to urgent and time-sensitive requests, completing the project within a tight two-week deadline. Despite the expedited process, AMI upheld high-quality standards, ensuring the desalination systems were reliable and robust.

High quality water: AMI systems deliver high-quality water for personnel onboard the vessel. With AMI systems in place, the vessel has a reliable and sufficient supply of clean water for the crew, regardless of their location.

High-quality manufacturing: Rigorous quality control measures and testing procedures ensured the systems met performance standards and could withstand the harsh offshore environment.

AMI systems continue to provide a reliable source of fresh water for the crew. The crew members have access to clean and potable water for drinking, cooking, sanitation, and other essential needs.