



PROJECT BRIEF

Oil Refinery Optimizes Hydrogen Production Line with SAMCO Boiler Feedwater Demineralization Solution

PROJECT OVERVIEW

When an Alaskan oil refinery needed a boiler feedwater treatment solution to support its hydrogen production lines, the facility looked to SAMCO for a reverse osmosis (RO) solution to protect its boiler systems from damage and inefficiency.

OBJECTIVE

Remove total dissolved solids (TDS) from boiler feedwater. Project specifications:

- Reduce TDS to <20 micromhos per centimeter ($\mu\Omega/\text{cm}$)

SCOPE OF SERVICE

SAMCO delivered a 23 GPM RO system, providing services entailing process, mechanical, and electrical design and engineering, system fabrication, and controls integration.

CHALLENGES

- Low threshold for TDS in boiler feedwater
- Limited operator availability

SOLUTION

To optimize boiler performance at the client's hydrogen production facility, SAMCO designed and delivered a 23 GPM RO system to efficiently remove TDS contaminants. The system also included an acid injection section and product water distribution system to further optimize source water for boiler feeds. The system was outfitted with programmable logic controls (PLC) to minimize operation and maintenance demands while providing automated process monitoring capabilities.

TECHNOLOGY

SAMCO delivered a 23 GPM brackish water RO system, including:

- Standard pressure vessels, instruments, and valves
- Bag and cartridge filters
- High pressure pump
- Treated water storage tank
- PLC controls

OVERVIEW

Industry

Petrochemical

Location

Valdez, AK

Objective

Treat boiler feedwater to reduce TDS to <20 $\mu\Omega/\text{cm}$

Solution

23 GPM RO System