



RODI systems

Project Photos

Project Information

Client: Cajun Controls LLC

Location: Port Arthur, Texas, USA

Application: Reverse osmosis brackish water treatment for boiler feed

Description: The project entailed the design and construction of a mobile reverse osmosis desalination plant capable of producing 2,000,000 gallons per day of permeate. This system is used to feed boilers in a petroleum refinery.



The system is comprised of four separate 500,000 gallon per day trains. Each train is housed in a 40 ft intermodal shipping container. Each train is fed by three vertical centrifugal high pressure pumps, each representing 50% of full capacity. The pumps are piped in parallel thus allowing 50% standby pumping capacity.

Each train consists of fifteen 8" diameter pressure vessels each equipped with seven 8" x 40" thin film composite membrane elements. The vessels are arranged in a 2:1 array. Isolation valves in the stainless steel vessel manifold allow a portion of the vessels to be isolated during cleaning thus lowering the volume and horsepower requirements for the cleaning system.





The treatment system is equipped with a state-of-the-art monitoring and control system and a full complement of electronic sensors. Each train is controlled by its own local PLC with a touch screen color operator interface screen. Each local PLC is networked via industrial Ethernet to a single supervisory controller. The supervisory controller is equipped with a cellular network gateway that allows the entire system to be monitored and controlled remotely.

The client's requirement for this application involved a short delivery time. The complete system was constructed, delivered, installed, and operating within sixteen weeks of receiving the contract.



Space restrictions at the client's site required that the system be compact and easy to position into the tight space. RODI Systems provided a multi-disciplined startup team on site to expedite installation and commissioning.