CONTAINERIZED ELECTRODEIONIZATION FOR HIGH-PRESSURE BOILER FEED

Continuous Deionization as a Replacement to Mixed Bed Ion Exchange

Overview

Valleyview Generation Station recently contracted with WesTech to replace its portable mixed-bed ion exchange demineralization systems with continuous electrodeionization (EDI) technology. To meet this gas-fired powerplant's requirements, we designed a containerized system with two independently operated EDI trains. Both trains reside in a single, insulated high-cube container with HVAC and lighting. All systems controls were factory tested, pre-assembled, and pre-wired.

The containerized system requires only one power feed, with a power distribution panel located inside to service the EDI trains and the associated equipment. Permeate from the plant's existing double-pass reverse osmosis (RO) system feeds the EDI system via a common container feed header, which distributes the permeate to one or both EDI skids, depending on the required demineralized-water capacity. ■

RESULTS

90-95%
Recovery

< 1 µS/cm
Product Water Conductivity

> 300,000 GPD
(1,135 m^3/d)
Demineralized Water Produced

Project Summary

Valleyview Generation Station

Location:
Alberta, Canada

Application:
Industrial Demineralization

Process:
Double Pass Reverse Osmosis ▶ Electrodeionization

Net Capacity:
240 gpm (54.5 m^3/h)

Configuration:
2x50-Percent Trains

Highlights

- The containerized design includes two electrodeionization trains in a single container.
- The system requires no chemical or off-site regeneration.
- Only minimal on-site installation labor was required.

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