

Reverse Osmosis System



Background

The mobile reverse osmosis (RO) system was developed to address waste reduction following advanced scale conditioning agent (ASCA) applications. Coupling Westinghouse RO waste reduction with ASCA applications allows customers to meet their steam generator cleaning and waste reduction needs through a single service provider.

Description

The RO system reduces the volume of ASCA process and rinse waste, decreasing the amount of waste to be shipped from the site and reducing the disposal costs for the customer. The ASCA RO system has can reduce volume by approximately 70 to 90 percent when the process is applied to ASCA waste with conventional plant discharge limits. The process is favourable to plants which use make-up water already containing tritium. Combined with a typical ASCA treatment, the process can save the project significant cost, which represents a direct reduction to the customer's bottom-line costs. Once the ASCA waste solution is processed with the RO system, the product (or permeate) is discharged to a designated utility location and the concentrated waste (or reject) is sent to a waste disposal facility.

Benefits

The Westinghouse mobile RO system has the following process and design benefits:

- Reduces waste solution handling cost
- Reduces the amount of radioactive waste on site
- Can reuse or discharge product water (permeate) at the utility's discretion
- Can be operated remotely or locally
- Self contained and easily interfaced with the Westinghouse ASCA system



Experience

The initial Westinghouse implementation of mobile RO technology was performed in the spring of 2012. The system was used to reduce the volume of process and rinse waste following a full bundle ASCA application. A 10-to-one reduction was achieved, thus decreasing the amount of waste that was shipped from the site. The implementation of RO technology following ASCA significantly reduced the waste disposal costs for the utility.



www.westinghousenuclear.com/canada/CANDU

Westinghouse Electric Company

161 Bay Street., Suite 2700
Toronto, ON M5J 2S1

www.westinghousenuclear.com/canada

September 2023

2023 Westinghouse
Electric Company LLC.
All Rights Reserved

