Desalination Product Water Recovery and Concentrate Volume Minimization

Funding Agency:

- Water Research Foundation (AwwaRF 3030)

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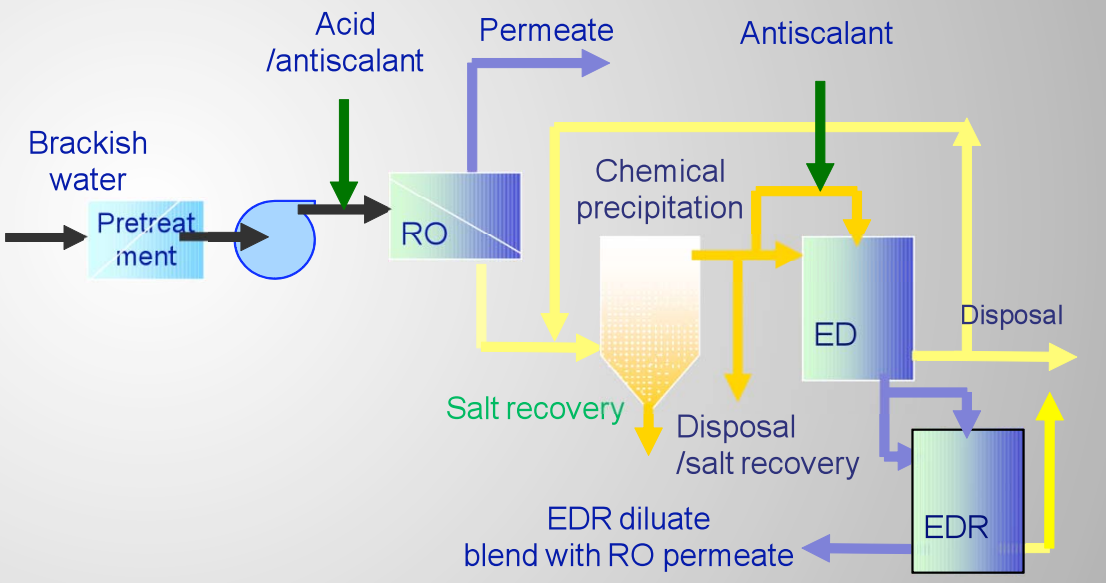

Project Objectives

- Project Goal: Assess and investigate technologies to maximize recovery and minimize concentrate volume
  - Phase I
    - Assess emerging and promising methods
    - Conceptualize an innovative concept
  - Phase II
    - Develop experimental plans and design bench-scale set-ups
    - Perform bench-scale proof-of-concept study

Methodology

- Literature review
- Technical assessment of the promising and emerging technologies
- Conceptual design and testing of a hybrid approach
- Modeling of the hybrid approach for estimating overall recovery improvements
- Develop general guidance/recommendations

Major Findings

- Concentrate management is a major challenge to inland desalination applications
- Concentrate minimization makes several disposal options more amenable
- Hybrid configuration, such as RO-precipitation-ED/EDR, is cost-effective and viable in reducing concentrate volume