



**QUA's Q-SEP® Ultrafiltration
Membranes Effectively Treat
Complex Effluent at Leading
Integrated Steel Plant**

QUA®
Pure Technology

Client: Leading Greenfield Integrated Steel Plant
Existing ETP capacity: 3,434,356 GPD (13,000 m³/day)

Challenges

- Optimize wastewater treatment for reverse osmosis (RO) feed for the site’s zero liquid discharge (ZLD) plant.
- Adhere to established pollution control standards and guidelines for treating and releasing wastewater.

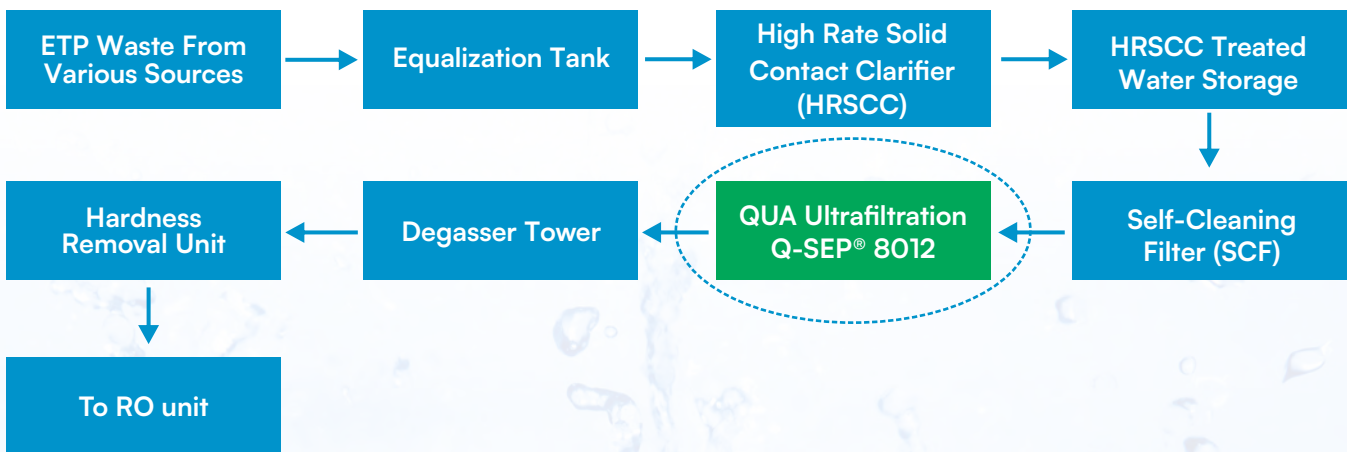


QUA’s Solution

The original treatment system installed by a previous vendor underperformed and failed to function correctly within two months post-installation, prompting the client to decommission it. The client turned to QUA for its expertise and proven solutions.

After a comprehensive evaluation, the client selected Q-SEP® 8012, a state-of-the-art low-pressure hollow fiber ultrafiltration system known for its superior performance. The decision to implement this advanced technology was made based on its robust secondary treatment capabilities, exceptional performance, ability to handle a Silt Density Index (SDI) of less than 3, and its proven effectiveness in water treatment applications.

Plant Scheme



Membrane System Design

QUA UF Model	No. of Streams	No. of UF Modules Per Unit	Permeate Flow Per Stream	Design Feed Water Turbidity (NTU)	Product Water Turbidity (NTU)
Q-SEP® Outside-In	02	96	267 x 2 m ³ /hr	50	0.1

Results

Since its commissioning in April 2023, the ultrafiltration system has delivered uninterrupted, high-performance results. The system has consistently treated effluent treatment plant water, consistently achieving the clients stringent quality specifications. The clarity of the product water has consistently remained between 0.1 to 0.2 Nephelometric Turbidity Units (NTU), and the permeate flow has been consistently sustained at 267m³/hr in each stream without any reduction in overall output. The RO permeate is effectively utilized for the power plant application.