



## Zero Liquid Discharge Solutions for Food & Beverage Industry

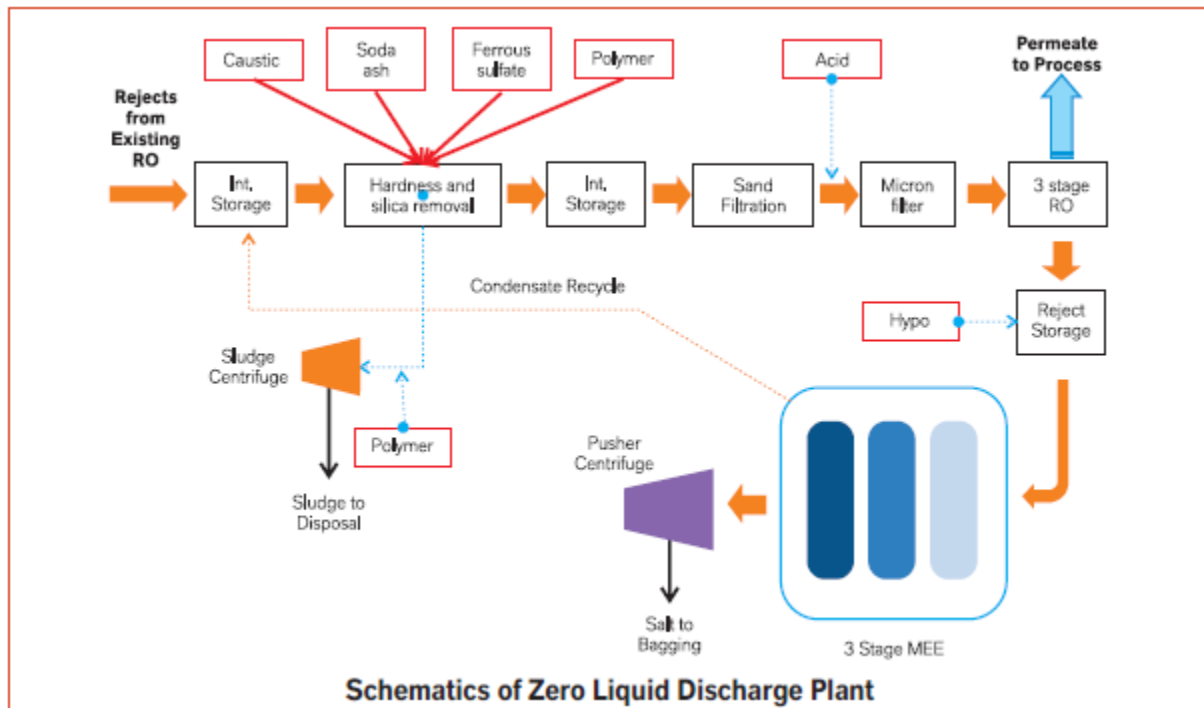
Praj has successfully installed effluent recycling system along with zero liquid discharge plant for one of the leading beverages company in India. Severe water scarcity led to interruption in the operations of the plant.

After a thorough evaluation of several suppliers of wastewater treatment solutions, Praj was chosen for its integration capabilities, expertise in the maximum recovery of wastewater and zero liquid discharge systems.

Praj's expert team conducted a technical assessment of the existing plant. This led to a solution which enables the client to recover more than 85% of the water. Balance reject is treated in the evaporation plant to convert into solid and achieve a truly zero liquid discharge system.

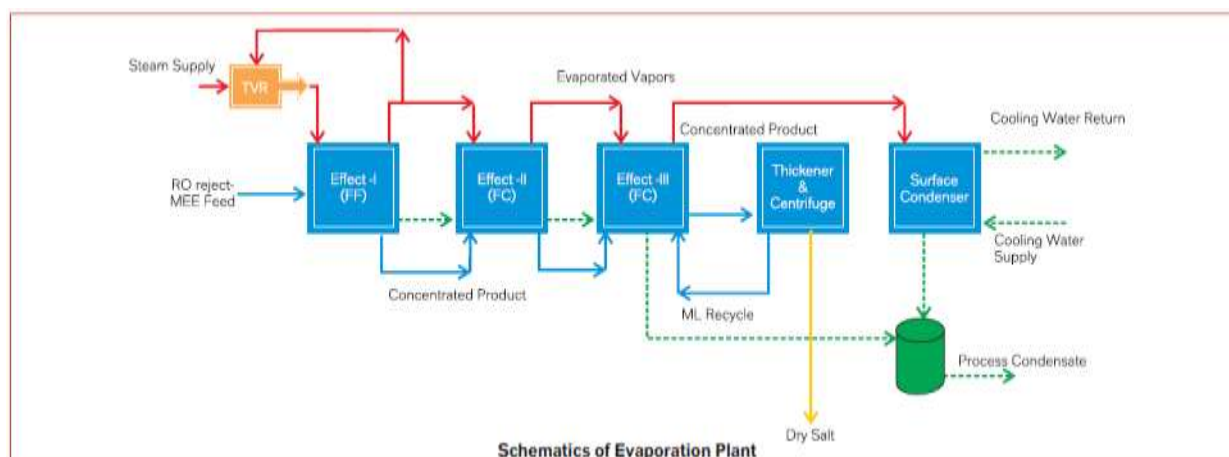
### Project Requirements

- Effective water management and solution backed by technology to achieve zero liquid discharge
- Management of 514 m<sup>3</sup> per day of the effluent coming from different streams with frequent shock loads
- Reduction in the consumption of fresh water intake



Evaporation

Inlet conditions		Outlet conditions	
Flowrate (m3 per day)	514	pH	Neutral
Temperature (Deg Celsius)	Ambient	Total hardness (ppm)	<50
Total suspended solids (ppm)	6000	SiO2 (ppm)	<1
Total dissolved solids (ppm)	9500	Total alkalinity (ppm)	<80
pH	7.8		





## Reverse Osmosis Skid

### Advantages

- End to end solution for biological membrane and thermal solutions
- Customized design to optimize capex and opex
- Excellent output water quality which minimizes the fresh water consumption
- Solution under one roof - design, engineering, manufacturing, erection and commissioning
- High level of automation
- Minimal cleaning frequency cycles

### Result of the Plant Commissioning

For this project, Praj has successfully installed an integrated biological, recycle and reuse and zero liquid discharge system converting the effluent into usable water to achieve zero liquid discharge.