

Fertilizer Industry



Introduction

Deepak Fertilisers and Petrochemicals Corporation Ltd. (DFPCL) is among India's leading producers of fertilizers and industrial chemicals. Set up in 1979 as an Ammonia manufacturer, DFPCL today is a publicly listed, multi-product Indian conglomerate with an annual turnover of over one billion USD with a product portfolio spanning industrial chemicals, bulk and specialty fertilisers, farming diagnostics and solutions, technical ammonium nitrate and value added real estate, which includes India's 1st & largest revolutionary concept retail destination for Home Interiors & Design.

The Company has manufacturing facilities in Taloja – Maharashtra, Srikakulam – A.P, Panipat – Haryana and Dahej – Gujarat. The Company has adopted some of the global state-of-the-art technologies that enable it to manufacture and supply high quality products that meet global standards.

One of its plant is located at Dahej, Gujarat where Ion Exchange has supplied a state-of-art Water Treatment Plant, Recycle cum Zero Discharge Plant.

This plant has been commissioned and is operational since 2018. The Pre-treatment plant having feed water from Gujarat Industrial Development Corporation has a capacity of 4400 m³/day, Demineralization Plant capacity is 400 m³/day, ETP-Recycle Plant is 780 m³/day, Multi Effect Evaporator is of 68 m³/day and Sewage Treatment Plant is of 20 m³/day. The effluent includes blow down from cooling towers, boilers, reject/effluent from DM plant and pressure sand filters, RO and Process effluent too.

The Challenge

The stringent discharge norms in the region and an overall environmental consciousness led the company to look for an integrated efficient water and waste water management system the first of its type within the group, to enable their vision for water conservation and zero discharge.

The Solutions

To treat the raw water, Ion Exchange recommended & implemented a scheme that includes pretreatment of water, DM Plant and Mixed bed polisher unit.

To treat the effluents, Ion Exchange recommended & implemented a scheme that includes extensive pretreatment of water, INDION® Ultra filtration(UF) followed by two-stage INDION® Reverse Osmosis (RO) and finally Multi Effect Evaporator to handle the reject from the membrane systems.

Results

- The plant, recovers 87% of the waste water for reuse and achieves zero discharge.
- At the same time, it helps conserve water by reducing fresh water intake through this recycling program and thus helps in preserving fresh water.