

## **SCHEMES IMPLEMENTED FOR RECYCLING OF WATER**

Environment protection has been the supreme priority of Nagarjuna Group since its inception. In line with this philosophy, NFCL has been committed to achieve and demonstrate sound Environmental Performance. An integrated Environmental Management Plan (EMP) was envisioned at the conceptualization stage of the project and a number of Environmental Control and Monitoring Measures have been incorporated in the basic design stage to ensure strict adherence to national and as well as international standards.

### **Major Water Conservation Measures to Reduce Specific Water Consumption at NFCL**

To conserve the Natural Resource, we have adopted the following Water Conservation Measures including recycling schemes as mentioned below:

- Cooling Tower makeup being the major consumption of water, it was decided to take up water conservation in cooling towers on priority. Increase in Cycles of Concentration from 6.0 to 9.0 in circulating cooling water giving a saving of 1950 m<sup>3</sup>/Day.
- Usage of DM plant Rinse Water from Weak based anion, Strong based anion & mixed beds, Water from Online Analyzers and Back Wash water from Condensate Polishing Unit as Cooling Tower makeup, giving a saving of 640 m<sup>3</sup>/Day.
- Boiler Blow Down water quality is much better than the make up water quality to Cooling water. So, we are diverting all the NINE BOILERS blow downs to the cooling water as makeup. Conservation of water by boiler blow down to Cooling Towers is 500 m<sup>3</sup>/Day.
- We are having Raw Water summer storage tank at Samalkot. During the storage process our Raw Water Turbidity comes down. Our incoming Raw Water Turbidity (average) is around 20 - 30 NTU. This is very less to the design of Pre Treatment Plant (i.e. 2000 NTU). Taking this as an opportunity Clarified Water from sand filters backwash pit in Pre Treatment Plant is recycled back to Raw Water Reservoirs. Water Saving is 700 m<sup>3</sup>/Day.
- Rain Water harvesting has been taken up in the complex. Rain Water accumulated in the Additional Raw Water Tank (45 Acres area), all the Rain Water collected within the plant areas (from Security Gate, Technical Building to Water Pre Treatment Plant) have been

diverted to PTP sludge pit and the harvested Rain Water is being used for Plant usage and thereby conserving / reducing the Fresh Raw Water intake.

- CO<sub>2</sub> Recovery Plant Effluent diverted as Cooling Tower make up.
- Cathodic Protection for Fire water pipe system to minimize leaks.
- Usage of Chlorine Dioxide in Cooling Water treatment to reduce consumption of Chlorine and total Chlorides in circulating cooling water.