



# Pure Water Forever

transforming today  
for a better tomorrow

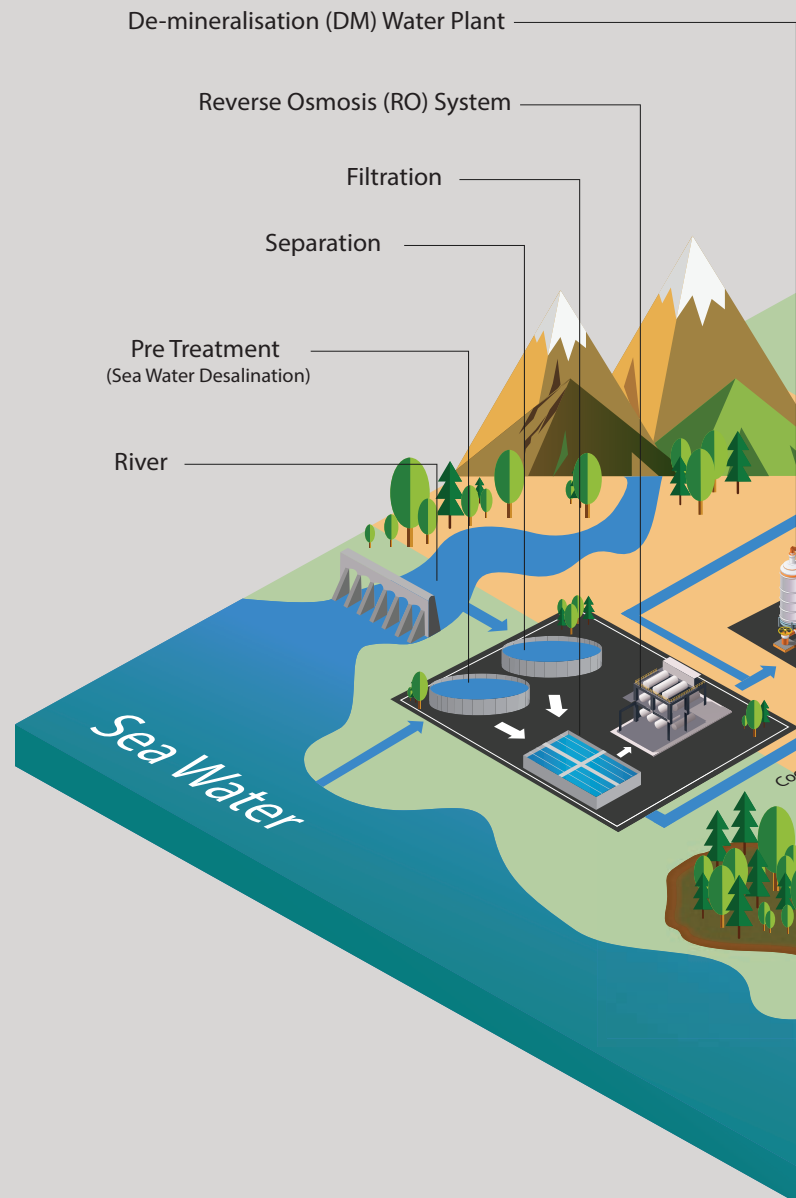
## About BHEL

BHEL is a celebration of India's industrial achievements. Established in 1964, it is one of India's largest engineering and manufacturing enterprises in the energy and infrastructure sectors and a leading power equipment manufacturer globally.

BHEL serves the core sectors of the economy and provides a comprehensive portfolio of products, systems and services to customers in power, transmission, transportation, renewables, water, defence & aerospace, oil & gas and industry from its widespread network of 16 manufacturing plants, 2 repair units, 4 regional offices, 8 service centres, 15 regional marketing centres, 3 overseas offices and more than 150 project sites across India and abroad. In all, BHEL has footprints in 83 countries in all the six inhabited continents.

The worldwide installed base of power generating equipment supplied by BHEL exceeds 185 GW-making it the undisputed leader amongst Indian power plant equipment manufacturers. BHEL has installed more than 1000 utility sets in thermal, hydro, nuclear & gas based power plants, contributing 53% to the total installed conventional power generation capacity in the country.

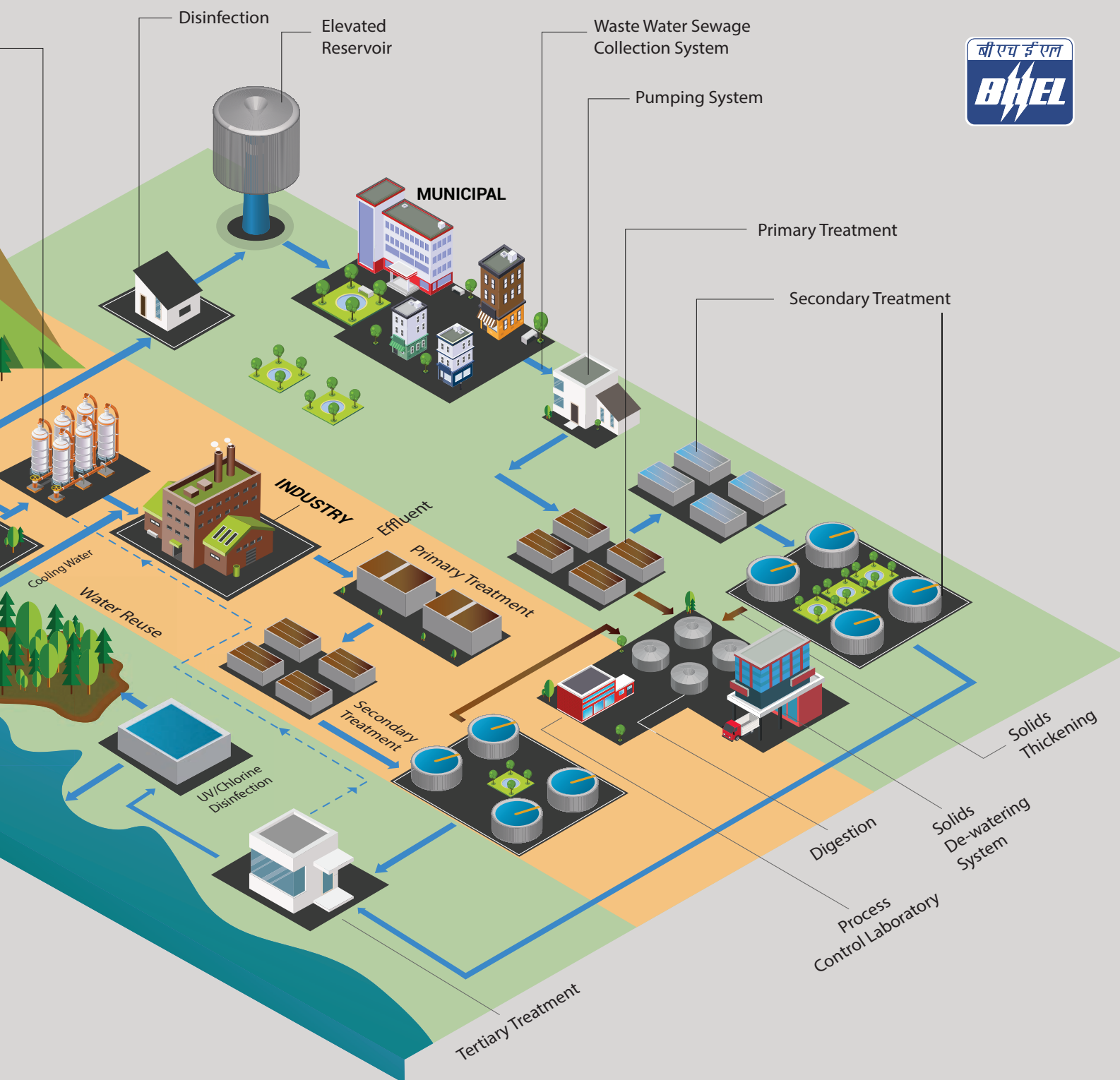
All the entities of the company are accredited to ISO 9001:2015, Quality Management Systems, with major manufacturing units also accredited to Environmental Management Systems, ISO 14001:2015, and Occupational Health & Safety Management Systems, OHSAS 18001:2007.



# 96 MLD

one of the largest ultra-filtration plants in India

commissioned by BHEL at OPaL-Dahej Petrochemical Complex, Gujarat



## Complete Water Management Solutions

Water management is one of our focus business areas. BHEL has been in the field of water treatment since the nineties. The first 'one million gallons per day' capacity Sea Water Reverse Osmosis (SWRO) desalination plant in India for public utility needs was put up by BHEL at Narippaiyur, (Ramanthapuram district, Tamil Nadu) in 1999. Having over two decades of experience in treating water from various sources viz. sea, river, bore-well, industrial effluents and sewage, we offer environment-friendly solutions for both industrial and municipal segment. A dedicated Pollution Control Research Institute (PCRI) undertakes performance evaluation of different treatment plants, assessment of water/effluent/sewage characteristics, environmental audits, etc.



# Concept to Commissioning and Beyond...

Practicing the philosophy of concept to commissioning and beyond, our endeavour is to provide customer-oriented cost effective solutions and services for:

- Process Water Treatment for Industrial Applications
- Potable Water Solutions
- Water Supply and Distribution Management
- Desalination System
- Effluent Treatment Plant (ETP)
- Sewage Treatment Plant (STP)
- Sewage Collection and Pumping Station



Reverse Osmosis (RO) System at Yeramarus TPP

## Concept

- Feasibility
- Planning

## Commissioning

- Project Management
- Design & Engineering
- Equipment Supply
- Construction
- Commissioning

## Beyond...

- Operation & Maintenance
- Plant Performance Evaluation
- Environmental Audit
- Technical Training





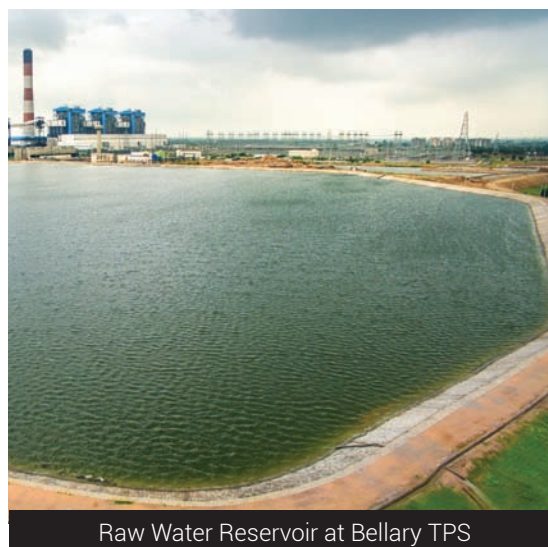


## Industrial and Process Solutions

BHEL, with its rich experience in power sector, has unique expertise in understanding the intricacies of the water quality for varied industrial and process requirements.

We offer total turnkey solutions for the following systems:

- Pre-treatment Plant
- De-mineralisation (DM) Water Plant
- Desalination Plant
- Effluent Treatment Plant
- Cooling Water (CW) Treatment
- Zero Liquid Discharge (ZLD) Systems for Industries
- Other Membrane based solutions



Raw Water Reservoir at Bellary TPS

## Major References

- 96 MLD Ultrafiltration based Raw Water Treatment Plant for OPaL-Dahej Petrochemical complex
- RO-DM Plants for boiler make-up and process water requirements in Thermal Power Plants, like
  1. North Chennai Unit-1&2 (2 X 600 MW)
  2. Vizag, HNPCL (2 X 520 MW)
  3. Bellary Unit-1 & 2 (2 X 500 MW)
  4. Bawana, Pragati Phase III CCPP (6 X 250 MW)
- Sea Water Reverse Osmosis Plant at Pipavav CCPP (2 X 350 MW)



Raw Water Treatment Plant at OPaL-Dahej





Membrane Bio-Reactor (MBR) based STP at BHEL Hyderabad

## Municipal Solutions

Leveraging the competencies developed over two decades, BHEL offers complete Water Management Solutions from water supply & distribution management to waste-water treatment and its reuse.



HRSCC at Bawana CCPP, New Delhi

## Water Supply and Distribution

- Sea Water Desalination Plants
- Potable Water Treatment Plants
- Pumping Systems
- Water Storage (Tanks, Reservoirs)
- Pipelines & Distribution Network

## Sewage Collection, Treatment and Reuse

- Sewage Collection Network
- Sewage Pumping Stations
- Sewage Treatment Plants
- Tertiary Treatment Plants (Reuse & Recycle)
- Sludge Management & Energy Generation

## Major References

- 3.8 MLD Sea Water Reverse Osmosis Plant (SWRO) for Potable applications at Narippaiyur for Tamil Nadu Water Supply and Drainage Board (TWAD)
- 40 MLD Sewage Treatment Plant (STP) based on Activated Sludge Technology for Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB)
- 1.2 MLD Tertiary Treatment Plant at Pragati Bawana CCPP which uses sewage intake and converts it to boiler-feed water



Activated Sludge Process (ASP) based STP at Chennai



## Advantage BHEL

- Over two decades of rich experience in process design, equipment selection, installation and commissioning of Water Treatment Plants
- Supplied more than 20 RO-based desalination plants throughout the country
- Offers turnkey solutions to all segments of water management right from potable water applications to DM water make-up and domestic sewage treatment -  
**One Stop Solution Provider**





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