



# IEI NEWS

A House Journal of Ion Exchange (India) Ltd.

PARTNERING YOU  
with  
**360°**  
Solutions



TOP Water Awards  
for IEI

Turn to  
pg 8



# Partnering You with **360° Solutions**

**Total water and environment management capability enables Ion Exchange India (IEI) to add value across the customer's entire process cycle, while comprehensive service support ensures high performance continuity.**

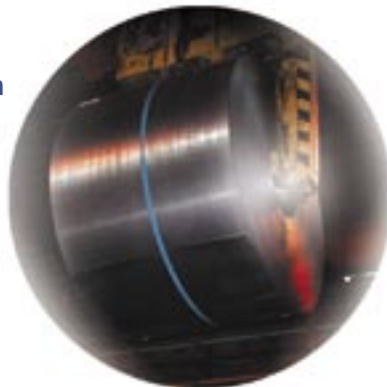
**Featured here are examples of how our 360° solutions-with-service approach helps major industries to manage water better, addressing the specific needs of each customer, in totality.**



**The resultant single-point responsibility enables greater customer focus on core business, assures consistent, continuous supply and quality with superior price performance ratios and production efficiencies, lower cost and more effective use**



**of capital employed.**



Together  
with  
**TISCO**

In 2000, steel giant Tata Iron and Steel Ltd. (TISCO) commissioned a 1.5 million tonnes per annum cold rolling

mill (CRM) at its complex at Jamshedpur. The total water management for the entire CRM was awarded to IEI, and we supplied, installed and commissioned the water and waste water treatment plants. The water treatment section consists of main filtration 3 x 160 m<sup>3</sup>/h,



demineralisation 2 x 40 m<sup>3</sup>/h, softening 2 x 20 m<sup>3</sup>/h and side stream filtration 4 x 147 m<sup>3</sup>/h. The waste water treatment plant treats chrome, alkaline, oily and acidic wastes, as well as 25 m<sup>3</sup>/h backwash waste from the filtration plant and 25 m<sup>3</sup>/h DM plant waste.

Since 2000, TISCO has also outsourced the comprehensive water management of the CRM complex to IEI including operation and maintenance of the water and waste water treatment plants, besides the management of the cooling tower and cooling water treatment programme.





Our 25-member team includes a plant in-charge, shift supervisors, process engineers, operation and maintenance personnel, lab chemists and workers. Our scope of service involves



24 x 7 operation of the plant, maintenance of the mechanical/ electrical/ instrumentation equipment of the plant (water treatment, waste

water treatment, recirculation pump house), supply and monitoring of the cooling tower chemical system, laboratory analysis at plant site and submission of consumables consumption report.

Our personnel run the plants effectively with planned periodical maintenance in place. Required stocks of spares and chemicals are maintained by TISCO in close coordination with us, thus ensuring trouble-free operation and maintenance. When necessary, visits by OEMs are also planned in consultation with TISCO to make sure that all equipment is functioning smoothly.



Awarding the entire water management and services to a specialist has enabled TISCO to focus

on its core strength: making steel. In addition, there has been tremendous value addition through savings in consumption of chemicals, improved plant efficiency, and consistent quality and



quantity of treated water.

We participated in the training and safety day programmes as well as the 'Safety Mela' organised by TISCO and successfully completed their 'zero accident' campaign. We also worked closely with TISCO in maintaining quality systems



as well as in ISO 14001 certification audits. Thus, our association with TISCO in the total water management at the CRM complex has been a seamless partnership. And TISCO's satisfaction is clearly reflected by the renewal of our contracts, twice over. Moreover, our personnel have also been commended by TISCO for their performance, knowledge and quality of service.

## Service on Track for Rail Neer

Indian Railways Catering and Tourism Corporation Ltd. (IRCTC) has set up two drinking water treatment and bottling plants in India for captive consumption, on select trains and stations.

One is located at Nangloi, a suburb of New Delhi and the other at Danapur, a suburb of Patna, Bihar's capital.

The turnkey plants, supplied and installed by IEI, each have a capacity of 6,000 cartons (72,000 one-litre bottles) per day on a 24-hour basis. They consist of state-of-art water treatment, bottle blowing, and bottling



and packaging sections. The water treatment section, with a capacity of 3000 litres/hour, consists of elaborate raw water pretreatment,

ultra filtration, reverse osmosis, pH correction, two-stage disinfection and final polishing by activated carbon filter for pesticide removal. Both plants are equipped with BIS approved modern laboratories, set up by IEI, to ensure adherence to stringent quality standards.

IRCTC outsourced the comprehensive operation and maintenance of both the plants to





IEI under five-year contracts starting 7<sup>th</sup> May 2003 at Nangloi and 28<sup>th</sup> February 2004 at Danapur.

The plants are managed by our experienced personnel with specific expertise in handling packaged water bottling plants. The team of around 25 at



each location consists of a plant-in-charge, shift supervisors, O&M personnel, lab chemists and workers. Usually the plants are operated in two shifts/day; though for a few months they also run on a third shift.

Both plants are running smoothly with

planned periodical maintenance in place. Required stocks of spares and chemicals are maintained to ensure trouble-free operation and maintenance schedules. Visits by OEMs are also planned to ensure smooth running of the various equipment.



Seeing the results, IRCTC is happy to have awarded the contracts to IEI, which allows IRCTC to concentrate on its core competencies.

## Making Waves with Nicco

**E**ffective water management is critical to a water park, much more so to India's largest artificial sea beach launched by Nicco Parks and Resorts Ltd. at Kolkata.

Says Mr. Rajeev

Kaul, Chairman, Nicco Group, "Nicco Parks is determined to maintain water purity levels of the highest international norms at our theme park. To achieve this, we have an exclusive arrangement

with the best provider of total water treatment services – Ion Exchange Services Limited. Not only is the water in our park purified continuously, it is tested twice a day by their trained water specialists, and the results certified and displayed for everyone to see."

These are the high expectations that Ion Exchange Services Ltd. (IESL) is fulfilling daily, to Nicco's complete satisfaction at the extremely popular Wet-O-Wild Beach Tropicana.

IESL's association with Nicco Group spans supply, installation, erection and commissioning to total water management services for the entire systems



required for complete filling of water in the pools, for make-up water due to evaporation loss, backwash water supply, and for the re-circulation filter. This includes a

Φ 850 mm oxidation chamber, Φ 1800 mm sand filter and softener and dealkalizer. The plant recirculates a huge 3600 cubic metres of water in different pools in two hours, to maintain turbidity at the desirable level of 5 NTU. It took a month for our team of four from IESL who are skilled in fabrication, installation, erection and commissioning, and with good operational knowledge of water treatment equipment, to ensure that all water treatment was well in place for the opening of the park.



IESL's service team of six, experienced in



operation and maintenance of water treatment systems, pipelines, chemical dosage etc., is based full time on site to ensure desired water quality is maintained at

all times. At the full-fledged lab set up at site by IESL, water quality is analysed twice a day, once





before the park opens and again, around mid-day, and the results prominently displayed.



*This total water management approach by IESL assures the customer not only of highest water quality but*

*also of savings on manpower, chemical consumption and maintenance costs. A win-win situation indeed – service delivered with a splash!*

## Mettlesome Service at JSW

**P**roduction capacity at the Jindal South West (JSW) semi-integrated steel plant at Bellary is 2.4 million metric tonnes ((MMT)), enhanced from 1.6 MMT two years

ago. JSW is poised for a new growth phase, with production targeted at 4 MMT in 2006-07 with the commissioning of the second blast furnace, almost doubling to 7 MMT by March 2008 and then to 10 MMT with a fourth blast furnace – among India's largest.

To strengthen focus on its core competency of making steel, the strategy of the JSW group is to outsource all high tech, non-core activities that specialist vendors



are in an expert position to handle.

Water is the lifeblood of a steel plant. The

**Water is the lifeblood of a steel plant. The approximate consumption of water at JSW Bellary is 4.0 to 4.5 m<sup>3</sup>/tonne. If it doesn't flow, production will stop. Even a small change in the quality of process water will affect the quality of production.**

approximate consumption of water at JSW Bellary is 4.0 to 4.5 m<sup>3</sup>/tonne. If it doesn't flow, production will stop. Even a small change in the quality of process water will affect the quality of production, particularly in the Basic Oxygen Furnace – Continuous Casting (BOF-CCP) plant. IEL News interacted with JSW Bellary (earlier known as Jindal Vijayanagar Steel Limited or JVSL) to discover how our TWM and O&M teams have delivered the desired results. Read on.

### The beginning

The starting point of the JSW-IEL relationship was our total water management (TWM) contract for the entire JSW plant in 2004 – the scope of work was mainly supply of chemicals for cooling water treatment, providing manpower for services, setting up the infrastructure for daily water analysis in our own laboratory, maintaining the raw water treatment plant with all supplies and services, and consultancy services for overall water management inside the plant.

### Performance pays

As time progressed, performance and reliability of service built up JSW's confidence level in IEL, resulting in several orders for water treatment equipment, including auto valveless gravity filters and pressure sand filters for the COREX and



Blast Furnace #1 plant. Their completion ahead of schedule gained us orders for demineralisation (DM) and softening plants for Blast Furnace #2. Then, in July 2005, came the first O&M contract for a competitor's DM plant in Blast Furnace #1, covering supply of basic chemicals for the DM and softening plants, supply of speciality chemicals, manpower for O&M of DM plant and softener, and dosing, monitoring of cooling water chemicals, followed by an O&M contract for Blast furnace #2 in July 2006. IEL was awarded the 35 m<sup>3</sup>/h DM plant and 30 m<sup>3</sup>/h effluent treatment plant project of the cold rolling mill in September 2006 and November 2006 respectively. Currently, IEL has emerged as JSW's preferred vendor for all water treatment products and services.

### Why outsource?

JSW's prime objective in off-loading these TWM services to one party was

- To reduce cost of operations by increasing the volume of business to a single party.
- To freeze the cost of water treatment per MT of



steel production i.e. HRC/HM/Slab etc.

- To make a single party accountable for the whole plant, from the raw water treatment to other process plants, to avoid confusion.
- To eliminate time, effort, and hassles of supervision, operation and maintenance of the water utility, so that JSW could concentrate on its core activity of steel making.

### Benefit to business

After taking over TWM at JSW, IEI was able to resolve many critical process problems in the plant.

**Problem Solving:** The COREX GCP thickener used to have a high raker load problem due to large floating unburnt carbon particles on the surface. (Raker load is the torque developed at the center of the scraper arm in a thickener. An increase in raker load increases the driver load/trips the prime mover, causing unpredictable breakdowns.) The introduction of a polymer flocculant by IEI did an excellent job by decreasing scum formation on the thickener water surface, reducing raker load and thereby downtime. This also



lessened the carry-over of unburnt coal from the thickener and as well as reduced nozzle choking in the GCP circuit. COREX is one of the most satisfied departments at JSW.

lessened the carry-over of unburnt coal from the thickener and as well as reduced nozzle choking in the GCP circuit. COREX is one of the most satisfied departments at JSW.

**Introducing Improvements:** Trials with various polymers resulted in another improvement in HSM (hot strip mill) thickener performance by reducing corrosion rate in the system. Yet another substantial improvement initiated was the spray circuit of BOF-CCP with the introduction of new methods. GCP scrubber performance was also improved with proper monitoring and lab trials on the slurry.

The result was a high degree of customer satisfaction, with appreciation certificates from all these departments.

**Specialist consultancy:** Consultancy on various other aspects also brought in considerable improvement. Our recommendation of an auto gravity valveless filter (AVGF) for the blast furnace cooling tower reduced TSS in the system thereby saving water loss due to excess cooling tower blowdown; it not only



saved water but system corrosion also reduced substantially with incorporation of an AVGF and, of course, our chemical treatment programme. A corrosion rate that used to be around 25 – 30 MPY earlier with competitor's treatment was reduced to <2 MPY.

**Trouble shooting:** There was a major problem in Blast Furnace #1 DM plant operation due to frequent increases in differential pressure (DP). Organic fouling had created a problem in the SBA.



To tackle this, chlorination was stepped up which led to slippage of residual chlorine which started affecting the SAC column. When this

problem was referred to IEI's site personnel, their suggestion of soaking in the SBA column eliminated the problem. We also recommended cross-checking the free residual chlorine after the activated carbon filter, to prevent resin damage due to its presence in feed water. Implementation of these suggestions resulted in excellent improvement and the frequency of DP increase dropped from once a week to once in 45 days. It was this successful solution that led JSW to opt for our first O&M contract in Blast Furnace #1.

*The water treatment chemical business is built mainly on mutual trust and deliverables at the service end. Product and technology offered by all the leading companies may be the same – it is service that makes all the difference, it is trust and commitment that count with the customer. While IEI's first contract was awarded on price, demonstrated commitment and service resulted in repeat orders. Particularly appreciated by JSW is IEI's dedicated service and commitment to continuously try to incorporate improvements that will in turn benefit the customer's business and help fire up its steel production and achieve JSW's ambitious expansion plans.*



## Engineering Order **Hi-Lites**

### Overseas

From a Japanese EPC contractor for a thermal power plant project to be installed in Vietnam, a repeat order comprising 195 m<sup>3</sup>/h pretreatment, 2 x 55 m<sup>3</sup>/h demineralisation (DM) and 55 m<sup>3</sup>/h waste water treatment plant.

A turnkey order for a 150 m<sup>3</sup>/h DM plant, secured against international competition, from a client in Qatar.

Order bagged for the first time from an EPC contractor in USA for a DM plant (2 streams of 283 m<sup>3</sup>/h cation, 283 m<sup>3</sup>/h anion, 321.40 m<sup>3</sup>/h mixed bed unit) and filtration plant (2 streams of 55 m<sup>3</sup>/h cartridge filter/oil coalescer and activated carbon filter).

An order for 2 x 150 m<sup>3</sup>/h DM plants (layered bed cation, layered bed anion and mixed bed unit) for an ammonia plant in Sharjah.

Awarded against international competition, our first order from Bahrain, for the LULU Island Development Project, for an INDION membrane bio-reactor, capacity 3 x 800 m<sup>3</sup>/day. Also, a contract for supply of spares and consumables for 5 years as well as O&M for the same project.

A repeat order for condensate polishing (2 x 225 m<sup>3</sup>/h carbon filter followed by mixed bed polisher) for an ammonia plant coming up in UAE. The earlier order for DM plant is under execution.

### In India

A prestigious order from Angeripalayam Centralised Effluent Treatment Plant (ACETP), Tirupur, Tamil Nadu for a 10 MLD effluent recycle and zero discharge plant to treat textile effluent. Treatment scheme incorporates membrane bio-reactor followed by two stage RO plants and nano filtration.

From Regional Centre of Urban and Environmental Studies, Lucknow, for Rampur sewage treatment Zone-2, sewage treatment plant with 2 x 7.5 MLD Upflow Anaerobic Sludge Blanket (UASB) and sewer branch, trunk and main piping and collection.

From Bokaro Power Supply & Co., Bokaro, Bihar contract for supply, erection and commissioning of two streams of 120 m<sup>3</sup>/h pretreatment plant and 3 streams of 60 m<sup>3</sup>/h DM plant.

A repeat order from Kerala Chemicals & Proteins Limited, Kochi for gelatin deashing DM plant.

An order for 3 x 60 m<sup>3</sup>/h DM plant from Bharat Heavy Electricals Ltd., Kolkata, West Bengal for the

Bakreshwar Thermal Power station (Units 4 and 5) of West Bengal Development Power Corporation Ltd.

From Kolkata Port Trust, Kolkata, a 225 m<sup>3</sup>/h lamella clarifier to be set up on the banks of the Hoogly River for supply of clarified water to the barges docked at the Howrah jetty.

A repeat order from Vasavadatta Cement, Hyderabad for a 300 m<sup>3</sup>/h high rate solids contact clarifier at their unit in Karnataka.

Order from Gujarat Fluoro Chemicals Ltd., Dahej for a 25 m<sup>3</sup>/h ultra pure water system consisting of carbon, ultra filtration, RO, Duo Rapide DM, mixed bed and UV steriliser.

A repeat order for an auto DM plant of 2 x 30 m<sup>3</sup>/h from JSW Steel Ltd., for their Toranagallu unit CRM project.

Our joint venture, Ion Exchange Waterleau Ltd. (IEWL), has been awarded an order from Reliance Industries Ltd. for their petroleum refinery in Jamnagar, Gujarat, for a 2000 m<sup>3</sup>/h effluent treatment plant; the DM plant and condensate polishing units (CPUs) for the Reliance Jamnagar expansion project were awarded by Reliance Petroleum Limited to IEI. The DM plant will treat desalinated water through 13 x 338 m<sup>3</sup>/h mixed bed units. The CPUs consist of six activated carbon filters and 3 x 338 m<sup>3</sup>/h mixed bed units. Bechtel, London is the consultant for this project.

IEWL was also awarded a prestigious order from Tamil Nadu Newsprint & Papers Ltd., Chennai for supply of anaerobic digester (UASB), bagasse clarifier, high rate solids contact clarifier, necessary pumps, piping and instruments for liquid waste treatment and energy recovery, capacity 800 m<sup>3</sup>/h and 50,000 COD/day. This contract will provide a good reference for converting complex liquid waste to energy through anaerobic digestion process.

### Iron Removal with **INDION® ISR**

From Oil & Natural Gas Company (ONGC), Agartala, Assam, 3 sets of 35 m<sup>3</sup>/h INDION iron specific resin (ISR) based iron removal filters and MIOX disinfection system for three of their housing colonies.

From South Central Railways, Orissa, a 25 m<sup>3</sup>/h ISR based INDION iron removal filter for a railway colony in Brajrajnagar, Orissa.



## IEI Honoured with Top Water Awards

**Best Water Company**

**Best Water Conserver –  
Wastewater Management**

**Best Domestic Water Purifier –  
Complete RO Purifier**

**Lifetime Achievement Award –  
Mr. G.S. Ranganathan, Chairman**

IEI's contribution to the water industry was recognised with four prestigious Water Awards – India's first ever awards to recognise excellence and efforts of individuals, NGOs and corporates in the field of water and the water industry. The awards, instituted by international magazine Water Digest in association with UNESCO, were presented on 13th November '06 by Union Minister for Water Resources Prof. Saifuddin Soz; Ms. Minja Yang, Director, UNESCO; and Ms. Sunita Narain, Director, Centre for Science and Environment.



From the fourteen awards presented in different categories, IEI was awarded the most coveted Best Water Company award and the Best Water Conserver – Wastewater Management award.

The company's Zero B was awarded the Best Domestic Water Purifier – Complete RO Purifier award. The Lifetime Achievement award was conferred on our Chairman Mr. G. S. Ranganathan for dedicating his life to the cause and promotion of water conservation for the past 50 years.



Prof. Saifuddin Soz, Union Minister for Water Resources (left) presents the Best Water Company award to Mr. Rajesh Sharma, Managing Director, IEI.



Mr. R. S. Rajan, Vice President, Consumer Products, IEI receives the Best Domestic Water Purifier - Complete RO Purifier award from Ms. Minja Yang, Director, UNESCO.



Ms. Sunita Narain, Director, Centre for Science and Environment, presents the Best Water Conserver - Wastewater Management award to Mr. Aankur Patni, Director, IEI.



*"As predicted in Rachel Carson's Silent Spring 45 years ago and Limits To Growth by the Club Of Rome, the exponential growth of industrialisation*



**Lifetime Achievement Award**

*and urban populations has resulted in the pollution of the whole earth. Since then awareness for the need to control and reduce pollution has increased and led to development of technology and companies specialised in it to provide the necessary services for environmental management. A major role has been*

*of the water treatment industry since water is one of the main conduits for pollution. Ion Exchange India which has pioneered in India most of the new technologies required for water has widened its range to cover environmental management as well."*

**- G Shankar Ranganathan, Chairman, IEL**

Addressing the award function, Prof. Soz said that such awards not only recognise excellent performance in specific areas, they also help society by stimulating public awareness and attention on critical water issues and by encouraging others to take similar measures and perform even better.

Prof. Soz emphasised that sustainability of water resources and preservation of its quality can be ensured only with active participation of all stakeholders. He strongly advocated adoption of innovative technologies and mechanisms, water conservation measures, watershed management and rainwater harvesting. Congratulating all the awardees for their excellent performance, he called upon them to campaign vigorously for a water-saving society.

## Water Awards 2006-07

The awards were judged by an esteemed panel from the field of water such as Dr. Sudhirendar Sharma, Director of Ecological Foundation, Dr. Sukumar Devotta, Director, National Environmental Engineering Research Institute (NEERI), Mr. D. Datta, Chairman-cum-Managing Director, Water and Power Consultancy Services (WAPCOS) and Dr. B.R. Neupane, Regional Programme Specialist, UNESCO.

### Broad Criteria

#### Best Water Company

- Commercial Soundness & Market Growth
- Financial Growth
- Technological Innovativeness
- Impact on Society
- Environmental Impact

#### Lifetime Achievement Award

- Leadership
- Corporate Growth
- Impact on Society
- Contribution to Industry
- Targets Set, Achieved & Market Growth

#### Best Water Conservor -

#### Wastewater Management

- Environmental Impact
- Effectiveness of Water Use
- Replicability of Model
- Benefits of the System
- Sustainability

#### Best Domestic Water Purifier - The Complete RO Purifier

- Market Growth
- Technological Innovativeness
- Cost-Effectiveness & After-Sales Service
- Suitability of Use
- Benefits of Use



## Successfully Commissioned

675 m<sup>3</sup>/h pretreatment plant comprising high rate solids contact clarifiers, 3 x 325 m<sup>3</sup>/h rapid gravity filters and 2 x 50 m<sup>3</sup>/h DM plants at Jindal Steel and Power Ltd., Raigad, Maharashtra.

For O.P. Jindal Super Thermal Power Plant (4 x 250 MW), Raigarh, Chhattisgarh, raw water treatment plant having 2100 m<sup>3</sup>/h clariflocculator,



and three streams of 100 m<sup>3</sup>/h DM plant. This is the first utility plant commissioned in the O.P. Jindal Super Thermal Power Plant grassroot project..

For Jindal Steel & Power Limited, Raigarh, Chhattisgarh, pretreatment plant with 700 m<sup>3</sup>/h high rate solids contact clarifier, 2 x 50 m<sup>3</sup>/h DM plant, 4 x 150 m<sup>3</sup>/h sidestream filters and 4 x 10 kg/h chlorination plant. Also, water treatment plant consisting of 2 x 300 m<sup>3</sup>/h lamella clarifier, 2 x 20 m<sup>3</sup>/h & 6 m<sup>3</sup>/h softening plants and 2 x 10 m<sup>3</sup>/h drinking water plant.

### Satisfaction Assured

From Madras Atomic Power Station, Kalpakkam, Tamil Nadu, a satisfaction certificate, on the performance of our sea water biocide. Since our chemical performed excellently, a repeat order followed.

From Micro Healthcare, South Africa, for the new water treatment plant comprising multi grade filter, activated carbon filter, Duo Rapide Plus deioniser and ultra filtration plant. The plant is running on schedule and within specified parameters. The assistance on installation and commissioning, training on O&M and after sales service provided by our team was highly appreciated.

For Hindalco Industries Limited, Hirakud, Orissa , a 1000 m<sup>3</sup>/h pretreatment plant with 1008 m<sup>3</sup>/h lamella clarifier, 4 x 250 m<sup>3</sup>/h multigrade filters and 2 x 250 m<sup>3</sup>/h softeners. Also, two streams of 118 m<sup>3</sup>/h DM plant.



Auto DM plant, 2 x 16.25 m<sup>3</sup>/h, at St. Gobain Glass India Ltd., Sriperumbudur, Tamil Nadu.



USP 28 pharma grade automatic RO-EDI system at Royce Pharma Manufacturing Sdn. Bhd., Malaysia.

### Helping with Healthcare

Fourth order from Wockhardt Kidney Research Centre, Kolkata, for a 400 LPH RO system and a pretreatment plant for artificial kidney dialysis (AKD) application.

From Ramakrishna Mission Seva Prathisthan Hospital, Kolkata, for a 400 LPH RO and a pretreatment plant for AKD application.

From Guru Nanak Hospital, Ranchi, Jharkand, a 600 LPH RO system and a pretreatment plant for AKD application.

An order for a 150 LPH RO system from Woodland Hospital, Shillong, Meghalaya, for AKD application.

From SM Hospital, Bongaigaon, Assam, a 100 LPH RO system for AKD application.



## INDION® Sewage Treatment & Recycle

### LandMark Constructions



We installed an 11 m<sup>3</sup>/day INDION new generation packaged sewage treatment plant (NGPSTP) for Landmark Constructions at their residential complex *Homestead* comprising 32 apartments, of which eight are 3-bedroom, and the rest 2-bedroom units. Running successfully for more than

18 months now, the plant – situated below a bedroom window, blends in with the aesthetics and there have been no problems relating to odour or noise. The 7 m<sup>3</sup>/day recycled water is used for toilet flushing and landscaping.



### L&T Demag

L&T's ECC division installed our INDION NGPSTP at the L&T Demag corporate office which has around 1000 people working in three shifts, with average sewer generation of 25-35 m<sup>3</sup>/day. The plant cleared all Pollution Control Board (PCB) norms and its output quality of BOD < 8 ppm, COD < 50 ppm and TSS < 15 NTU, successfully satisfied the customer and PCB criteria. It has been giving trouble-free performance for almost a year now. The treated water is used for toilet flushing and landscaping.



## Sweetness Satisfied



*Repeat orders were in full flow from the sugar sector, testifying to customers' satisfaction with the efficacy of our INDION solutions.*

### For decolourisation resin

From Simbhaoli Sugar and DSM Sugar.

### For cooling water treatment

From the Balrampur Group for all their units in the Northern region, for their cogeneration plants.

- Balrampur Power Project
- Mankapur Chini Mills
- Rozagaon Chini Mills
- Akbarpur Chini Mills
- Haidergarh Chini Mills

### For DM and/or RO plants

From Riga Sugar & Co., for their factory at Dhanukagram, Riga, Bihar.

Dnyaneshwar SSK Ltd., Ahmednagar, Maharashtra.

Shree Renuka Sugars Ltd., Havalga, Karnataka.

Balrampur Chini Mills, Balrampur, Uttar Pradesh.

DCM Shriram Consolidated Ltd., Delhi, for their upcoming green field projects at Loni and Hariyawa in Uttar Pradesh.

Simbhaoli Sugar Mills Ltd., Simbhaoli, Uttar Pradesh, for their Chilwaria and Simbhaoli units and their upcoming project at Brijnathpur.

Bajaj Hindustan Ltd., Noida, Uttar Pradesh, for their units in Basti, Walterganj (Distt. Basti) and Pratappur, Deoria in Uttar Pradesh.

DSCL Sugar for their upcoming projects at Loni, Haryana and Hariawa, Uttar Pradesh.

Bajaj Hindustan Ltd., Uttar Pradesh.

Simbhaoli Group, for three of their units in Uttar Pradesh.

DSM Sugar Mills Ltd., for their expansion project in Asmoli.

Mawana Sugar for three of their upcoming projects in Mawana, Titawi and Nanglamal, in Uttar Pradesh.

Uttam Sugar for their greenfield project in Uttar Pradesh.

Sakthi Sugars Ltd., Coimbatore, for their Sivaganga unit.

Sri Sarvaraya Sugars Ltd., Chennai, for their Chelluru unit in Andhra Pradesh.

## Water at the Heart of Hospitality

The average per capita water consumption in a typical five star hotel is 1500 litres/guest room/day; assuming a 50-room hotel, the requirement would be 75,000 litres/day. Continuous availability of good quality water in large quantity is therefore essential, and, with increasing scarcity of water, its deteriorating quality and high costs posing problems for the hospitality industry, good water management becomes critical.

IEI is a preferred vendor for the Taj Group for over two decades, supplying central drinking water systems, sewage treatment plants, cooling water treatment, softeners for boiler water... IEI News met Mr. K. R. Deodhar, Director – Engineering Services, The Indian Hotels Company Ltd., to learn more about the Taj Group's philosophy, views, and preferences on water management.



Mr. K. R. Deodhar

How does the Taj Group typically meet such large requirements of water? How do the hotels ensure quality standards are met?

When a new hotel is planned, a feasibility study determines sources, quality and quantity of water supplies. Influent water – which could be municipal, tanker or borewell water, is analysed to determine treatment – whether filtration, softening, reverse

osmosis, organic scavenger or a combination of these.

Each region has its own contaminants – down south there is generally more dissolved iron and excess oxygen; in Andhra Pradesh one finds mica

content whereas up north, particularly in the hilly areas, water contains a lot of organic matter.

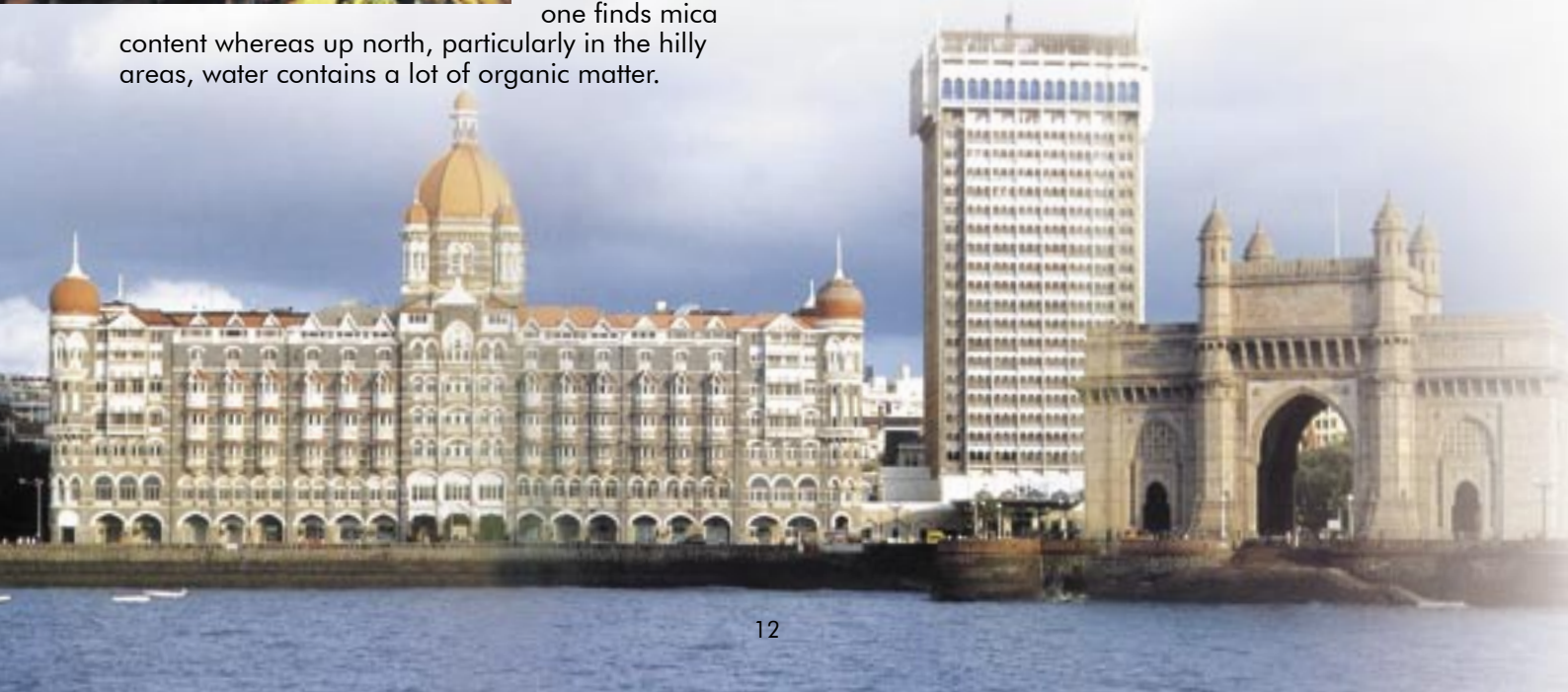
When it comes to water treatment, what does the Group look for in a vendor?

Reliability of product and process, and continuous consistent performance is the topmost priority - in other words, fool-proof and fail-safe is what we expect.

Robust, user-friendly technology and equipment are very important. And we look for very good technical guidance as well as prompt after sales service.

What has been the Taj experience with the performance of systems supplied by IEI?

I think Ion Exchange India fulfils all the conditions I have mentioned. You are considered the experts





# CUSTOMERS SPEAK

in your field - a solutions provider with a solid technological base and experienced technocrats. When one has a serious medical problem, one seeks out a reputed specialist; well, when you have a need for water management, you go to the proven expert. So when companies are confronted with a challenging problem, they approach IEI.



This has also been the Taj experience. One is assured that IEI will undertake a proper study and extend its full professional support – examples I can cite are reverse osmosis treatment at Taj Bengal in Kolkata and the organic scavenger resin that solved our problem at Annapurna in Nepal.

That's certainly music to our ears! Do you have any suggestions on how we could enhance the support we give to our customers?

Any product, however good, can be proven bad, if it is not used, operated or maintained properly. You can give someone a Mercedes, but if he cannot drive it properly, he will say the car is bad! So one way to further help clients gain optimum performance from their treatment plants is to undertake site visits to conduct a technical survey or technical audit to ensure equipment is being used the way it should be.

During site audits, one will come across many ways, small and big, where a technical suggestion on correct usage or dosage may result in much more effective plant performance or save the client an enormous amount of money.... such soft service which ultimately helps the customer optimise his process, will definitely help the vendor gain a cutting edge over competition. It may be a simple procedure, nothing complicated or requiring innovation; nevertheless periodical visits to observe operational technicalities will help the client gain optimum performance from his investment and would be very much appreciated.

We at IEI do believe in backing solutions with total service support. Outsourcing service, particularly O&M, is helping many of our customers eliminate hassles of supervision and time on water treatment and to concentrate on their core business.... perhaps the Taj Group would find O&M very useful too.

Well, as you know, in case of hotels, hydraulics is only one part – perhaps 15-18%, of the utilities; since in any case we need to maintain an in-house

engineering department to handle the many other utilities, it makes more economic sense to do the O&M ourselves.

**What prompted the Taj Group to go in for sewage treatment? How much water is typically recycled by a Taj hotel?**

Most of our hotels have sewage treatment plants; wherever we have large lawns we use the treated water for gardening; or it is used for the cooling towers, after further treatment. We also use the treated water for the low end use of toilet flushing in staff areas.

First and foremost, it was shortage of water that made us go in for sewage treatment plants. This also helps to reduce the requirement of tanker supplies and thus, the cost of water.



While discharge regulations have been introduced for the hotel industry, as far as the Taj Group is concerned, we have been observing these much before their introduction. It's the Tata philosophy – *don't wait for regulations to give a disciplinary dose; discipline yourself proactively before regulations come*. So we went in for sewage treatment way back in 1986-87.... at our locations at Agra, Jaipur, Delhi and Lucknow, much before regulations.

Typically if a hotel consumes 'X' quantity of water, about 20% goes to the cooling towers, and the rest of the water ultimately goes to the drain. Out of that, recoverable water is about 50 – 55% that can be used for cooling towers and toilet flushing.

**What are some of the other green initiatives that the Taj Group has adopted?**

We strongly believe that natural resources must be preserved. Therefore, when it comes to green practices - whether relating to water, fuel or paper, or any other, we believe we should lead by example.

Take air conditioning - we go for higher efficiency machines whereby power is saved. We use machines having superheaters - so we are able to generate hot water free of cost directly from the compressor. *Even a saving of just 10% water translates into a huge quantity; a hotel using 200 to 250 kilo litres/day will save 25 kilo litres/day or 9,125 kilo litres in one year!*. There is a huge saving of quantity of water used for cooling towers;

(Contd. on pg. 16)

## Constant focus on research and development resulted in the launch of several innovative products

### ZERO B Duplex Water Softener

India's first truly automatic softener for homes, the Zero B Duplex Water Softener provides 2000 LPH continuous output of softened water.

The elegant and compact Duplex Water Softener has many innovative advantages over the existing industrial type softeners that are usually adapted for homes.



- Hands free design
- Micro controller based *intelligent* functions
- 2000 litres per hour of *non-stop soft water output* even during regeneration of the softener
- *Saving on salt* consumption by setting the right salt charging levels
- *High product life* – 5-stage short cycle ensures clean and healthy resin media
- Requires no separate pump for regeneration Hence, *saves on cost of pump and power consumption*
- *User friendly* operation and process indication
- *Compact size*: 71cm x 37cm x 77cm
- *Lightweight*: 55kg net

The Zero B Duplex Water Softener can be used in bungalows, laundrettes, whole apartments, jacuzzis and spas at health clubs, and also as pre-treatment for industrial reverse osmosis units.

### INDION® Lab-Q System

Purified water is an essential resource in all laboratory environments from university research, clinical labs to bio-pharmaceutical research and pharmaceutical laboratories.

INDION Lab-Q is a compact and convenient laboratory-grade, high purity water (ASTM Type III) system that is an economical alternative for bottled distilled water. It features all the technologies of RO systems with the added benefit of an integral auto sanitisation feature that delivers better than double-distilled quality water from a potable water source. The UV cartridges, in-built sanitisation and microprocessor controls ensure that purity standards are maintained.

Suitable for general, non-critical laboratory applications or as pretreatment for ultra pure water systems, the INDION Lab Q system provides an ideal solution for Type III laboratory-grade water requirements. Applications include:

- Feed for Type I water
- Media and chemicals preparation
- Rinsing of highly sensitive glassware
- Instrumental analysis



### INDION® MnSR Manganese Specific Resin

Processed to provide catalytic properties, INDION MnSR effectively and economically removes dissolved manganese and iron from ground water. The media can treat feed water with concentrations as high as 2.5 ppm, to reduce the levels of manganese to <0.05 ppm and iron <0.3 ppm, meeting drinking water standards. INDION MnSR is an insoluble catalyst, which oxidises dissolved manganese and converts the soluble manganese into insoluble manganese dioxide, which can be filtered through the media. Backwash of the media removes precipitated manganese particles.

Its advantages are many:

- In the presence of catalytic media, dissolved manganese gets oxidised, thereby precipitating it.
- Media does not undergo any chemical change.
- Compact and economical system requiring no electricity.
- No chemicals required for regeneration.
- Sturdy, easy to operate, maintenance-free
- Media does not require regeneration or activation with potassium permanganate, and hence less operating and chemical costs than other media.



## O&M Contracts

From Chennai Petroleum Corporation Ltd., Manali, Chennai for the zero discharge plant commissioned by us in December 2005.



From Tata Motors, Jamshedpur for effluent treatment plant.

Renewal of contract from Chemplast Sanmar Ltd., Mettur, Tamil Nadu for its 15 m<sup>3</sup>/h effluent recycle plant.



## Modification

From Badarpur Thermal Power Station, 3 streams of WBA and SBA scheme modification. A trial modification contract of DM plant – single stream of WBA and SBA resulted not only in improvement of DM water output quality but also a savings to the client of around Rs. 60 lakhs on manpower and regeneration chemicals – based on which the client placed this order.

From Hindustan Lever Ltd., Khamgaon, Maharashtra, for a 45 m<sup>3</sup>/h DM plant.

From BPL Display Devices, Ghaziabad, DM upgradation to 50 m<sup>3</sup>/h.

Contracts for modification were also received from Times of India, Uttar Pradesh; Bharat Electronics Ltd., Uttar Pradesh; Goetze (India) Ltd., Punjab, and Bisleri International, Mumbai.

## Service Camp, Rourkela

Ion Exchange Services Ltd. (IESL) stepped up its operational capability in Rourkela, Orissa, a major hub for industrial growth, with a free service camp for water and wastewater treatment plants in June 2006. Many big names like Coca Cola, Indian Explosive, Rourkela Swimming Club, Indo German Swimming Club, Nixon Steel & Power were given instant advice on their queries by our team of experts. Free inspection, free service visits, consultancy for water and wastewater management, on the spot discounts, etc. were provided.

## Knowledge Forum

Knowledge when shared multiplies. To update and share knowledge with users of water treatment plants on various related aspects, a knowledge forum was organised at Vadodara.

Driven by the constant endeavour to provide that extra something to customers, IESL now offers a specially developed package which will help in monitoring site operations of any RO plant from a remote location. The objective is to solve potential problems for the customer, before they occur, so that the performance and life of the equipment increases. This initiative was launched with an order from Balaji Breweries Limited, Chennai for their RO plant which will be remotely monitored from Bangalore.

## With You, Right Through



Participants at an IESL customer meet.

To strengthen its association with customers – its business partners, IESL organised a series of customer meets on the theme *With You, Right Through* in cities across India including Goa, Bangalore, Pondicherry, Chennai, Kochi, Aurangabad, Delhi, Chandigarh and Durgapur. The focus of these events was the need of water and



Mr. Dinesh Sadasivan, CEO, IESL responds to questions.

wastewater management practices for sustainable development, new trends and technologies in the area of water and wastewater treatment and the capabilities of IESL to serve the institutional segment. Comments and feedback from participants were invited and the meets were very interactive.

### Water at the Heart of Hospitality

(Contd. from pg. 13)

additionally we will not be using fossil fuel to generate hot water and thus will be conserving a lot of energy. Finally, we will not be polluting the air. Just one example of all round environmental protection and preservation.

Several of our apartment hotels – Wellington Mews in Mumbai and in Goa and Ernakulam do not have boilers installed and generate hot water from superheaters.

At several of our hotels, kitchen, housekeeping and other degradable waste such as grass is converted into methane-based biogas – examples are Rambagh Palace and the Jai Mahal Palace in Jaipur. At several hotels, kitchen waste is also used for vermiculture and manure for the lawns.



#### Any environmental awards and certifications?

80 – 90% of our hotels are covered by the HACCP criteria on kitchen hygiene and food measures. Almost 50% of our hotels are ISO 14000 certified and several of our hotels are ISO 18000 certified.

All new hotels will be covered by ISO 14000 and 18000 simultaneously.

How will the impending scarcity of natural resources, whether water scarcity or the energy crunch - affect the hospitality industry? What in your view is the way ahead?

Every corporate has a social and environmental responsibility and will have to learn to manage resources much better for a sustainable future. Companies will need to transform their processes to reduce the burden on the environment. When it comes to water, on the one hand low flow fittings, rainwater harvesting and water recycle will help conserve this resource; but innovative

devices and new technologies will also be needed to help reduce the use of water. Preferred vendors of the future will definitely be those who are forward looking and willing to work in proactive partnership with customers on improvements in technology and processes that will benefit both the customer's business and the environment.



# FAREWELL



## Mr. V.G. Rajadhyaksha – In Memoriam

**Mr. Vasant Rajadhyaksha was Chairman of IEI from 1983 to 1996 and then Chairman Emeritus.**

Mr. Rajadhyaksha was 82 when he died in August this year. He had grown up in Mumbai where his father was a judge of the Mumbai High Court. He had been to the Doon Public School in Dehra Dun.

I met him first in Ann Arbor in 1947 when he registered there at the Graduate School of the University of Michigan for a Master's Degree in Chemical Engineering. He had come from Mumbai where he had obtained his B.Tech in Chem. Technology at the UDCT (University Dept. of Chemical Technology). He was a keen cricketer and played tennis and a good game of golf.

Vasant and Homi Sethna were both outstanding students both in Mumbai as well as at the University of Michigan and were both selected by Levers for training in the U.K before being posted in jobs in India but Sethna was taken into TIFR by Dr. Homi Bhabha.

I met Vasant in Calcutta again in 1953 when I was attached to J. Stone & Co.'s Head Office there as Permutit Company's Resident Engineer/Technical Representative in India. Vasant was at Hindustan Lever's Vanaspati factory there. He was transferred to Mumbai from there and after a very few years was made a director and later Chairman and Managing

Director of Hindustan Lever. After his tenure as C&MD he went to Delhi as Member Secretary of the Planning Commission and on serving his term returned to his home in Mumbai where he was on the Boards of many companies. He also served as Chairman of the Public Enterprises Selection Board and on the Board of several high level Committees. I was able to persuade him to join our Board of Directors at the time Dr. Hattiangadi was Chairman. He succeeded Dr. Hattiangadi in 1983. He was an able Chairman and with his wide experience of organisation at Levers especially Marketing, was extremely valuable guiding IEI during the crucial period when Portals were divesting their equity in IEI. He took keen interest in all the activities of the Company.

During the period from 1988 to 1993 when the resin factory at Ambarnath was in the grip of severe labour unrest - a thing many industries went through at that time - Vasant's strong industrial exposure proved very helpful. He provided valuable guidance and support which saw us through the troubled times and also paved the way for the new resin factory at Ankleshwar which now forms the backbone of IEI's manufacturing base.

On behalf of all in our Company I have expressed our sense of loss and sorrow to Mrs. Rajadhyaksha and the family.

G.S. Ranganathan, *Chairman, IEI*

## New In-house Fabrication Facility At Hosur

A modern 11,000 sq. ft. facility for fabrication of vessels, pipes and structurals has been set up at our Standard Systems unit at Hosur. Producing



an average of 60 T/month equipment, the facility is soon expected to touch the planned installed capacity of 80 T/

month. It houses a series of equipment including conventional and CO<sub>2</sub> welding, rolling and drilling machines, a boiler to cater to rubber lining requirements, and sandblasting. The fabrication facility has helped significantly crunch delivery times, enhance quality, and reduce costs particularly from the viewpoint of logistics.

*At the customer relations management (CRM) workshop. We now have 52 CRM desks companywide.*



# HAPPENINGS

## ZERO B Mera Brand

Satisfied customers recently voted Zero B the number one brand in the Reverse Osmosis Purifier segment, thus earning it the coveted Mera Brand Award (2005-06) for the second consecutive time. The

survey covered over 12,000 households across the country and was conducted by AMGF Inter Corp along with TNS India as their research partners and analysts. Ernst and Young was the tabulation process validator.



Zero B Pristine ROp

Mr. R S Rajan, Vice President, Consumer Products Division, says, "Since Zero B is a pioneer in reverse osmosis technology in the country, the emotional association of the consumer with the brand is very strong and that is further cemented by superior product performance and after sales service."

Listed as number one in the consumer loyalty segment, Zero B continues to quench the thirst of many Indian families, in the healthiest possible way, winning some awards and many hearts along the way.



Zero B Pristine UTS (Under the Sink)



Zero B Ultimate RO



Mr. R.S. Rajan, Vice President, Consumer Products, IEL (left) is all smiles as Mr. Rajesh Sharma, IEL's Managing Director, is presented with the Zero B Mera Brand award.

### IEL at Water Asia, New Delhi

Mr. Mani Shankar Aiyar (far right), Union Minister for Panchayati Raj, Youth Affairs and Sports in discussion with Mr. Rajesh Sharma (centre), Managing Director, IEL and Mr. Dinesh Sharma, Director, IEL. The focus of our stall was our



capability in providing total water and environmental solutions. Demo models of INDION Membrane Bio-reactor and INDION Fluidised Media Reactor attracted much interest and many enquiries.

### At India Pharma Chem, Mumbai



The INDION RO-EDI system was the focal point at our stall which projected our wide range of solutions for the pharma industry – high purity water systems, speciality resins as excipients, ion exchange resins, polymeric adsorbents and activated carbon.



**ION EXCHANGE**  
THE POWER BEHIND WATER  
(INDIA) LTD  
Total Water Management

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