

Volume No. 78 July 2011



IEI NEWS

A House Journal of Ion Exchange (India) Ltd.

Delivering **Powerful** **Solutions**



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Building a Strong CSR Base



At more than a hundred prestigious power projects in India and across the globe, our cutting edge, end-to-end, total water management solutions help power their production profitably and sustainably. Ensuring optimum quality and quantity of water throughout the usage cycle in power plants, while minimising environmental impact by conserving water and reducing pollution through recycle and zero discharge.

Delivering

Ion Exchange has constructed water and waste water treatment facilities and managed water at almost all of India's large power

stations, besides working

with some of the world's largest and leading power plant EPCs. Our facilities are being operated across all state electricity boards in India, National Thermal Power

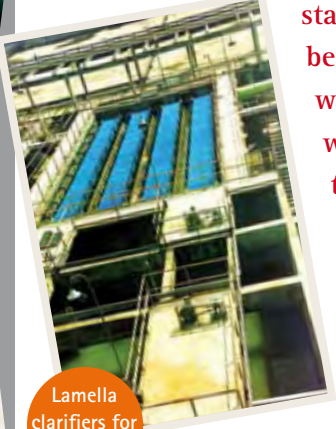
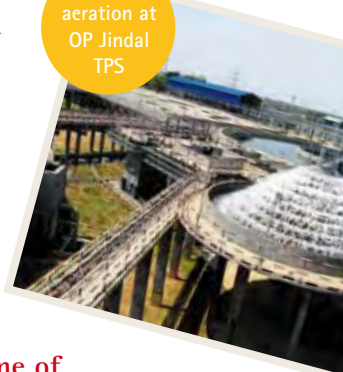
Corporation (NTPC), Nuclear Power Corporation and a host of other

IPPs. Some of the EPCs and consultants we have partnered include BHEL, ABB, Alstom, Daelim, Foster Wheeler, Marubeni, Mitsubishi and Kawasaki Heavy Industries, Jaakko Poyry and Reliance.

Sustained innovation, reliability and efficiency are the winning combination that has made Ion Exchange the preferred choice of the power sector – whether coal-based, gas-based or nuclear power plants. And as this sector experiences major growth, so too our solutions are being increasingly sought after, as can be seen from the many contracts awarded to us recently.


Cascade aeration at OP Jindal TPS

Lamella clarifiers for CESC Ltd






High rate solids contact clarifier for Rosa Power Supply



Condensate polishing at MSEB TPS



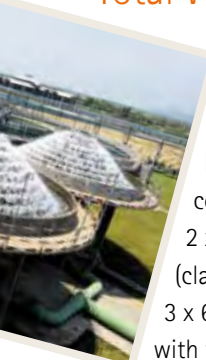
Demineralisation plant for Bakreshwar TPS



SWRO desalination plant for Adani Power

Powerful Solutions

Total Water Management for Satpura Thermal Power Station



Our turnkey total water treatment package for the 2 x 250 MW Satpura Thermal Power Station of Madhya Pradesh Power Generating Company, Betul, consists of 1800 m³/h pretreatment, 2 x 75 m³/h demineralisation, effluent recycle (clarifier, 3 x 105 m³/h ultrafiltration and 3 x 69 m³/h reverse osmosis) and sewage treatment with filtration along with cooling water dosing system and piping accessories. Desein, Delhi is the client's consultant.

Water Treatment for Reliance Sasan Ultra Mega Power Project

We were awarded the water treatment for Reliance Infrastructure's first ever ultra mega power plant, the 6 x 660 MW Sasan project at Singuri, Madhya Pradesh. The plant comprises

- high rate solids contact clarifiers - 4 x 2850 m³/h, for cooling water and 300 m³/h for demineralisation application followed by gravity filters
- PLC based 3 x 135 m³/h demineralisation

The pretreated water is fed to the cooling tower, other auxiliaries and equipment; the post-treated water will be used for the super critical boiler of 660 MW units.

Water Complex with Balance of Plant for Jindal Thermal Power Project

Ion Exchange was awarded the contract, on turnkey basis, for total water package for the 2 x 600 MW Jindal thermal power plant at Angul, Odisha. The package consists of 2 x 1750 m³/h pretreatment, 2 x 85 m³/h demineralisation, cooling water treatment including 3 x 110 kg/h chlorination system, 13 x 200 m³/h side stream filtration and effluent treatment with 2 x 20 m³/h oil-water separation. The contract includes 6 x 510 m³/h condensate polishing units. The combined package of water treatment and condensate polishing provides single window accountability to the customer. TCE, Bengaluru is the customer's consultant.

Water Complex for DB Power Project

The EPC division (Power Projects) of L&T, Vadodara awarded us the total water treatment package for the 2 x 600 MW super thermal power project of DB Power Ltd., Chhattisgarh. It consists of pretreatment (3 x 2000 m³/h high rate solids contact clarifiers), demineralisation and ultra filtration (3x100 m³/h), auto valveless gravity filters (16 x 290 m³/h) for side stream filtration and 2 x 800 m³/h condensate polishing units. This is a one stop solution and our scope includes design, engineering, supply, erection and commissioning of plant on turnkey basis. DCPL, Kolkata is the client's consultant.

Water Package for Visa Power Project

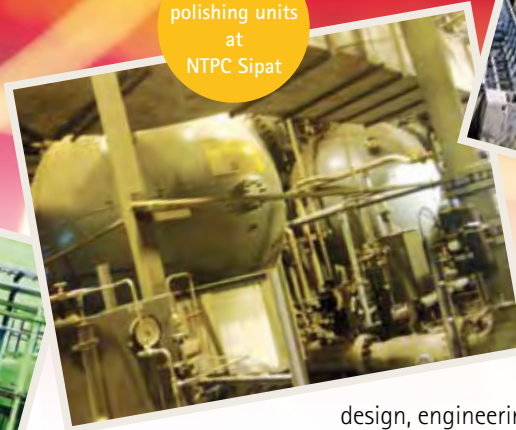
Another contract from L&T, Vadodara is for a total water treatment package for the 2 x 600 MW super thermal power project of Visa Power Ltd., Chhattisgarh. The package consists



Demineralisation plant for PT Stork Ketels



Condensate polishing units at NTPC Sipat



Effluent treatment at MSEB TPS



Auto valveless gravity filters, OP Jindal TPS



of pre-treatment

(3 x 2000 m³/h high rate solids contact clarifiers), demineralisation and ultra filtration (2 x 112 m³/h), cooling water

system along with auto valveless gravity filters (16 x 250 m³/h) for side stream application and 5 x 120 kg/h chlorination.

The contract also includes 4 x 750 m³/h condensate polishing units. Our scope includes

design, engineering, supply, erection and commissioning of plant on turnkey basis including civil design. DCPL, Kolkata is the client's consultant.

Water treatment for Jayaprakash Power Ventures

For their 2 x 660 MW project at Singrauli, Madhya Pradesh, this contract consists of 3 x 1740 m³/h pretreatment, 3 x 115 m³/h demineralisation, 3 x 72.5 m³/h ultra filtration, chlorination plant and cooling water system along with auto valveless gravity filters (16 x 350 m³/h) for side stream filtration. The scope of work includes design, engineering, supply, erection and commissioning of plant on turnkey basis including civil design. DCPL, Kolkata is the consultant.

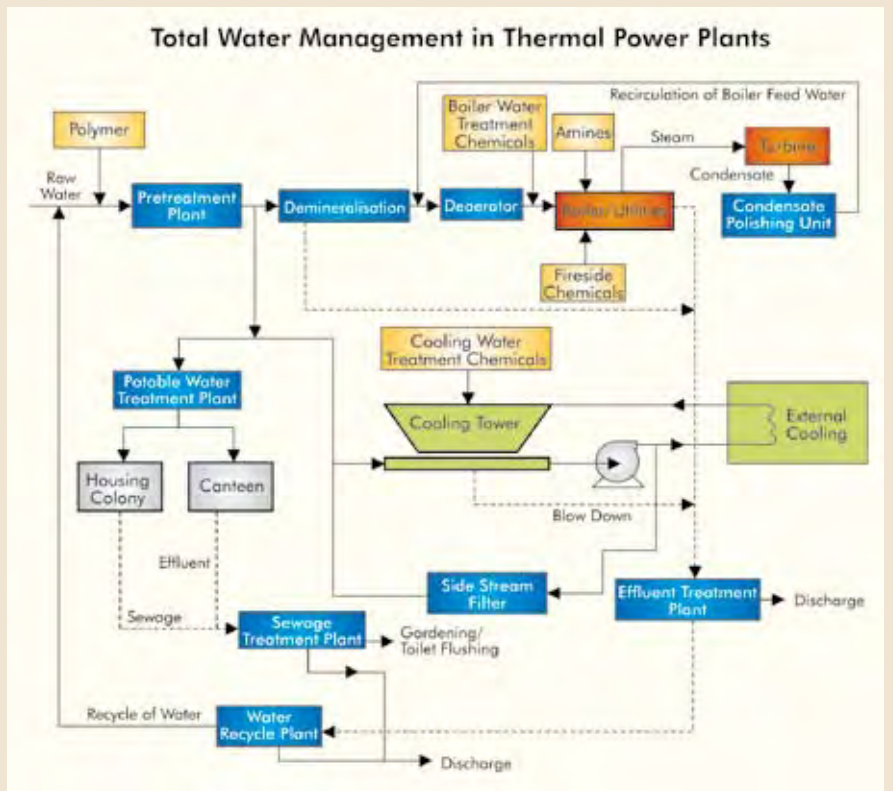
The **INDION**[®] Range of Solutions

Our single window solutions for the power sector are much in demand, encompassing as they do the entire water circuit as well as balance of plant.

- Raw Water Treatment
- Waste Water Treatment and Recycle
- Sewage Recovery for Boiler Water Feed
- Boiler Makeup Water Treatment (UF/DM/RO)
- Condensate and Cooling Water Treatment
- Turnkey Projects for Balance of Plant
- Upgrading/Retrofitting of Plant

Customer Benefits

- Lowest water consumption
- Saving on fresh water costs
- Lower/zero discharge of effluent
- Superior price performance ratios and process efficiency
- Creative ownership options – BOO and lease
- O&M for entire water circuit and utilities
- Single point responsibility



WaterPower

Water and energy are two vital resources that are closely interlinked. Water is both a primary source of energy for hydropower production and a critical resource for power plants including coal, nuclear, solar and gas-fired facilities, for heat energy (steam production) and condenser cooling. Both energy and water are in short supply even as the demand for these resources is progressively increasing.

An ambitious goal of Government of India's 11th plan is to make available over 1000 units of per capita electricity by 2012, requiring additional capacity of 100,000 MW by that year including 20,000 MW of nuclear energy. The power sector is thus poised for significant expansion and massive investment, along with government initiatives and incentives

to encourage Public-Private-Partnerships and the setting up of power plants by the private sector, including opening up ultra mega power projects for private investment.

However, the power sector is also among the

most water-intensive industries (requiring around 80,000 litres water per MW) and water availability is thus critical to power generation. But nearly two-thirds of India's power plants are located in water-scarce or water-stressed regions and practically 80 per cent of the plants planned will be situated in such areas. With a rapidly growing population and increased industrialisation, India's water demand is expected to outpace supply by 50 per cent in 2030. Already today, water shortages are creating delays in construction of new power plants, causing a decreased return on investment for power companies.

As demand far outstrips supplies, energy and water constraints have emerged as critical issues in achieving development sustainability. The challenge of ensuring sustainability of water supplies needed for power generation is impelling a collaborative approach to water resource management through improved water use efficiency and water conservation technologies.

For NTPC Tamil Nadu Energy Company



Under execution at Vallur, near Chennai, is the 19.8 MLD ($3 \times 275 \text{ m}^3/\text{h}$) sea water reverse osmosis (SWRO) desalination plant for the $3 \times 500 \text{ MW}$ thermal power plant of NTPC Tamil Nadu Energy Company Ltd., a joint venture between NTPC and Tamil Nadu Electricity Board. The scheme includes lamella clarifiers, two-stage filtration and three streams of reverse osmosis. This is the largest SWRO plant for a power project in India.

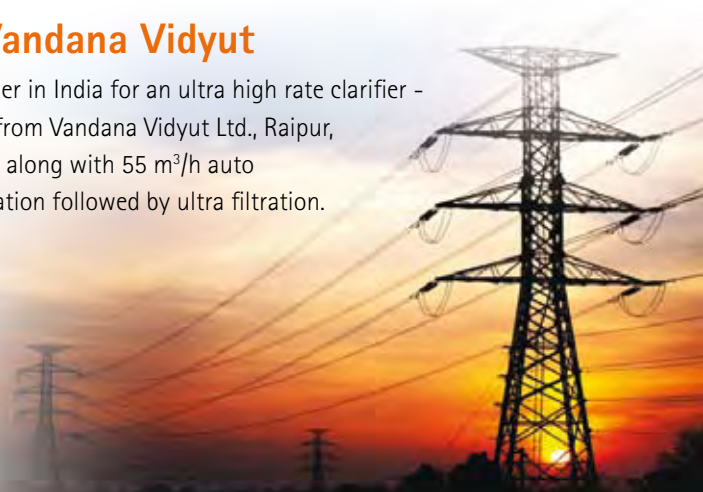


For Bharat Heavy Electricals

Order for $18 \times 150 \text{ m}^3/\text{h}$ auto valveless gravity filters for side stream filtration from Bharat Heavy Electricals Ltd. (BHEL), Noida for their $2 \times 500 \text{ MW}$ Anpara D Project and $3 \times 800 \text{ m}^3/\text{h}$ condensate polishing units for BHEL Kalpakkam 500 MW project.

...and Vandana Vidyut

Our first order in India for an ultra high rate clarifier - $2200 \text{ m}^3/\text{h}$, from Vandana Vidyut Ltd., Raipur, Chattisgarh, along with $55 \text{ m}^3/\text{h}$ auto demineralisation followed by ultra filtration.



Powering On

At NTPC, Jhajjar, Haryana – design and engineering, procurement and supply along with civil work, site management, erection, commissioning and complete supervision of the project consisting of fully auto 3 x 100 m³/h demineralisation plant and cooling water dosing system, office and lab building.



At NTPC, Mauda, Maharashtra super thermal power project – complete project management including design and engineering, procurement and supply along with management



of civil work for the project which consists of fully auto 32 x 135 m³/h demineralisation plant and dosing system, and lab building.



For Gujarat Industrial Power Corporation, Surat – complete project management of the civil work for the raw water treatment plant, including civil design and engineering.



The project involves solids contact type clarifiers and clariflocculator, chemical house, dosing systems, centrifuge, thickeners and other accessories.



Ion Exchange's 3rd *Rail Neer* Plant

Reinforces Partnership with IRCTC



Inaugurated on 11th July at Palur near Chennai in Tamil Nadu, one of the largest packaged water bottling plants, for Indian Railway Catering & Tourism Corporation (IRCTC) for production of *Rail Neer* packaged drinking water. Incorporating state-of-art technology and fully automated from bottle blowing to bottle coding, with a capacity of 1,80,000 bottles per day (15,000 cartons/day), the plant was completed within just seven months. This is the third plant supplied by Ion Exchange to IRCTC, the first at Nangloi near New Delhi and the second at Danapur in Patna.

The plant was inaugurated by Mr. P. Viswanathan, Member of Parliament in the presence of the local MLA, the Head Panchayat (Palur), Mr. Rakesh Tandan, Managing Director (IRCTC), General Manager – Southern Railways, Divl. Rail Manager – Chennai, Mr. A. K. Jain – GGM (Rail Neer, IRCTC), Regional Director – IRCTC and other senior officials.



Frost & Sullivan Awards

Ion Exchange emerged the winner of several prestigious Frost & Sullivan's 2nd Annual Environment Excellence Awards 2010:

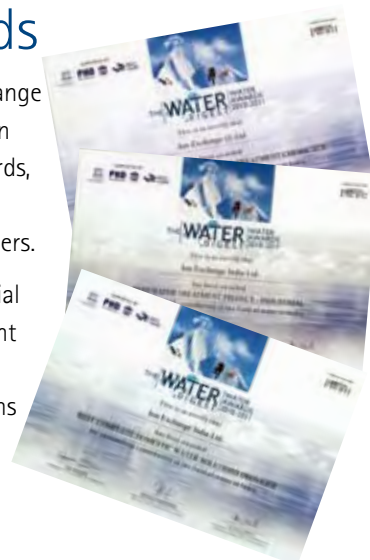
- Market Penetration Leadership – Water & Wastewater Services Vertical
- Voice of Customer – Product Excellence in Water Treatment Chemicals



Water Digest Awards

The pioneering excellence of Ion Exchange in water management was once again recognised with three esteemed awards, for 2010-11, presented by Water Digest in association with UNESCO and PHD Chambers.

- Best Water Treatment Project – Industrial
- Best Water Treatment – Water Treatment Chemicals
- Best Complete Domestic Water Solutions Provider



Engineering Contracts



Revving Up For Maruti Suzuki...

The Ion Exchange-Maruti Suzuki connection goes back a long way, with projects successfully executed for water, effluent and sewage treatment, including the first ever effluent recycling plant based on reverse osmosis in the automobile sector, in 1997. Once again, Maruti Suzuki opted for a total environment management solution from Ion Exchange for the expansion project at Manesar, Haryana – 3600 m³/d effluent treatment, 370 m³/d sewage treatment and 3600 m³/d recycle plants, incorporating integrated physico-chemical, biological and membrane processes for optimum water recovery. TCE is the client's consultant.

- Effluent treatment plant consists of neutralisation pit, primary clarifier, aeration secondary clarifier, sand and carbon filtration.
- Sewage treatment plant consists of grit chamber, equalisation tank, fluidised media reactor, sand and carbon filtration.
- Recycling plant consists of 2 x 80 m³/h ultra filtration, 2 x 60 m³/h reverse osmosis – stage 1 and 2 x 10 m³/h stage 2 reverse osmosis, and 30 m³/h mixed bed. The high quality water from the reverse osmosis and mixed bed systems are used for paint shop and manufacturing purposes.

We are also undertaking the cooling tower treatment for the past several years.

...and Toyota Kirloskar

We received a repeat order, through Trinity EPC, for Toyota Kirloskar Motors, Bengaluru for their unit in Bidadi Industrial Estate. The scheme includes 69 m³/h ultra filtration, 50 m³/h reverse osmosis and 35 m³/h INDION SWIFT demineralisation.



Cementing Relationships

Wonder Cement, Udaipur, Rajasthan, an associate of the RK Marble Group, which holds the Guinness World record for the largest marble production, is setting up a greenfield 40 MW coal based captive power plant at Bhatakotri, Rajasthan near Nimbahera. Fichtner Consulting Engineers, Vashi were awarded the overall consultancy contract for this power project.

We were awarded the contract for 6 m³/h water treatment system, 35 m³/h softener, 20 m³/h potable water system, 28 m³/h effluent treatment system and 500 m³/d fluidised media reactor (FMR) for sewage treatment followed by 18 m³/h ultra filtration. To mitigate the acute water scarcity situation in Rajasthan, the customer will use the water from the sewage treatment plant for cooling tower make-up after passing it through an ultra filtration unit.

MOU with Gujarat Government

During the Vibrant Gujarat Summit at Gandhinagar in January 2011, Ion Exchange signed two Memoranda of Understanding with Gujarat Government for water supply and water & waste water treatment projects.



Mettlesome Projects

Ion Exchange Infrastructure Ltd. has made significant inroads into the steel sector with a growing list of contracts from steel mills.



For SAIL-Bokaro Steel



Cold rolling mill water supply system at Bokaro Steel Plant, under SAIL-Bokaro Steel Ltd. (BSL) for their new CRM complex at Bokaro, Jharkhand, with Mecon Limited as consultant. The scope comprises:

- Design and engineering for civil, structural, mechanical, electrical, instrumentation and automation.
- Supply of all equipment.
- Civil engineering works including all supplies.
- Supply and erection of fabricated building structures including sheeting.
- Erection, commissioning and performance guarantee tests.

At IISCO-SAIL, Burnpur

Work is in advanced stage of supply and erection at the 2.5 MT new stream expansion of IISCO-SAIL at Burnpur, Asansol, West Bengal. The contract is for design and engineering, civil engineering, fabrication and supply of steel structure, plant and equipment, erection and commissioning of plant MW and DW system, including 52 kms



of cross country and in-plant CMDI and MS piping.



Complex Coke Effluent Treatment for Jindal Steel and Power

Ion Exchange Waterleau, our joint venture with Waterleau, Belgium, was awarded the turnkey contract for treating the complex liquid waste generated in the greenfield expansion project of Jindal Steel and Power Limited (JSPL) at Angul, Odisha. The contract includes turnkey civil design, complete electricals, instrumentation and a remote monitoring system. MECON, Ranchi is JSPL's consultant for this project.

JSPL's 6 MTPA integrated steel plant envisaged a coal gasification based reduction gas facility. During the coal gasification process, liquid effluents are generated; these effluents contain fluorides, cyanides, sulphides, thiocyanates, nitrogen, phenols and various heavy metals. Other parameters are biological oxygen demand (BOD) up to 4,000 mg/l, chemical oxygen demand (COD) up to 6,500 mg/l, total suspended solids (TSS) 125 mg/l as well as oil and grease up to 50 mg/l. These toxic contaminants are harmful to the environment and aquatic life and need to be treated before discharge; they are also extremely challenging to treat. Environmental sustainability concerns led JSPL to seek a state-of-art effluent treatment plant so that the treated effluent would meet stringent discharge parameters.

Effluent Treatment: The plant is designed to treat a combined flow of 400 m³/h consisting of 350 m³/h stripped gas ammonia liquor (SGAL – effluent post ammonia stripper) and 50 m³/h oily waste and rainwater. Apart from oil removal, the process employs cyanide and sulphide removal technologies and advanced biological treatment (ABT) where several stages of anoxic and aeration significantly reduce BOD, COD, TKN, trace phenols and cyanides. The effluent is further subjected to a tertiary treatment process. The final treated effluent is pH neutral, containing BOD <30 ppm, COD <150 ppm, TKN <10 ppm, NH₃N <5 ppm, oil and grease <10 ppm, cyanide <0.2 ppm, fluoride <2 ppm, sulphide and phenol <1 ppm.

Solid Waste Treatment: The plant includes two belt filter presses (BFPs) for treating solid waste (chemical and biological sludge) generated during treatment. Solids will be concentrated to 18-20 per cent slurry for safe disposal. The excess water drained from the BFPs is recovered and treated in the main effluent treatment plant.

Auxiliary Process Equipment with Air Treatment: Since the process uses a large quantity of lime, a sophisticated, automated lime handling, solution preparation and dosing system are provided with a lime dust handling system to meet the stringent air/particulate emission limits.



The Clear Choice of the Steel Sector



The ultra high rate clarifier (UHRC) is fast becoming the popular choice for raw water treatment in the steel and power industries. Recent advancements in the UHRC design resulting in superior techno-economical advantages of high energy efficiency, maintenance-free drive system and internals have

earned customer confidence and resulted in the award of several orders.

We received an order for two UHRCs, each of 2500 m³/h, for raw water treatment from **Bhushan Steel Limited**, for their utility II expansion at Meramandali site, Odisha. The complete unit will be manufactured at our facility at Wada, Maharashtra.

The customer has also placed orders for a softener and SWIFT demineraliser with us.

Jindal Steel & Power Limited, Barbil, Odisha also placed an order for a 500 m³/h UHRC with chemical dosing system and related electrical and instrumentation work. The plant will treat raw water from river Baitarini to meet industrial water quality (outlet TSS <50 ppm) for use in various process requirements. The smaller footprint and uniform output quality regardless of feed suspended solid fluctuation were the key advantages that influenced the customer in favour of the UHRC.

Fuelling Output



Order for 80,000 m³/h cooling water chemical treatment from **Paharpur Cooling Towers Ltd.**, Bhatinda for Hindustan Petroleum Corporation Ltd.

and Mittal Energy Ltd. (HMEL), at Bhatinda, Punjab.

Order from **Indian Oil Tanking**, for effluent treatment plant for their strategic oil storage facility in Visakhapatnam through consultant Engineers India Ltd. This breakthrough order for Ion Exchange Waterleau will provide a impressive reference for our sequential batch reactor (SBR) technology in the oil sector.

Order for 10 m³/h pretreatment - reverse osmosis - demineraliser and modification/upgradation of existing effluent treatment plant from **Supreme Petrochemicals Ltd.**, Nagothane, Maharashtra.

Reliance Industries - Satisfied Client

A testimonial from Reliance Industries on our successful execution of water treatment and effluent treatment at their export refinery at Jamnagar, Gujarat.



Overview of effluent treatment plants





The Right Prescription

Our long association with **Microlabs**, spanning over 10 years, was further strengthened with the award of several more contracts for their facilities in Bengaluru and Goa.



From Microlabs, Veerasandra, Bengaluru, order for complete generation and distribution, comprising pretreatment-reverse osmosis- degasser-softener (as feed to boiler water applications), an INDION SWIFT demineraliser and a hot water sanitisable ultra filtration module for purified water applications. Distribution comprises a 2 KL tank with 400 metres of piping and 10 user points.

And for their facility at Verna, Goa too, an order for complete generation and distribution. Here, the scheme comprised pretreatment-softener (as a feed to boiler water applications), an INDION SWIFT demineralisation and a hot water sanitisable ultra filtration module for purified water applications. Distribution comprises a 2KL tank with 800 metres of piping and 24 user points.

Also, a repeat order from **Cipla Ltd., Bengaluru** for demineraliser followed by hot water sanitisable ultra filtration membranes. The scheme comprises pretreatment, demineralisation, ultra filtration and micron filtration.

INDION® to the Defence

Sewage recycling plant for a housing colony at Military Engineering Services (MES), Hansa, Goa.





Reliance Industries Limited
Makri Chambers IV, Nariman Point, Mumbai, India 400 021

Date - 14 - 9 - '10

TO WHOMSOEVER IT MAY CONCERN

This is to confirm that M/s. Ion Exchange (India) Ltd. have carried out the Design, Engineering, Supply, Erection, Testing and Commissioning of various Water Treatment Plants for the Jamnagar Export Refinery Project:


- 13 x 338 m³/hr Demineralisation Plant consisting of Mixed Bed Units to Demineralise water for the boiler feed water and for process use.
- 3 x 338 m³/hr Condensate Polishing Units to treat the return condensate for reuse in high pressure steam generations.
- 16 Side Stream Filtration Units treating varying water flows in the range of 46 m³/hr to 211 m³/hr.

Ion Exchange (India) Ltd. and Waterleau Belgium in a Joint Venture have carried out the Design, Engineering, Supply, Erection, Testing and Commissioning of 4 x 500 m³/hr, automated and PLC operated Effluent Treatment Plant. The four stream Effluent Treatment Plant is designed to treat:

- High Total Dissolved Solids (HTDS) process stream
- Oily Water Sewer (OWS) stream from process/oily water (including oily condensate) and sanitary sewage
- Low Total Dissolved Solids (LTDS) stream, which is a mixture of process/oily water including non-phenolic waste water.

The scope of treatment also includes three by-product streams generated during the treatment of refinery waste water - skimmed or slop oils, oily sludge and biological sludge and includes automatic belt filter press for dewatering biological sludge, two chemical houses, three analyser houses and twenty sampler skids for automatic sampling and analysis of critical effluent parameters on a continuous basis.

The performance of the Water Treatment Plants (DM-CPU-SSF) and Four Stream



Demineralisation plant



From Airforce Digaru, Guwahati, contract for 100 m³/h lamella clarifier and 2 x 50 m³/h auto valveless gravity filters.



1000 m³/d fluidised media reactor (FMR) at MES (Civil), Pathankot, Punjab

Rural Inroads

Through extensive R&D and field trials, Ion Exchange had extended its technology to develop treatment systems appropriate for rural needs in terms of cost, ease of operation and maintenance. Recent contracts for drinking water solutions include:

Arsenic & Fluoride Removal in Uttar Pradesh

We demonstrated and installed an arsenic removal handpump attachment unit at village Boutha, Gorakhpur district in collaboration with UP Jal Nigam Gorakhpur. Six households in the village are using the



treated water from this unit which has a flow rate of 15 litres per minute. The arsenic level in the treated water is nil as compared to 60 ppb in the raw water.

We also installed our fluoride removal handpump attachment unit at Soanbhadra in Robertganj district. Three households are using the fluoride-free water from the handpump. Treated

water flow is 8 litres per minute. This too has been done in collaboration with the UP Jal Nigam. Both the units have been successfully field tested in the presence of the engineers of the UP Jal Nigam.

Disaster Management Units for PHED, West Bengal



We supplied two 2000 m³/h truck-mounted disaster management units for drinking water to the Public Health Engineering Department (PHED), West Bengal. Treatment consists of ultra filtration and reverse osmosis followed by ozonation for disinfection. The treated water is packaged in 500 ml pouches (4,000 pouches per hour are produced for distribution). The compact, skid-mounted units are fully containerised; DG sets as power backup are mounted on the truck and the units can be operated on an external power source as well.



Our INDION disaster management units have been designed to treat any source of water available at the time of natural disasters, and make the water suitable for drinking.



Arsenic and Iron Removal, Bihar



We supplied twenty-one 5 m³/h arsenic-cum-iron removal units to Punj Lloyd Limited under the Mini Water Supply Scheme in Bihar. The solar-powered units will provide arsenic-free and iron-free drinking water to villages in Bihar. Based on our patented iron specific resin INDION ISR and indigenous adsorbent resin INDION ASM, the treatment units are designed to selectively remove arsenic from ground water without affecting the characteristics of influent water. INDION ASM has successfully met the Toxicity Characteristic Leaching Procedure (TCLP) test as per EPA 1311 and was found safe for disposal.

Iron Removal for PHED, Assam

We supplied 850 units of iron removal handpump attachments to the Public Health & Engineering Department (PHED), Assam. The units are based on our patented iron specific resin INDION ISR and provide iron-free drinking water to rural areas. Compact, sturdy, easy to operate and maintenance free, they are also economical as they do not require electricity or chemicals (only simple backwashing)



and are thus ideal for rural applications.

Drinking Water Treatment in Punjab



About 50 villages with a population of around 45,000 are benefiting from our water treatment plants at Hardosharni and Tibbad, near

Pathankot, Punjab. The water available was not suitable for drinking, cooking or bathing, due to very high turbidity and the presence of high biological content. The water treatment plants which consist of a continuous sand filter and an activated carbon filter, produce 50,000 litres of potable water per day. Villagers have noticed visible improvement in the quality of the treated water.



GCC Projects

Successfully Commissioned



Ion Exchange Ltd., Hamriyah, UAE, successfully commissioned the 400 m³/d membrane bio-reactor for sewage treatment, supplied to **Sungbo Development LLC**, a Korean EPC at Ruwais, around 250 kms from Abu Dhabi, in UAE. Consisting of two streams, each 200 m³/d, the plant was totally designed, supplied, erected and commissioned by our Hamriyah team.



Our Hamriyah team also successfully commissioned a brackish water reverse osmosis plant for **Um Al Quain, Govt. of UAE** to

supply drinking water to residents of UAQ. The plant consists of two streams each of 1135 m³/d capacity, and was totally assembled in our Hamriyah facility. With this plant our installed capacity in Um Al Quain has risen to 4670 m³/d.



We successfully commissioned a 3 x 200 m³/h demineralisation plant for **QAFCO (Qatar Fertiliser Company)**, a subsidiary of Qatar Petroleum and the second largest oil company in the Gulf. With the discovery of gas in Qatar, Qatar Petroleum has been on a huge expansion drive. The award of this prestigious job is a turning point for Ion Exchange operations in this Gulf Country.

Sewage Treatment for Samsung EPC, Abu Dhabi

Our Hamriyah unit will be supplying and installing a 2000 m³/d fluidised media reactor (FMR) for sewage treatment and recycle plant for **Samsung EPC** – Western Region, to meet the requirements of the Abu Dhabi municipality.

The plant consists of two streams of 1000 m³/d each with anoxic treatment for ammonia removal. The project involves minimum civil work; the anoxic and aeration tanks are panel-type glass-fused steel tanks which are assembled on site. The settling tank is a standard lamella clarifier.

RO Plants for Coca Cola

Coca Cola, UAE awarded our Hamriyah unit the contract for supply of reverse osmosis plant and modification of process water line. The order includes supply of a new second stage 40 m³/h reverse osmosis plant, revamp of first stage reverse osmosis plant and reject-



water reverse osmosis plant, modification of pipe line and re-mineralisation system.

This 8th order for reverse osmosis plants in the Gulf from Coca Cola Bottling Plant is a testimonial to the performance of our systems and customer



Refurbishment of packaged drinking water treatment plant for Coca Cola, UAE

confidence in our support service. We are also currently executing a 60 m³/h reverse osmosis plant for Coca Cola Kuwait from Hamriyah.

An order for a fluidised media reactor, FMR 200, from Punj Lloyd Ltd., Abu Dhabi and Oman, for their labour camp.



An order from Simon Carves Ltd., Saudi Arabia, for a 23.5 m³/h waste water treatment plant to treat fluoride-based waste

In the USA

Water Treatment in Mississippi



Ion Exchange LLC, USA, has supplied a water treatment plant to the City of Senatobia, Mississippi. The facility has been leased by the city to Twin Creeks Technologies, solar cell manufacturer with the latest cell manufacturing technology. The plant (reverse osmosis, demineralisation, mixed bed) is designed to treat feed water with 125 ppm TDS to 15 meg treated water quality (17.80 meg achieved). RO product flow rate is 50 GPM make up; de-ionised loop flow is 150 GPM through a self regenerable mixed bed (with a standby mixed bed unit).



Ion Exchange LLC, USA provides comprehensive services to customers. Main picture: mobile service station with complete equipment and accessories to service and overhaul water treatment plants. Inset: Sanitisation trailer used for sanitising high loops

Other Orbits

An export order from Balan Natural Food for Kamadhenu Ventures Cambodia Ltd., Cambodia for a 200 m³/h high rate solids contact clarifier and demineraliser followed by 2 x 30 m³/h ultra filtration and 2 x 75 m³/h softener. Aquatherm is the client's consultant. This greenfield project with 26.2 MW cogen power plant is funded by the Cambodian Government and the plant will be inaugurated by senior government officials.



Promoting an Ecoworld

Our initiatives to promote environmental awareness continue in full swing, spreading the word through a series of internal and external communication of e-cards, playlets, tips for everyday green living, and inspiring screensavers that keep the need to protect the environment in focus.

The Green Life

This blog, inspired by the nature of our business – the environment, explores various facets of



environmental responsibility in industry and among communities. It shares views and experiences, provides tips for healthy living and runs environ-



mentally-themed contests – all with a view to promoting environmental awareness and sensitivity among its visitors.

Do visit our blog: www.ionexchangeccdblogs.blogspot.com and post your comments.

Next Generation Planet Warriors

To celebrate Children's Day, November 14th, we organised a drawing-cum-slogan competition – an opportunity for children of our employees to use their talent and creativity to spread environmental awareness. The topics were Save our Earth (6 – 10 years) and Green City (11-14 years). Seen here are the winning entries.



Mark Pinto



Rachita Naik

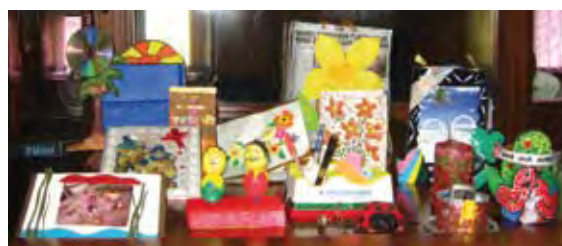
Jignesh Ki Kahani

To celebrate World Water Day – March 22 – our corporate communications team enacted a short skit using light comedy to evoke introspection on the use and misuse of water.



The Best out of Waste

This competition helped exemplify the message 'Reduce, Recycle, Reuse'; entries from employees and their family members showcased some really creative ideas for recycling waste items.



Jenisha James



Sayan Sarkar



Waste Reduction & Recovery

There is a significant movement towards recovery and reuse of waste water fuelled by growing environmental concerns coupled with stronger legislation and increasingly scarce water supplies. Recycle and recovery are being seen as a way to achieve environmental norms while at the same time supplement fresh water sources that are becoming scarce.

Unfortunately, most projects view waste management as an end-of-pipe solution and do not look at reduction in effluent, reduction in water usage, reduction in operating costs, process improvements and sustainability. Significant advantages accrue with a holistic approach that controls waste generation, segregation and treatment at the points of generation, improves process efficiencies, reduces water consumption, eliminates wastages etc. These could help in meeting basic process goals while at the same time improving water efficiencies. Needless to say, rainwater harvesting and other naturally available sources should also be a part of this holistic approach. This Q&A discusses some of the possible ways in which an industry can actually work on a strategic path to achieve the goals of waste minimisation and recovery.

How do we ensure that a holistic view is taken when embarking on a waste recovery programme?

The starting point would be a complete appraisal of the water balance in the entire plant by a qualified expert. Once the entire water usage is accounted for, engineers will study each unit operation where water is used, to look at ways of reducing consumption and/or recycle of every stream at the points of generation. These studies will ensure significant emphasis is placed on the consumption of water at each unit process. It may

Nature Captured

The on-line photography contest based on nature portrayed some amazing talent. The inspiring photographs evoked the very essence of nature in all her manifest glory.



As part of a Go Green drive to mark Environment Day, neem saplings were planted by personnel of our factory at Patancheru. There was enthusiastic participation too in the extempore debates and quiz conducted on the occasion



also be worthwhile to do a cost-benefit analysis of upgrading existing process equipment and adding basic water recycling equipment at various process steps and points of generation vis-à-vis better process efficiencies, savings in water bills and associated environmental costs.

What are the steps to be taken to ensure reduction and recovery in an industrial scenario?

There are various steps which are mandatory:

- Understand the site water envelope.
- Study and identify the problem areas in the water circuit and take steps to arrest these.
- Implement steps for additional savings based on recovery.
- Optimise performance of process equipment, improve process efficiencies (using specialty chemicals in paper processing, for example, or increasing cycles of concentration – COC in cooling towers).



Zero discharge plant

- Optimise performance of the water treatment plant.
- Implement recovery options at points of generation.
- Aim for zero discharge with a recycle of other waste streams.

What would be the first step of working towards a programme like this?

The best way to start would be work jointly with a consultant or a water management company that has an overall perspective and capability.

A detailed study of the water requirements at various process units as well as the effluents expected to be generated from various points along with their quality and quantity will enable the water management expert to carry out a study on the water balance with the target of minimising the specific consumption for that industry. The expert's report will normally have recommendations backed by extensive workings and evaluation of various options.

For example, in a grassroots integrated steel complex, the evaluation may include comparison between a centralised utility facility catering to various mills as opposed to independent treatment units at the mill itself. All these workings will have a capex estimate and an opex estimate and optimum choices needed to be made based on payback and operation flexibility.

What should a water audit report ideally contain?

1. Definition of design basis including details of utilities available indicating flows, temperature and pressure conditions and unit cost, site data and products specifications.
2. Development of process flow diagrams for the entire operations and overall water systems including flows, temperature and pressure conditions and composition.
3. Based upon the mass balances developed, definition of cleaner production opportunities to reduce water consumption and of end-of-pipe treatment options to attain required effluent waters standards.
4. Technical, economical and environmental evaluation of cleaner production opportunities and of end-of-pipe treatment options.
5. Recommendations according to the TCO (Total Cost of Ownership) approach which means that the proposed solution should represent the best compromise in terms of:
 - Global operational expenses
 - Capital expenses
 - Quickness of deployment.

What are the examples of reducing water consumption without investment?

Reduction of water consumption could be achieved by simple measures like improving process efficiencies by the use of speciality chemicals in some cases. In such cases the evaluation should draw an optimum between ROI, improved product quality/ improved process efficiency and waste generation. Other simpler measures could be to stop leakages, improve performance of utility equipment by timely servicing, etc.

An example is improving the cooling water chemistry and thereby improving the COC in the cooling circuit, thus bringing down the make-up water needs by implementing a well designed and superior cooling water (and boiler water) treatment programme with speciality formulations.

How can one reduce water consumption with investments? Will there be an ROI apart from meeting environmental standards?

By this time hopefully, a well implemented water management programme would have achieved two advantages:

1. Lower water consumption per unit of product.
2. Lower quantity of waste water generated from the system.

Typical examples of such changes include the reuse of cooling tower blowdown to the process, the reuse of treated sewage/ domestic waste as make-up for industry, the modification of water treatment equipment to improve efficiency, reduce waste generation and improve quality of water, the recycle of white water in a paper mill etc.

In many cases, the project also provides a healthy ROI and benefits apart from the obvious ones of reduction of waste generation and recovery of waste water.

In such cases a water management company can actually implement the project with its own investment on behalf of the client.

What are the areas where point of discharge recovery can be implemented?

Recovery of cooling tower blowdown is one example where the recovered water can be reused as cooling tower make-up or alternatively as feed to the water treatment system.

Increasing the COC by using speciality chemical treatment programmes will lead to higher efficiencies and lowered blow down quantities which can then be recovered, as already explained. However while increasing COC it is always important to find an optimum between ROI, increased TDS to waste stream, process performance and operation.



Cooling water treatment

Similarly in industries that generate waste streams laden with oil, these can be treated locally at the points of generation by separation of oil and water and return of both to the process/ reuse.

Another example would be the recycling of white water from the paper mills with a simple filtration process which can remove the fibre for recovery and at the same time return the treated water back to process. While many mills have used "save alls" and dissolved air flotation devices, this process can be easily enough accomplished with the continuous sand filter. Such equipment is best suited because it operates continuously, does not require a stoppage for backwashing and can effectively handle large

quantities of fibre which a conventional filter may not be able to handle.



Continuous sand filters for white water recycle in paper mill

Other examples of point of generation recycle (especially in the water circuit) include:

- Recovery of DM, regeneration waste water, implementation of rinse recycling in the DM plant
- Recovery of backwash effluent from pretreatment filtration plants
- Installation of cooling tower side stream filters to improve cycles and recovery of backwash water from these filters
- Recovery of fresh water from colony sewage/industrial canteen waste

What are the benefits of embarking on a programme for waste recovery?

Apart from meeting environmental standards and providing another water source, advantages of costs savings and improving the overall ROI of the programme as well as the competitiveness of the industry could be:

- Savings in operating costs of ion exchange plants (softeners, demineralisation plants, etc.) since there is likely to be lower TDS in the recovered water as compared to most ground based fresh water sources.
- Lowered chemical handling costs and storage as there will be a significant reduction in handling and usage of chemicals like acid and alkali.
- Waste water discharge and conveyance costs will be eliminated.
- Savings in fresh water purchase and processing costs (including conveyance).
- Savings in fuel costs in boiler.
- Savings in chemicals costs used to manage the water circuit including cooling water treatment chemicals and boiler water treatment chemicals.
- Additional savings in make up water used for cooling towers resulting out of operating the cooling tower at higher COC.

Launched

In keeping with its mission to provide single-window, value adding solutions, Ion Exchange had expanded its range to include products for process applications to further help customers to improve process efficiencies and profitability. Thus, we offer a range of process chemicals and products for the paper and sugar industries; resins, polymeric adsorbents and applied ion exchange processes for the pharmaceutical industry and membranes for process applications to the F&B industry.

Recent additions to this range are process chemicals for the refinery and mining sectors.

IONREF Process Chemicals for Oil Refining

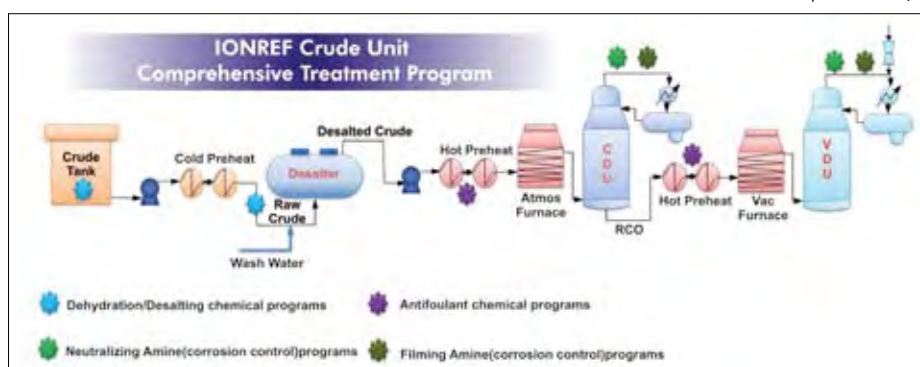


The rising demand for crude oil and resultant exploration of more crude from wells has created new challenges in its processing. Refiners worldwide are increasingly focused

on the effect of these new crudes at different sections of their processing units with respect to operational and product specifications. This has compelled formulation of new and improved molecules in speciality chemicals to meet new processing challenges.

Process Chemicals & Programmes

- Demulsifiers to aid desalter operation and to reduce water in crudes.
- Dew point neutralisers for crude distillation and vacuum distillation overhead units for pH and corrosion control.
- Corrosion inhibitors/filmers for protecting the overhead system from corrosion.
- Crude antifoulant treatment programmes.
- In-situ tank cleaning programmes to recover valuable hydrocarbon and to minimise sludge disposal concerns.
- Nickel passivator programmes to improve FCCU catalyst efficiency.
- IONREF "Singl-Sol" programme to address corrosion of different fractionator units as a single solution.
- Naptha hydrotreater antifoulant to address fouling concerns in NHT preheat system and improve on the unit conversion.



Our range of IONREF process chemicals and fuel additives has been developed, after extensive research, to assist oil refineries to improve their process efficiencies and boost the overall profitability of their refinery operations. Together with our total water management, they help refineries meet the challenges of processing crude and provide a total solution for the entire refinery process network.

Fuel Additives & Programmes

- Diesel fuel lubricity improver additives.
- Diesel stabiliser programmes.
- Pour point depressant programmes.
- Gasoline antioxidant to maintain gasoline specifications often hindered by cracked gasoline streams that are blended in gasoline.
- In addition to downstream refinery

process chemicals, we will be shortly launching chemical programmes to address upstream oilfield chemicals too.

The launch of process chemicals and fuel additives got a head start with a prestigious order for fuel additives for diesel lubricity improver programme from Numaligarh Refinery Limited (NRL), Assam and for a demulsifier programme from HPCL Visakh Refinery.

Speciality Chemicals for Mining and Mineral Processing

Our speciality chemicals product range for the mining and mineral processing sector find value adding application in industries such as

- Alumina Refining
- Iron Ore Beneficiation
- Coal Washeries
- Zinc Ore Beneficiation
- Copper Ore Beneficiation



- Uranium Ore Enrichment
- Titanium Ore Processing
- Gold Ore Leaching
- Phosphate Industries
- Graphite Flotation
- Power Coal Washeries
- Mineral Sand
- Construction

Developed through sustained R&D effort and technical collaborations, our speciality chemicals help enhance efficiency and productivity of various unit operations and augment environmental operations. The products are backed by application support, engineering tools and service expertise

for the proper preparation of solution, dosages in ppm quantities and monitoring of the relevant process parameters.

Some of the industry-wise applications are detailed below:

Alumina Refining

- Solid-liquid separation of fine alumina red mud particles and alumina impregnated caustic liquor.
- Settling and compaction of alumina red mud particles in the counter current washing thickeners.
- Antifoam for the alumina red mud washing and alumina precipitation circuits.
- Hydrate flocculant for the precipitation circuit.
- Alumina coarsening chemical for the hydrate precipitation circuit.
- Dewatering aid for the hydrate filtration circuit.

Coal Washeries

- Frothing aid in the flotation process.
- Tailing thickener clarification of water from refuse coal.
- Tailing pond solid compaction.
- Power coal vacuum filtration.

Iron Ore Beneficiation

Ore beneficiation in thickeners, vacuum filtration, palletisation.

Zinc/Lead/Uranium/ Titanium/Gold:

flotation aids, leaching aids (acid and neutral), flocculants.

Graphite: flotation aid

Phosphate: antifoam, dewatering aid in vacuum filtration, anti-caking, coating oils etc.



ZERO B Emerald

Our Home Water Solutions division has added yet another purifier to its Zero B portfolio. Zero B Emerald, a perfect blend of technology and aesthetics, is specially designed for today's modern designer kitchens. Zero B Emerald is a wall-mount RO with seven purification stages. It incorporates a 75 GPD membrane that helps fill the tank faster, and an auto flush timer.



Features:

- 7-stage RO Water Purifier
- Works on Hepta-pure technology
- With advanced GPD membrane
- Storage-cum-online usage
- A 6 litre storage tank that fills in just 30 minutes
- Transparent detachable tank
- Stylish looks
- Compact model
- Auto flush timer
- Product water meets international USEPA drinking water standards and IS 10500.

Taking the Floor

Ion Exchange-BDMA Association



Ion Exchange, in association with the Bulk Drug Manufacturers Association (BDMA), organised a technical seminar on 'Emerging Trends and Technologies for Enhanced Competitiveness' at Hyderabad, on February 4, 2011. The seminar was headed by Mr. K. Madhusudan Rao, Member Secretary of Andhra Pradesh Pollution Control Board (APPCB). The main presentation was made by Mr. Rajesh Sharma, our Vice Chairman & Managing Director, and technical presentations were made several senior executives of Ion Exchange.



Ion Exchange-Gujarat Chemical Association



A joint symposium on 'Emerging Trends and Technologies in Total Environment Management' was organised on October 7, 2011 by Ion Exchange and Gujarat Chemical Association (GCA) at Ahmedabad. The Chief Guest was Mr. Shankarbai Patel, President of the Gujarat Dyestuff Manufacturers' Association (GDMA), and the main speaker was Mr. R.G. Shah, former Secretary, Gujarat Pollution Control Board. Mr. Ajay Popat, CEO, Ion Exchange Waterleau, and Mr. C.K. Sandeep, Vice President, Corporate Marketing, Ion Exchange India, also took the floor.

On Display



Our integrated solutions for the pharmaceutical sector were on display at PMEC, Mumbai



Our total solutions for the F&B sector were showcased at Food & Bev Tech, Mumbai

At Chemtech 2011, an exhibition for equipment, services and processes for the chemical and process industries, in Mumbai



ZERO B Goes Places



Home Water Solutions entered into several tie-ups with distributors, retail and electronics chain stores as well as upmarket spas, salons, hotels.



A Good Innings!



The winning and runner-up teams of the annual cricket matches were felicitated during Jal Tarang. The final match was held at the Colgate (BMC Grounds), Bandra-East, between Team HO and Rabale-II; the winners were the Rabale-II team.

Click 2 Call Zero B

The Zero B website (www.zerobonline.com) now has a 'Click 2 Call' link, where potential customers can enter their contact details and they will be contacted by the area sales representative.



The spotlight was on our wide range of Zero B water purifiers and conditioners at the Acetech Exhibition, Mumbai

Our WaterPower solutions made an impact at Powergen, Mumbai



Our Zero B portfolio attracted a large number of visitors and enquiries at the Trade Fair, New Delhi

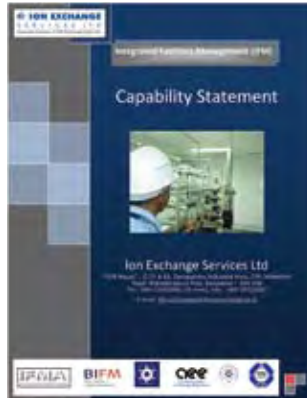


At Water Expo, Chennai our total water and environment solutions were the focus of attention



One-Stop-Shop with Integrated Facilities Management

Expanding its services further, with the objective of becoming a single service solution provider to customers, Ion Exchange Services Ltd. (IESL), launched its Integrated Facilities Management (IFM) services that cater to customer requirements of complete asset management, sustainability and energy management.



These international level, cost effective services IFM services include:

Facilities Engineering Services

- Electrical
- Plumbing
- Air-conditioning & Ventilation
- Fire & Safety
- Lifts
- Generators
- CCTV
- Access Control
- Building Management System
- Building Fabric Maintenance
- Water Features
- Swimming Pool
- Irrigation Systems
- Water Treatment Plants
- Common Engineering Infrastructure Systems



Housekeeping Services

Security Services

Business Support Services

Landscaping Services

Facilities Transition Management

- Witnessing Testing & Commissioning
- Verify O&M Manuals and As-built Drawings
- Caretaker Maintenance Services



Interior Fit-out Management

- Refurbishments
- New Fit-out Works
- Civil Repair Works

Energy Management

- Energy Audits
- Thermo-graphic Study
- Energy Saving Solutions
- Energy Saving Retrofits & Technology

Facilities Management Consultancy

In-house Microbiological Testing



Also launched recently, at IESL's in-house laboratory at Bengaluru, was a wide range of microbiological testing with state-of-the-art equipment like autoclaves, hot air



ovens, incubators, laminar air flow, etc. Key parameters like E.coli, Coliforms, Total Coliforms and Total Plate Count, and Pseudomonas Aeruginosa are currently being tested; testing for other parameters will be incorporated in the near future.

IESL's laboratory is certified by National Accreditation Board of Testing and Calibration Laboratories (NABL).

Prime Importance of Health & Safety

"Health and Safety is everyone's responsibility and we recognise it as an integral part of our management system" is a statement that finds implementation across IESL's operations, sites and contracted services. Detailed procedures and practices have been formulated to ensure that the needs and expectations at all levels – employee, client, vendor, sub-contractor and general public – are effectively met. These include:

- Safety induction programmes and regular on-the-job safety training together with structured recognised courses for supervisory and managerial staff.
- Regular safety audits to monitor and test the effectiveness of the policy and ensure compliance.
- Periodic safety tours of sites by managerial personnel.
- Regular meetings between safety personnel and operational staff to review safe working practices and a monthly review meeting chaired by Operation Heads.

- Identification of health and safety hazards at each site, and implementation of risk reduction strategies.
- Monthly reports detailing occurrence of any significant health and safety issue are forwarded to client representatives for their review.
- Every client is issued a 'Site Safety Manual' related to contracted services.

COBRA Goes Live

IESL started its Silver Jubilee year with the successful implementation of project Cobra (Customer Oriented Business

Related Activity). The first go-live entry on the SAP production server was registered by Mr. Dinesh Sadasivan, Executive Director & CEO, IESL on March 9.

This is the first step toward achieving IESL's goal of taking its business to greater heights through the use of SAP which is currently being used for day-to-day operations across all of IESL's branches in India.



Silver Jubilee Celebration

Ion Exchange Services Limited (IESL) completed 25 years on February 14, 2011, during which span it has serviced more than 14,000 customers, through its vast network of around 1500 employees, spread over 75 territories, across India.

A three-day service club was conducted at Coorg, Karnataka to celebrate IESL's silver jubilee and was attended by senior executives of the Ion Exchange India group and 70 personnel of IESL from across India. The programme included a service convention, presentation of long service awards, the launch of several products like UF retrofit, auto blow-down for cooling tower, oxygen monitoring and control for sewage treatment plant, sanitisation etc. and also the launch of a service portfolio-sales kit.

IESL's service network is the largest organised service network for water and waste water treatment, in India. As part of its growth plans, IESL is pursuing a strategic business model, aimed at significant value addition to its customers.



Mr. Rajesh Sharma (left), Vice Chairman & Managing Director, Ion Exchange India presents a memento to Mr. Dinesh Sadasivan, Executive Director & CEO, Ion Exchange Services.



JAL TARANG

Ion Exchange personnel and their families met again at the annual celebration Jal Tarang.

The event and various programmes were planned around the theme *Green Planet*, with a special focus by the comperes and performers on the issue

of environment protection. The talent on display would have turned anyone green with envy!

Our long serving personnel, who completed 25, 15 and 10 years, were felicitated with awards at the event.

Special mementoes were also presented to knowledge disseminators, who for years have shared their technical expertise and experience.



Building a Strong CSR Base

Under the umbrella of the recently established Ion Foundation, Ion Exchange continues various corporate social responsibility (CSR) programmes in the areas of education, health and hygiene, drinking water and environment protection.

Muktangan (Paragon Charitable Trust)



During the academic year 2010-2011, Ion Foundation extended support to a Muktangan school at Worli, Mumbai, where 109 primary students benefited from this initiative. Muktangan uses a "whole-school" based approach, providing alternatives to conventional educational practices. Children learn with understanding and are able to connect new concepts to earlier ones due to the innovative learning techniques. A collaborative culture encourages team spirit in the classroom. As a result, there are fewer dropouts and an increase in the number of students seeking such education.

SHARE (Society to Heal, Aid, Restore, Educate)

The Ion Foundation funded training in agro-based skills to five

Ashramshalas around Thane district through NGO SHARE. The training is imparted to higher secondary children, over a period of three years and covers around 293 tribal children.





Bethesda Orphanage



Ion Foundation has sponsored primary education for the children of Bethesda Orphanage, Goa. Fifty-three children from the orphanage who attend the Rising Star School for slow learners and 35 children who attend the Santa Cruz School (for regular learners) are being sponsored. We will also be providing two Zero B solar water purifiers to the orphanage.

Indian Council for Mental Health (ICMH)

The Ion Foundation is funding occupational therapy for 60 children with special needs at the Skills and Ability School run by the Indian Council for Mental Health at Nerul, Navi Mumbai.

Timbaktu Collective - The Chiguru Alternative Education Programme



The Ion Foundation provided holistic aid to 100 needy children at Timbaktu Collective, a voluntary organisation in rural Anantapur, Andhra Pradesh. We are also in the process of finalising a drinking water treatment unit based on water test reports and electricity connection.

Sarangpur Prathamik Seva School

This year we will once again assist the Sarangpur Prathamik

Shala, Ankleshwar, Gujarat by providing school books and infrastructure support.

Chitkul Primary School



We have begun extending infrastructure support to the Chitkul Primary School at Patancheru, Andhra Pradesh—co-sponsoring the required staff, providing stationery for the 150 students and supplying a drinking water purification system.

IESL's Heart of Service

Ion Exchange Services Ltd. (IESL) continued its CSR activities with several initiatives:

The 1,550 personnel of IESL voluntarily contributed a day's salary for the education and welfare of the children of convicts sheltered by SOCARE, an NGO. This annual contribution is matched by an equal amount by the company. New Year was also celebrated with these children. Henceforth SOCARE activities will be taken up under the Ion Foundation.



On World Hospice Day, IESL made a monetary contribution to Karunashraya Hospital, Bengaluru, which runs a 50-bed 'in-patient' facility for terminally ill cancer patients who are treated free of cost, irrespective of caste, creed religion or economic background.



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Call 3989 0909 from Mumbai, Chennai, Delhi & Kolkata; prefix 022 from other cities.

Fax: 022-2493 8737 E-mail: ieil@ionexchange.co.in Website: www.ionindia.com