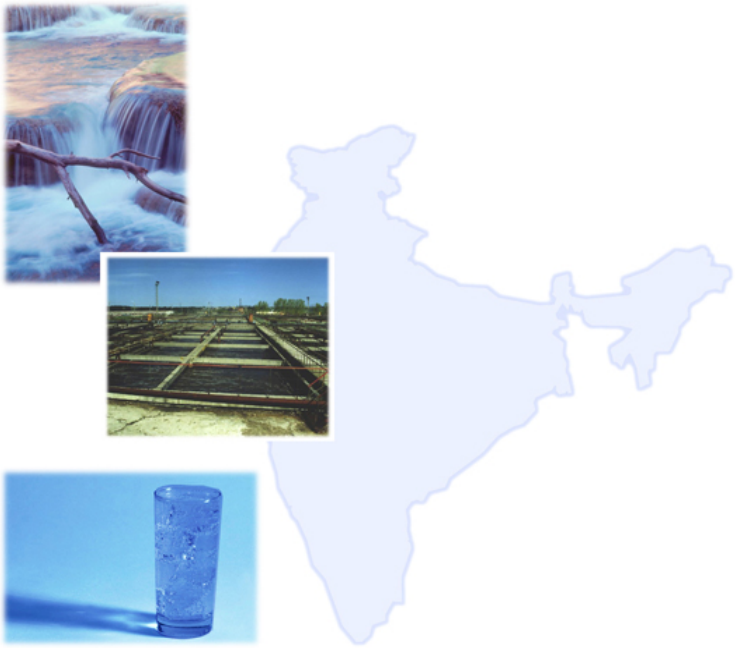

INDIAN WATER SUPPLY & WASTEWATER TREATMENT ORIENTATION VISIT

TECHNOLOGY EXPO & BUSINESS BRIEFING

JUNE 12, 2003

SPONSORED BY:
U.S. TRADE AND DEVELOPMENT AGENCY

PREPARED BY:
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INDIAN WATER SUPPLY & WASTEWATER TREATMENT TECHNOLOGY EXPO & BUSINESS BRIEFING

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INDIAN WATER SUPPLY & WASTEWATER TREATMENT TECHNOLOGY EXPO & BUSINESS BRIEFING

Itinerary
Technology Expo & Business Briefing
Thursday, June 12, 2003
Anaheim, California

8:30 am – 12:00 pm	Breakfast & Technology Exhibition
12:00 pm - 1:15 pm	Lunch
12:00 pm – 4:00 pm	***Business Briefings***
12:00 pm –1:15 pm	Registration
1:15 pm – 1:25 pm	Welcome, Introduction and Working with USTDA Mr. Douglas Shuster, Country Manager
1:25 pm – 1:45 pm	Rajasthan Urban Infrastructure Development Projects (RUIDP) Mr. M. Sharma, Project Director, RUIDP, Rajasthan
1:45 pm – 2:05 pm	Gujarat Water Supply & Sewerage Board (GWSSB) Projects Mr. B.J. Vasavada, Member Secretary, GWSSB, Gujarat
2:05 pm – 2:25 pm	Hildia Development Authority Projects Mr. A. Subbiah, CEO, Hildia Development Authority, West Bengal
2:25 pm – 2:40 pm	Coffee Break
2:40 pm – 3:00 pm	Bangalore Water Supply and Sewerage Board (BWSSB) Projects Mr. M. N. Thippeswamy, Chief Engineer, BWSSB, Bangalore, Karnakata
3:00 pm – 3:20 pm	Vizianagaram Projects Mr. R. Kumar, District Collector and Magistrate, Vizianagaram, Andhra Pradesh
3:20 pm – 3:40 pm	Tamilnadu Urban Development Fund (TNUDF) Projects Mr. V. Rajaraman, Deputy Managing Director, TNUDF, Tamil Nadu
4:00 pm – 6:30 pm	One-on-one meetings
Dinner	Free

Brief Resumes for Delegation from India

INDIAN WATER SUPPLY & WASTEWATER TREATMENT TECHNOLOGY EXPO & BUSINESS BRIEFING

Official Indian Delegation

Name	Affiliation	Title
Sanjiv Khanna	U.S. Embassy, New Delhi	Senior Commercial Specialist
Mr. R. Kumar	Vizianagaram, ANDRA PRADESH	District Collector and Magistrate
Krishan Murari Mathur	RUIDP, RAJASTHAN	Superintending Engineer
Mr. V.D. Meena	RUIDP, RAJASTHAN	Additional Project Director
Mr. M. Sharma	RUIDP, RAJASTHAN	Project Director
Narendra Singh Shekhawat	Urban Development Department, Govt. of RAJASTHAN, JAIPUR	Dy. Project Director
Mr. A. Subbiah	Haldia Development Authority, WEST BENGAL	Chief Executive Officer
Mr. M.N. Thippeswamy	BWSSB, Banjalore, KARNAKATA	Chief Engineer
Mr. B.J. Vasavada	GWSSB, GUJARAT	Member Secretary
Mr. V. Rajaraman	TNUDF, TAMIL NADU	Deputy Managing Director

INDIAN WATER SUPPLY & WASTEWATER TREATMENT TECHNOLOGY EXPO & BUSINESS BRIEFING

Sanjiv Khanna
Senior Commercial Specialist
U.S. Embassy, New Delhi

EDUCATION

- Master of Business Administration from the University of Pittsburgh, PA;
- Bachelor of Commerce from Shriram College of Commerce, University of Delhi;
- Studied accounting at Brighton Polytechnic, Brighton, Sussex, U.K.

PROFESSIONAL EXPERIENCE

Mr. Khanna promotes U.S. investment and the export of U.S. goods and services to India. He meets and counsels senior representatives of U.S. entities on the commercial and economic environment in India and advises them on market entry and investment strategies. Mr. Khanna monitors and reports on economic developments and assigned industry sectors, principally in the infrastructure area. He participates in planning, delivery and follow-up of trade events and trade missions, supervises a team of three local staff, and leads interaction with two other teams and with senior Embassy management.

His recent accomplishments includes several successes by working with the Ambassador and Country Team for advocating the commercial interests of U.S. firms and by advising U.S. entities facing commercial disputes and discrimination in tender evaluations. He identified projects, joint venture partners, and agents for a number of U.S. companies. He wrote reports and papers of which several were chosen as model documents and initiated the concept of sector-specific action plans for CS/India. He monitored U.S. investment in the power sector on a countrywide, bi-monthly basis. He also authored presentation materials for the Ambassador and Commercial SCO. Mr. Khanna delivered a talk on doing business in India to the Baltimore U.S.-India Business Roundtable; coordinated the Country Commercial Guide for India for the last three years; and assisted with three Secretarial-level visits to India. Mr. Khanna has worked as a team member on more than a dozen trade events and has independently planned and delivered two seminars and a trade mission in the last two years. Mr. Khanna has received two team and individual performance awards in the last three years.

Prior to joining the U.S. Foreign Commercial Service in 1993, Mr. Khanna was a Commercial Officer with the Government of Ontario, Canada at the New Delhi Representative Office. As a Commercial Officer, he organized trade events and trade missions, seminar briefings, and agent/distributor meetings. His accomplishments included organizing six trade missions and Ontario's participation in three trade fairs. A number of high-profile joint ventures were initiated, notably the Raytheon Airport project with the Tatas. India's trade with Ontario doubled during the time that Mr. Khanna served as a Commercial Officer with the Government of Ontario.

Before accepting his position as a Commercial Officer with the Government of Ontario, Canada at the New Delhi Representative Office, Mr. Khanna was a Credit Officer with the Royal Bank of Canada and the Bank of Nova Scotia.

Mr. Rajat Kumar
District Collector and Magistrate
Vizianagaram District

EDUCATION

- Ph.D. (Pending) -- Thesis was submitted in March 2003 on "Impact of Structural Reforms on Indian Industry" to the Department of Economics, Osmania University.
- Stood first in University in the Pre Ph.D. examination in Social Sciences, in 2000
- Master of Arts - Economic; Stood first in the University, Hyderabad - 1998
- Bachelor of Technology (Mechanical Engineering); First Division, Benaras Hindu University, Varanasi (Indian Institute of Technology) - 1985

DETAILED WORK EXPERIENCE

October 2002 to Present: District Collector and Magistrate, Vizianagaram District Andhra Pradesh, India

Responsible of the following functions:

- Overall administration and development of Vizianagaram district, which has an area of about 7000 sq. km. and a population of 2.3 million. Mr. Kumar is responsible for managing a staff of more than 33,000, including 70 Heads of departments and a budget of ~US $1 billion in the following areas:
  - Agriculture
  - Infrastructure & Industry
  - Revenue Collection and Expenditures
  - Health, Sanitation, Water Supply, and Environmental Improvement
  - Education
  - Urban Administration
  - Housing etc.

June 2000 to October 2002 - Joint Secretary of the Information Technology & Communication Department

- Specially chosen for this assignment by the Chief Minister of Andhra Pradesh for this position for development of business in the state from countries such as Singapore, Malaysia, Australia, and the U.S.A.
- Worked closely with leading global consultants such as PricewaterhouseCoopers (for formulating the Hardware Policy for the State), Arthur Anderson (on a project to assess the investment climate in the State vis-à-vis other states in the country as well as some of the countries in the Asia Pacific region), and Mckinsey (on a project for the promotion of Information Enabled Services in AP).
- Was able to bring bout US$12 billion worth of Information Technology investments into Andhra Pradesh.

1997 to June 2000 - Deputy Commissioner of Commercial Taxes

- Responsible for the collection of State Taxes worth 15 billion Rupees (approximately $300 million). During this period Mr. Kumar had the opportunity to interact closely with the leading business and industrial houses in the State and understand their prospective on various administrative and financial issues.

1995 to 1997 - Project Director for Rural Development

- Responsible for the management of large projects for poverty alleviation in the state. Mr. Kumar formulated and implemented schemes for land development and improvement of agricultural productivity, formation of women's thrift societies and asset creation schemes with bank linkages. He was the Convener for the Credit Committee consisting of Senior Bankers, Government Officials and People's Representatives. In this capacity, Mr. Kumar was instrumental in implementing a credit plan of 2.5 billion Rupees (approximately $50 million). He was also the Government nominee on the Board of Directors of the Regional Bank.

1993 to 1995 - Sub-Collector, Nalgonda District

- Worked with the District Collector to perform administrative functions of a sub-region of the District of Nalgonda with respect to land administration, maintenance of law and order, and development in areas of agriculture, industry, health, environment, poverty alleviation, etc.

1991 to 1993 - Joined the Indian Administrative Service, Training at the National Academy of Administration

- Chosen from a select group of individuals who qualify in a high competitive and difficult examination held at the national level to hold progressively higher management positions in the State and Central Government.
- Served as the President of the Officers' Association during my training.

1985 to 1991 - Senior Technical Officer of Tata Iron and Steel Company

In charge of a 200 member Maintenance Unit.

Krishan Murari Mathur
Superintending Engineer
RUIDP, RAJASTHAN

EDUCATION

- B.E. (Hons.) (Civil Engg.) - 1971
- M.E. (Environmental Engg.) - Cleared theory papers; Thesis under submission

FOREIGN TRAINING

Undertaken ten weeks training by British Council in England under Colombo Plan on River Basin Management in Jul-Sep, 1990

DETAILED WORK EXPERIENCE

Have been associated with Design, Planning, Implementation, Operation and Maintenance of major Urban and Rural Water Supply and Sewerage Projects for more than 31 years.

1972 - 1973	Prepared Master Plan for Water Supply Schemes of District Jodhpur
1979 - 1983	Prepared Sewerage Master Plan Jodhpur town implemented IDA assisted Jodhpur Sewerage Project worth Rs. 33.2 millions with new concept of increasing service levels by making house sewer connections and effecting cost recovery.
1985 - 1990	RGLC Water Supply Project- PH-I-Rs. 2560 millions- Project for water supply to Jodhpur town. Associated with Planning, detailed designing, Implementing 204 km long conveyance system of Open Canal/1600 mm Dia Steel. Pumping Mains, 8 stage pumping involving 8.7 MW Electric Motors
1991 - 1996	Designed, Planned, Implemented and Commissioned Water Supply and Sewerage Projects worth Rs. 200 millions in various housing colonies of RHB.
1996 - 1997	Associated with Implementation and commissioning of two major projects for Urban Water Supply Jodhpur worth Rs. 400 millions
1997 - 1999	Associated with Planning, Design and sanction of Projects worth Rs. 2000 million in District Pali involving 155 km long conveyance system of MS/PSCC pipes of dia 1800 to 900 mm, to connect Jawai Dam to lift canal and provide water supply to salinity affected area. Also maintained water supply of Pali district in extreme drought conditions by transportation through Rail/ Truck tankers.
2000-2001	Associated with planning detailed designing projects from Indira Gandhi

	Canal, Narmada Canal Covering Six Districts of Western Rajasthan and detailed engineering of RGLC WS Phase-II worth Rs. 1350 million. Associated with and presently working on Urban Infrastructure Development Project of Jodhpur town with ADB Loan. The work involves design and Construction Supervision of works worth Rs. 2500 millions including Construction of Bridges, Roads, Drains, slum area improvement, solid waste/ fire fighting management and water/ sewerage treatment plants, laying large dia transmission mains/ outfall sewers, expanding water supply distribution network, sewerage network, conservation of water bodies, heritage structures. The job responsibility involves public awareness and public participation with community/ beneficiaries. The job responsibilities involve strict quality control and enforcement of safety measures and setting out exemplary work environment with latest computer aided designs.

AWARDS

State Level Merit Award on August 15, 1997 for Construction and Commissioning of 60 MLD Water Treatment Plant at Kailana in record time of six months.

Vishabmbhar Dayal Meena
Office of Project Director
Rajasthan Urban Infrastructure Development Project

EDUCATION

- Bachelor of Engineering (Civil) from Malviya Regional Engineering College, Jaipur (University of Rajasthan), passed in the year 1971

DETAILED WORK EXPERIENCE

32 years in Water and Sanitation Sector at different levels in the State Services of the Government of Rajasthan

December 2002 to Present - Chief Engineer and Additional Project Director, Rajasthan Urban Infrastructure Development Project assisted by Asian Development Bank (Loan No. 1647-IND), posted at Jaipur; Urban Development Department, Govt. of Rajasthan, Jaipur

Description of Duties:

- Preparation, management and implementation of Project Work Plan containing different packages of urban infrastructure development for six cities of Rajasthan State
- Interaction with international and national level consultants in view of preparation of Design Packages and Bid Documents for community based water supply, sewerage and road development and CAPP, BME works etc.
- Monitoring the progress of Design and physical works in the Project cities
- Monitoring the progress of different agencies
- Technical Sanction of various packages
- Liaising with ADB, GOI and different GOR departments on various aspects of the project

September 2000 to November 2002 - Additional Chief Engineer, PHED, Bikaner; Public Health Engineering Department, Govt. of Rajasthan, Jaipur

Description of Duties:

- Administration of Water Supply Scheme of Bikaner region of PHED comprising of four Districts- Bikaner, Churu, Sriganganagar and Hanumangarh

- Interaction with different agencies for administration for maintaining the water supply in the region
- Design and finalizing the various urban and rural water supply schemes in the region
- Headed/ participated in different committees for policy decision for maintenance and execution of water supply

August 1997 to September 2000 - Superintending Engineer, PHED, Kota and Jhalawar; Public Health Engineering Department, Govt. of Rajasthan, Jaipur

Description of Duties:

- Administration of Water Supply Scheme of Kota Circle of PHED which comprised of three Districts- Kota, Jhalawar and Baran
- Interaction with different agencies for administration for maintaining the water supply in the circle
- Design and finalizing the various urban and rural water supply schemes in the circle
- Headed/ participated in different committees for policy decision for maintenance and execution of water supply

October 1982 to August 1997 - Executive Engineer, PHED in Districts of Bharatpur, Dholpur, Ajmer, Sawai Madhopur, Bikaner, Jaipur, Dausa, Deeg and Churu; Public Health Engineering Department, Govt. of Rajasthan

Description of Duties:

- Execution and maintenance of Water Supply for above cities
- Interaction with different agencies for administration for maintaining the water supply in the city
- Design and finalizing the various urban and rural water supply schemes
- Headed/ participated in different committees for policy decision for maintenance and execution of water supply

May 1972 to October 1982 - Assistant Engineer, PHED in Districts of Jaipur, Hindaun (Sawaimadhopur) & Bikaner; Public Health Engineering Department, Govt. of Rajasthan

Description of Duties:

- Execution and maintenance of Water Supply for above cities
- Interaction with different agencies for administration for maintaining the water supply in the city
- Design and finalizing the various urban water supply schemes in the city

November 1971 to May 1972 - Junior Engineer, PHED in Kota; Public Health Engineering Department, Govt. of Rajasthan

Description of Duties:

- Execution and maintenance of Water Supply in the city

Manoj Sharma
Project Director
Rajasthan Urban Infrastructure Development Project

EDUCATION

- MBA from Indian Institute of Management (I.I.M.), Calcutta, - Year 1990
- B. Tech in Civil Engineering from Indian Institute of Technology (I.I.T.), New Delhi -
  Year 1988
- Foundation Course for the IAS at Lal Bahadur Shastri National Academy of Administration, Mussoorie, India's premier research and training institute on administration and public policy. This included one year field training at Alwar district, September 1991 to September 1993

DETAILED WORK EXPERIENCE

August 2001 to Present - Project Director Rajasthan Urban Infrastructure Development Project, Government of Rajasthan

Responsible for overall administration, management, financial control, implementation, monitoring & evaluation of the Rajasthan Urban Infrastructure Development Project (RUIDP) which is being implemented with Asian Development Bank (ADB) assistance under Loan No. 1647-IND. The total project cost is US $362 million out of which the ADB loan component is US $250 million.

With an overall objective to optimize social and economic development in urban Rajasthan, the project caters to urban infrastructure development, capacity building of urban local bodies, and community participation in the six principal cities of Rajasthan: Jaipur, Jodhpur, Udaipur, Ajmer, Kota and Bikaner.

The project is being undertaken in five parts: (a) providing support for capacity building and community participation, including community awareness and public education through the participation of NGOs and CBOs; (b) water supply rehabilitation and expansion; (c) improvement of urban environmental quality through improved wastewater management, solid waste management, drainage, slum conditions, fire-fighting service and heritage protection; (d) improvement of urban transportation and management through upgrading of streets, bridges, bus terminals, parking and improved traffic management; and (e) providing implementation assistance including incremental administration, design and construction supervision services and project management services.

As the leader of a multi-disciplinary team of over 400 professionals under the Project Management Unit, six Project Implementation Units, an international Project Management Consultant, three domestic Design and Supervision Consulting Firms, and a national level NGO for the Community Awareness and Participation Program, the Project Director has overall responsibility for planning, execution and management of the project and related consulting services, budgeting and financial control, including monitoring & evaluation of all activities under the project.

This includes coordinating with the ADB, Government of India (Department of Economic Affairs, Urban Development, Environment, Railways, etc.), Government of Rajasthan (Urban Development, Finance, Planning, etc), state line agencies, urban local bodies, NGOs, and training institutions, etc., on various aspects of the project.

May 2001 to August 2001 - Director, Department of Information Technology & MD, RAJCOMP, Jaipur Government of Rajasthan

Devised & implemented IT Policy of the State. The main functions included attracting investments in IT sector, executing projects of computerization of various Government departments, improving citizen services through e-governance projects, giving impetus to IT infrastructure and large scale IT education in the State.

November 2000 to May 2001 - Director, Panchayati Raj and Rural Development, Jaipur Government of Rajasthan

As Director Panchayati Raj & Rural Development, supervised & coordinated various Rural Development Programs of the State & Central Government & ensured proper implementation in an effective & economic manner. Also responsible for evolving Panchayati Raj Framework at the grass roots level for providing third tier of Governance. Ensured empowerment of these institutions by adequate delegation of powers & capacity building of their public representatives.

May 1998 to November 2000 - District Collector & District Magistrate, Chittorgarh (November 1998 to November 2000), District Collector & District Magistrate Sirohi (May 1998 to November 1999), Government of Rajasthan

Worked as Collector & District Magistrate, Chittorgarh and Sirohi. The job involved providing overall administration in the District. Coordination of various departments and ensuring proper and qualitative service delivery system at the grass root level by them. The duties included handling public grievances, maintaining Law & Order, supervising revenue works, implementing Rural Development programmes as Executive Director, District Rural Development Agency, implementing Literacy Programmes, Primary Education Programmes, Industrial development activities, implementing various Health programmes and social welfare activities. Conducted Panchayat Election successfully in adverse & challenging circumstances. As chairman of the District Hospital Committee (Medicare Relief Society) and chairman of National Health

Programme on Tuberculosis, Leprosy, Malaria, Blindness Control, Family Welfare, Child Nutrition etc, successfully implemented these Health care programs.

May 1997 to May 1998 - Deputy Secretary, Department of Personnel (DOP) Government of Rajasthan

This post involved handling establishment, training and capacity building matters of IAS, IPS, IFS Officers; matters related to Seniority; Screening Committee meetings; working out requirements of in-service training and foreign training; central deputation; fixation of pay; and issue of civil list. Convening of Selection Board meetings for promotion. Handled court cases related to service matters of various officers. Establishment matters of State Service Officers; convened meetings of Departmental Promotion Committee (DPC) of State Service Officers; safe custody and maintenance of Annual Confidential Reports of All India Service and all State Service Officers.

September 1996 to May 1997 - Additional Collector (Development), & Project Director, District Rural Development Agency (DRDA) Dungarpur, Government of Rajasthan

Worked as Additional Collector (Dev.) & Project Director, District Rural Development Agency (DRDA) at Dungarpur. Implemented various rural development schemes of the State Government and Central Government, comprising of individual beneficiary schemes (targeted for Below Poverty Line Families) and community assets buildings programmes (e.g., rural infrastructure including schools, roads, hand pumps, electricity and watershed development, etc.).

August 1995 to May 1997- Project Director, PAHAL Government of Rajasthan

Worked as Project Director of an innovative Integrated Land Resource Management Project called PAHAL (Participatory Approach to Human And Land Resource Development) at Dungarpur. This project was an innovative effort for sustainable socio-economic development of the most backward and environmentally degraded areas of pre-dominantly tribal district Dungarpur and was jointly financed by Government of India and SIDA (Swedish International Development Agency). The job involved overall co-ordination of personnel and activities in PAHAL project including formulation of policy, planning, executing, monitoring & evaluating various HIRD (Human & Institutional Resources Development) activities and physical activities which specifically included soil and water conservation, forestry, agriculture and animal husbandry. The project involved working with Government staff, NGOs and village level institutions and was a novel experiment not only in organizational structure but also in interventions on the physical activities front in the Land Resource Management sector.

September 1993 to August 1995- Sub Divisional Magistrate, Ajmer Government of Rajasthan

Worked as overall administrator of Sub-Division Ajmer having wide ranging duties including maintenance of Law and Order in the area, working as Presiding Officer of Revenue Court and Judicial Court, recovery and collection of land revenue, registration of documents, land conversion (urban & rural), deciding land ceiling cases, allotment of agriculture land, land acquisition, supervision of famine relief works, conducting elections, working as Chairman King Edward Memorial (KEM) Hotel, managing a marketing co-operative society, handling public grievances, etc. Organized internationally renowned Pushkar Fair.

March 1991 to September 1991 - Business Executive (Systems) Project N.I.I.T., New Delhi

Launch of a new subsidiary company NIS (National Institute of Sales) of NIIT Ltd., New Delhi.Design of on-line front office enquiry system on FOCUS in LAN environment for Computer Training Centers of NIIT Ltd. and for Sales Training Centers of new subsidiary NIS. Worked as member of high-powered core team for conceiving, designing and launching a new subsidiary company of NIIT called NIS (National Institute of Sales) for training of sales professionals. NIIT was a market leader in the computer training business and as part of diversification plans it was entering a new business of sales training. In six months of working as part of this team, provided support in analysis and design of all operational systems (both manual and computerized) and implemented these systems successfully at the time of launch NIS in September, 1991.

April 1989 to June 1989 - Management Trainee Maruti Udyog Limited, New Delhi

As part of two years M.B.A. course at I.I.M. Calcutta, worked as Management Trainee in the marketing division of Maruti Udyog Ltd, a major car manufacturing public sector organization. The project involved design & implementation of a sales promotion and advertising campaign to increase the sales of Maruti - 800 Cars.

May 1987 to July 1987 - Trainee Engineer, Engineers India Ltd. (E.I.L.), New Delhi

As part of four years B. Tech. Course at I.I.T., New Delhi, worked as Trainee Engineer for two months in project engineering division of Engineers India Ltd., New Delhi, a reputed consultancy organization. The Project involved structural and mechanical design of large petrochemical plant Maharashtra Gas Crackers Complex (MGCC), being constructed at Nagothane (Maharashtra) by IPCL Ltd. Specifically, design of pipe rack structure, design of technological structure & equipment foundation were the technical areas of working in the project. Awarded 'Excellent' grade by the Organization.

AWARDS AND SCHOLORSHIPS

- Secured All India Rank 6th in the competitive I.A.S. entrance examination 1990

- Recipient of the prestigious Industrial Scholarship at I.I.M. Calcutta in the year 1989 and 1990, a scholarship awarded to top ten students in the institute.
- Merit certificates and cash prizes for securing the First rank in five semesters out of total eight semesters of I.I.T.Delhi. Secured over all Second rank in I.I.T. Delhi.

Narendra Singh Shekhawat
Dy. Project Director
Urban Development Department, Govt. of Rajasthan, Jaipur

EDUCATION

Bachelor of Engineering (Civil), M. B. M. Engineering College, Jodhpur
Master of Engineering (Environmental) with Honours, Roorkee University, Roorkee

DETAILED WORK EXPERIENCE

32 years in Water and Sanitation Sector at different levels in the State Services of the Government of Rajasthan

Feb 2001 to Present

Position held: Dy. Project Director (Technical), Rajasthan Urban Infrastructure Development Project assisted by Asian Development Bank (Loan No. 1647-IND), posted at Jaipur
Employer: Urban Development Department, Govt. of Rajasthan, Jaipur
Description of Duties:

- Contract negotiations with consultants, DSC-I, DSC-II, DSC-III
- Finalized contract for Base mapping of Jaipur City from Aerial Photographs
- Preparation, management and implementation of Project Work Plan containing different packages of urban infrastructure development for six cities of Rajasthan State
- Interaction with international and national level consultants in view of preparation of Design Packages and Bid Documents for community based water supply, sewerage and road development and CAPP, BME works etc.
- Monitoring the progress of Design and physical works in the Project cities
- Monitoring the progress of different agencies
- Technical Sanction of various packages
- Liaising with ADB, GOI and different GOR departments on various aspects of the project
- Reviewing prequalification of LCB, CAPP, BME, Slum Development

September 1998 to January 2001

Position held: Superintending Engineer, PHED, Project Management Cell assisted by KFW posted at Churu
Employer: Public Health Engineering Department, Govt. of Rajasthan, Jaipur
Description of Duties:

- Detailed Engineering of project component such as clusters, pump house with electrical & mechanical parts, trunk mains, rehabilitation of treatment plants, Rehabilitation of trunk mains
- Supervision of laying of pipelines, service reservoirs, pump houses, treatment plants, trunk mains etc.
- Strong community involvement program in the project

August 1997 to August 1998

Position held: Executive Engineer, PHED, Jaipur, Material Management Cell
Employer: Public Health Engineering Department, Govt. of Rajasthan, Jaipur
Description of Duties:

- Centralized procurement of pipes, pumps, hand pumps, joints, vehicles etc

April 1995 to August 1997

Position held: Executive Engineer, PHED, Production & Distribution, Gandhinagar, Jaipur
Employer: Public Health Engineering Department, Govt. of Rajasthan
Description of Duties:

- Operation, maintenance & up-gradation of water supply Jaipur City (about half area of Jaipur City)
- Introduced participation of beneficiaries to meet part expenditure of water supply system in new colonies

1991 to 1995

Position held: Executive Engineer, PHED, Bisalpur Project, Jaipur
Employer: Public Health Engineering Department, Govt. of Rajasthan
Description of Duties:

- Operation & maintenance of sewage treatment plant (the only one in Rajasthan).

1981 to 1991

Position held: Executive Engineer, PHED, Ajmer & Beawar City
Employer: Public Health Engineering Department, Govt. of Rajasthan
Description of Duties:

- Operation & maintenance of Ajmer water supply scheme and Bewar, which are the most difficult water supply scheme in Rajasthan. Upgradation of WSS in Ajmer & Bewar.

1973 to 1981

Position held: Assistant Engineer, PHED, Churu and Sikar
Employer: Public Health Engineering Department, Govt. of Rajasthan
Description of Duties:

- Survey & Investigation of Rural WSS Operation & Maintenance of WSS in Sikar district

1970 to 1973

Position held: Junior Engineer, PHED, Churu and Sikar
Employer: Public Health Engineering Department, Govt. of Rajasthan
Description of Duties:

- Planning, Design, Maintenance of Dams, Canals etc.

Mr. A. Subbiah
Chief Executive Officer
Haldia Development Authority

Curriculam Vitae

A. SUBBIAH, IAS

Service	:	IAS 1992 Batch RR
Present posting	:	Chief Executive Officer Haldia Development Authority
Mailing address	:	Chief Executive Officer Haldia Development Authority Durgachak Super Market P.O. Durgachak, Haldia Dist. Purba Medinipur West Bengal 721 602
Communication	:	Phone Office 03224 274154/276276 Residence 03224 263565 Fax 03224 274869 E-mail kgp_chief1@sancharnet.in
Previous postings		• Additional District Magistrate (LA) and Additional Collector, Midnapore District Land & Land Reforms Officer, Midnapore Project Director, Indian Population Project, (World Bank Project) Midnapore (Feb. '99 to June '01) • Sub-Divisional Officer, Lalbagh, Murshidabad (Sep. '96 to Jan '99) • Asstt. Commissioner of Income Tax Mumbai (Jan '91 to Jan '95) • Senior Engineer (Production), BEL Bangalore (April '85 to Dec. '90)
Distinctions		• Merit scholarship holder throughout Engg. Course • University Rank Holder in Mech. Engg. • All India rank in IAS - 29th • All India rank during IAS Training (Written Exam.) - 2nd

JOB EXPERIENCE WITH SPECIFIC ACHIEVEMENTS

DISTRICT LAND & LAND REFORMS OFFICER

- Executed various Land Reform programmes including computerisation of Land Records.
- Initiated special drive for distribution of land to landless beneficiaries at the village level as door step distribution, first of its kind in West Bengal. Commendation from the State Govt. that this unique exercise shall be emulated throughout West Bengal.

PROJECT DIRECTOR INDIA POPULATION PROJECT (WORLD BANK PROJECT)

- Successfully implemented various health programmes in Kharagpur town through close co-ordination with Urban Local Body and NGO's in the Indian Population Project aided by World Bank. Created 30 Sub Health Posts, 4 Health Posts and 1 O.P.D. cum Maternity Hospital in the urban slum areas of Kharagpur Town to benifit around 86,000 slum dwellers.

AT LALBAGH : THE HISTORICAL TOWN IN MURSHIDABAD DISTRICT, WEST BENGAL.

SDO, LALBAGH

- Successfully implemented self-conceived FIVE POINT DEVELOPMENT PROGRAMME in the Sub-Division, such as creation of Lalbagh College, Agricultural Market. Check Posts, Seminar Hall, Roads to Historical Monuments, Jiaganj Archeological Museum etc.
- Conducted Panchayat Elections '98 and Flood Combat / Relief Programme '98
- Awarded Commendation Certificate from Election Commission of India for adopting innovative measures in the smooth conduction of Lok Sabha Elections, '98 in Lalbagh Sub-division.

TRAINING

Training in **India**

- In-service training in Rajasthan State Institute of Public Administration (RIPA) on Administrative effectiveness and Public Finance, in October 2000.

Training **Abroad**

- Participated in International workshop on low cost Housing and Urban infrastructure in Australia & Thailand organised by IHS and HUDCO, in December 2001.

M.N. Thippeswamy
Chief Engineer

EDUCATION

- B.E. (Civil)
- M.E. (Env. Eng.)

DETAILED WORK EXPERIENCE

1971 - 1976	Worked as Assistant Engineer in charge of Distribution system Pumping station for about 15,000 installation and also in charge of Meter Testing Laboratory, material testing, Emergency unit etc.
1976 - 1979	Worked as Assistant Executive Engineer in - charge of Malleswaram sub division consisting of Hessaragatta Head Works, four Service Station Jurisdiction, pump houses, Water Meter Testing Laboratory etc. Maintenance of Distribution system of more than 80 Sq.KM. including quality control etc.
1979 - 1981	Worked as Superintendent in Charge of Chamaraja Sagar Head Works where 135 Mld water Treatment plant, Chamarajasagar Dam, 250 Employees colony, Major Pumping Machinery were involved.
1981 - 1983	Worked as Assistant Executive Engineer in charge of Cauvery Water Supply Scheme II for laying 30 Kms. 1200 mm pipeline pumphouse, Pure water tank and other allied works.
1982 - 1984	Deputation to Bangalore University for M.E. (Env. Engg).
1984 - 1988	Worked as Technical Assistant to Chief Engineer in-charge of Tendering three sewage treatment plants of Design, preparation of tender documents, evaluation of tenders and award and also other sewer works in Bangalore City.
1988 - 1989	Worked as Executive Engineer in charge of South Division Water Supply Distribution dealing more than 1.25 lakh consumers with three sub divisions covering half the Banglore City. Supply of equitable distribution of water, maintaining quality and quantity in addition collection of revenues.
1989 - 1992	Worked as Executive Engineer in-charge of North Division Water Supply distribution dealing about 1.5 lakhs connections including Chamarajasagar head works involving 135 MLD treatment and pumping maintenance of pipeline and also Hesaragatta head works.
1991 - 1993	Worked as Deputy Chief Engineer both for Technical and Administrative matters.
1993 - 1994	Worked as Secretary to Bangalore Water Supply and Sewerage Board dealing all the Administrations, legal, technical matters. Also responsible for conducting all types of meeting such as Board Meeting, Technical committee,

	Top Management Sub Committee etc. During this period also holding charge of Deposit Contribution Division, in-charge of carrying out all works of Deposit Contribution of Bangalore Development Authority, Bangalore Municipal Corporation, Karnataka Housing Board are taken up.
1994	Executive Engineer in-charge of Planning and Monitoring division working directly under Chairman responsible for initiating many Projects such as O.E.C.F., CWSS IV Stage Phase I, French Funding for recycling Projects, G.I.S. etc.
1995	During 1995, visited Japan under J.I.C.A. Scholarship for Training on Water Quality Management for two months. During 1996, visited Japan for signing agreement of O.E.C.F., CWSS IV Stage Phase I Project. During 1996 again visited Kazakisthan, Moscow for Waste water recycling Projects. Promoted as Superintending Engineer, Corporate Planning to work under Chairman. In-charge of the recycling plants at the existing treatment plants under BOOT at K & C Valley and Hebbal valley. Attended International Conference at Woolongong, Australia during February 1998 and presented paper on "Environmental Impact on Waste Water disposal at Bangalore City.
1999	Promoted as Chief Engineer (Corporate Planning) including Corporate Planning Works and Quality Assurance and Vigilance activity of the board. Finalization of GIS Projects with French companies Automation of Water Treatment Plant at T.K.Halli with the Assistance of Government of India, Department of Electronics Finalizing Water supply Distribution system automation with Department of Electronics, Government of India. As Executive Engineer, Superintending Engineer and Chief Engineer promoted many projects. Among them most innovative projects are: a) Energy Audit: Initiated Energy Audit in BWSSB since BWSSB is

	utilizing more than 50 MW of Power for only lifting water to City. b) Water Audit: Initiated conducting UFW in the City through NEERI and responsible for purchasing portable Electronic flow meters and leak detection equipment c) Power Generation: Initiated generation of power through the digestion gas at K & C Valley for a capacity of 1 MW power. Signed MOU with M/s. M.N.E.S. of Government of India and also IISc for 50% grants and technical assistance respectively. d) Reclamation of reuse of wastewater at 'V' Valley and Yelahanka under French/HUDCO/KUIDFC funding of 60 MLD and 10 MLD respectively. e) Computerized Mapping and GIS for Water and Waste Water utilities under French funding. Preparation of documents, tendering, evaluating and finalizing with M/s. SCE, France. f) Initiated CWSS IV Phase II for production and conveyance of 500 MLD treated water under Private Sector Participation through BOOT. Responsible for preparing bid documents and interacting with bidders and consultants during evaluation etc. g) Attended for "Technical Assessment panel" member - in AUSAID as Government of India representative for selection of consultant for preparation of Bangalore water supply and Environmental master plan for next 25 years horizon in Australia. Subsequently visited many cities in Australia such as Sydney, Canberra, Adelaide, Melbourne and Sholahaven etc.,, to study water and waste water management including private sector participation issues.
2001	Working as Chief Engineer Corporate Planning and also Waste Water Management. a) In-charge of entire trunk sewers of 450mm. to 2000mm.dia. inside the city of 151 Kms. b) In charge of 5 sewage treatment plants of various capacities up to 408ML. c) Responsible for preparation of Environmental Action Plan Project of 49.50 Crores to improve the trunk sewers including rehabilitation and replacement. d) In charge of Augmentation of K & C treatment Plant from 163MLD and 218MLD capacity at a cost of 30.00 Crores. e) Worked as Project director for Bangalore Water Supply and Environmental Sanitation Master Plan Project funded by AUSAID for two years from 2000 to 2002. In charge of Corporate Planning to develop projects on water supply and sewerage improvement to international funding such as JBIC, ADB etc.,

MEMBERSHIPS/ FELLOWSHIPS OF PROFESSIONAL SOCIETIES

1. Member of International Water Association, UK
2. Member of Water Environment Federation, U.S.A.
3. Member of Japan International Co - Operation Agency, Japana) Member of Australian Water Association, Australia
4. Fellow of Indian Water Works Association, India
5. Fellow of Indian Public Health Engineers Association, India
6. Member of Indian Association for Water Pollution, India
7. Member of Indian Environment Association, India

Bhupendra J. Vasavada
B.E. (Civil), LL. B., FIE., FIWWA, MICA
Member Secretary
Gujarat Water Supply & Sewerage Board

EDUCATION

- B.E. (Civil) Sardar Patel University, May 1968
- LL.B. (Gen) South Gujarat University, Surat, October 1977
- LL.B. (Spl) Gujarat University, Ahemdabad, June 1983

PROFESSIONAL EXPERIENCE

1. 12 Weeks of training and attachment with Thames Water International, London, U.K. in Project Planning, Appraisal and Management.
2. "Middle Management" in Indian Institute of Management of Management, Bangalore.
3. Five Day Meeting with U.S. Professionals in Bangkok Thailand.

DETAILED WORK EXPERIENCE

Junior Engineer	PHED, Govt. of Gujarat	Four Years (1969 to 1973)
Deputy Engineer	PHED & Gujarat Water Supply & Sewerage Board	Fifteen Years (1973 to 1988)
Executive	As above including Field Engineer Jobs at Junagadh & Jamnagar Districts	Eight Years (1988 to 1996)
Superintending Engineer	Gujarat Water Supply & Sewerage Board	Two years (1996 to 1998)
Chief General Manager	Gujarat State Drinking Water Infrastructure Co. Ltd. (On deputation)	1998 to April 2001

- Chief Engineer Gujarat Water Supply & Sewerage Board, April 2001 onwards.
- Presently working as Chief Engineer (Civil) with Gujarat Water Supply and Sewerage Board, Gandhinagar (Government of Gujarat Undertaking) in charge of

ADB Loan Project, Gujarat Recovery (Water Supply) and Ghogha RRWSP under Netherlands Aid.

- Acting as Member Secretary of Gujarat Water Supply & Sewerage Board.
- 33 Years of Professional Experience in Administration, implementation and management of Water Supply and Sanitation Projects.

SPECIAL ACHIEVEMENT:

- Author of a comprehensive book on "Engineering Contracts and Arbitration" March 1996, which has received excellent response from the Engineering fraternity all throughout the country.
- Special Interest and exposure in administration and management of contracts.
- Procurement of works and materials.
- Drafting of Contracts and Contract Documents, relating to world Bank & Asian Development Funded Projects.
- Formulation of Project Reports,
- Evaluation and Interpretation of Contracts.

EXPERIENCE PROFILE:

- Planning, construction, supervision and maintenance of water supply and sewerage projects in Gujarat. (32 Years)
- Project Planning, Project formulation, Appraisal, Detailed engineering and implementation of World Bank, Netherlands assisted Projects.
- Management and Monitoring of drinking water supply in drought effected districts of the State.
- Project feasibility studies and Project Engineering Reports.
- Formulation of Projects Profiles for Project Finance.
- Sector study and Sector Development reports.
- Drought Management Master Plans.
- Project Monitoring and Management information System.
- Formulation of Contract Documents for International and National Bidding for Water Supply Projects under World Bank / Asian Development Bank.

- Formulation, Invitation evaluation of EPC Tenders and award of Contract (Major Projects - 12 major contracts costing Rs. 7840 million).
- Preparation and Processing of Procurement Proposals under national and international bidding, procedures.
- Liaison, Co-ordination and active participation with World Bank / Asian Development Bank / Netherlands Projects formulation, review and appraisal missions.
- Planning of Sardar Sarovar Narmada Canal based Drinking Water Supply Projects in Gujarat (Rs. 66000 million project) - Project Feasibility studies including social cost benefit analysis.
- Financial Engineering of Bulk Water Transmission Projects.
- Damage Assessment and formulation of Gujarat Earthquake Recovery Programme for Rural and Urban Water Supply for World Bank / ADB mission.
- Gujarat Vision - 2010: "Jaldisha" a GOG / NGO / Community effort for drinking water and sanitation.
- Developing Institutional Policies and Support Systems.
- Preparation of "Request for Proposal" and "Request for Qualification" documents for recruitment of consultants and contractors.
- Implementation and Monitoring of Rs. 4000 million ADB funded Earth quake Reconstruction and Rehabilitation Projects relating of Water Supply.

PARTICIPATION IN PROFESSIONAL ASSIGNMENTS:

- Socio - economic and tariff studies for seven urban towns in Gujarat for water supply and sewerage project under World Bank Aid.
- Organization and Management study of GWSSB.
- Organization and Management study of Rajkot Municipal Corporation.
- Human Resource and Manpower Development study for water supply and sewerage sector in Gujarat.
- Socio-economic and evaluation studies undertaken by UNDP for low cost sanitation in Gujarat.
- Institutional and financial management study of GWSSB.
- Organization and Management study of Rajkot Municipal Corporation.

- Human Resource and Manpower Development study for water supply and Sewerage sector in Gujarat.
- Socio-economic and evaluation studies undertaken by UNDP for low cost sanitation in Gujarat.
- Institutional and financial management study of GWSSB.
- Low cost sanitation project preparation community motivation & mobilization and implementation in 15 urban towns in Gujarat.
- Study on non-agricultural use of Narmada water in Gujarat.
- Development of Project Support Structure for Indo-dutch Co-operation programme for Rural Water Supply in Gujarat.
- Water sector development studies for Gujarat.
- Formulation of Gujarat Infrastructure Development Agenda Vision - 2010.
- Study for water sector of Project Support Unit (PSU) in Gujarat based on evaluation of project support units in Andhra Pradesh and Karnataka for setting up as a Member of Netherlands Supported Path Finding Mission.
- Drafting and finalizing Articles of Association and Memorandum for Gujarat State Drinking Water Infrastructure Co. Ltd.,
- Financial Engineering of Sardar Sarovar Canal based Drinking Water Supply Projects for Private Sector Participation (Bhaskarpura - Surendrar - Rajkot - Jamnagar - Kachchh Project Rs. 14220 million bulk water transmission).
- Project Reports for Multiateral / Bilateral Assistance (World Bank / ADB)
- HUDCO Assisted Projects for GSDWICL (Rs. 6230 million Project) and Ahmedabad Municipal Corporation (Rs. 1080 million Raska Weir Project).
- Preparation of Project Report for "OPEC" Assistance Kachchha and Jamnagar Districts.

PROJECT EXPERIENCE:

- Formulation evaluation and assessment of material procurement and civil work contracts worth Rs. 1000 million for World Bank Aided Projects including preparation of contract documents.
- Preparation of Rs. 420 Million water supply project for Vadodara City.
- Sector study, identification and appraisal of Rs. 1370 million Gujarat Water Supply and Sewerage Project under IDA Credit.

- Execution and implementation of 152 villages water supply schemes of Junagadh District and also Una Div Regional Water Supply Scheme covering 37 villages based on Raval Irrigation Reservoir, Including the Union Territory of Diu.
- Implementation of individual and regional rural water supply schemes in Jamnagar district of Gujarat State.
- Emergency Transportation and Supply of Water through Railway.
- Team Member for Project formulation preparation and finalization and monitoring of EPC tender documents relating to Saurashtra Pipeline Project (SPP) Module - 1 (Bulk Water Transmission with Civil, Mechanical, Electrical Components).
- List of Project given below:

Project SPP -1 (2050 mm dia, Mild Steel Pipeline - 52 kms long)	Rs. 1126.8 million
Project SPP-2 (1950 mm dia, Mild Steel Pipeline 40 kms long)	Rs. 890 million
Project SPP-3 (1600 mm dia, Mild Steel Pipeline - 32 kms long)	Rs. 570 million
Proejct - SPP- 4 (1500 mm dia Mild Steel Pipline - 34 kms long)	Rs. 530 million
Project NC -1 (1900 mm dia, Mild Steel Pipeline - 61 kms long)	Rs. 1020 million
Proejct NC - 2 (1200 mm, 1000 mm, 600 mm dia, Mild Steel Pipeline - 58 kms long)	Rs. 590 million.
Project NC - 3 (1600 mm x 1400 mm x 600 mm dia, Mild Steel Pipeline - 62 kms long)	Rs. 610 Million
Project NC - 4 (1400 mm dia, Mild Steel Pipeline 40 kms long)	Rs. 680 million
Project NC - 5 (1350 mm dia, Mild Steel Pipeline 60 kms long)	Rs. 720 million
Project NC - 6 (2200 mm dia, Mild Steel pipeline 26 kms)	Rs. 680 million
Proejct NC - 7 (2200 mm dia, Mild Steel pipeline 35 kms)	Rs. 680 million
Project NC - 9 (1850 mm Mild Steel Pipeline 58 kms)	Rs. 1320 million

PUBLICATIONS:

2. Cost Recovery for Water Supply Project - IWWA 1983
3. Financial and Management aspects of Rural Water Supply IWWA 1984
4. Project Management - IWWA - April June 1984.

5. Low Cost Sanitation - 2nd National convention on sanitation Calcutta - 1983.
6. Low cost sanitation in Gujarat - 2nd National Conference on Sanitation - Calcutta - 1983.
7. Water Supply Project Appraisal - Civil Affairs October 1983.
8. Privatization - Whether feasible in the Drinking Water Sector - IWWA Annual Convention, Hyderabad - 1992.
9. Communication - How important for Drinking Water Sector - IWWA Annual Convention, Ahmedabad - 1991.
10. Arbitration in Engineering Contracts - National Seminar on Contracts and Arbitration - Institution of Engineers. Ahmedabad 1992 / Hyderabad, IWWA 1992 (First National Prize).
11. Performance of Engineering Contract - National Seminar on Contracts and Arbitration, Institution of Engineers, Ahmedabad 1992 / Bombay 1994.
12. Water Conservation - Supply and Distribution - Indian Water resources Society and Central Water Commission - National Seminar, Nagpur 1992.
13. Extra's and variations in Engineering contracts - International conference, March - 1995 organized by Central Board of Irrigation and Power, New Delhi.
14. Performance of Contracts - International Conference on Management of contract, March 1995. Organized by Central Board of Irrigation and Power, New Delhi.
15. A case study on Reverse Osmosis Plants IWWA, Annual convention, January 1996, Jodhpur.
16. Multidimensional Management issues involved in Rural Water Supply - Indian Institute of Public Administration, New Delhi Workshop 1996.
17. Change of Attitudes - Rural Water Supply - Indian Institute of Public Administration, New Delhi Workshop 1996.
18. Sardar Sarovar Canal Based Water Supply Project - V.D. Tank Memorial Lecture 2000 at IWWA, Ahmedabad
19. Water Crisis Management in Gujarat. Need for a Paradigm Shift.

PROFESSIONAL MEMBERSHIP:

1. Fellow, Institution of Engineers (India) (FIE)
2. Life Fellow, Indian Water Works Association (FIWWA),
3. Life Member, Indian Water Resources Society (FIWWA),
4. Member, American Water Works Association (AWWA),
5. Member, Indian Council of Arbitration,
6. Visiting Faculty in School of Planning, Ahmedabad for subject of Project Planning and Management.

Mr. V. Rajaraman
Vice President
Tamilnadu Urban Development Fund

EDUCATION

- Chartered Accountant, the Institute of Chartered Accountants of India, New Delhi, November 1994 - Associate Member (No.: 204129). Passed the "Final" stage of the examination in a single appearance.
- Cost Accountant, the Institute of Cost and Works Accountants of India, Calcutta, June 1996 - Associate Member (No.: 19981)
- Bachelor's degree in Commerce (B.Com), University of Madras, March 1990. Passed in First Class.
- Doctoral degree in the major area of Financial Engineering, Markets and International Finance, the University of Madras, on going

EMPLOYMENT HISTORY, DETAILS and ACHIEVEMENTS

April 1999 - Present - Vice President (Resources, Financial Management, Accounting & World Bank Loan Administration Change Initiative - LACI), Tamilnadu Urban Development Fund/Infrastructure Financial Services Ltd., (TNUDF/TNUIFSL) Chennai, India.

A brief on organization

TNUDF/TNUIFSL is the project-implementing agency of the World Bank-assisted "Second Tamilnadu Urban Development Project". The Fund with a net worth of INR 2500 million as on date has been promoted by the three major Development Financial Institutions (DFIs) of India and Government of Tamilnadu. This is the ***first Public-Private partnership in municipal and urban finance in India***, which lend to the local bodies on a non-guarantee mode besides providing technical, managerial and financial advisory services for the institutional development and capacity building of the local bodies. Since this is an innovative structure, other states look upon TNUDF as a role model.

Responsibilities, Job description and The World Bank Covenants

The World Bank has covenanted that as a part of effectiveness of this loan, a qualified Financial Management Specialist (FMS) be appointed and certain performance criteria achieved. This covenant includes attaining reasonable levels of capacity building and institutional development; establishment and maintenance of sound financial management systems that generate timely financial information to better manage project implementation. To give effect to the above

covenant, Mr. Rajaraman was appointed as a Financial Management Specialist at the early stage of this project and recognized by the World Bank Mission during its first review mission.

His prime responsibilities in the organization is to improve development effectiveness by strengthening project financial management, improve client service by participating in the early stages of proposed projects, improve cost effectiveness by implementing redesigned borrower accountability. He is also responsible to link financial and physical progress of the projects at its various stages. The key role, which he plays, is Capacity Building and Institutional Building of TNUDF and municipalities, providing advisory services to the local bodies so that they emerge as self sustaining entities and to enable them to access the capital markets for resources, on their own revenue strength. In addition Mr. Rajaraman also has the main role of maintaining financial integrity to the World Bank in the administration of this loan.

Being in a key position, Mr. Rajaraman interacts with the officials of the Indian Administrative Service (IAS) on a regular basis and takes their suggestion and advice.

He reports to the Managing Director and Chief Executive Officer. His other responsibilities include:

- All financial management functions of the organization including funds management
- Follow Indian and Internationally accepted accounting practices in the World Bank Loan accounting and implement the same among the local bodies.
- Treasury and Investments - analysis of markets and managing the investments to yield a return more than the cost of funds.
- Computerization of Accounting and control functions
- Structural Development of the local bodies all over the state
- Introduction of the scientific system of accounting in all the local bodies.
- Capacity Building of municipalities in terms of financial and project management.
- Institutional development of the municipalities.
- Imparting of training to the municipal staffs, executives and officers in order to strengthen the managerial and financial capacity of the local bodies through training and technical assistance.
- Designing of different types of debt instruments so as to suit the particular project and for the particular local body.
- Preparation and analysis of MIS reports.
- Business plan preparation and its analysis
- Infrastructure project scheduling

- Implementation of LACI and other World Bank procedures in the organization as required in their covenants. The typical examples of such procedures are Financial Accounting Reporting and Auditing (FARAH), Project Financial Management system and LACI.
- Reporting to the World Bank and coordinating with the mission officials.
- Presentation to the World Bank and Municipal officials on infrastructure financing
- Reporting to the Board of Directors on a periodic basis on the above areas

Major Achievements

- He has handled as a team leader, a resource raising exercise to the extent of INR 1100 million through issue of bonds, from the Indian capital market. This is first of its kind in India, linking the capital market to infrastructure needs of city corporations and municipalities. Mr. Rajaraman was instrumental in designing the structure, coupon, tenor and other related matters after a detailed and scientific study. Further, he worked with the credit rating agency to obtain a premier rating for the bond issue. The credit enhancement for the bonds was developed by me, and implemented by the trustees to the issue. As a result of the above, the bond issue was oversubscribed, earning me praises not just from my superiors but also from the press, the State Government and the World Bank mission. This is the first exercise in India, by a state level private infrastructure-funding intermediary to link urban infrastructure with the capital markets. His contributions were recorded in the company's Board books. The Chief Secretary of the state has recorded his praises for Mr. Rajaraman in the company's books. He was promoted from the position of officer to Vice President, the first and only one instance of a quintuple promotion in his organization.
- Another success story is associated with his handling of a fund raising exercise to the extent of INR 290 million for Madurai Corporation, a municipal body in India, for constructing its 27-km toll road. He designed the debt product in such a way that the tolls from the road would serve the bondholders. By this matching of revenue to costs, the asset-liability mismatch, which is the common issue in the infrastructure sector, was avoided to a large extent. He also succeeded in getting the issue credit rated, thus exposing the credit rating even to the municipal sector. This is the first project-specific public issue in India, by a municipality.
- USAID has termed both the above issues as a premier breakthrough in the municipal finances sector and hence has published them in their USAID-FIRE (D) journals. Having appreciated his team and his leadership, they have approached his team for offering guarantee for such resource raising by municipal bodies. To have an effective utilization of USAID's guarantee he is instrumental in working out a Pooled Financing Model, wherein the smaller municipalities would pool its resources and access the capital markets at large. Water and Sanitation Pooled Fund (WSPF), the

first pooled fund in India which finances/refinances the infrastructure requirements of smaller municipalities and panchayats, exactly on the model of US Bond Bank, is designed by Mr. Rajaraman and he acted as a pivot in mobilizing Rs.304 million from the capital markets at market determined interest rates through this fund, which is a Special Purpose Vehicle (SPV). The advantage of designing this SPV is to minimize the dependence of the lenders on the cash flows of individual local bodies. This is the first instance in India where USAID-DCA has guaranteed such a product, without the local government's guarantee. This achievement was published in various International agencies including the paper published by the premier international rating agency, namely Fitch ratings. I have made several presentations to experts, Government, Rating agencies and USAID.

- He has been chosen as a specialist in the field of financial management. Hence prestigious institutions such as Administrative Staff College of India, Anna Institute of Management, Human Settlement Management Institute and the like have include him as a resource person for imparting training and lecture for municipal executives.
- The World Bank team has lauded this project as a model one and many officials from the World Bank, Washington have visited to his organization to see the implementation of LACI. The officials have commended that this is the first World Bank project and only one across the globe to have implemented the bank designed LACI method of disbursement and Financial Management Systems. Mr. Rajaraman headed the LACI and Financial Management division and was responsible for its successful implementation. The officials include Advisor to the President of IBRD, Chief of the systems department etc.
- His team is wholly responsible for computerization of records, systems and procedures, the timely generation of report (PMRs of the Bank). The Bank has stated that PMRs from TNUDF is an example of their effective implementation of the systems.
- As a Financial Management Specialist, he has contributed to the local bodies in terms of assisting a few of them to substitute higher cost debt by its low cost counterpart, thus attaining significant cash savings.
- He has developed a strategic business plan and vision for the company to position itself as an entity that would enable the local bodies to emerge as a competitive entity and with wider decentralized powers for its functional operations.
- He is very strong in numbers and has a flavor and liking for numerical analysis even during ordinary course of life. He has demonstrated the same in various official tasks and duties.

B. April 1995 - April 1999
Assistant Manager (April 1995 - May 1996)

Deputy Manager (May 1996 - April 1999)
India Equipment Leasing Ltd / Sundaram Finance Ltd., Chennai.

Mr. Rajaraman joined this financial services company as Assistant Manager and was promoted to Deputy Manager. His responsibilities included budget preparation and presentations, systems management of accounting and finance functions, computerization of fixed deposits, hire purchase and leasing systems, analysis of such reports.

OTHERS

Mr. Rajaraman is a visiting faculty at the Anna Institute of Management affiliated to the University of Madras and Administrative Staff College, Hyderabad. He has delivered lectures on financial management, systems management, computerization of records in urban bodies and its advantages, urban financing, infrastructure financing and development, financial indicators for assessing the health of urban bodies and related topics. I have also written articles on the above topics, which have been included as course material of the institute.

India – An Overview[1]

India is a subcontinent, nearly 2,000 miles from north to south and 1,800 miles from east to west with a 3,800 miles long coastline. Long distances separate India's most populous cities. India is the seventh largest country in the world in area, covering 1,222,559 square miles (slightly more than 2 percent of the earth's total land surface).

India is a multi-ethnic, multi-religious, federal republic that occupies the greater part of South Asia. As a constitutional republic, India consists of 25 states, and 7 union territories. Each states has a substantial degree of control over their own affairs including development of water supply and wastewater treatment projects.

Unlike some other countries, India's pace of agricultural expansion has kept up with the growth in its population. With more than one-sixth of the world's total population, India is the second most populous country in the world after China. The population explosion in India began after the great influenza epidemic of 1918-19. The total population in 1921 within the area defined by the present borders of India was 251 million. In 1947 (at the time that India gained its independence), the population was about 340 million. At the 1981 census, it was 683 million; and at the 1991 census, 844 million (an increase of 161 million in just 10 years!). The Indian population is now estimated to be over 1 billion people. Population, in of itself, is a major factor in the criticality of water supply in many regions of India. In some of these areas, population effects are combined with hydrological factors that limit the water supply resources available for growing populations.

India has a well-developed infrastructure and a diversified industrial base with a focus of industry in certain states such as Gujarat and Tamil Nadu. (While these states are heavily industrialized, they are also the states where drought conditions often occur.) In addition, India's pool of scientific and engineering personnel is one of the largest in the world.

Government Structure

At the time of independence, India's leaders used many external sources as the basis for the content of India's constitution. The British model of parliamentary democracy heavily influenced its initial political structure. In addition, a number of principles were adopted from the U.S. Constitution, including the separation of powers among the major branches of government, the establishment of a Supreme Court, and the adoption of a general federal structure that defines the constitutional division of power between the central and state governments. This division of power has helped to establish the states in India as important political structures with strong capabilities when it comes to the control of environmental issues and in the development of water supply and wastewater infrastructure.

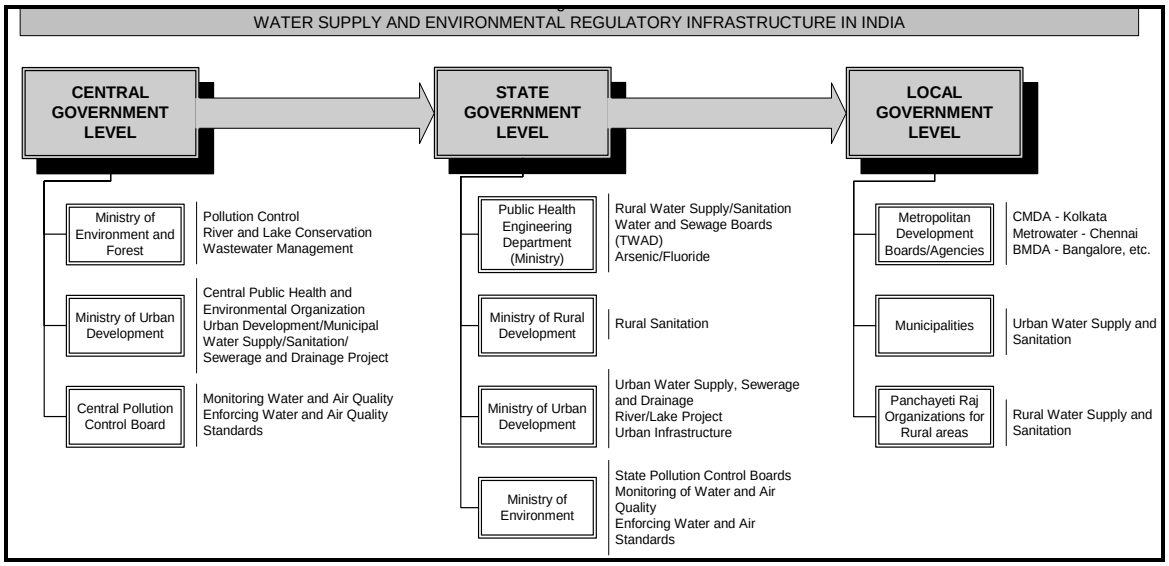
[1] Reprinted from USTDA Water Sector Projects Definitional Mission Report

The governmental structure of the states, as defined by the Indian constitution, closely resembles that of the national government. The state's executive branch is composed of a governor and a council of ministers, led by the chief minister. Each Indian state is organized into a number of districts, which are further divided for administrative purposes. Separate from this system are the larger municipalities that are governed by their own elected councils. From the state level down to the village level, government appointees administer the various government departments and agencies. Financial grants from both the central and state levels of government (often made on a matching basis) provide developmental incentives and facilitate the execution of infrastructure and environmental projects such as many of the projects described later in this briefing book.

The main agencies and institutions associated with the water sector in India are the Central Water Commission, the Central Groundwater Board, the ministries of water resources and urban development at the central level in addition to the state governments and municipal corporations. The structure of the water and sewerage sector differs from state to state and from city to city as follows:

- In one kind of structure, the state-level water supply and sewerage board manages all the required capital investment while maintenance activities are the responsibility of local government. An example of this approach is the Tamil Nadu Water Supply and Drainage Board that makes all the investments in their region.
- In the second kind of structure, the larger municipal corporations have the responsibility for making both the capital investment and undertaking operations and maintenance for their infrastructure. An example of such a local body is the Ahmedabad Municipal Corporation in Gujarat.
- Under the third kind of structure, the entire responsibility rests with the state public health and engineering departments, as is the case in the states of Rajasthan.

The agencies and organizations that are involved in the water sector in India along with their fundamental responsibilities are shown below.



Urbanization Trends

Environmental conditions in India have to be seen in the light of the extent and concentration of population and demographic trends experienced in the country. The rapid growth of urban populations due to a general migration from rural areas to urban centers has caused many of the environmental problems in India's major cities. (This is the case in many countries with developing economies.) This rapid growth in urban population has caused severe pollution and major deficiencies in public facilities and services (water, sewerage, transportation, etc.) required by the growing populations.

The population of India has been increasing dramatically over the last 50 years and is now over one billion people with an overall population density of about 290 people per square kilometer. (Some sections of India's major urban areas have a population density of up to 6,500 people per square kilometer.) About half of the population lives below the commonly accepted poverty level and about 40 percent of the urban population live in slums.

As is the case in many developing nations, urbanization in India started with rapid industrialization. Developed nations, such as United States and the countries of the European Union, have an urban population at over 70% of the total, while the urban population of the developing nations at present is about 44%. In India, the number of urban dwellers has increased dramatically during the 20th century. During the last twenty years, for example, India's urban population has doubled, increasing from 109.1 million to about 217.6 million. The annual rate of growth of urban population in India (3.09%) is distinctly higher than that of the high-income industrial market economies (1.4%). The level and trend of urbanization in Indian cities of various sizes is tabulated below.

Percentage Distribution of Urban Population by Size

Year	Over 100,000	50,000 to 100,000	20,000 to 50,000	10,000 to 20,000	5,000 to 10,000	Under 5,000
1901	26.0	11.3	15.6	20.8	20.1	6.1
1971	57.2	10.9	16.0	10.9	4.5	0.4
1981	60.4	11.6	14.3	9.5	3.6	0.5
1991	65.2	10.9	13.2	7.8	2.6	0.3

Source: Census of India 1991, Provisional population totals: Rural-urban distribution

As presented in this Table, the number of cities with over one million people and their share of urban population have risen significantly in recent decades. In 1971, the number of Indian cities in this category was nine, and their share in urban population was 25.5 percent. By 1991, the number had increased to 23 with a population share of over 32 percent.

The populations of the key Indian cities (including locations where a number of the projects presented in this briefing book are located) include:

City	*Population*
Mumbai	12,572,000
Calcutta	10,916,000
Delhi	8,375,000
Chennai	5,361,000
Hyderabad	4,280,000
Bangalore	4,087,000
Ahmedabad	3,298,000
Pune	*2,485,000*

Source: India. 1991 Census

The demographic trends have created the number of social and environmental problems that the Indian national, state and local governments must address. The following basic facts characterize these problems:

- India is the world's sixth largest and second fastest growing producer of greenhouse gases.
- Delhi, Mumbai and Chennai are three of the world’s ten most polluted cities.
- Two-thirds of city dwellers in India lack basic sewerage service; one-third lack readily available potable water.
- India grows equivalent of another New York City every year in its urban population.
- In the near future, more than half of India’s population will be urban dwellers; 1/3 will be slum dwellers and squatters.

The Indian central government has recently adopted a new National Water Policy to address water supply and wastewater treatment issues.

Bilateral Trade between India and the United States

In 1999, the United States trade deficit with India was $5.4 billion or $0.7 billion more than in 1998. The approximate value of U.S. merchandise exports to India was $3.7 billion. U.S. imports from India totaled $9.1 billion in 1999. The pattern of trade between India and the U.S. since 1992 is shown in below. Trade between the U.S. and India grew in 2000 with India exports growing by almost 25% over the level of 1999. Bilateral trade between the U.S. and India stands at about $15 billion.

India/United States Trade Over the Last 7 Years (In US $ millions)

	1992	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**
Exports	3,781	4,551	5,302	5,736	6,169	7,321	8,225	9,083
Imports	1,914	2,761	2,296	3,296	3,318	3,616	3,545	3,707
Turnover	5,695	7,312	7,598	9,032	9,487	10,937	11,770	12,790
India's Net Export	1,866	1,790	3,005	2,440	2,851	3,705	4,680	5,376

The composition of India's exports to the U.S. has changed over the years. There has been a significant increase in the export of diamonds, textiles and ready-made garments, machinery, carpets, footwear and leather products, dyes, iron and steel products, chemicals, edible fruit and nuts and spices, coffee and tea. Six items (textiles and clothing, cut and polished non-industrial diamonds, carpets, shrimps and prawns, footwear and leather goods and cashew nuts) account for about 75% of the total Indian exports to the U.S. There has also been a change in the composition of Indian imports from the U.S. The principal items imported from the U.S. at present are machinery, fertilizers, aircraft and aeronautical equipment, and organic chemicals. In their assessment of the water/wastewater export potential, The U.S. Department of Commerce Foreign Commercial Service (FCS) stated the following:

> *Water pollution is India's worst environmental problem and technologies, products and services addressing this issue account for the largest share (almost 50 percent) of India's environmental market. The water and wastewater treatment market is estimated at a little over USD 1.0 billion and is expected to grow annually at 14 to 15 percent.*

Water Supply Concerns In India[2]

Since water supply in India is often a function of surface water bodies, the contamination of those water bodies through discharge of wastewater is a very important factor in the development of water resources throughout the country. It is widely recognized that new environmental laws and regulations aimed at controlling all forms of pollution need to be part of assuring that a commitment to minimizing environmental impacts is established. To that end, India has made meaningful progress that may bode well for the future in controlling pollution and thereby helping to mitigate the effects of that pollution on the water bodies that must serve as source of water.

In recent years, rules and regulations comparable to those in the United States have been enacted in India dealing with various sources of environmental harm. As is the case in many countries, the enforcement of existing laws and regulations is crucial to realizing their effect. Their proper enforcement will help assure that reasonable environmental conditions are reached and maintained. Unfortunately, enforcement often lags when resources are not available to support of the improvements that must be made.
The main factors that have a potential for further improving the general state of environmental management in India include the following:

Stricter environmental regulations and enforcement by the Central Pollution Control Board (India's version of the EPA), the Ministry of Environment and Forests (MOEF) and the various state pollution control boards. (A roster of relevant environmental laws and regulations are shown below.

Judicial intervention by the Supreme Court of India directing municipal corporations and other urban local bodies and the industrial sector better manage the environmental impact of their actions and facilities. (This is a very important factor to many recent actions to improve the environment in India.)

A constitutional amendment (74th Constitutional Amendment Act) empowering local governments in India to make independent decisions on promoting environmental projects.

A continuing willingness of the central and state governments in India to make financial investments in facilities and practices aimed at improving environmental conditions. Emphasis on privatization throughout the country thereby allowing private entrepreneurs to promote environmentally based projects on Build-Own-Operate (BOO) and Build-Own-Operate-Transfer (BOOT) basis. This may help to provide additional needed capital for infrastructure development.

[2] Reprinted from USTDA Sponsored Water Sector Projects Definitional Mission Report

Environmental Legislation in India	
Legislation	***Year***
The Water (Prevention and Control of Pollution) Act	1974
The Water (Prevention and Control of Pollution) Rules	1975
The Water (Prevention and Control of Pollution) Cess Act	1977
The Water (Prevention and Control of Pollution) Cess Rules	1978
The Air (Prevention and Control of Pollution) Act	1981
The Air (Prevention and Control of Pollution) Rules	1982
The Environment (Protection) Act	1986
The Environment (Protection) Rules	1986
The Hazardous Wastes (Management and Handling) Rules	1989
Manufacture, Storage and Import of Hazardous Chemical Rules (Amendment Rules, 1994)	1989
Manufacture, Use, Import, Export and Storage of Hazardous Microorganisms Rules	1989
The Public Liability Insurance Act	1991
The Public Liability Insurance Rules	1991
Environmental (Protection) Rules-"Environmental Statement"	1992
Environmental (Protection) Rules-"Environmental Standards"	1993
Environmental (Protection) Rules-"Environmental-Clearance"	1994
Biomedical Waste Management and Handling Rules	1998
Municipal Solid Waste Management and Handling Rules	1998

Source: Confederation of Indian Industry, New Delhi

Environmental industry all over the world is principally driven by environmental legislation and, most importantly, their degree of enforcement. Because of the above, environmental regulations and their enforcement in India are progressing. In general, the Government of India has been effective in tracking relevant environmental data and formulating legislation. India is one of the few countries in Asia that produces an annual national environmental report from its Central Pollution Control Board. On the policy level, the government of India has been focusing on specific environmental measures. In its Policy Statement for Abatement of Pollution, the government announced four priorities:

- Heavily polluted areas and river stretches
- Pollution prevention at source
- Recognition of the "polluter pays" principle
- Development of best available technical solutions.

The Central Pollution Control Board, which is the main implementing and enforcement agency of the MOEF, establishes national standards. The State Pollution Control Boards are responsible for enforcement of the standards and resulting rules under MOEF supervision. Similar to the relationship between the USEPA and the various state environmental agencies in the U.S., Indian states, at their discretion, may enact a stricter set of standards than those adopted at the central government level.

The emergence of a strong middle class in India has also led to public pressures on government and industry for environmental improvements. Assisted by environmentally focused industry groups such as the Confederation of Indian Industry (CII), industries are beginning to recognize the importance of environmental compliance as investments. They recognize that they will soon have no choice but to implement proper systems and procedures to allow for environmental conformance. The impact of international pressures such as the ISO 14000 for global trade has also been a factor.

The country's judicial system has played a crucial and extremely important role in the enforcement of environmental legislation. In recent years the courts, through a number of public interest litigations, has caused the relocation or closing of many non-complying industries throughout India. Examples of some of these court actions that demonstrate their role in improving environmental conditions include the following:

- Of 10,000 firms in New Delhi that were issued notices of environmental non-compliance, over 1,500 were required to either close down or relocate.
- Nearly 60 tanneries in Tamil Nadu, over 150 dye factories in Gujarat, and many polluting enterprises in West Bengal, Uttar Pradesh, and Andhra Pradesh states were closed as a result of court action.
- Legal cases have involved a wide variety of industrial sectors, including stone crushers, foundries, slaughterhouses, electroplating, cement, secondary lead, zinc and steel, aqua culture, and farming.
- The Supreme Court has punished Pollution Control Board officials as well as chief executive officers of private companies who have not complied with environmental requirements.

Environmental Spending in India

India is among the largest recipients of multilateral and bilateral funding for environmental programs. According to the Asian Development Bank, an estimated $1.1 billion of ongoing projects are being funded by various multilateral and bilateral donor agencies in many related sectors, including:

- Forestry

- River pollution control
- Institutional strengthening and capacity building
- Urban and rural infrastructure (sanitation and water supply)
- Energy improvement
- Water resources/drainage.

While much lending activity initially went to agricultural and irrigation projects, the country's environmental and water supply problems and priorities have led to more project funding in water and wastewater infrastructure. For example, the World Bank has a number of large water supply and water resources management projects totaling US $736.6 million in Chennai in the state of Tamil Nadu.

In India, the National River Action Plan (NRAP) is a river pollution control program that is driving many of the country's investments in municipal wastewater treatment. The Government of India initiated the National River Action Program with the aim of establishing adequate wastewater treatment infrastructure in 141 major towns. The total estimated outlay of the NRAP is about US $479 million and is funded fully by the national Government of India. The NRAP covers a total of 141 towns in 14 states located along 19 grossly polluted river stretches. In addition to the NRAP, the GOI has approved projects for other rivers such as the Gomti, Yamuna and Damodar amounting to US $135 million. Sewage treatment plants accounts for 41 percent of estimated cost of NRAP while intercepting and diverting sewage through collection systems account for about another 30 percent of the funds.

In addition to the NRAP, there is a steady and consistent flow of bilateral and multilateral assistance to support the municipal water and wastewater treatment infrastructure in India. The overall overseas spending in the same five-year plan period is estimated to be US $1.2 billion.

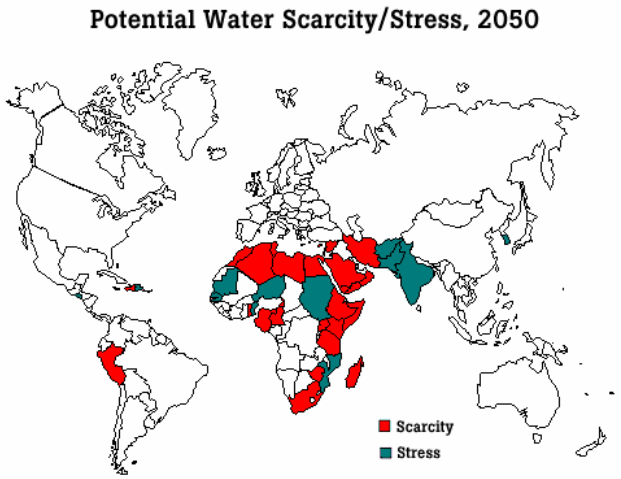
There has been a growing realization that the large investment required to develop additional water resources in India will take much more than what the government can commit through its normal budgetary and financial allocations. As a result, some priority has been given to trying to attract private investment to assist in water sector infrastructure development. Over 25 cities have tried to attract some form of private sector participation in their proposed water and wastewater projects. A few projects such as those in Chennai, Alandur and Tirupur in the state of Tamil Nadu have succeeded in attracting private sector participation.

Water Resource Management

Water has become an extremely precious commodity in many areas of India. It has been in short supply in many cities for a number of years. In addition, increasing pressure of growing populations in cities has increased the demand for water and the development of additional water resources has not kept pace. Many people involved in creating or managing environmental and water supply infrastructure projects in developing countries recognize that sustainable economic development is closely related to managing the human use of and impact upon natural resources including water bodies such as rivers, lakes, groundwater aquifers, etc. that must serve as the source of water.

India's water resources are unevenly distributed with respect to both their geographical and seasonal distribution patterns. In many areas sufficient water resources to support a reasonable standard of living are becoming increasingly scarce. The largest use of water in India is for irrigation. About 93% of available resources are used for this purpose. However, the recently adopted National Water Policy gives a first priority to the supply and use of water for domestic purposes for the urban and rural population and livestock. Competing uses for limited water resources also arise from industry, thermal/hydropower projects, fisheries and navigation. In addition, minimum flows that are required to be maintained on rivers for dilution of wastewater and other environmental uses further limit the availability of water. The Indian Central Water Commission has estimated that community needs in India will double and the industrial and power requirements will increase at an even greater pace by 2025. Therefore, competing uses of water in the future are likely to limit the water available for agriculture and irrigation, particularly near major cities and in dry regions.

In India, the average annual water availability per capita has declined from 5,236 cubic meters in 1951 to 2,464 cubic meters in 1996 and is expected to go down to 1,920 cubic meters by 2007. All the metropolitan cities in India suffer from water scarcity with supply shortfalls ranging from 30 to 60 percent. Without sustainable water supply for potable/domestic, industrial and agricultural use, sustainable development required to keep up with growing populations cannot occur. India is facing a major water shortage crisis and the conventional belief is that, if the country does not come to grips with this issue, development of all forms will suffer and an extensive proportion of the population will not have sufficient water supply for a reasonable standard of living. This is not unique to India. As shown below, there are many countries throughout the world that are experiencing or will soon experience critical water situations.



Water Supply and Use Trends

The reasons for the deteriorating situation in the India water supply infrastructure are entrenched in the way the public water supply entities currently function. Existing charges for water in most cities has little relation to the actual cost of production. Water charges were initially set close to the cost of production but over time, due to an inability to increase pricing, the gap between the actual cost of production and the charges widened and results in water charges now being completely out of line with cost. Therefore, water supply has to be subsidized by other revenues of the local government or by the state government. Currently, tariffs are usually set to cover only the O&M costs and not the capital costs associated with replacement or expansion of the system as urban areas have expanded. This has made it difficult for the India water supply infrastructure to keep up with population and development pressures.

In addition, inefficiency in managing water supply systems and leakages are a major problem also leading to loss in revenue. Unaccounted for water in Indian cities are estimated to be in the range of 20 to 30 per cent of the total supply including leakages and other system losses such as illegal connections.

Water sources that are close to urban centers and which have been the traditional sources of potable, industrial and agricultural use are now either polluted, exhausted or will get exhausted soon. As a source of water, groundwater is also depleting and becoming contaminated. Cities, therefore, are evaluating sources of water that are often far away and very expensive to develop and convey.

Unfortunately, the bodies of water that India must rely on for water supply are in poor condition. India's rivers suffer from high levels of contamination caused by municipal, industrial and agricultural pollutant sources. According to World Health Organization (WHO) standards, 98 percent of sampled water from any one area should be free of coliform bacteria to maintain environmentally safe conditions. By this measure, most of India's surface water resources are highly polluted. Clearly, the water supply crisis in India is strongly linked to the pollution inherent to the country’s water bodies. Surface water throughout the country is the major source of water for various purposes. As surface water bodies become more polluted, it is more difficult to treat the water to a reasonable level of purity and more people are exposed to unhealthy conditions associated with their having to use contaminated water as their source.

Project Descriptions

Rajasthan Urban Infrastructure Development Projects (RUIDP)
Government of Rajasthan, India

Project Name(s)

Rajasthan Urban Infrastructure Development Project (RUIDP)

The Rajasthan Urban Infrastructure Development Project (RUIDP) is a US $362 million infrastructure improvement project that is being implemented in six major cities in the State of Rajasthan, India, with Asian Development Bank assistance. The cities included under the original project are Jaipur (the State Capital), Jodhpur, Kota, Udaipur, Bikaner and Ajmer, and discussions are underway to increase the Project's coverage by including an additional five towns. The major investments under the Project are in the water supply and sewerage sectors that together, will absorb about 60% of the total project cost.

Estimated Project(s) Cost

Works	Approx Cost (US $ M)
Procurement of Equipment, including: Chlorinators, Bulk Flow Water Meters, Domestic Water Meters, Sewer Cleaning Equipment, Heavy Municipal machinery (Bull-Dozers, Excavators, Road Sweepers, Compactors, Hydraulic Platform for Fire-Fighting), etc., under IS (International Shopping) procedures	US $10 M
Water Treatment Plant (WTP) sector	US $10 M
Sewage Treatment Plant (STP) sector	US $20 M
Water and Sewage Pumping Stations	US $10 M
Bisalpur Jaipur Water Supply Project - Phase I	US $144 M

Project Description

- **Procurement of Chlorinators, Bulk Flow Water Meters, Domestic Water Meters, Sewer Cleaning Equipment**

  Chlorinators are to be procured for the treatment plants and rehabilitation/upgradation of the existing water treatment facilities.

  Bulk flow water meters and domestic water meters are being procured to enhance the efficiency of the distribution systems, minimize the non-revenue water (NRW) losses and improve revenue collection efficiency.

Sewer cleaning equipment is proposed to be procured to improve the operations and maintenance capacity of the participating cities and municipalities.

- **Latest technologies are to be adopted in:**

  Water Treatment Plant (WTP) sector -- The water treatment plants proposed to be constructed are required to be based on the latest technologies so as to have a cost efficient system of providing safe drinking water.

  Sewage Treatment Plant (STP) sector -- The STPs should incorporate the latest, but tested, technologies. The treatment plant processes should be such that the O&M costs are minimum and the effluent parameters are consistently within the permissible limits and should have energy saving components (power generation from gas obtained in activated sludge process of waste stabilization), etc.

  Water & Sewage Pumping Stations -- The proposed pumping stations, both for water supply and sewage, are to be provided with high efficiency, low maintenance, pumps and motors in order to minimize the operating costs and ensure the long term sustainability of the investments.

Relevant Market Drivers

The project is an Asian Development Bank (ADB) funded project and is governed by the Loan Agreement between the ADB and the Government of India (GOI) and Government of Rajasthan (GOR). All procurement is being done through competitive bidding procedures in accordance with the Loan Agreement and as per ADB's guidelines.

Project Sites

The proposed procurements are for the six principal cities of the State of Rajasthan (the largest state in India). The six cities are:

- Jaipur, the state capital and the largest city in Rajasthan
- Bikaner, the largest city in the northern part of the state
- Jodhpur, located in western Rajasthan
- Ajmer, which is located in the central part of the state
- Kota, which lies in the southeastern part of Rajasthan
- Udaipur, which is the largest city in the southern part of the state

Procurement

Water and/or Waste Water Sector Procurement:

- Procurement of Equipment such as Chlorinators, Bulk Flow Water Meters, Domestic Water Meters, Sewer Cleaning Equipment, etc. under IS (International Shopping) procedures.
  - Adoption of Latest Technologies in: Water Treatment Plant (WTP) sector;
  - Sewage Treatment Plant (STP) sector;
  - Water & Sewage Pumping Stations;
- Bisalpur Jaipur Water Supply Project (estimated cost US $230 M)
- Phase I of this project, which is to be taken up immediately, is estimated to cost US $144 million. Under Phase I the most important components include a 400 mld water treatment plant, 120 km of mild steel pipeline, and mega pumping stations of approx 25,000 KW for the transmission system up to Jaipur City. This will be accompanied by a transfer system within the city, which includes many other pumping stations, booster stations and secondary transmission pipelines, reservoirs and service lines.

  A second phase of the project, valued at approximately $90 million, is expected to be taken up in about Year 2010 to expand the capacity of the water treatment plant and pumping stations up to 600 mld, using technologies and systems that are fully compatible with the Phase I works.

  Procurement for the major portion of these works (the transmission system, valued at about $100 million) is to be done through International Competitive Bidding (ICB) procedures using prequalified contractors who will be recruited under Asian Development Bank Guidelines. Advance notice for the prequalification applications was published in the ADB Business Opportunities in April 2003, and advertisement for prequalification applications is scheduled to be published in national newspapers in May 2003. Contracts will be tendered on a turnkey (design/build/operate and maintain) basis.

Other Sectors Procurement

- Heavy Municipal Machinery -- Bull-Dozers, Excavators, Road Sweepers, Compactors, Hydraulic Platform for Fire-Fighting etc. under IS (International Shopping) procedures.
- Solid Waste Processing Plants -- Latest technologies in Composting or Gas generation.

- GIS - Development of Geographical Information System based on Satellite Imagery/ Aerial Photography.

Technology Overview and Intended Application

All plant and equipment that are to be procured/installed under the RUIDP are to be robust and energy efficient with low maintenance requirements, using proven technologies that have a satisfactory performance record worldwide. All equipment should be suitable for operation in a semi-arid environment under dusty conditions, and with temperatures ranging from 0°C to 48°C. Standard power supplies is 220V/440V with a frequency of 50 cycles per second.

Current Status and Planned Implementation Schedule

The RUIDP started operations in late 2001, and the major portion of the small civil works programs is scheduled to be completed by 31 December 2004. However, those portions of the project, which will be of greatest interest to US suppliers and contractors, are scheduled to commence in mid-2003. As discussed above, the request for pre-qualification applications for the Bisalpur Water Supply Project is scheduled to be published later this month (May 2003). Pre-qualification is expected to be completed by September 2003, and the invitations to bid will be issued immediately thereafter. The design/build contracts are scheduled to start in early 2004, and be completed by mid-2006. Approximately 5 years of operation and maintenance of the facilities after commissioning will be included as a part of the contract packages.

Procurement of the additional equipment described above is scheduled to be taken up through IS procedures towards the end of the initial project period, around mid-2004.

Availability and Type of Financing

Has financing been secured? With what financial entity?	RUIDP is fully funded by the ADB (ADB Loan No. 1647-IND) and Govt. of Rajasthan
Will vendor financing be required?	No vendor financing is envisaged.
Will Ex-Im Bank financing be sought?	Not presently contemplated
Are there other state or national funds being sought?	No

Key Contacts

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For more information, please visit www.rajinfrastructure.gov.in

Gujarat Water Supply & Sewerage Board (GWSSB) Project
Gandhinagar, India

Project Name(s):

Sardar Sarovar Canal Based Drinking Water Project -- Instrumentation and Automation

Estimated Project(s) Cost:

- Total Project Cost: $1.4 billion
- Monitoring and Control System Project: $25 million

Project Description

The Sardar Sarovar Canal based project involves the transmission and distribution of 3,500 MLD of drinking water to 8,215 villages and 135 urban centers. The total length of the bulk water transmission line will be about 2600 km of mild steel pipeline; the line's diameter will range from 508 mm to 2,100 mm. Presently, 1,015 km of pipeline is functional. The project also includes the design and installation of a monitoring and control system (i.e. SCADA) technology for monitoring water flow rates, water pressure, loss of head, velocity of flow, metering etc. There will be at least 25 main pumping stations and about 30 intermediate pumping stations. The master control facility will be at Gandhinagar with connections to all the pumping stations either through fiber optic cable transmission or VHS/Satellite communication technology.

Relevant Market Drivers

Gujarat is a drought prone state; 75% of the state's area is unsuitable for ground water extraction due to a hard rock terrain and a salinity ingress over 1,600 km of coastline. The per capita availability of fresh water in Saurashtra-Kachchh and North Gujarat is on an average less than 1,000 million cubic meters per year for the 20 million inhabitants in these areas. Over the last 76 years, 26 have been were drought years. A large number of inhabitants in the rural areas relying on ground water are suffering from diseases caused by excessive fluorides in the ground water. The pattern of the monsoon is highly uncertain and there are no perennial rivers in the project area. Over 70% of surface water sources are located in southern part of Gujarat and the northern and western parts of the state do not have reliable surface water sources. Bulk water transfer through canals and pipelines from south Gujarat to these areas is the only solution.

Project Sites

Saurashtra, Kutch, and North Gujarat Region of Gtujarat

Technology Overview and Intended Application

The latest and most appropriate instrumentation and control technologies, including fiber optic cable transmission and VHS/Satellite communication technology, are being considered.

Project Sponsor (Organization) Description

The Gujarat Water Supply and Sewerage Board (GWSSB) is a state level agency set up by the Government of Gujarat under an Act. This agency is responsible for the conception, formulation, design, implementation, and partially operation and maintenance of rural water supply systems in the State. This board has a team of almost 3,000 water supply engineers working all through out the state. This project is a State owned public sector undertaking. The Board's annual turnover is about Rs. 8,000 Million. Presently the Chairman of the Board is an IAS Officer who is also Secretary (Water Supply) to the Government and Mr. Vasavada is the Chief Executive Officer of the Board. The Board has seven Chief Engineers.

Current Status and Planned Implementation Schedule:

The current status of the project is as follows:

- 1,051 km of pipeline has already been completed;
- 216 km are expected to be completed by June 2003;
- 1,421 km have been planned, designed, and are proposed to be implemented in next 2 to 3 years;
- A distribution network covering almost 1,950 villages is under implementation and is planned to be completed between June to December 2003 in a phased manner;
- A second phase of the distribution network for 1,400 villages is also planned and the bidding process has been taken up; and
- Expected project completion date is December of 2007.

GWSSB has requested U. S. Trade and Development Agency (USTDA) funding for a $180,000 feasibility study that would provide a thorough analysis of a proposed central monitoring and control system. The objective of the proposed feasibility study is to ensure that the most recent available technologies and international best practices are incorporated into the system design. The control system will be implemented concurrently with the construction of the transmission and distribution network. USTDA has set aside funding for the feasibility study, which will be competed among qualified U.S. companies. A request for proposals will be issued through FedBizOpps.

Availability and Type of Financing

The State Government will explore funding sources as soon as the feasibility study is concluded.

Opportunities for U. S. Suppliers

- Instrumentation and control system supply including software
- Technology support

Key Contacts

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CONCEPT NOTE ON KALPASAR PROJECT
Gujarat, India

1.0 Introduction

The Gulf of Khambhat Development Project (**KALPASAR**) is a multi objective mega project which envisages a construction of a 64.0 km long dam across the Gulf of Khambhat between Ghogha (Bhavnagar District) on the west and Hansot (Bharuch District) on the east bank of the Gulf to provide large benefits of irrigation, reclamation water supply, tidal power generation, road transport navigation etc.

Mr. Eric Wilson an UNDP expert had identified this as a potential tidal power generation project in 1975. This was followed by reconnaissance survey around 1988-89 and then a pre-feasibility report was prepared by M/s Haskonings Consulting Engineers of Netherlands in 1998. A new concept was added to provide sweet water basin to harness the waters of the rivers-Sabarmati, Mahi and Narmada for providing irrigation benefits to draught prone and water short region of Saurashtra. Government of Gujarat reviewed the pre-feasibility report and found that certain vital studies were required to be made first before preparation of the feasibility report. This was also agreed to by M/s Haskoning. Accordingly under the direction of Chief Co-coordinator, Dr. C.C. Patel, 6 specific studies were also carried out through 6 teams of International / National experts including the experts and representatives from Gujarat Government in collaboration with the concerned beneficiary departments. The studies were completed in short time of 6 months in 1999 that were submitted to the then Chief Minister in Gujarat October 1999. A Committee headed by the then Minister of Water Resources that endorsed the project for preparing a Feasibility Report (FR) reviewed the studies and recommendations made thereon. The Government of Gujarat decided to go ahead with preparation of F.R and accorded administrative approval for Rs.84.00 crores for the work. The reports are to be completed in a spell of four years.

In view of the importance of **KALPASAR** Project the Chief Minister kept the portfolio to himself and formed a new department known as **KALPASAR** DEPARTMENT (**PRABHAG**) under the new Secretary to the Government. The Core Group has been reconstituted.

Cost and Benefits of the Project.

The Kalpasar Project envisages the Gulf of Khambhat connecting Ghogha in Bhavnagar district and Hansot in Bharuch district. The dam will be 64 Km. long amongst which 40 Km. will be covered the gulf area and remaining will be dikes in the estuaries. The reservoir formed behind the dam with two components (I) fresh water and (2) tidal water.

The primary objectives of the Kalpasar mega project is to create a fresh water lake by storage of waters of the rivers like Narmada, Mahi, Sabarmati, etc. which would otherwise have flowed waste in to the Gulf.

Gujarat is prone to droughts due to shortage of water or scanty rainfall. The fresh water lake will provide water requirement for irrigation domestic and industrial uses, etc. The benefits of the project as planned are mentioned below:

- Irrigation: 1,054,500 ha new area, 180,000 ha firming up of the existing unreliable irrigation per year, 100,000 ha by reuse and recycling of municipal and industrial effluents; and 100,000 ha through ground water recharge. Saurashtra region that experiences the worst of drought situation would be benefited.
- Land Reclamation: - 119,000 ha land for irrigation, industrial development and residential, recreational and social amenities. Beneficiaries will be peripheral areas of the lake around the Gulf of Cambay.
- Water Supply: Domestic – 900 Mm^3 of water for a population of 36 million, industrial – 500 Mm^3 of water. It would benefit the water scarce areas of the entire State.
- Tidal Power:
  - Single basin-capacity 5880 MW (installed) – energy 12,130 GWh.
  - Double Basin-capacity 1600 MW (installed) – energy 8,078 GWh.

  Western Regional Grid will receive the power and integrate the same to meet the growing demand.
- Road : Reduction in distance between Dahej and Ghogha by 225 Km and providing sizeable relief to existing road network- /serving Saurashtra.
- Navigation: (a) Facilitating inland navigation, along Narmada from sea to Hoshangabad (in Madhya Pradesh) through Kalpasar Lake and (b) Port facility within fresh water lake which is sheltered from sea storm.
- Fisheries Development: Both in fresh as well as salt-water lakes.

The cost of the project was estimated as Rs. 54,000 crores (US $ 12 billion) in 1999. The storage capacity of the dam would increase (largest in the country). The submergence will not create any problems of resettlement, because the FRL of Kalpasar lake is kept almost the same a high tide level. With the large benefits mentioned above, the project will have lasting and positive economic impact on the Gujarat State.

For financing the feasibility studies large funds are required. Preparation of Feasibility Study requires expertise and latest technology for which assistance from U.S. in form of Consultancy services and equipment would help, in no small measure in completing Feasibility Report which is credit-worthy and which can inspire confidence of private entrepreneurs. After the feasibility

studies are completed project will come under implementation stage that would have a considerable scope for U.S. services and equipment to be exported.

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Haldia Development Authority Projects
Haldia, West Bengal, India

Project Name(s)

- 30 MGD Water Treatment Plant (New)
- 20 MGD Water Supply Project (Existing)
- 10 MGD Water Supply Plant (New)
- 12 MGD HFC Water Supply Project (Old)

Estimated Project(s) Cost

The estimated cost of these projects is $50 million.

Project Description

- 30 MGD PLANT: This water supply project is envisaged for meeting the future demand of Haldia industrial city. The raw water is to be drawn from river Hooghly at Uluberia point approximately 50 Kms from Haldia and is to be treated at Geonkhali 15 Kms from Haldia. The project report is ready and HAD Board's approval has been obtained for implementation.
- 20 MGD PLANT: This existing plant at Geonkhali (Haldia) is a lifeline to the Haldia's industries and residents. The plant is in good condition and produces approximately 16 MGD treated water, at present. It requires improvement in terms of efficiency, and productivity.
- 10 MGD PLANT: To meet up the immediate requirement, additional capacity of 10 MGD new plant is envisaged at Geonkhali (Haldia), where a 20 MGD water plant is already in operation. The project report is being prepared.
- 12 MGD PLANT: This water plant is currently within the campus of Hindustan Fertilizers Corporation, a Government company, which has been closed recently, is likely to be taken over by HDA. This plant needs thorough renovation, repairs and improvement.

Relevant Market Drivers

- Increased residential and industrial demand
- Board of HDA's approval.

- Government of W.B.'s approval.

Project Site

- Uluberia, Howrah District, W.B.
- Geonkhali & Haldia, W.B.

Procurement

Both India and abroad.

Technology Overview and Intended Application

Treatment Technologies that would allow use of technologies that are available in India in conjunction with imported Technology.

Project Sponsor (Organization) Description

Haldia Development Authority & Urban Development Department in Government of West Bengal.

Current Status and Planned Implementation Schedule

- 30 MGD: Project report prepared; Exploration for BOT Agency is in progress; Expected Project implementation start date: April 2004
- 20 MGD: Water and energy audit work has been completed. The improvements as suggested are to be taken up. Schedule: December 2003
- 10 MGD: Project report is being prepared. Joint venture arrangement may be acceptable. Expected Schedule: December 2003
- 12 MGD: The formalities of taking over of the plant are under progress; after taking over the plant, necessary repairs, renovation and improvement have to be undertaken. Schedule: January 2004

Availability and Type of Financing

- Internal resources of HDA
- HUDCO Loan
- Budgetary Support from Government

- Joint Venture Investment from Private Agencies

Opportunities for U.S. Suppliers

- Technology and equipment supply
- Open bids

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INDIAN WATER SUPPLY & WASTEWATER TREATMENT TECHNOLOGY EXPO & BUSINESS BRIEFING

Bangalore Water Supply and Sewerage Board (BWSSB) Projects

	Project 1	Project 2	Project 3	Project 4	Project 5	Project 6
Project/ Procurement Title	Recycling 25 mld of Wastewater project including laying pipeline at Koramangala, Chalagatta Valley to meet non potable requirement of industries to industrial area.	Recycling of wastewater at Hebbal treatment plant for 25 mld capacity and providing necessary pipeline	Topographical surveying, conditional survey of sewers and flow modeling etc., of the entire 3000 Km of sewers in Bangalore	Implementing Cauvery Water Supply Scheme Stage IV phase II to bringing additional 500 mld project includes Production, Conveyance, Distribution, Sewage Conveyance and Treatment	Reduction of Un-accounted for water in the distribution system	Rehabilitation of CWSS Stage I water treatment plant of 135 mld capacity including SCADA and automation.
Cost	$4.5 Million US Dollars	$4.5 Million US Dollars	$2.0 Million US Dollars	$600 Million US Dollars	$100 Million US Dollars	$5 Million US Dollars
Description of the project/ procurement(s)	There are five sewage treatment plants in Bangalore city. Out of these five at one place there is a treatment plant of 163 mld capacity (K & C Valey) with secondary level. Now there is a proposal to install 25	Hebbal sewage treatment plant one of the existing five plants where 60 mld sewage is treated. Now there is a demand for 25 mld recycled water for power project, which is close to this plant. A fully dedicated plant is	3000 Rmt., of sewer line of size ranging from 225 to 2000 mm is the network. The system is more than 50 year old. BWSSB intends to complete diagnosis of the sewers by carrying out Topographic survey and	Bangalore has 6.0 million population and growing alarming rate. Augmenting water supply is very essential for take up for growing population. Additional 500 mld water from Cauvery	Distribution system in the city has more than 40% loss both physical and commercial. There is absolute urgent need to reduce, this UFW (Un-accounted for water) to conserve water and also realize additional	This is 30 years old water treatment plant. Plant required rehabilitation with Innovative Technology to give highest quality potable water. It needs to be provided with SCADA and

	Project 1	Project 2	Project 3	Project 4	Project 5	Project 6
	mld capacity recycling plant for reuse of industries around this plant. The scope of the project includes Design, Build and Operate 25 mld capacity plant suitable for all type of Industries. The secondary effluent of the plant is used for further advance treatment. Bangalore Water Supply and Sewerage Board intend to go for highly advanced technology of membrane technology, which should be of cost effective both in capital and maintenance.	proposed for Karnataka Power Project to meet its requirement. BWSSB is intends to go for new technology (Membrane).	CCTV survey to know the condition of sewer and also hydraulic modeling of the flows. Mainly to take up remodeling the sewerage system and also rehabilitation of the sewer. Ultimately for asset Management.	source which is 100 Km away has to be pumped in three stage to bring to the city. Further sewage generated is conveyed and treated in 8 treatment plants. In addition, storage reservoirs, trunk mains, feeder mains, distribution system also need to be provided.	revenue to Board. This is the highest priority project for implementation. BWSSB has already taken up pilot project of 48 crores.	automation also.

INDIAN WATER SUPPLY & WASTEWATER TREATMENT TECHNOLOGY EXPO & BUSINESS BRIEFING

	Project 1	Project 2	Project 3	Project 4	Project 5	Project 6
Relevant Market Drivers	- This includes Design - Build and Operate (EPC) - Funding from international agencies is essential.	- Design, build and Operate (3-5 Years) - Funding from international agencies is required.	- Consultant is conducting CCTV survey and flow modeling. - USAID/USAEP funding sought.	- Funding from JBIC / World Bank / ADB is sought	- World Bank /JBIC/ADB Funding required	- US Funding or any International /Local funding
Project Site	- Location Bangalore city, capital of Karnataka State. - Bangalore Water Supply and Sewerage Board is fully responsible for procurement and implementation	- Bangalore city, Karnataka State. - BWSSB is fully responsible for procurement	- Bangalore city - BWSSB is fully responsible for procurement	- T.K. Hally (Thorekadanahally) - BWSSB is fully responsible for procurement	- Bangalore city - BWSSB is fully responsible for procurement	- T.K. Hally (Thorekadanahally) - 80 Kms., from Bangalore city
Technology overview and Intended Application	- Zenon/Memcor of similar type of membrane technology is ideally suited. - Reuse water will be used for initial application such as IT industries	- Zenon/Memcor of similar type of membrane technology is ideally suited. - Reuse water will be used for initial application such as IT industries	CCTV survey, flowing monitoring and also selling of connected equipment etc.	- Project having several components such as a) Water treatment plants b) Pumping machinery c) Pipe fabrication and laying	- New type of leak detection equipments, software and flow meters and also other gadgets required for implementation.	- Rehabilitation with highly innovative technology with Memcor, tube settlers etc.

	Project 1	Project 2	Project 3	Project 4	Project 5	Project 6
	and other general industrial requirements.	and other general industrial requirements		d) Civil construction and reservoirs e) Instrumentation Sewage treatment plant		
Project Sponsor (Orgn.,) Description	Bangalore Water Supply and Sewerage Board	Bangalore Water Supply and Sewerage Board	Bangalore Water Supply and Sewerage Board	Bangalore Water Supply and Sewerage Board	Bangalore Water Supply and Sewerage Board	Bangalore Water Supply and Sewerage Board
Current Status and Planned Implementation Schedule	BWSSB has already obtained administrative approval for implementation of the project. The project will be implemented with in next 28 months.	Karnataka Power Corporation (Government of Karnataka under taken) made request to be implemented in 36 months.	Administration approval is obtained and likely that a tender will be issued for in 24 months.	Administration approval from Government of Karnataka and Government of India already obtained and planned to implement in next 24 months	Administrative approval obtained by State Government. To be implemented in 60 months.	Administrative approval is under consideration under consideration like to implement in next 28 months.
Availability and Type of Finance	a) Vendor financing is required b) No other funding is sought if necessary local financing can be arranged.	a) Vendor financing is required b) No other funding is sought if necessary local financing can be arranged.	a) Vendor financing is required b) No other funding is sought if necessary local financing can be arranged.	a) Vendor financing is required b) No other funding is sought if necessary local financing can be arranged.	a) Vendor financing is required b) No other funding is sought if necessary local financing can be arranged.	a) Vendor financing is required b) No other funding is sought if necessary local financing can be arranged.

INDIAN WATER SUPPLY & WASTEWATER TREATMENT TECHNOLOGY EXPO & BUSINESS BRIEFING

	Project 1	Project 2	Project 3	Project 4	Project 5	Project 6
Estimated cost	$4.5 Million US Dollars	$4.5 Million US Dollars	$2 Million US Dollars	$600 Million US Dollars	$ 100 Million US Dollars	$ 5 Million US Dollars
Opportunities for US Suppliers	Best opportunity is to Organize the funding from any financial institution in use and to take up construction along with new process technology	Best opportunity is to Organize the funding from any financial institution in use and to take up construction along with new process technology		There is tremendous opportunity to supply and construction, which includes pumps, water treatment, SCADA, Wastewater treatment etc.	Tremendous opportunities for all type of Leak Detection equipments and Software etc.	Opportunities for water supply firms for Design, Build with in technology.

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Vizianagaram Projects
Vizianagaram, AP, India

Project Name(s)

Lake Pollution Remediation and Wastewater Management System

Estimated Project(s) Cost

Up to $5 million in Vizianagaram. Opportunities for replication exist in other parts of the country.

Project Description

The Pedda Cheruvu Lake, located in Vizianagaram town, is highly polluted and its remediation has been under discussion over the past few years. The Town Development Committee, Chaired by Mr. Kumar, has earmarked $250,000 for the remediation project using conventional activated sludge treatment. After joining the government as the District Collector, Mr. Kumar has proposed the use of an ecofriendly and less energy intensive technology based on the biological degradation of sewage. This project can be replicated in all the lakes in the state if found to be cost effective.

The State government is also considering a major water conversation effort using the latest technologies. Moreover, the Vizianagaram district has been considered under the government's sectoral reforms program and at present a Total Sanitation Program is being carried out in the district to cover all rural households (about 350,000). A Netherlands assisted Drinking Water and Sanitation Project has also recently been sanctioned with an estimated cost of about $7.1 million.

Relevant Market Drivers

- Rules and acts of the Government of India
- State Government rules and acts

Project Sites

Vizianagaram, AP

Project Sponsor (Organization) Description

Government of Andhra Pradesh

Current Status and Planned Implementation Schedule

The above described projects are already approved and scheduled to be started within the next three months.

Availability and Type of Financing

Partial financing is available from the district and state administrations. Other sources of financing including vendor financing are being examined.

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Tamilnadu Urban Development Fund (TNUDF) Projects
Chennai, Tamil Nadu, India

Project Name(s)

Underground drainage systems for Ambattur, Pallavaram, Thiruvottiyur, Salem, Tambaram, and Avadi, municipalities

Estimated Project(s) Cost

Total estimated at $35 million

- Ambattur Rs.40 Crores ($5 million)
- Pallavaram Rs.36 Crores ($4.5 million)
- Thiruvottiyur Rs.38 Crores ($4.7 million)
- Salem Rs.105 Crores ($13 million)
- Tambaram Rs.36 Crores ($4.5 million)
- Avadi Rs.25 Crores ($3.1 million)

Project Description

A brief description of each municipality requiring an underground drainage system is provided below.

- ***Ambattur Municipality***, near Chennai City, includes an area of about 40.36 sq.km and its population, per the1991 census, is 215,454. The population is estimated to grow to 450,000 by 2030. The Ambattur Municipality is divided into 52 wards. The climate is arid and the annual rainfall is on the order of 1,150 mm. Currently, the Tamilnadu Water Supply And Drainage (TWAD) Board, the Tamil Nadu Housing Board (TNHB), and the Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB) supply water to the city. The present supply is of the order of 25 litres per capita per day (lpcd). On completion of Krishna Stage Ii, Ambattur would be provided with 60 mld of water for an ultimate population of 4.50 lakhs, about 120 lpcd.

  At present, most of the houses in Ambattur are provided with water borne latrine facilities. The sullage and part of the sewage are let into open roadside drains and are collected within the municipal area. This is detrimental to the health of the people and hence an underground sewerage scheme is necessary for the Municipality.
  There are 3,200 individual low cost sanitation units and 42 community latrines in the

entire municipality. The total installation cost of the proposed drainage project is about $5 million including installation costs, contingencies and supervision.

- ***Pallavaram Municipality*** is a first grade municipality covering an area of 18 sq.km and with a population of 148,394 as per the 2001 census. It is located about 13 km from the Chennai city limits. It is one of the major municipalities adjoining Chennai City and is classified as a distant urban area. The town consists of residential, commercial, institutional and industrial areas.

  The Palar River Scheme (owned and operated by TWAD), 50 km from the township, is currently sullies water to the municipality. This system is currently supplying 3.1 mld though it was designed for 5.40 mld.

  Most of the houses in the municipality are provided with an aquaprivy along with a septic. Generated sewage flows into septic tanks and their supernatant overflows causes odor nuisance. Sullage sewage and effluent from the septic tanks flow into open drains. At many places the drains meet obstructions causing stagnation.

- ***Thiruvottiyur Municipality*** has about 43,931 households, 309 large and small industries and about 3,930 shops and commercial complexes. CMWSSB supplies 20 lakh litres of water per day to this municipality. Including local water supply sources, per capita water supply is about 15 lpcd. Any additional supply is to be augmented from the proposed Krishna Water supply scheme.

  The sewerage system is available in 30 wards out of 48 wards. The existing underground drainage system is about 45 km in length and is designed for a population of 1.41 lakhs. A sewerage system is to be yet provided for the remaining 18 wards. The existing sewerage system, divided into 3 zones, collects the sewage in a main pumping station and pumps it to a lagoon located at a distance of 3.1 km.

  Installation of a sewerage system is proposed for an intermediate population of 3.10 lakhs by the year 2017 and an ultimate population of 4.20 lakhs by the year 2032. Most of the industries have indicated that they would treat the sewage collected in their premises and reuse the effluent themselves. Hence, the proposed system is not designed to accept industrial effluents.

  The total cost for improving the existing sewer system and installing a new system for the18 proposed wards is estimated to be about $4.7 million.

- ***Salem*** is the fifth largest city in Tamilnadu with an area of 91.34 sq.km. It is located about 340 km southwest of Madras City. The main occupation of the people is agriculture, weaving and marketing. A considerable number of sago and dyeing units exists in and around Salem; these industries contribute to the sustained growth of the city.

The area considered for designing a new underground drainage system and sewage treatment facilities is about 20 sq.km that is the erstwhile Salem Corporation with a population of about 4.3 lakhs as per the 2001 census. Presently, Salem does not have an underground drainage system. Both sewage and storm water are discharged into open drains. These open drains are connected to open nullahs that ultimately join the Thirumanimuthar River that passes through the city.

The cost of the proposed underground drainage system including construction contingency (5%), supervision charges (5%), and price contingency (10%) is estimated to be about $13 million (Rs.104.78 Crores) excluding $15 million (Rs.121.35 Crores) for interest during construction.

- ***Tambaram Town*** is a part of the Kancheepuram District of Tamilnadu and is located about 30 km from Chennai the State Capital. The town is easily accessible by a network of good roads and rails. It is located on the National Highway - 45 (South Chennai Grand Southern Trunk Road) and along the Chennai-Tambaram Railway Line.

  The town's population grew by 28.38 percent during the decade 1991-2001 to 137, 609. The town does not have a proper underground sewerage system for systematic collection, transmission, treatment and disposal of sewage.

  The Municipality currently has a water supply of 30 lpcd excluding supply from 135 bore wells, which are catering to non-potable uses.

- ***Avadi Municipality*** covers an area of about 65 sq.km, has 48 wards and its population (year 2001) is about 2 lakhs per the 2001 census. Avadi is known for its combat tanks manufacturing industry. It is situated on western side of the Chennai City on the Chennai-Tiruvallore National Highway (Highway no. 205) running east to west. The city population is densely concentrated on both sides of this highway. A broad gauge railway to Chennai and Arakonam also passes through Avadi.

Availability and Type of Financing

There would be no foreign exchange involved. Though the financial closure is yet to be done, the projects would be financed by grants from the Government and loans from financial institutions such as Tamilnadu Urban Development Fund (TNUDF), a municipal financial intermediary, and Water and Sanitation Pooled Fund (WSPF), the first pooled fund in India.

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INDIAN WATER SUPPLY & WASTEWATER TREATMENT TECHNOLOGY EXPO & BUSINESS BRIEFING

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7150 Supra Drive S.W.
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INDIAN WATER SUPPLY & WASTEWATER TREATMENT TECHNOLOGY EXPO & BUSINESS BRIEFING

Preliminary Listing of Business Briefing Participants

Last Name	First Name	Title	Company	Address	Telephone
Bharwada	Upen	Vice President – Business Development	Zenon Environmental Inc.	4806 Meyers St. Midland, MI 488640	905-465-3030 ext. 3023
Collins	Roger	President	Fluid Systems Sales	14040 Santa Fe Trail Drive Lenexa, KS 66215	913-888-5201
Davis	Ellaina		Valmont Water Management Group	7150 Supra Drive S.W. Albany, OR 97321	541-812-6612
Dhar	Shibu	Consultant	Princeton Energy Resources International, LLC	1700 Rockville Pike, Suite 550 Rockville, MD 20852	301-468-8430
Khanna	Mr. Sanjiv	Senior Commercial Specialist	U.S. Embassy, The American Center	24 Kasturba Gandhi Marg New Delhi 110001 India	
Kumar	Mr. Rajat	District Collector and Magistrate		Cantonment Road, Vizianagaram 535 001	08922-276 720
Mathur	Mr. Krishan Murari	Superintending Engineer	Rajasthan Urban Infrastructure Development Project	AVS Building, JLN Marg, Jawahar Circle Malviya Nagar, Jaipur 302 017, India	(91-141) 272-1966
Meena	Mr. V.D.	Additional Project Director	Rajasthan Urban Infrastructure Development Project	AVS Building, JLN Marg, Jawahar Circle Malviya Nagar, Jaipur 302 017, India	(91-141) 272-1966
Morgan	Johnel	International Sales Manager	Myron L Company	6115 Corte del Cedro Carlsbad, CA92009	760-438-2021
Nunamaker	D.J.	Marketing Coordinator	Environmental Dynamics Inc.	5601 Paris Road Columbia, MO 65202	573-474-9456
Oswald	William	President	Oswald Green, LLC.	1081 St. Francis Drive Concord, CA 94518	925-689-3727

Last Name	First Name	Title	Company	Address	Telephone
Pattarkine	Vikram	Director Process Engineering	Environmental Dynamics Inc.	5601 Paris Road Columbia, MO 65202	573-474-9456
Rabie	Rocio		Princeton Energy Resources International, LLC	1700 Rockville Pike, Suite 550 Rockville, MD 20852	301-468-8430
Rahe	Terry	President	Valmont Water Management Group	7150 Supra Drive S.W. Albany, OR 97321	541-812-6612
Rajaraman	Mr. V.	Vice President	Tamilnadu Urban Development Fund	Vairam Complex, 1st Floor, 112, Theyagaraya Road, T.Nagar, Chennai - 600 017	91-044-28153103
Ramabhadran	Sanjay	Environmental/Water Resources	Lockwood, Andrews & Newnam, Inc.	2925 BriarPark Houston, TX 77082	713-821-0418
Rezaiyan	John	Vice President	Princeton Energy Resources International, LLC	1700 Rockville Pike, Suite 550 Rockville, MD 20852	301-468-8430
Robinson	Kathryn	Director of Sales & Marketing	Myron L Company	6115 Corte del Cedro Carlsbad, CA 92009	760-438-2021
Sankaramanchi	Siva K.	Regional Director - AP	ITT/Sanitaire	8617 High Meadows Dr. Plano, TX 75025	469-675-1997
Sharma	Mr. M.	Project Director	Rajasthan Urban Infrastructure Development Project	AVS Building, JLN Marg, Jawahar Circle Malviya Nagar, Jaipur 302 017, India	(91-141) 272-1966
Shekhawat	Mr. Narendra Singh	Dy. Project Director	Rajasthan Urban Infrastructure Development Project	AVS Building, JLN Marg, Jawahar Circle Malviya Nagar, Jaipur 302 017, India	(91-141) 272-1966
Sheldon	Roy	Vice President & Director	ITT Fluid Technology and Motion & Flow Control	10 Moutain View Road Upper Saddle River, NJ 07458	201-760-5764

INDIAN WATER SUPPLY & WASTEWATER TREATMENT TECHNOLOGY EXPO & BUSINESS BRIEFING

Last Name	First Name	Title	Company	Address	Telephone
Shuster	Doug	Country Manager - South Asia	U.S. Trade and Development Agency	1000 Wilson Boulevard, Suite 1600 Arlington, VA 22209	(703) 875-4357
Subbiah	Mr. A.	Chief Executive Officer	Haldia Development Authority	Durgachak Super Market, P.O. Durgachak, Haldia Dist. Purba Medinipur, West Bengal 721 602	03224-274154
Thippeswamy	Mr. M.N.	Chief Engineer	Bangalore Water Supply & Sewerage	9th Floor Cauvery Bhavan Bangalore 560009 India	080 227 5562
Vasavada	Mr. B J	Member Secretary and Chief Executive Officer	Gujarat Water Supply & Sewerage Board	Jal Seva Bhawan, Sector 10A, Opposite Air Force Station Chh Road, Gandhinagar 382010	079-3222417

Partial Listing of U.S. Companies
Water Supply & Wastewater Treatment Equipment & Service Providers

Name and Contact Address	Areas of Business Activities
USFilter 40-004 Cook St. Palm Desert, CA 92211 USA Tel: 800-525-0658 Fax: 724-772-1300 Or call: 724-772-0044 http://www.usfilter.com	**Company Description** Comprehensive Source Of Water & Wastewater Technology, Involved In Water & Wastewater Needs Of Cities, Municipalities, Developments & Industries. Manufacturing & Marketing Water & Wastewater Treatment, Technology, Components, Systems & Plants; Water Distribution Equipment & Supplies, Water Utility Distribution Equipment & Supply Centers For All Industrial/Commercial Requirements. **Exports To**: Asia, Latin America & The Caribbean, Middle East, North America, Western Europe
Gardner Denver Blower Div. 100 Gardner Park Peachtree City, GA 30269 USA Tel: 800-361-8125 Fax: 770-486-5629 Or call: 770-632-5000 http://www.gardnerdenver.com/GDCorpPortal/RouteRequest?route=to&id=1333	**Company Description** Manufactures A Complete Line Of Centrifugal & Positive Displacement Blowers & Vacuum Pumps For Use In A Wide Variety Of Air Or Gas Applications. Centrifugal Models Provide Varying Flow At A Constant Pressure Or Vacuum. Brands Include The Lamson® Multistage Cast Or Fabricated, TurboTron® Regenerative & AeroFlow Single-Stage. Positive Displacement Models Deliver Constant Flow At Varying Pressures. Brands Include SutorBilt® & DuroFlow® Rotary Lobe. CycloBlower® Helical Screw & Wittig® Rotary Vane. Flows Up To 43.000 CFM. Pressure To 36 PSIG & Vacuum To 28 Hg. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe **Parent**: Gardner Denver Inc.
Lakeview Engineered Products, Inc. 2500 W. Jefferson Blvd. Fort Wayne, IN 46802 USA Tel: 260-432-3479 Fax: 260-432-6239 http://www.lakeviewevaporators.com	**Company Description** Mfr. Of The E-Series Line Of Wastewater Evaporators. Capacities From 5-300 Gallons Per Hour. The 1100 Series Oil Purifiers For The Reclamation Of Industrial & Insulating Oils. The PPS Series of Controlled Air, Dual Chamber Incinerators For Industrial, Medical & Pathological Applications. ASME Code Tanks, Heat Exchangers & Pressure Vessels. Heat Recovery & Waste Heat Utilizations Systems. Custom Fabrication. **Parent**: Power Plant Services, Inc., Fort Wayne, In
Samsco, Part Of Severn Trent Services 18 Cote Ave. Goffstown, NH 03045 USA Tel: 603-668-7111 Fax: 603-647-0537 http://www.samsco.com	**Company Description** Full Line Designers, Mfrs., Marketers Of Thermal & Vacuum Style Industrial Wastewater Evaporators/Condensers/Distillers. Over 2000 Installations Worldwide. Project Teams (Facility/Process Engineers) With In-Depth Waste Stream Analysis, Develop Ancillary Equipment Specs., Plan System Integration. Staff Assures Project Regulatory Compliance, Permitting Guidance. Post-Sale Technical Support Team Tracks/Assures System Performance. System Components/Materials Customized. Control Package Logic Engineered. Appropriate Wastewater Includes Hazardous Residues, Water For Reclamation/Chemistry Re-Concentration/Disposal.
Castion Corporation	**Company Description**

290 Moody St. Ludlow, MA 01056-1244 USA Tel: 800-628-7528 Fax: 413-589-7301 http://www.castion.com	Mfrs. Of Wastewater Treatment Equipment & Vacuum Evaporators Using A Proprietary Process Known As CAST™ (Controlled Atmosphere Separation Technology). CAST™ Uses Various Aspects Of Flash Distillation & Vacuum Evaporation In Conjunction With A Patented Liquid-Vapor Separator, CAST™ Systems Are Configured For Zero-Discharge Operation, Resulting In Recovery Of Nearly 100% Of Valuable Chemical Resources & Clean Water For Immediate Reuse.
Sanitaire 9333 N. 49th St. Brown Deer, WI 53223-1472 USA Tel: 800-394-6549 Fax: 888-260-9361 Or call: 414-365-2231; Or Local Fax: 414-365-2210 http://www.sanitaire.com	**Company Description** Specializing In The Design & Supply Of Diffused Aeration Systems For Industrial & Municipal Wastewater Treatment Plants. Mfrs. Of Ceramic & Membrane Fine Bubble Systems, In-Place Cleaning Equipment & Stainless Steel Coarse Bubble Systems. Sequential Batch Reactors, Biological Nutrient Removal Systems, In-Place Gas Cleaning Systems & Complete Activated Sludge Plants. **Exports To**: Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, Western Europe **Parent**: ITT Ind.
Everfilt 3167 Progress Circle Mira Loma, CA 91752 USA Tel: 800-360-8380 Fax: 909-360-8384 Or call: 909-360-8380 http://www.thomasregister.com/everfilt	**Company Description** Worldwide Mfr. Of Turnkey Water & Wastewater Filtration Treatment Systems For Industrial, Municipal, Commercial & Agricultural. Applications, Systems Include Multi-Media, Activated Carbon, Ion Exchange, Greensand, Zeolitres, Clays, Activated Alumina & Pressure Screen Filters; Gravity Static Screens. Flow Rates From 4 To 10,000 GPM. Manual, Automatic & Self Cleaning. Standard & Custom Designs. Stainless Steel & Epoxy Coated Carbon Steel, Potable Water, Cooling Towers, Process Water, Wastewater, Whitewater, Slurries, Recycle Water, Remediation, Solids Recovery, Ponds, Irrigation & Other Water Uses. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
Serfilco, Ltd. 2900 MacArthur Blvd Northbrook, IL 60062 USA Tel: 888-559-1777 Fax: 847-559-1995 Or call: 847-559-1777 http://www.serfilco.com	**Company Description** Mfrs. Of Chemical Pumps: Seal-Less Magnetic Or Direct Drive, Vertical, Horizontal, Centrifugal, Self-Priming, Drum & Metering; Filter Chambers For Water & Chemical Solutions; Filtration Systems For Acids, Solvents & Electroplating Solutions; Automatic Gravity Filtration Systems For Waste Treatment Systems; Wound Depth & Pleated, Activated Carbon & Cleanable Filter Cartridges; Bags, Discs, Bulk Granular Carbon & Organic Rejection Cartridges; Resin For Gold Recovery; Air Filters, pH Meters, Controllers, Recorders, Ampere Hour Meters, Dri-Stop Pressure Switch, Polypropylene Balls, Fittings. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Pacific Rim, Western Europe
Met-Chem, Inc. 777-T E. 82 St. Cleveland, OH 44103-1817 USA Tel: 216-881-7900 Fax: 216-881-8950 http://www.metchem.com	**Company Description** Mfrs. Of Filter Presses, Parallel Plate Clarifiers & Sludge Dryers For Liquid Filtration, EPA Compliant Wastewater Evaporators With Closed Loop Air System; Filters & Fabricated Filter Cloth Products Liquid Filter Bags, Micron Rated Filter Bags, Dust Filter Socks, Tubes, Discs & Sleeves; Natural & Synthetic Industrial Fibers, Paper, Molded/Pleated Felt, Resin Treated; All Industrial & Commercial Applications; Knitted Tubing For Filter Socks, Wraps For Filter Cartridges, Stockingettes, Cuffs For Work, Medical & Safety Clothing; Various Yarn Fibers, Blends, Colors; Widths 1.5"

	Through 12", Custom Stretch Patterns. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
Severn Trent Services, Inc. 18 Cote Ave. Goffstown, NH 03045 USA Tel: 215-283-3478 Fax: 215-283-3487 http://www.severntrentservices.com	**Company Description** Supplier Of Water & Wastewater Treatment Applications. The Company's Broad Range Of Products & Services Is Concentrated Around Disinfection & Filtration Technologies, Pipeline Analysis, Rehabilitation & Repair Services, Contract Operating Services, & Residential Metering Products. The Company Is Part Of Severn Trent Plc. (London: SVT.L), An International Environmental Services Supplier. FTSE 100 Company.
Product Level Control, Inc. 11929 Portland Ave. S. Burnsville, MN 55337 USA Tel: 952-707-9101 Fax: 952-707-1075	**Company Description** Groundwater Remediation Equipment Supplier & Manufacturer. Extraction & Treatment Equipment For Groundwater & Soil Remediation. Specialize In Custom Designing Systems For Site Control & Remote Operation Of On-Site Equipment. Equipment & Systems Include: Sitelink Remotely Operated Systems, Electromechanical Control Panels, Soil Vapor Extraction Systems, Air Sparging Systems, PLC AirRaider, Control Floats, Control Probes, Tank Full Sensors, PLC Sensors, Submersible Pumps, Pneumatic Pumps, Blowers, Oil/Water Separators, Flow Meters, & Process/Holding Tanks, Instrumentation, VOC Treatment. Services All Industries.
Panner Sales Co. 9502-T Gulf Stream Rd. Frankfort, IL 60423 USA Tel: 800-811-3797 Fax: 815-469-8313 Or call: 815-469-8333 http://www.panner.thomasregister.com	**Company Description** Design & Mfr. A Wide Range Of Products To Handle & Control Corrosive & Ultra-Pure Liquids. Design Custom Systems To Suit The Customer's Requirements. Common Problems Solved By Systems Include Acid/Base Neutralization, Cyanide & Chromate Removal, Process pH Adjustment, Flow Level & Temperature Control, Chemical Feed, Chemical Batch Processes, Liquid Storage & Holding, Pumping Corrosives & High Purity Liquid, Corrosive Fume Extraction & Scrubbing.
Parkson Corp./American Bulk Conveying, Inc. 2727 N. W. 62nd St. Fort Lauderdale, FL 33309 USA Tel: 954-974-6610 Fax: 954-974-6182 http://www.parkson.com	**Company Description** Designers & Manufacturers Of Specialty Belt, Screw & Shaftless Screw Conveyors, Slide Gates & Diverter Gates.
Aqua Care Systems, Inc., Industrial Group 9542 Hardpan Rd. Angola, NY 14006 USA Tel: 800-937-1456 Fax: 716-549-3950 Or call: 716-549-2500 http://www.fsdfilters.com	**Company Description** Filtration & Liquid-Solid Separation Systems & Dissolved Air Flotation Equipment Engineered For Chemical, Food, Beverage, Brewing, Pulp-Paper, Oil-Gas-Petrochemical, Mining, Pharmaceutical, Wastewater & Other Processing Applications. Backwashable Tubular Filters For Continuous Flow Applications With Low Solids Loading. Corrosion-Resistant Models Available. Pressure Leaf Filters Including Pre-Coated Models For Constant Flow Batch Operations With Less Than 1% Solids Loading; Wet Or Dry Cake Discharge. Filter Presses For High Solids Loading Batch Operations & Slurry Filtration. Sludge Dryers. Pressure Nutsches. Replacement Parts & Filter Media For FSD, Duriron & Enzinger Filters. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe

	Parent: Aqua Care Systems Inc.
Flex-A-Seal, Inc. 1 Jackson St. P.O. Box 184 Essex Junction, VT 05453-0184 USA Tel: 800-426-3594 Fax: 802-878-2479 Or call: 802-878-8307 http://www.flexaseal.com	**Company Description** Full Line Mfr. Of Mechanical Seals, Welded Metal Bellows, Patented Split Cartridge, Single Spring & Multiple Spring Cartridges & Components. High Temperature & Pressure Designs. Corrosive Resistant Seals, Dual Cartridges With Welded Bellows & Multispring Configurations. Barrier Fluid Systems, Zero Emission Seals, Seals For Mixers, Agitators & Reactors. Metric & DIN Standards. Repairs Of All Mfr.'s Seals. Custom Engineered Designs. Cryogenic Seals, Welded Metal Bellows For Vacuum Related Devices. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Pacific Rim, Western Europe
FRC Environmental Inc. P.O. Box 2453, 1635 Oakbrook Dr. Gainesville, GA 30503 USA Tel: 770-534-3681 Fax: 770-535-1887 http://www.frcenvironmental.com	**Company Description** Specializes In The Mfr. & Supply Of Water & Wastewater Treatment Equipment & Systems For Industry Worldwide. Manufactured Equipment Includes Stainless Steel Dissolved Air Flotation Systems, Coagulation/Flocculation Systems, Gravity Skimmers, Decant Tanks & Oil/Water Separators. Integrated Systems Include Pre-Treatment, Product Recovery, Biological Treatment, & Water Re-Use Systems. Systems & Equipment Are Pre-Assembled & Unitized For Installation.
Koch Membrane Systems, Inc. 850-T Main St. Wilmington, MA 01887 USA Tel: 978-657-4250 Fax: 978-657-5208 http://www.kochmembrane.com	**Company Description** Mfr. & Suppler Of Microfiltration, Ultrafiltration & Nanofiltration Equipment & Systems Utilizing Spiral, Hollow Fiber & Tubular Membrane Configurations. Development Of Crossflow Filtration Processes & Systems For The Municipal & Industrial Water, Automotive, Food & Dairy & Pulp & Paper Industries. Experienced In The Membrane Filtration Industry. Development Of Crossflow Membrane Filtration Processes & Systems For The Industrial, Food, Water, Chemical & Biotechnology Markets, As Well As For Those Providing Environmental Protection. Full Spectrum Of Systems From Laboratory Plants Up To Installations With Capacities Large Enough To Handle Municipal Volumes. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Western Europe **Parent**: Koch Industries, Inc.
OCECO, Inc. P.O. Drawer 159 1616 S. County Rd. No.1 Tiffin, OH 44883 USA Tel: 800-311-8431 Fax: 419-447-5514 Or call: 419-447-0916 http://www.oceco.thomasregister.com	**Company Description** Vapor Conservation & Fire Prevention Equipment, Manways, Flame Arresters, Vent Valves, Fluid Gauges, Breather Valves. Digester Gas Control Equipment. Wastewater Treatment Equipment. **Exports To**: Middle East, Western Europe
Town & Country Plastics, Inc. P.O. Box 269-T Morganville, NJ 07751 USA Tel: 732-566-3800 Fax: 732-583-9045 http://www.tandc.thomasregister.com	**Company Description** Mfr. & Fabricator Of Corrosion Resistant Products In Plastics, Fiberglass & Stainless Steel Including Pollution Equipment, Chemical Holding & Mixing Tanks, Underground Storage Tanks, Acid Neutralization Tanks & Systems, Grease Traps, Oil-Interceptors, Sediment Interceptors, Basket Strainers, Sumps For Pumps, Chemical Sump Pumps, Plastic Pipe Fittings & Valves, Ducting, Hoods, Troughs, Chemical Sinks, Cabinets, Counter Tops, Containers, Floor & Roof Drains. Specializing In Custom

	Fabrications & Molded Products To Meet Requirements. Mfr. Of Architectural Products Including Decorative Planters, Benches, Decorative Panels, Enclosures, Canopies & Portable Shelters.
Eisenmann Corporation 150-T E. Dartmoor Dr. Crystal Lake, IL 60014-8606 USA Tel: 815-455-4100 Fax: 815-455-1018 http://www.eisenmann.com	**Company Description** Mfrs. Of Custom Designed Turn-Key Finishing Systems For Plastic, Wood & Metal Products, Porcelain Enamel Lines, Material Handling Systems, Air Purification Equipment, Wastewater Treatment Plants, Wood Drying Kilns, Ceramic, Brick & Structural Clay Kilns & All Types Of Heat Treatment Equipment; ISO 9001. **Exports To**: Latin America & The Caribbean, Middle East, North America, Western Europe **Parent**: Eisenmann Maschinenbau KG (Komplementar: Eisenmann-Stiftung)
New Logic International, Inc. 1295-T 67th St. Emeryville, CA 94608-1120 USA Tel: 510-655-7305 Fax: 510-655-7307 http://www.vsep.com	**Company Description** Wastewater Treatment & Dewatering Equipment. **Exports To**: Asia, Australia, Eastern Europe, North America, Western Europe
SCIENCO/FAST Systems, Commercial Div. Of Smith & Loveless, Inc. 8229 Brentwood Industrial Dr. Brentwood, MO 63144-2814 USA Tel: 314-645-6540 Fax: 314-645-6131 Cable: SCIENCO STL http://www.sciencofast.com http://www.marinefast.com	**Company Description** Wide Range Of Products For Municipal, Industrial, Marine, Commercial, & Consumer Markets. Product Lines Include Marine Sewage Equipment, Brine Making Equipment, Industrial Water Treatment Plants, Odor Control Tablets, Seasoning Tablets, Customized Tablets, & Salt Dispensing Equipment. **Exports To**: Asia, Australia, Latin America & The Caribbean, Western Europe
Parkson Corp./Great Lakes Environmental® 29850 N.Skokie Hwy. Lake Bluff, IL 60044 USA Tel: 847-473-3700 Fax: 847-473-0477 http://www.gle.com	**Company Description** Equipment For Industrial Wastewater Treatment That Includes Filtration, Flotation, Clarification, De-Emulsification, Oil/Water Separation, & Physical Chemical Treatment. **Parent**: Parkson Group
Dynatec Systems, Inc. 909 Jacksonsville Rd. Burlington, NJ 08016 USA Tel: 609-387-0330 Fax: 609-387-2060 http://www.dynatecsystems.com	**Company Description** Industrial Fluid Recovery & Waste Treatment. Compliance With Local, State, & Federal Regulations. Contract Services; Engineering & System Design; Equipment Supply & Installation; On Site Pilot Testing; Technical Services, Start Up, & Operator Training; Treatability Analysis; Troubleshooting; Turnkey Installation Services. BOD/COD/TSS Reduction; Engineering & Design; Heavy Metal Removal; Project Management; Retrofits/Upgrades To Existing Systems; Separation Of Dyes, Pigments, & Ink, Latex, Starch, Adhesive, Oil/Water; Size Separation; Sludge Dewatering; Systems: Emulsion, Breaking, Gravity Separation, Membrane Systems, Packaged Treatment, Recovery, Zero Discharge. **Exports To**: Asia, Latin America & The Caribbean

American Water Systems 6422 Long Dr. Houston, TX 77087 USA Tel: Fax: 713-641-0194 http://www.american-water-systems.com	**Company Description** Industrial Grade Cleaning Equipment. Hot/Cold Pressure Washers, Steam Cleaners, Power Parts Washers, Water Recycle Systems. Offshore Cleaning Equipment. Hot/Cold On Steam, Explosion Proof. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
Roesler Metal Finishing USA L.L.C. 1551 Denso Rd. Battle Creek, MI 49015 USA Tel: 269-441-3000 Fax: 269-441-3001 http://www.roesler-surfacefinish.com	**Company Description** Worldwide Mfr. Of Rotary Vibrators, Straight Tub Vibrator, High Energy Disc Machines, Flow Through Straight Tub Vibrators, Flow Through Rotomatic, Dryers, Drag Finishing Machines, Plunge Machines, Waste Water Systems, Sludge Separators, Shot Blasting Equipment, Ceramic & Plastic Media, Compounds & Pastes. Engineering Of Automatic Surface Finishing Installations
Monlan Group, The, Div. Of LaFourche Mfg. 28045 Ranney Pkwy., Unit H Cleveland, OH 44145 USA Tel: 800-493-3462 Fax: 440-871-1143 Or call: 440-871-4885 http://www.monlangroup.com	**Company Description** Equipment For The Industrial Fluid Management Market: Tramp Oil Separators, Coolant Recycling Systems: Coolant & Cutting Oils, Sump Cleaners, Standard & Customized Filtering Systems Including Vacuum Filters, Gravity Paper Filters, Cartridge & Bag Filters, Centrifuges. Magnetic Separators For Both Individual Sumps Or Centralized Systems For Filtration Of Liquids & Separation Of Ferrous & Non-Ferrous Chips; Magnetic Conveyors; Ultrafiltration For Recycling Wastewaters & Disposing Of Oil, Wastewaters; Evaporators. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe **Parent**: LaFourche
Midbrook, Inc. 2080 Brooklyn Rd., P.O. Box 867 Jackson, MI 49204-0867 USA Tel: 517-787-3481 Fax: 517-787-2349 http://www.midbrook.com	**Company Description** Mfrs. Of Parts Cleaning Systems. Standard & Custom Single & Multiple Stage Industrial Parts Cleaning Systems Including Hydro De-Burring & Parts Dryers. Electric, Gas & Steam Heated Re-Circulating Aqueous Cleaning Systems. Material Handling Systems Available Include Conveyor Belt, Rotary Drum, Overhead Rail, Indexing Fixtures, Palletized Conveyors, Push/Pull Fixtures, Fixtured Walking Beam, Batch Agitation & Carousel Turntable. Tramp Oil Removal & Batch Wastewater Treatment Systems Remove Free Floating, Dispersed & Tramp Oils From Metal Working Fluids. Complete Cleanliness Laboratory Including Laser Particle Count, Gravimetric Testing, UV Photography, OSEE Surface Scan, Microscopic Particle Measurement & Visual Inspection. Complete Environmentally Safe Cleaning & Rust Inhibitory Chemistry Line. **Exports To**: Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
Mobile Process Technology Co. 2070 Airways Blvd., P.O. Box 140697 Memphis, TN 38114-0697 USA Tel: 800-238-3028 Fax: 901-743-2361 Or call: 901-744-1142 http://www.mobileprocess.com	**Company Description** Specializing In Custom Designed Non-Thermal Chemical Separation Systems For Industrial Wastewater/Chemical Applications. Mobile Or Permanent Systems For Lease Or Purchase. Ion Exchange Technology For Resource Recovery Or For The Removal Of Chromium & Other Heavy Metals From Waste Streams. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe

Applied Process Equipment, Inc. 15207 N. 75th St., Suite 101 Scottsdale, AZ 85260-2445 USA Tel: 480-998-4097 Fax: 480-951-8434 http://www.apewater.com	**Company Description** Design, Build & Installation Of Industrial Wastewater Treatment Systems. Services Include Site Analysis, Treatability Studies, Troubleshooting, Systems Layout, Pilot Testing, Retrofit Upgrades, Oil/Water Separation, Neutralization & pH Monitoring, Heavy Metal Removal, VOC Removal, Filtration, Dye/Color & Emulsion Removal, Purification & Sanitation Removal, Sludge Dewatering & Non-Leachable Sludge Stabilization. Systems Are Automatic, Sewer Discharge Or Zero Discharge, Batch Or Continuous. Equipment Includes Hydrocyclones, Aerobic Reactors, Filter Presses, Screw Presses, DAF Systems & Membrane Systems. Turnkey Installation On Package Or Custom Systems Available.
Inventive Systems Inc. 21797-C North Coral Dr., P.O. Box 220 Lexington Park, MD 20653 USA Tel: 800-873-5153 Fax: 301-863-7583 Or call: 301-863-5153 http://www.oilinwater.org	**Company Description** Oil-In-Water Content Monitors & Alarms; High Temperature, Explosion Proof & MIL-Spec. Oil-In-Water Instrumentation.
Burt Process Equipment, Inc. 1050 Sherman Ave. Hamden, CT 06514 USA Tel: 800-525-8949 Fax: 203-288-7354 http://www.burtprocess.com	**Company Description** Mfr. & Dist. Of Products For Corrosive Fluid Handling Applications. Engineering Design & Mfr. Of System For wastewater Treatment, Neutralization Systems, Evaporators, Clarifiers, Oil Separators, Metal Precipitation, Custom Fabrication, Thermoplastic Tanks, Exhaust Hoods, Lab Benches, Cabinets, Electroplating & Aqueous Cleaning Equipment, Pump Transfer Stations, Membrane Filtration Systems. Components, Fabrication & Turnkey Installations. Distribution Warehouse Of Catalog Items Such As Centrifugal, Gear, Air-Operated, Drum & Metering Pumps, Thermoplastic Valves, Flow, pH, ORP Meters, Level Controls, Plastic Tubing, Tanks & Exhaust Fans.
Clearwater Systems, Inc. P.O. Box 8077 Conroe, TX 77302 USA Tel: 281-399-1980 Fax:	**Company Description** Design & Mfr. Of Portable Water & Industrial Water Treatment Systems & Industrial & Municipal Wastewater Treatment Systems, Skid Mounted & Integrated, With Piping, Wiring & Controls. The Systems Are Composed Of Equipment Providing One Or More Treatment Steps Including: Extended Aeration Sewage Treatment, Multi-Media Sediment Filtration, Cartridge Filtration, Liquid & Vapor Phase Activated Carbon Filtration, Oil/Water/Solids Separation, Reverse Osmosis Desalination, Demineralization, Neutralization, Packed Tower Air Stripping, Pressurization & Chemical Injection. Varieties Of Materials Are Available To Provide Chemical Compatibility. **Exports To**: Africa, Asia, Latin America & The Caribbean, Middle East
Franklin Miller 60-T Okner Pkwy. Livingston, NJ 07039 USA Tel: 800-932-0599 Fax: 973-535-6269 Cable: Supreme, East Orange, N.J., U.S.A. Or call: In NJ Call: 973-535-9200	**Company Description** DeLumper® Mills, Crushers, Breakers, Size Reduction Units, Grinders For Chemicals, Pharmaceuticals & Foodstuffs. Supreme Crushers, Choppers, Roller Mills For Chemicals, Dry Ice, Ice; Pipeline DeLumper® Comminutors For Waste Handling Lines, Slurry & Sludge Conditioner & D.S.C. Dynamic Sludge Conditioner, Open Channel DeLumper® Batch Mixer.
Dresser Instruments Headquarters, Ashcroft Measurement Instrument	**Company Description** Pressure & Temperature Measurement Instruments. ISO 9001

Operation 250 E. Main St. Stratford, CT 06614-5145 USA Tel: 800-328-8258, Ext. 811 Fax: 203-385-0289 Or call: 203-378-8281, (Factory Headquarters Direct) http://www.dresserinstruments.com	Certified Manufacturing, Engineering, Customer Service, Marketing & Sales Management Resources. Products Include Transducers, Pressure Gauges, Temperature Instruments & Diaphragm Seals/Instrument Isolators. Gold Service Ships Products Within Two To Five Working Days. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Pacific Rim, Western Europe **Parent**: Dresser, Inc.
KMH International 9344 Wheatlands Rd Santee, CA 92071 USA Tel: 800-440-3448 Fax: http://www.kmhintl.com	**Company Description** Metal Finishing, Disc & Barrel Finishing Machines, High Energy Vibratory Bowls, Vibratory Finishing Equipment, Deburring Equipment & Supplies, Jewelry Finishing, Wastewater Treatment Systems, Equipment & Supplies, Vibratory Tumblers, Tumbling Abrasives & Barrels, Cutting Tools, Abrasives. Authorized Dealer Of Tipton & IPEC Global, Rosler Metal Finishing. **Exports To**: Asia, Australia, Eastern Europe, Latin America & The Caribbean, North America, Western Europe
Resources Conservation Co., Div. Of Ionics Inc. 3006-T Northup Way Bellevue, WA 98004-1407 USA Tel: 425-828-2400 Fax: 425-828-0526 http://www.rccionics.thomasregister.com	**Company Description** Falling Film Evaporators (Brine Concentrators) & Forced-Circulation Crystallizers For Zero Liquid Discharge Industrial Wastewater Treatment. Other Applications: Concentration Of Streams For Production Of Market Chemicals. Falling Film Evaporators & Concentrators For Kraft Black Liquor Concentration & Treatment Of Pulp Mill Effluent; Falling Film Evaporators (Brine Concentrators) & Forced-Circulation Crystallizers For Steam Host Cogeneration; Heavy Oil Recovery, & Produced Water Treatment; Vapor Compression & Multiple Effect Evaporators & Concentrators; Crystallizers Available In Vapor Compression Or Steam-Driven Configuration. Calandria Crystallizers. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe **Parent**: Ionics, Inc.
GL & V/Dorr-Oliver Inc. 612 Wheelers Farm Rd. Milford, CT 06460-8719 USA Tel: 705-325-6181 Fax: 705-325-2347 Or call: 203-876-5400 http://www.dorroliver.thomasregister.com	**Company Description** Supplier Of Solid/Liquid & Liquid/Liquid Separation Equipment For The Food, Chemical, Petrochemical, Mining, Pulp & Paper & Environmental Industries & Supplier Of Materials Handling Equipment For Underground Mining. Assistance For Complex Process Problems. Key Product Lines: Horizontal Pan & Drum Filters, Gravity Sedimentation Equipment Such As Thickeners & Clarifiers, Flotation Cells, Screens, Hydroclones, Centrifugal & Diaphragm Pumps, Macerator. For The Mining Industry: Cars, Cages, Skips, Head Sheaves, and Chain Feeders. Loading & Feeding Stations. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
Brackett Green USA, Inc. 1335-T Regents Park Dr., Suite 260 Houston, TX 77058-2142 USA Tel: 281-480-7955 Fax: 281-480-8225 http://www.bgusa.com http://www..thomasregister.com/bgusa	**Company Description** Mfg. Of Equipment For Mechanical Filtration Of Raw Water; For Power Plants (Nuclear, Thermal & Hydro), Industrial Complexes, Desalination, Water & Waste Water Treatment Works & Combined Storm Water Overflow, Screenings Conditioning Equipment. Products Include Cup & Drum Screens, Thru Flow, Dual Flow & Dual Flow Conversion Band Screens, Trash Rakes, Bar Screens, Stop Gates, Central Flow Screens, Fine Screens, Automatic

	Backwash Strainers, Brush Screens, Rotary Screens, Screw Compactors. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
Tenergy Water 255 Myrtle Street New Britain, CT 06053 USA Tel: 888-221-2891 Fax: 860-223-0690 http://www.tenergywater.com	**Company Description** Distributor Of Water Treatment Products For Residential & Light Commercial Applications As Well As System Designer & Mfr. Of Industrial Water Treatment & Water Recovery Equipment. Services Industries Such As: Food & Beverage, Pharmaceuticals, Plating & Finishing, Medical Facilities, Micro-Electronics, Mining, Chemical Production, Power Generation, & Pulp & Paper.
NORIT Americas, Inc. 5775 Peachtree Dunwoody Rd. Suite C-250 Atlanta, GA 30342 USA Tel: 404-256-6150 Fax: 404-256-6199 Or call: 770-512-4610 http://www.norit-americas.com	**Company Description** Mfrs. Of Powdered & Granular Activated Carbon, Adsorber & Dosing Systems, Activated Carbon Reactivation, Liquid Phase Adsorbers, Vapor Phase Adsorbers, Liquid Phase Granular Systems, Powdered Dosing For Water Treatment. **Exports To**: Latin America & The Caribbean, Western Europe **Parent**: NORIT NV, Holland
JWC Environmental 290 Paularino Ave. Costa Mesa, CA 92626 USA Tel: 800-331-2277 Fax: 949-833-8858 Or call: 949-833-3888 http://www.jwce.com	**Company Description** Worldwide Mfr. Of Wastewater Solids Reduction & Handling Equipment, Including Muffin Monster®, Mini Monster® & Macho Monster® Dual-Shafted Grinders For In-Line & In-Channel Applications; Reduce Solids In Wastewater & Industrial Applications From Low To High-Volume Capacities. Channel Monster® & Auger Monster® Screening Systems For In-Channel Screening, Grinding & Removal Applications; Screenings Washer Monster™ Screening, Grinding & Removal Systems For Use With Existing Screening Devices & Honey Monster™ Septage Receiving System For Handling Septage Truck Discharge. Single Unit Flow Capacity To 60 MGD (9468m3/hr). Markets Include Municipal, Correctional & Industrial. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
Manchester Corp. 280-T Ayer Rd. Harvard, MA 01451 USA Tel: 978-772-2900 Fax: 978-772-7731 http://www.mancorp.com	**Company Description** Environmental Engineering Specializing In Wastewater Treatment, Water Purification Systems, Air Pollution Control Systems.
Ondeo Degremont 2924 Emerywood Pkwy., P.O. Box 71390 Richmond, VA 23294 USA Tel: 800-446-1150 Fax: 804-756-7843 Or call: 804-756-7600 http://www.ondeo-degremont-usa.com	**Company Description** Technologies For Treatment Of Drinking Water, Wastewater & Sludge. Water Treatment Technologies Include High Rate Clarification, Filtration, Dissolved Air Flotation, Membrane Filtration, Biological Treatment & Ultraviolet Disinfection. Manage Primary, Secondary, Wastewater Reuse, & Stormwater Management Applications. Industrial Process Water Products Include Both Physical-Chemical Treatment & Aerobic or Anaerobic Biological Systems. **Exports To**: Latin America & The Caribbean, Western Europe **Parent**: Suez (France)

Hoffland Environmental Inc. 10391 Silver Springs Rd. Conroe, TX 77303 USA Tel: 936-856-4515 Fax: 936-856-4589 http://www.hofflandenv.com	**Company Description** Custom Engineering & Mfg. Of Turnkey & Packaged Wastewater Treatment Systems & Equipment For Environmental Pollution Control. Product Line Includes: Filter Presses, Clarifiers, Sludge Dryers, Oil/Water Separators & Sand Filters.
Water & Wastewater Equipment Co. 1466 E. 357th St. Eastlake, OH 44095 USA Tel: 440-942-7070 Fax: 440-942-3622 http://www.wwe-co.com	**Company Description** Water & Wastewater Treatment Systems & Equipment. Design/Build, Auxiliary Equipment, Skid Mounted Package Systems, Incline Plate Clarifiers, Filter Presses, Fabrication & Laboratory Services & Reconditioned Equipment.
Parkson Corp. 29850 N. Skokie Hwy. Lake Bluff, IL 60044 USA Tel: 847-473-3700 Fax: 847-473-0477 http://www.parkson.com	**Company Description** Serves The Municipal & Industrial Markets In Advanced Liquid/Solid Separation, Residuals Management & Biological Technology For Water & Wastewater Treatment. Brands Include Hycor® Screening, Washing & Dewatering Equipment; American Bulk Conveyors; The DynaSand® Filter; Lamella® Gravity Settler; The AquaGuard® Channel Screen. Biolac® Wastewater System & The New Parkson Family Of Filter Presses, Oil/Water Separators & Portable/Process Water Systems. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Pacific Rim, Western Europe **Parent**: Axel Johnson, Inc.
Ashbrook Corp. P.O. Box 841542 Houston, TX 77284-1542 USA Tel: 281-449-0322 Fax: 281-449-1324 http://www.ashbrookcorp.com	**Company Description** Specialist In Process Applications For Municipal & Industrial Markets. Thickening & Dewatering Units, Gravity Belt Thickeners. High Production Rates & Low Polymer Usage. Belt Filter Presses Provide Maximum Dewatering, High Throughput, & Long Life, Produce High Cake Solids. Variety Of Products To Facilitate Wastewater Facilities Such As Plow Benders, Fluid Control Equipment, Sluice Gates, Stopgates, Stoplogs, Flap Valves Made From Coplastix. Standard & Custom Services. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Pacific Rim, Western Europe
ABS Pumps 140 Pond View Dr. Meriden, CT 06450-7156 USA Tel: 203-238-2700 Fax: 203-238-0738 http://www.abspumps.com/market/us	**Company Description** Mfrs. Of A Full Line Of Electric Submersible & Non-Submersible Pumps, Mixers, Aerators, Accessories & Control Panels For Wastewater, Industrial, Pulp & Paper, Plumbing & Dewatering Industries, Including Portable Sump, Dewatering & Sludge Pumps, Deep Well, Shallow Well, Sewage Pumps, Heavy Duty Cast Iron & Stainless Steel Effluent & Ejector Pumps, Submersible Mixers, Top & Side Entering Mixers, Surface & Submerged Aerators, Basin Pump Packages, Manufactured Standard & Custom Control Panels. **Exports To**: North America **Parent**: Cardo Pump AB
Yardney Water Management	**Company Description** Mfr. A Complete Line Of Centrifugal Separators, Permanent Back

Systems, Inc., Industrial Products Group 6666 Box Springs Blvd., Dept. T Riverside, CA 92507-0736 USA Tel: 800-854-4788 Fax: 909-656-3867 Or call: 909-656-6716 http://www.thomasregister.com/yardneywater	Washing Media Filtration Systems, Automatic Screen Filters, Pump Suction Screens & Granular Activated Carbon Filters For Removal Of Suspended Solids, Toxics & Odor & Taste From Water. Systems Will Remove Particulate Down To 5 Microns With Applications In Process Water, Water Re-Use, Cooling Towers, Wastewater, Municipal & Irrigation. Flow Rates From 5-5000 GPM. Engineer & Fabricate Both ASME Code & Non-Code Systems. Standard & Custom Systems Available. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
Euro-Matic Plastics, Inc. 2201 Stantsburg Rd. Wilson, NC 27893 USA Tel: 252-206-1400 Fax: 252-206-1444 http://www.euro-matic.com	**Company Description** Mfg. Of FDA Approved Hollow Plastic Balls Used In Playpens & Amusement Parks. Surviving Compressions To 50 Percent Of The Diameter & Up To 20,000 Compressions. Wide Range Of Sizes, Custom Logo & Colors Available. Used In Deodorant & Liquid Delivery, Camouflage In Heap Leach Solution Ponds For Bird Control. Used In Thermal Insulation, Reducing Heat Loss On Ponds. Pollution/Mist Control In Electrowinning Metals Processing. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, Pacific Rim, Western Europe **Parent**: Euro-Matic, LTD (Greenford, Middlesex UB)
Clearwater Tech, Inc. 850 Capitolio Way San Luis Obispo, CA 93401 USA Tel: 800-869-6302 Fax: 805-549-0306 Or call: 805-549-9724 http://www.cwtozone.com	**Company Description** Mfr. Of Ozone Generators For Water & Air Purification. Complete Line Of Air-Cooled, High Frequency Corona Discharge Ozone Systems From 1 To 120 Grams/Hour. Commercial & Residential Applications Ranging from Recreational Water, Potable Water, Agriculture & Odor Control. Markets Served: Residential, Commercial Swimming Pools, Water Parks, Ornamental Ponds, Zoos & Aquariums, Residential & Small Community Potable Water Systems, Bottled Water Plants, Aquaculture, Food Processing [CIP Systems, Process Water, Wastewater, Wineries, Breweries & Cooling Towers. Engineering & Technical Support Staff.
Bio-Microbics, Inc. 8450 Cole Pkwy. Shawnee, KS 66227 USA Tel: 800-753-FAST (3278) Fax: 913-422-0808 Or call: 913-422-0707 http://www.biomicrobics.com	**Company Description** Mfr. Of FAST® Wastewater Treatment Systems For Residential & Commercial Applications. Individual FAST Systems Modules Are Available In Treatment Capacities From 500 To 9,000 US Gallons (6 To 126 Persons). Multiple Modules For Higher Capacities. Patented FAST Technology Removes An Average Of 95% BOD5 & 70% Total Nitrogen Reduction (Including Nitrates). Efficient, Pre-Engineered Modular Designs. NSF (International) Certified, ETL Listed.
Garland Mfg. Co., Plastic Div. 55 Industrial Park Rd., P.O. Box 538 Saco, ME 04072-0538 USA Tel: 800-727-1900 Fax: 207-283-4834 Or call: 207-283-3693 http://www.garlandmfg.com	**Company Description** Gar-Dur UHMW Polymer Applications/Extrusions For Logging Pulp-Conveyor Wear Plates; Food Packaging-Sprockets For Conveyors; Chemical Processing - Pistons, Valves, Bearings; Textiles-Industrial Loom Pickers; Waste Water Treatment - Chain Drive Sprockets & Wear Railings & Shoes; Automotive - Rider Plates For Assembly Lines; Iron ORE-Idler Rollers For Conveyors. Wheels/Component Parts For Railroad Cars, NASA Spacecraft (Pinion Gear For Fuel Cell), Hydroelectric Plants. UHMW Outperforms Metal In Its Final Application & Can Be Milled, Planed, Sawed, Drilled & Turned.
Plastic Engineered Products Co. 50 Tannery Rd., Bldg. 3 Branchburg, NJ 08876 USA	**Company Description** Engineering, Design, Fabrication & Production Of Plastic Engineered Products Including: Plastic Pipe, Fittings & Fabrications. Pressure Piping Systems, Single & Double Wall, Leak

Tel: 800-407-3726 Fax: 908-534-5287 Or call: 908-534-6111 http://www.pep-plastic.com/	Detection Systems. Drainage Piping Systems. High Purity, Sanitary Piping, FDA/USDA Approved. Manual & Actuated Valves, Measuring Devices, Scrubbers, Fans & Ductwork, Hoods & Plenums. pH Neutralization Systems, Meets D.E.P. Regulations. Flow Meters, pH & Batch Controllers. Grating, Platforms & Structures. Tanks, Vessels & Mixers. Custom Consoles & Work Stations. 24 Hour Emergency Repair Service. Materials Of Construction: P.V.C., Acrylic, CPVC, Silicone, Polypropylene, Polyethylene, P.V.D.F., Kynar®, Lexan®, Teflon®.
NewAge Industries Inc. 145 James Way Southampton, PA 18966 USA Tel: 800-784-1073 Fax: 800-837-1803 http://www.newageindustries.com	**Company Description** Mfrs. Of Flexible Thermoplastic & Thermoset Tubing & Hose, Reinforced & Unreinforced, Stainless Steel Overbraided & Jacketed Hose Assemblies, Fabricated Tubing & Hose. Mfr. Of Custom Extrusions. For Pressure Or Vacuum. Air Hose; Coiled Tubing; Thermal Tube Bonding. Materials Include PVC, Polyurethane, Silicone (Including Platinum Cured), Thermoplastic Rubber, PTFE/FEP/PFA, Viton®, Nylon, Polypropylene, Latex, Custom Colors, Extrusions & Fabricated Assemblies. Fittings Of Plastic Or Brass In Barbed, Push-To-Connect, Quick Disconnect, Compression & Cam-Operated Styles. Worm Gear, Ear Type & Nylon. **Exports To**: Asia, Australia, Latin America & The Caribbean, Middle East, North America, Pacific Rim, Western Europe
MSC Industrial Supply Co. 75-T Maxess Rd. Melville, NY 11747-3151 USA Tel: 800-753-7937 Fax: 800-255-5067 http://www.mscdirect.com	**Company Description** Supplier Of 450,000 Products From Over 2500 Mfrs. (UPS/RPS Ground Rate In Almost Every State); 99% Of Items In Stock With Same Day Shipping; Special & Standard Abrasives; Cutting, Machine, Hand & Power Tools; Measuring Instruments, Process Instrumentation, Chain, Rope, Cable, Janitorial Supplies, HVAC, Hardware, Fasteners, Welding Supplies, Machinery, Electrical Supplies, Material Handling, Power Transmission, Safety Equipment, Plumbing, Raw Materials, Hose, Tubing, Pneumatics, Hydraulics, Storage, Packing & Shipping Products, Paints, Coatings, Adhesives, Lubricants, Tooling Components: Carbide Inserts, Indexable Tooling, AC Motors, Air Compressors & Conditioners, Arbor Presses, Automotive Tooling, Bearings, Bits, Blades, Bolts, Broaches, Brooms, Brushes, Burs, Calipers, Carbide, Casters, Chisels, Chucks, Clamps, Collars, Collets, Coolants & Coolant Systems, Counterbores, Countersinks, Cutters, Dies & Die Sets; Drills, Drill Attachments & Heads, End Mills, Files & Rasps, Flow Meters, Office Furniture, Exhausters, Fans, Fuses, Gages, Glasses, Gloves, Grinders, Hammers, Handles, Tools, Saws & Saw Blades, Protective Clothing.
Paxton Products 1260 Calle Suerte Camarillo, CA 93012 USA Tel: 800-959-8884 Fax: 805-389-1154 Or call: 805-987-5555 http://www.paxtonproducts.com	**Company Description** Compact, Oil-Free Blowers, Compressors & Air Knife Drying Systems For Industry. Advanced, Energy-Efficient Designs. Flow Rates To 2400 CFM; Air Pressures To 130" H2O(G) & Vacuum To 100" H2). Air Knives & Drying Systems Provide Water Or Particle Blow-Off For Product & Parts Drying. FDA Compliant Drying For Canning, Bottling, Food Processing & Packaging Applications; Precision Drying For P.C. Board & Semiconductor Mfg.; Metal Strips; Glass; Conveyor Belt Cleaning, Systems For Any Line Speed. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe

Springs Fabrication Inc. 850 Aeroplaza Dr., Dept. T Colorado Springs, CO 80916 USA Tel: 719-596-8830 Fax: 719-596-1836 http://www.springsfab.com	**Company Description** Custom Fabricator & Engineering Designer In SS Steel, Carbon Steel, Aluminum & Alloys. ASME Code Vessels & Tanks; Hydro Testing; Skid Systems Designed, Mfrd. & Tested. Services Include CNC Plate Punching & Plasma Cutting, Waterjet Cutting, Rolling, Forming. Contract Mfr. In Stainless Steel, Carbon Steel & Alloys. Designing Using Pro/Engineer & AutoCad. Steel Fabrications For All Industries. Custom Equipment Mfrd. To Specs. ISO 9001/2000 Certified. ASME NQA1 Complaint.
Protectoplas Co. P.O. Drawer 609 Aurora, OH 44202 USA Tel: 800-525-2661 Fax: 440-232-2896 Or call: 440-232-2727 www.protectoplas.com/TR.htm	**Company Description** Mfrs. & Designers Of Plastic Processing Equipment & Industrial Products Including Flexible Tank Linings, In-Stock Tanks (Plastic & Steel) & Accessories, Secondary Containment Systems (Above & Below Ground), Fiberglass Architectural Products, Fume Removal Systems, Duct Fittings, Fans, Scrubbers, Hoods, Stacks, Pipe; Custom Fabricators Of Industrial Plastic Products Of Polypropylene, PVC, Kynar®, Polyethylene & Fiberglass Reinforced Plastics. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe **Parent**: Division Of Ebco, Inc.
Grapar Corp. 25133 Flanders Warren, MI 48089 USA Tel: 800-991-1408 Fax: 586-773-8330 Or call: 586-773-5250 http://www.thomasregister.com/grapar	**Company Description** Mfrs. Of Custom Single Unit & Multi-Component Steel Fabrications Including Parts Washers, Liquid Deburring Systems, Paint Finishing Systems, Automated Material Handling Systems, Pollution Control Equipment, Ovens, Integrated Computer Control Systems, Complete Systems For Recycling Materials To Original Purity Such As Plastics. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
NSW Corporation 530 Gregory Ave. Roanoke, VA 24016 USA Tel: 540-981-0362 Fax: 540-345-6793 http://www.nswplastics.com	**Company Description** Mfrs. Of Non-Woven Extruded Plastic Nettings For Use In Packaging, Filtering & Aquaculture Applications. Mfrs. Of Extruded Rigid Tubes & Flexible Sleeves For Use In Filtering & Protective Packaging Applications. Mfrs. Of Heat-Welded Plastic Conveyor Belting & Light Power Transmission Belting. Mfrs. Of Tower Packings For Scrubber & Air Strippers & Trickling Filter Media For Wastewater Treatment.
Purolator Facet, Inc. 8439 Triad Dr., Dept. T Greensboro, NC 27409 USA Tel: 800-852-4449 Fax: 336-668-4452 Or call: 336-668-4444 http://www.purolator-facet.com	**Company Description** Designers & Mfrs. Of A Diverse Line Of Filtration Products. Specialists In Fluid Mechanics & Porous Metal Technology Pertaining To Filtration, Separation, Fluidization, Acoustical Attenuation. Standard Filter Product Lines For Hydraulic & Lube Oil Filters & Elements, Breathers, & Suction Strainers. Also, Line Of Cleanable Porous Metal Elements 10" Through 40" Lengths, Liquid Bag Filter Housings, & Cleanable Filter Baskets. Diffusion Bonded Porous Metal Laminates Of Wire Cloth & Perforated Plate For Filtration For High Temperature & High Pressure Applications. Aerospace Filters, Elements, Indicators, & Switches. **Parent**: Clarcor
Osmonics 5951 Clearwater Dr. Minnetonka, MN 55343-8995 USA Tel: 800-848-1750 Fax: 952-933-0141	**Company Description** Design, Development & Manufacturing Of Reverse Osmosis, Nanofiltration, Ultrafiltration, Microfiltration & Depth Filtration Components & Complete Systems. Equipment For Water Purification, Pollution Control & Industrial Processing. Ozone Equipment Manufacturing & Servicing Ion Exchange

Cable: Osmonics Or call: 952-933-2277 http://www.osmonics.com	Demineralizers, Carbon Filters & Cartridge Filters. Manufacturing High Pressure Centrifugal Pumps. Spun-Bonded Cartridge Filters, Pleated Cartridge Filters, Filter Housings, Water Purification Systems, Membranes. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
Steel Structures, Inc. P.O. Drawer 1170 Madera, CA 93639-1170 USA Tel: 800-774-4001 Fax: 559-673-8046 http://www.steelstructures.thomasregister.com	**Company Description** Mfrs. Of Welded Tanks, Bins, Silos & Pressure Vessels For Storage Of Dry & Liquid Products. Shop Fabrication Of Round Welded Tanks & ASME Code Pressure Vessels In Sizes Up To 16' Diameter. Experience & Capabilities To Design & Build To API, ASME, AWS, AWWA, FDA, NBBI, NFPA, UBC & UL Codes. Industries Served Include Agriculture, Chemical, Food Processing, Mining, Petroleum, Plastics & Water Works. Comprehensive Coatings Capabilities & Fabrication From Stainless Steels. Mfr. Of The VERTILOK Common Wall Bin.
Composites USA, Inc. 1 Peninsula Dr. Peninsula Industrial Park North East, MD 21901-2334 USA Tel: 866-457-9821 Fax: 410-287-5222 Or call: 410-287-2700 http://www.compositesusa.com	**Company Description** Design & Fabrication Of Custom Fabricated Fiberglass, Fiberglass Dual Laminate, Lined Stainless & Advanced (Kevlar®, Graphite) Composite Parts & Equipment For Industrial Markets. In-House Design Includes M.E, Ch.E & Licensed P.E's. Close Tolerance Manufacturing With Audited QA Process Assures Compliance With ASTM, ASME, Factory Mutual (FM), Underwriter's Laboratories (UL), MIL-I-45208. Engineering Designs, Finial Part Verified In House With Finite Element Analysis, Laminate Analysis, Destructive &Non-Destructive Physical Property Testing & Limited Environmental Exposure Testing. Manufacturing Processes Include Filament Winding, Open Mold Lay-Up, Spray-Up, Closed Resin Transfer Molding (RTM). **Exports To**: Asia, Latin America & The Caribbean, Middle East, North America, Western Europe
RKI Instruments, Inc. 1855-T Whipple Rd. Hayward, CA 94544 USA Tel: 800-754-5165 Fax: 510-441-5650 Or call: 510-441-5656 http://www.rkiinstruments.com http://www.rki.thomasregister.com	**Company Description** Mfg./Supply/Service Of Portable Gas Detection Instruments, Fixed Systems, Parts & Accessories. Supply Gas Detection For Confined Space, Plant Safety, Process Control & Environmental Applications. Instruments & Systems Measure LEL & PPM Hydrocarbons, Oxygen Deficiency, Carbon Monoxide, Hydrogen Sulfide, Ammonia, Arsine, Carbon Dioxide, Chlorine, Freons, Hydrogen Chloride, Hydrogen Cyanide, Hydrogen Fluoride, Nitrite Oxide, Nitrogen Dioxide, Ozone, Phosphine, Sulfur Dioxide, & Other Gases. Sensor Technologies Used Include Catalytic Combustion, Thermal Conductivity, Electrochemical, Infra-Red, Paper Tape Pyrolization, Metal Oxide & Other. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe **Parent**: Riken Keiki Co., Ltd., Japan
Delta/Ducon 40 A Lloyd Ave. Malvern, PA 19355-3020 USA Tel: 877-695-1524 Fax: 610-695-9724 Or call: 610-695-9700 http://www.deltaducon.com	**Company Description** Mfrs. Of Air Conveying Systems Of All Types, Specializing In Handling Abrasive Products Such As Limestone, Pebble Lime, Ash, Coke, Soda Ash, Gypsum. Included In Product Line Are: PERMA/flo™ Severe Duty "XL" Ni-Hard Adjustable Rotary Airlocks, PERMA/flo™ Abrasion Resistant Pipe & Elbows, SPIRA/flo™ Pipe For Plastic Pellet Conveying, Blower Paks, Diverters, Services (Consulting, Design & Installation), Dense Phase & Light Duty Conveying, Dust Capture Systems, Rail & Truck Unload & Loadout

	Systems Engineering. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
Spencer Turbine Co., The 600 Day Hill Rd., P.O. Box 587 Windsor, CT 06095 USA Tel: 800-232-4321 Fax: 860-688-0098 Cable: Spenturb Or call: 860-688-8361 http://www.spencer.thomasregister.com http://www.spencerturbine.com	**Company Description** Multi-Stage & Single-Stage Centrifugal Blowers & Exhausters, Regenerative Blowers, Positive Displacement Blowers, Gas Boosters, Fans, Mobile & Central Vacuum Cleaning Systems, Dust Collectors & Separators, Tubing & Fittings, Hose & Tools, Electrical Control Panels. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
Alfa Laval Inc. P.O. Box 7731 Richmond, VA 23231 USA Tel: 866-ALFALAVAL (253-2528) Fax: 215-443-4100 http://www.alfalaval.us	**Company Description** Mfr. Of Standard/Custom Engineered Equipment, Systems & Services For Process Applications: Heat, Cool, Separate & Transport Products: Oil, Water, Chemicals, Beverages, Foodstuffs, Starch & Pharmaceuticals. Separation Equipment: Disk-Stack Centrifuges, Decanter Centrifuges, Desalination Equipment & Filters; Heat Transfer Products: Plate, Scraped-Surface, Brazed & Spiral Heat Exchangers; Sanitary Fluid Handling Equipment: Tri-Clover Pumps, Valves (Including Automation), Tank Equipment, Fittings, Tubing, Accessories. Heat Transfer Products For Heating, Cooling, Evaporation & Condensation For Industrial/Commercial Refrigeration & Air-Conditioning. Heat Exchanger Repair & Maintenance Programs. Worldwide. **Exports To**: Asia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
United Industries Group, Inc. P.O. Box 8009, Dept. TR Newport Beach, CA 92658-8009 USA Tel: 949-759-3200 Fax: 949-759-3425 http://www.unitedind.com	**Company Description** Environmental Products: Water, Wastewater Treatment, Industrial/Municipal, Reverse Osmosis, Purification. From Modular, Portable Units To Large Systems. Water Bottling & Bottlemaking Machinery, Fillers, Cappers, Rinsers. Water Vending Machines. Liquid & Dry Bulk Storage Tanks, Welded/Bolted, For Petroleum Products, Chemicals, Water/Wastewater Remediation, From 1,000 To 12 Million Gallons. Corrugated & Smooth Wall Silos, Elevated Tanks. Oil & Gas Processing Equipment & Production Facilities. Offshore Electrical Power Generation, Control Systems. Complete Port Facilities & Systems. Design, Engineering, Installation, Equipment, & Material Supply. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
Barnebey Sutcliffe Corp., Wholly Owned Sub. Of Waterlink, Inc. 835 N. Cassady Ave., P.O. Box 2526 Columbus, OH 43216 USA Tel: 888-800-1911 Fax: 614-258-3464 Or call: 614-258-9501 http://www.bscarbons.com	**Company Description** Mfr. Of Activated Carbon Products, Emission Control & Solvent Recovery Systems, Indoor Air Quality Filtration, Odor Control Equipment & Service. **Exports To**: Africa, Asia, Australia, Latin America & The Caribbean, Middle East, North America, Western Europe
Nuvite Chemical Compounds Corp. 213-T Freeman St. Brooklyn, NY 11222 USA	**Company Description** Mfr. Of Chemical Maintenance Specialty Compounds To Include: Abrasive Polishes, Antifreeze, Automotive Specialties, Aviation

Tel: 718-383-8351 Fax: 718-383-0008	Specialties, Bottle Washing, Building Maintenance Specialties, Carbon Removers, Carpet Specialties, Cleaners, Concrete Cleaners, Corrosion Preventatives, Degreasers, Deodorants, Dishwashing Compounds, Disinfectants, Descalants, Detergents, Dry-Cleaning Specialties, Floor Polishing, Floor Sealers, Floor Strippers, Furniture Polishes, Hand Soaps, Laundry Specialties, Lithography Specialties, Marine Specialties, Metal Treatments, Paint Removers, Polishes, Portable Toilet Specialties, Protective Coatings, Restaurant Specialties, Steam Cleaners, Transportation Cleaners, Vinyl Cleaners, Washroom Specialties, Waxes, Window Cleaners And Private Label. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
Great Lakes Filters 1146 E. Chicago Rd. Quincy, MI 49082 USA Tel: 517-639-8470 Fax: 517-639-8699 http://www.greatlakesfilters.com	**Company Description** Mfrs. Of Filter Bags & Covers For Pressure & Vacuum Filters, Filter Cloths & Filter Papers, Dust Collecting Bags & Tubes, Cotton & Synthetic Fabrics, Non-Woven Paper & Belts. Stocking Dist. All Types Industrial Filters, Filter Presses, Pressure Filters, Dust Collectors, HVAC, Liquid Process Systems, Water Purification, Strainers, Sand Filters, Air Dryers. **Exports To**: North America, Western Europe **Parent**: Acme Mills Co.
Bazell Technologies Corporation 5066 Commercial Circle Concord, CA 94520 USA Tel: 800-288-2465 Fax: 925-603-0901 Or call: 925-603-0900 http://www.bazell.com	**Company Description** Supplier Of Industrial Centrifuge Fluid Processing Systems & Unit Operations. Microseparator® Line Of Centrifugal Separators Leads The Industry For Clarification Of Industrial Process Fluids. Experienced In Mechanical, Electrical & Chemical Engineering. Markets Served Include Metalworking, Ceramics, Automotive & Architectural Glass, Precision Optics, Surfacing Finishing/Coating & Many Others. **Exports To**: Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, Western Europe
Gast Mfg. Inc., World Headquarters, A Unit Of IDEX Corp. P.O. Box 97-T 2550 Meadow Brook Rd. Benton Harbor, MI 49023-0097 USA Tel: 269-926-6171 Fax: 269-925-8288 Or call: 269-926-6171 http://www.gastmfg.com	**Company Description** Mfr. Of Air-Moving Products Including Vacuum Pumps & Compressors In Positive Displacement Rotary Vane, Piston, Rocking Piston, Diaphragm & Linear Technologies. Pressure Capabilities To 175 psig, Vacuum Levels To 29.5" Hg, Open Air Flow To 112 cfm. Regenerative Blowers To 284" H2O Pressure, 184" H2O Vacuum, Open Air Flow To 1350 cfm. Vacuum Generators To 27" Hg, Open Air Flow To 158 cfm. Air Motors Up To 9.5 HP, Variable Speeds To 10,000 rpm, Max. Torque To 5200 Lb. In. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe **Parent**: IDEX Corp.
Invincible AirFlow Systems 600 N. Ray, P.O. Box 380 Baltic, OH 43804 9901 USA Tel: 800-282-6999 Fax: 330-897-3400 Or call: 330-897-3200 http://www.lecorp.com/invincible.html	**Company Description** Portable Vacuums, Central Vacuum Cleaning Systems, Pneumatic Conveying Systems, Single- & Multi-Stage Blowers & Exhausters, AirKnife Systems, Aeration Blowers For Wastewater Treatment, Welding Flux Recovery Systems, Hose, Tools, Accessories, Tubing, & Fittings. Pressures To 15 PSIG, Vacuum To 15" Hg, Volumes To 12,000 CFM & 1/2 To 400 Horsepower.

Fuller Bulk Handling Corp. 3225 Schoenersville Rd., P.O.Box 805 Bethlehem, PA 18016-0805 USA Tel: 866-233-2831 Fax: 610-264-6735 http://www.fullerbulkhandling.com	**Company Description** Supplying Pneumatic Conveying, Fabric Filtration, Compressors, Blending, Silo Withdrawal, Airslides & Marine Terminal Equipment To Core Markets (Cement, Chemicals, Minerals, Plastics, Power & Tire & Technical Rubber): Seeking Broader Applications For Products, Processes & Technology To Meet The Demands Of Diverse Industries. From Low-Energy, Dense Phase Conveying Systems Like MODU-DENSE®, To High-Efficiency Blending Systems Like The Gravi-Merge® Blender, The Development Of Products Meets Specialized Needs Of Customers. **Exports To**: Africa, Asia, Australia, Latin America & The Caribbean, Middle East, Western Europe **Parent**: F.L. Smidth
Hollaender Mfg. Co., The 10285-T Wayne Ave., Box 156399 Cincinnati, OH 45215-6399 USA Tel: 800-723-8493 Fax: 800-772-8806 Or call: 513-772-8800 http://www.hollaender.com	**Company Description** Mfr. Of Aluminum- Magnesium Slip-On Pipe Fittings. Typical Applications: Railings, Racks, Stands, Benches, Frames, Shelving, Platforms. **Exports To**: Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
Graver Technologies, Inc. 200 Lake Dr. Glasgow, DE 19702 USA Tel: 888-827-6070 Fax: 302-731-1707 Or call: 302-731-1700 http://www.gravertech.com/ http://www.gravertech.thomasregister.com	**Company Description** Specializes In Trace Contaminant Removal & Purification Of Process Water, Fluids, Compressed Air & Process Gasses. Comprised Of Four Divisions That Focus On Specific Products & Services: Ion Exchange, Adsorbents, Liquid Filters & Industrial Filter Products. Supplies Filters, Filtration Systems, Specialty Resins & Carbon Based Adsorbents That Meet The Needs Of The Following Markets: Power Generation, Food & Beverage, Pharmaceuticals, Medical Devices, Rotating Equipment, Industrial & Chemical Processing, Home & Office Products. **Exports To**: Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, Western Europe **Parent**: A Member Of The Marmon Group Of Companies
Tigg Corp. 800 Old Pond Rd., Ste. 706 Bridgeville, PA 15017 USA Tel: 800-925-0011 Fax: 412-257-8520 http://www.tigg.com	**Company Description** Designer & Manufacturer Of CANSORB®, & NIXTOX® Modular Adsorption Equipment For Liquid & Vapor Phase Process & Environmental Control Applications. Activated Carbons, Specialized Chars, Molecular Sieves, Aluminas, & Ion Exchange Materials Used According To Application. Over 70 Standard Models, Most Available From Stock, In A Range Of Designs, Sizes & Materials Of Construction (Lined Steel, Thermoplastics & Stainless Steel). Complete Skid Mounted Systems & Custom Design & Fabrication Also Offered.
Carbtrol Corporation 955 Connecticut Ave., Suite 5202 Bridgeport, CT 06607 USA Tel: 800-229-3756 Fax: 203-337-4353 Or call: 203-337-4340 http://www.carbtrol.com	**Company Description** Mfr. & Supplier Of Pollution Control Equipment & Services Including: Activated Carbon Adsorption Systems, Air Purification Systems, Remediation Equipment, Soil Vapor & Multi-Phase Extraction, Iron Removal Filters, Oil Water Separators & Diffused Air Strippers. Take-Back & Reactivation Services. Water Treatment Division Has A Complete Line For WasteWater Treatment & Recycle, Specifically Designed For Oil, Organics & Heavy Metals Removal.
Alliance Mfg., Inc. 1368 Capital Dr., P.O. Box 2006	**Company Description** Mfr. Water Based Parts Cleaning Equipment: Conveyorized Belt, Monorail, Rotary Drum, Indexing, Cabinet, Return To Operator,

Fond Du Lac, WI 54936-2006 USA Tel: 800-969-7960 Fax: 920-922-9500 Or call: 920-922-8100 http://www.alliancemfginc.com	Manufacturing Cell, Standard, Modified Standard, Custom Engineered. Stainless Steel, Modular, Ful-Access Canopies, Relay-Logic/PLC Controls, Multiple Accessories. Ambient/Heated Blowoff Dryers. Wastewater Equipment; Oil Coalescer, Oil Skimmer. Conveyor Systems; Belt, Chain, Gravity Roller, Indexing, Custom Conveyors. Typical Industries Served: Automotive, Aerospace, Small Engine, Agricultural, Heavy Equipment, Cookware, Stampings, Furniture, Hydraulic Components, Recreational Vehicles, Rebuild, Dunnage, Dies/Molds, Sheetmetal, Screw Machine, OEM, Systems Integration.
Red Valve Co., Inc. 2113 E. Crocus Dr. Phoenix, AZ 85022 USA Tel: 800-756-0044 Fax: 412-279-7878 http://www.redvalve.com	**Company Description** Mfrs. Of Pinch Valves, Control Valves, Flexgate Slurry Knife Gate Valves, Tideflex® Check Valves, Pressure Sensors & Redflex® Expansion Joints. Valves Designs For Municipal & Industrial Applications. Flow Applications In Waste Water Treatment Plants Power Plants, Mining Operations, Chemical Processes, Pulp & Paper Mills, Food & Pharmaceutical Plants, & The Cement, Sand & Glass Industries. Research & Development. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
Vortron Industrial, Div. Of Vortech Engineering, Inc. 1650 Pacific Ave. Channel Islands, CA 93033 USA Tel: 888-459-0673 Fax: 805-487-5468 Or call: 805-247-0226 http://www.vortron.com	**Company Description** Specialize In Design, Test & Manufacture Of Blowers (Centrifugal), Air Compressors, Dryers & Components For Washing & Cleaning Parts. Also Manufacture Industrial, Automotive, & Marine Performance Products Including Complete Supercharging Systems, Supercharger (Blower) Units, Fuel System Components, Air-To-Aftercoolers For Domestic & Import Vehicles, Air Bypass Valves, Intake Manifolds, Pulleys, & Boost & Fuel Gauges Which Read 0-30 Inches Of Vacuum & 0-20 Of Boost. Optional Supercharger Upgrades Available To Achieve 25 Plus PSI (Requires Fuel System Engine & Computer Modifications). Delivers Various Applications For Industrial & Government Segments. **Parent**: Vortech Engineering, Inc.
K-Tron America Subsidiary Of K-Tron International Routes 55 & 553 Pitman, NJ 08071 USA Tel: 800-220-1579 Fax: 856-589-8113 Or call: 856-589-0500 http://www.ktron.com	**Company Description** Designer & Mfr. Of Precision Gravimetric & Volumetric Feeders & Blenders, Vacuum Conveyors & Complete Systems For Continuous Or Batch Applications. Serving The Plastics, Chemical, Food, Pharmaceutical, & Other Process Industries. Product Lines Include The K-Tron Soder & K-Tron Hurricane Brands. Applications For Material Handling Needs Through The Company's Systems Engineering Group. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe **Parent**: K-Tron International Inc.
Hotsy 21 Inverness Way East Englewood, CO 80112-5796 USA Tel: 800-525-1976 Fax: 303-792-0547 Or call: 303-792-5200 http://www.hotsy.com	**Company Description** Mfr. Of Hot & Cold Water Pressure Washers, Steam Cleaners, & Automatic Parts Washers. Systems Are Available In A Variety Of Specifications. **Exports To**: Asia, Latin America & The Caribbean, Middle East, Western Europe **Parent**: C-Tech Industries, Inc.; Camas, WA
Dresser Instrument, Ashcroft Control Instrument Operation 2 Research Dr.	**Company Description** ISO 9001 Certified Assembly Facility; Supplies Pressure & Temperature Switches For Alarm, Shutdown & Control Needs Of Process & Industrial Customers. Switches & Controls Are Tested

Shelton, CT 06484 USA Tel: For The Nearest Ashcroft Distributor Or Sales Office, Call: 800-328-8258 Fax: 203-925-4010 Or call: 203-925-4000, (Factory Direct) http://www.dresserinstruments.com/903	In-House & At Outside Facilities To Receive UL & NEMA Ratings. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe **Parent**: Dresser, Inc.
Beltran Associates, Inc. 1133-T E. 35th St. Brooklyn, NY 11210 USA Tel: 718-338-3311 Fax: 718-253-9028 http://www.beltranassociates.com	**Company Description** A Complete Line Of Air Quality Control Equipment, Including Wet & Dry Electrostatic Precipitators, Wet Scrubbers, Fume Coalescers, Fabric & Ceramic Filters, De-Nox Systems, De-Sox Systems, Acid Spray Dryers, VOC Control Equipment, Biological Scrubbers, Mercury Control & Heat Recovery Systems. Control Sub-Micron Aerosols & Particulates Including: Oily & Waxy Smoke Emissions, Heavy Metals, Dioxin & Furans (Toxic Organics), & Acid Gases. Serving Many Industries Including: Boilers; Cement; Chemical & Petro-Chemical; Fertilizers; Food; Glass; Mining & Metallurgical; Municipal, Hazardous, Sludge & Medical Waste Incinerating; Pharmaceuticals; Plastics; Printing; Pulp & Paper; Steel; Textiles & Wood. Rental Pilot Units Are Available. **Exports To**: Africa, Asia, Australia, North America, Western Europe
Komline-Sanderson Engineering Corp. 12 Holland Ave. Peapack, NJ 07977 USA Tel: 800-225-5457 Fax: 908-234-9487 Or call: 908-234-1000 http://www.komline.com	**Company Description** Process Filtration, Thermal Processing, Wastewater Treatment & Sludge Processing Equipment & Technology. Vacuum & Pressure Filters For Process Filtration, Dewatering, Clarification, Cake Washing & Recovery. Products Include Rotary Drum Vacuum Filters, Horizontal Vacuum Filters, Recessed Chamber & Membrane Filter Presses, & Pressure Plate Filters. CR Membrane Filter For Micro & Ultra-Filtration. Indirect Heat Transfer Using The K-S Nara Paddle Dryer & Paddle Heater/Cooler For Heating, Drying, Cooling, Reacting, Crystallizing, Calcining & Sterilizing. Heated Or Cooled With Steam, Hot Oil, Water Or Glycol. Rotary Atomizers For Spray Dryers, Retrofits & Dry Scrubbers (Absorbers). For Wastewater & Sludge Processing: Pumping, Screening, Clarification, Dewatering & Drying Equipment. Products Include: Plunger Pumps, Rotary Screens, Dissolved Air Flotation Clarifiers, Gravity Belt Thickeners, Belt Filter Presses & Paddle Dryers. Filter Media For K-S & Other Mfg. Filters. **Exports To**: Asia, Australia, Latin America & The Caribbean
Ransohoff 4933 Provident Dr. Cincinnati, OH 45246 USA Tel: 800-889-6125 Fax: 513-870-0105 http://www.ransohoff.com	**Company Description** Spray Immersion Ultrasonic Cleaning Systems For General Industrial & Precision Mfg. Industries. Large Automated Cleaning Systems For Automotive, Aerospace & Rail Industries. "LEAN-JET" Cleaning Systems For Cellular-Lean Mfg. Concepts. Ultrasonic, Agitating, Immersion & Rotary Parts Washers. Cleaning Systems For Maintenance & Rebuilding/Remanufacturing Industries. Wastewater Minimization & Ultra Filtration Equipment. Special Chemistries For Cleaning Applications. CO2 (Dry Ice) Cleaning Systems. QS-9000TE, ISO-9001 & ISO-14001 Certified. **Exports To**: Asia, Eastern Europe, Latin America & The Caribbean, North America, Western Europe **Parent**: Cleaning Technologies Group, Inc.
Advanced Valve Design, Inc. 480 Mickley Rd.	**Company Description** Mfrs. & Designers Of Dampers & Valves For Industrial Air Pollution

Whitehall, PA 18052-6215 USA Tel: 800-394-5457 Fax: 610-435-4223 Or call: 610-435-8820 http://www.advancedvalve.com	& Process Equipment. Specializing In Low Leakage & Bubbletight Designs For V.O.C. Abatement Equipment. Sizes & Shapes To Designs Or Custom Fabricated To Specs., Butterfly, Louver & Guillotine Types Available. Complete Damper Actuation Packages Available, With Choice Of On-Off, Modulating Or Fail Safe Pneumatic, Electric Or Hydraulic Actuators. Temperatures To 2000F (Refractory Lined) & Pressures To 150psi, Carbon Steel, S.S., Alloy & Fiberglass Construction Available.
George Koch Sons 10 S. Eleventh Ave., Dept. TR01 Evansville, IN 47744 USA Tel: 888-873-5624 Fax: 812-465-9676 Or call: 812-465-9600 http://www.kochllc.com http://www.thomasregister.com/kochllc	**Company Description** Industrial Finishing Group: Design, Mfg. & Installation Of Paint & Powder. Finishing Systems For Wood, Metal, Plastic, Glass; Electrocoaters, DeBurgh Conveyors, Pretreatment Systems, Spray Booths. Environmental Rooms, Air Make-Up, Sludge Removal Systems, Wastewater Treatment Systems. Acoustical Panels & Enclosures, UV & IR Curing, High-Velocity Ovens, Flatline Finishers, Ashdee Curtain Coaters, Wax Cascaders, Wafer/Strand Flatline Dryers For OSB, Corrugated Dryers, Plywood Lay-Up Lines. **Exports To**: Africa, Asia, Australia, Latin America & The Caribbean, Middle East **Parent**: Koch Enterprises, Inc.
Specific Systems, Ltd. 5511-T S. 94th E. Ave. Tulsa, OK 74145 USA Tel: 918-663-9321 Fax: 918-663-5498 http://www.specificsystems.com	**Company Description** Modular Heating, Ventilating, Air Conditioning & Pressurization Units, For Petroleum, Process, Military & Special Industrial Applications, Engineering & Mfrs. Of Industrial Desiccant Wheel Dehumidifiers & Cooling Equipment. Package Units From 75 CFM To 40,000 CFM, Portable & Explosion Proof Units Available. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
Jenny Products, Inc. 850 N. Pleasant Ave. Somerset, PA 15501 USA Tel: 800-269-2281 Fax: 814-445-2280 Or call: 814-445-3400 http://www.steamjenny.com	**Company Description** Mfr. Of Steam Cleaners, High Pressure Washers & Combination Units (Cold, Hot & Steam In Same Unit), With Over 36 Different Models Available. Pressures Range From 100 PSI Steam To 3000 PSI Pressure Wash With Gallonages Ranging From 35 G.P.H. Steam To 486 G.P.H. Pressure Wash Heated By Fuel Oil, Natural Or L.P. Gas & All Electrically Driven By Electric Motor Or Gasoline Engine. Portable Or Stationary. A Complete Line Of Cleaning Compounds, Ventilation Fans, Cabinet Washers & All Parts & Related Accessories Available. Mfr. Of Heavy Duty, High Efficiency Stationary & Portable Rotary Vane Air Compressors. Stationary From 10HP To 200HP (40 To 800 CFM), Direct & Belt Driven. Portable From 100 To 200 CFM. Heavy Duty, High Efficiency Stationary & Portable Rotary Vane Air Compressors. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
Blue-White Industries 14931-T Chestnut St. Huntington Beach, CA 92649 USA Tel: 714-893-8529, Ext. 97 Fax: 714-894-9492 Cable: Bluwhite http://www.bluwhite.com/	**Company Description** Mfr. Of Chem-Feed® Diaphragm-Type & Flexflo® Peristaltic-Type, Small Metering Injectors, As Well As, Variable Area Flowmeters In Over 240 Styles, & Digi-Flo™ Electronic Meters. Chem-Feed® Diaphragm, Flexflo® Peristaltic Series Injectors Are Suited To A Number Of Applications Requiring Precise Fluid Injection. Variable Area Flowmeters Constructed Of Injection Molded Polysulfone & Machined Acrylic; For In-Line, Panel Mount & Closed Pipe Installations. Line Of Electronic, Digital Read-Out Flowmeters Is Available. O.E.M. Options Available.

	Exports To: Africa, Asia, Australia, Latin America & The Caribbean, Middle East, Western Europe
Como Industrial Equipment, Inc. P.O. Drawer 1671 Janesville, WI 53547 USA Tel: 800-451-0028, Ext. 25 Fax: 608-756-1262, Dept. H Or call: 608-756-3838, Ext. 25 http://www.comoindustrial.com	**Company Description** Mfr. Of Stationary & Portable Filtration Systems For Recycling Both Water & Oil Based Industrial Fluids. Contamination Control Of Hydraulic, Cutting, EDM Lubricating Or Quench Oils. System Capacities From 1 To 150 GPM. Water Based Coolants, Waste Water & Oil Recycling Systems, Custom Designed From 20-3,000 Gallons. Filtration, Recycling, Coalescer, Skimmers & Dissolved Air Flotation Systems As Well As 10 Different Types Of Filter Media Eliminate Contamination As Small As One Micron. **Exports To**: Eastern Europe, Latin America & The Caribbean, North America, Western Europe
Fybroc Divison, Met-Pro Corp. 700 Emlen Way Telford, PA 18969 USA Tel: 888-827-2051 Fax: 215-723-2197 Or call: 215-723-8155 http://www.fybroc.com	**Company Description** Mfr. Of Fiberglass Reinforced Vinyl Ester & Epoxy Resin Centrifugal Pumps For Corrosive Chemicals. Pumps Are Available In End-Suction ANSI, Self-Primer, Vertical & Cantilever Sump Pumps, Recessed Impeller & Close Coupled Designs. Chemical Capabilities Include Acids, Bleach, Caustics, Solvents, Salt Water & Abrasives In Flows Ranging From 25 GPM To 5000 GPM. Typical Applications Include: Chemical Processing, Electric Utilities, Pulp & Paper, Electronics & Aquariums. Also, Scrubbers, Odor Control & Industrial Waste Treatment. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Pacific Rim, Western Europe **Parent**: Met-Pro Corp.
Nobles Mfg., Inc. 1105-T E. Pine St. St. Croix Falls, WI 54024 USA Tel: 715-483-3079 Fax: http://www.thomasregister.com/nobles	**Company Description** Mfrs. Of Parts Washers & Centrifugal Dryers. Products Range From In-Line Belt Conveyor & Rotary Drum Washers To Batch Style Spin-Kleen System. Mfr. Cabinet Style, Parts Washers/Dryers, Chipwringers, Oil Extractors & Drying Baskets. All Equipment & Parts Available In Stainless Steel. **Exports To**: Asia, Western Europe
Walgren Company 3679 Sysco Court, S.E. Grand Rapids, MI 49512 USA Tel: 800-831-5555 Fax: 616-942-8915 Or call: 616-942-8910 http://www.walgren.com	**Company Description** Design Mfg. & Installations Of Anodizing & Plating Systems & Components. Tanks, Rectifiers, De-Ionizers, Platecoils, Boilers, Refrigeration, Temperature Controls, Low-Pressure Blowers For Agitation, PVC Ventilation, Air Make-Up Units, Bridge Cranes, Automatic Hoists, Split Rail Return Machines, Waste Treatment Systems & Electro Painting Systems. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
Pacer Pumps Div. Of ASM Industries Inc. 41 Industrial Circle Lancaster, PA 17601-5927 USA Tel: 800-233-3861 Fax: 717-656-0477 http://www.pacerpumps.com	**Company Description** Manufactures Complete Line Of Corrosive Resistant Pumps Molded From Tough Modern Thermoplastics. Products Include Horizontal Self-Priming, End-Suction, Seal-Less Magnetic Driven Centrifugal Pumps; & Seal-Less Vertical Centrifugal Pumps; Plus Hand & Power Driven Drum Pumps. Along With Thermoplastic Ball Valves & Quick Connect Couplers For Hose & Pipe. Industrial, Chemical, Wastewater, Water Treatment, Pure Water, Agriculture, Aquaculture, Marine, Commercial, & OEM Usage.

	Exports To: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe **Parent**: Serfilco Ltd.
Finishing Associates Inc. 1610 Republic Rd. Huntingdon Valley, PA 19006 USA Tel: 800-220-3472 Fax: 215-953-1342 http://www.finishingassociates.com	**Company Description** Mfr. Of Mass Finishing Equipment, Abrasive & Specialty Media, & Compounds. Product Line Includes Dry Deburring Process (Patented), Centrifugal Disk & Barrels, Vibratory Mills, Cob Dryers, Washers & Waste Treatment Equipment. Line Ranges From Small Vibratory Mills To Completely Automated Systems. Extensive Line Of Media & Compounds Including Some Proprietary Formulas For Finishing Processes. Jobbing Services Available. **Exports To**: Australia, Eastern Europe, Latin America & The Caribbean, North America
Vulcan Chemicals, A Business Unit Of Vulcan Materials Co. 1200 Urban Center Dr. Birmingham, AL 35242 USA Tel: 800-633-8280 Fax: 205-298-2907 http://www.vul.com	**Company Description** Chlorinated Solvents, Caustic Soda, Chlorine & Muriatic Acid. **Exports To**: Asia, Latin America & The Caribbean, Middle East, Western Europe
Moultrie Mfg. Co. 1403 GA Hwy. 133S, Dept. 50 P.O. Box 2948 Moultrie, GA 31776-2948 USA Tel: 888-749-6140 Fax: 229-890-7245 Or call: 229-985-1312 http://www.moultriemanufacturing.com	**Company Description** Mfr. Of Wesrail®Aluminum Component Or Welded Railing Systems. Certified Compliant With OSHA, ANSI, & Federal Corrosion-Resistance Standards. Available Both As Unassembled Parts For Fabricated By Installer Into A Total Railing System, Or Pre-Fabricated Modular Units. Built To Fit Specific Architectural Plans. Available In 1.89" O.D. Schedule 40 & ADA Approved 1.50" O.D. Aluminum Association Finish Specs. AA M-32, C-22, A41 (Class I Architectural). For All Industrial, Commercial & Safety Railing Applications, Including: Water Treatment Plants, Public Facilities, Factory Safety & Handrail, & ADA Requirements. **Exports To**: Latin America & The Caribbean, North America
Lechler, Inc. 445-T Kautz Rd. St. Charles, IL 60174 USA Tel: 800-777-2926 Fax: 800-444-7069 Or call: 630-377-6611 http://www.lechler.com	**Company Description** Design & Fabrication Of Nozzle & Header Systems. Services A Wide Variety Of Industries With Tank Cleaning Nozzles, Air Mist Nozzles, Whisperblast ® Air Nozzles, As Well As Flat Spray, Full Cone & Hollow Cone Nozzles. For Specialized Users: Scalemaster Descaling, Selectospray, R Roll Cooling & Master Cooler ™ Nozzles For The Steel Industry; P VDF Plastic Nozzles For The Electronics Industry; Lances & Nozzles For The Pollution Control Industry; STAMM ® Self-Cleaning Showers For The Paper Industry; Nozzles For Chemical Processing, Food & Beverage Industry. **Parent**: Lechler GMBH
Hy-Bon Engineering Co., Inc. 2404 Commerce, Dept. TR Midland, TX 79703 USA Tel: 800-725-1878 Fax: 915-697-2310 Or call: 915-697-2292 http://www.hy-bon.com	**Company Description** Mfg. Compressors & Compression Systems. Specializing In Electric Driven Compressors From 2-6000 MCFD, With Discharge Pressures To 500 PSIG. Special Applications Include Discharge Pressures To 5000 PSIG & Engine Driven Packages. Applications Include Stock Tank Vapor Recovery & Field Gas Compression, Digester Gas Compression, Landfill Gas Compression, Vent Gas Recovery In Process Plants & Glycol Dehydrator Still Columns. The Units Operate Automatically & Include All Necessary Protective Safety Shutdowns, Compressor Unit Sales, Lease & Lease

	Purchase Plans Available. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
TexLoc, Ltd. 4700 Lone Star Blvd. Fort Worth, TX 76106 USA Tel: 866-207-1497 Fax: 817-624-9095 Or call: 817-625-5081 http://www.texloc.com/	**Company Description** Mfr. Texflon PTFE, FEP, PFA, PEEK Tubing, Heat Shrink, Medical Tubing, Convoluted, Corrugated & Electric Insulation In Mylar®, Nomex, Kapton, Polyester. Aircraft Conduit, Fluid Handling, Chemical, Semiconductor. **Exports To**: Asia, Australia, Latin America & The Caribbean, Middle East, North America, Western Europe
Thermo Gas Tech 27 E. Forge Pkwy. Franklin, MA 02038 USA Tel: 510-745-8700 Fax: 510-794-6201 http://www.thermogastech.com	**Company Description** Mfrs. Sensors, Transmitters, Personal Portable Instruments & Fixed Systems For Gas Detection. Portable & Stationary Gas Alarms, Air Analyzers, Instrumentation Measures Presence Of Toxic Gases, Combustibles, Oxygen Deficiency, Oxygen Enrichment, Hydrogen Sulfide, Carbon Monoxide, Carbon Dioxide, Chlorine, Ammonia, Nitrogen Dioxide, Sulfur Dioxide, Arsine & Phosphine. Electrochemical, Thermal Conductivity, Infrared & Catalytic Bead Sensors. Fixed System Sensors Are Available In Stand-Alone, Rack, Cabinet & Wall-Mount Configurations. Portable Monitors Have either Built-In Pump, Diffusion Style Or Sample Draw Pump Attachment. Products Are Used For Confined Space Entry. **Parent**: Thermo Electron Corp.
Primary Fluid Systems, Inc. c/o Andex Express 2221 Niagara Falls Blvd. Niagara Falls, NY 14305 USA Tel: 800-776-6580 Fax: 905-333-8746 http://www.primaryfluid.com	**Company Description** Specializing In Metering Pump Accessories, Mfrs. Of ACCUDRAW, Graduated Calibration Cylinders In PP, PVC & Glass Construction. Mfrs. Of Top Valve, Backpressure & Pressure Relief Valves, In PVC, PP, CPVC, TFE, PVDF, 316 S/S, Hastelloy C & Alloy 20, Plus ACCU-PULSE Pulsation Dampeners, ACCU-GAGE Diaphragm Sealed Pressure Gages & A Complete Line Of Injection Quills. Also ACCU-VENT, An Automatic Degassing Valve, Designed To Vent Gases That Cause Vapor Lock In Metering Pumps. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
GIW Industries, Inc. 5000 Wrightsboro Rd. Grovetown, GA 30813 USA Tel: 706-863-1011 Fax: 706-863-5637 http://www.giwindustries.com	**Company Description** Mfr. Of Slurry Pumps. Serving Industries Such As Mining & Mineral Beneficiation, Dredging, Sand & Gravel & Coal Preparation. A Subsidiary Of KSB AG, Germany, A Global Pump & Valve Mfr.; Part Of KSB Mining Group. Designs & Produces Long-Lasting Slurry Pumps. Mfg. & Assembling All-Metal & Rubber-Lined Pumps & For Casting A Variety Of Abrasion- & Corrosion-Resistant Gray Iron, Ductile Iron, & White Iron, Steel Alloys, Polyurethane & Elastomers. Other Services Include: Hydraulic Testing Laboratory, Slysel Computer, "Transportation Of Solids Using Centrifugal Pumps" - Intensive 5-Day Course. Product Or Brand Names: Slurry Pumps: Metal: LCC-H, LCC-M, LSA, WBC, FGD, Mega Slurry; Rubber: LSR, LCC-R; Vertical: LCV; Dredge Pumps: LHD, MHD, HHD, TBC. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe **Parent**: KSB, Germany
MIOX Corporation	**Company Description** MIOX® On-Site Generators Provide Safer Water Disinfection.

5500 Midway Park Place N.E., Dept. T Albuquerque, NM 87109 USA Tel: 888-MIOX-H2O (646-9426) Fax: 505-343-0093 Or call: 505-343-0090 http://www.miox.com	Eliminates Hazardous Chemicals. HAZMAT Training & Equipment Is Eliminated, Liability Costs Are Reduced & The "Two-Man Rule" For Changing Out Cylinders Is Unnecessary. Technology Is Based On A Proprietary Electrolytic Cell That Uses Brine, Water & Electricity To Produce A Liquid Stream Of Either Hypochlorite Or Mixed Oxidants, Depending On The System. Production Capabilities Range From 2.5 To Over 2,000 Pounds Per Day Of Chlorine. Applications Include Disinfection Of Drinking Water, Wastewater, Cooling Towers, Food Processing & Commercial Swimming Pools. **Exports To**: Asia, Australia, Eastern Europe, Latin America & The Caribbean, North America
Inca Plastics Molding Co., Inc. 948 E. Belmont St. Ontario, CA 91761-4549 USA Tel: 909-923-3235 Fax: 909-923-3018 http://www.incaplastics.com	**Company Description** Polyethylene Rotomolding, R.V. Plastic Tanks For Most R.V. Mfrs. Five High Production Rotomolding Machines To 14 Ft. Custom Molding Of Tanks, Containers, Housings, Bins, & Hollow Polyethylene Part. Alternative To Blowmolding. Assistance In Mold Designing, Pattern Making Or Mold Building. Complete Injection Molding Department With Mold Shop. Custom Rotational Molding Of Tanks, Containers, Bins, Industrial Processing Tanks (Open Or Closed) R.V. Tanks, Any Hollow Polyethylene Products (Ounces To 500 Lbs.) Alternative To Blowmolding For Shorter Runs. Rotational Molding, Alternative To Blowmolding When Quantities Are Fewer. Ounces To 500 Lb. Parts x 14 Ft. Rotational Molding, Ounces To 500 Lbs x 14 Ft., Any Color, In-House Mold Designing & Buildings. Machinery Housings, Enclosures, Covers, Liners, Tanks, Any Hollow Part Of Polyethylene. Molder Of Plastic R.V. Tanks. Thousands Of Sizes Available For R.V.'s 5 To 150 Gallons. Complete Line Of Designer Plastic Planters, 10 Colors. Styles: Italian, Vase, Cone, Straight, and Rectangular. Nestable Sizes For Shipping, Sun Resistance, Potters' Wheel Effect, Sizes, 5 Gallon To 44" Tree Planters.
Hellan Strainers & Filtration Products 3249 E. 80th St., Dept. TR Cleveland, OH 44104-4341 USA Tel: 800-860-9060 Fax: 216-206-4242 Or call: 216-206-4200 http://www.hellanstrainer.com	**Company Description** Mfrs. Of Manual & Automatic, Self-Cleaning Fluid Strainers For Marine, Petrochemical, Steel Mill, Fire Protection, Off-Shore Oil Rigs, Pulp & Paper, Power Generation, Food Processing, General Industrial, Municipal, Potable Water & Wastewater Applications; ISO 9001 & Other U.S. & International Standards; Solids Removal Without Interrupting The Fluid Flow; Cast Iron, Cast Steel, Cast Stainless, Monel, Bronze, Custom Materials; Perforated Metal Or Wedgewire Screens; In-Line Or Angled Flow; Standard & Custom Flanges. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe **Parent**: Vesper Corp.
Oil Skimmers, Inc. 12800 York Rd., P.O. Box 33092 Cleveland, OH 44133 USA Tel: 800-200-4603 Fax: 440-582-2759 Or call: 440-237-4600 http://www.oilskimmersinc.com	**Company Description** Mfrs. Of Oil Skimming Equipment; The Brill Automatic Skimming System For Continuous Removal Of Floating Mineral Oils, Grease, Sludge, Animal & Vegetable Oils. Heavy Duty Models For High Lifts From 2 To 200 Feet, Or Low Lifts Up To 3 Feet. Applications Range From Large Containment Basins To Small Processing Tanks. Pre-Engineered Mounts Available For Indoor Or Outdoor Applications. Heating Elements Optional For Cold Weather Operation. Qualified Technical Representatives In Other Countries As Well As All Parts Of The U.S. For Installation Advice. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America

	& The Caribbean, Middle East, North America, Pacific Rim, Western Europe
Koch-Otto York, Separations Technology 42 Intervale Rd., P.O. Box 3100 Parsippany, NJ 07054 USA Tel: 800-524-1543 Fax: 973-299-9401 http://www.koch-glitsch.com	**Company Description** Engineers & Mfrs. Of DEMISTER® FLEXICHEVRON®, FLEXIFIBER®, & SPIRAFLOW™ Cyclone Mist Eliminators, Entrainment Separators, Liquid Coalescers, Tower Packing In All Metals & Plastics. Knitted Wire Mesh Products. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe **Parent**: Koch Industries, Inc.
Piping Systems, Inc. 738 Industrial Loop Rd. New London, WI 54961 USA Tel: 920-982-7495 Fax: 920-982-7496 http://www.pipingsystems.com	**Company Description** Industrial Pipe Fabricator- Stainless Steel, Carbon Steel, Titanium & Nickel Alloys. For The Pulp & Paper, Food, Beverage Brewing, Chemical, Refinery, Utility & Water Treatment Industries. ANSI B31.1, ANSI B31.3, API 1104, 10 CFR50 Appendix B. ASME Quality Assurance Program. Power Boilers, Power Piping Pressure Vessels, Repairs & Alterations. Plumbers & Steamfitters U.A. Local. All Work Inspected By AWS Certified Welding Inspector.
Anderson Bowen Industrial Equipment Co. **P.O. Box 60576, 1 Schuylkill Parkway** **King of Prussia, PA 19406 USA** Tel: 877-847-7867 Fax: 610-275-7202 Or call: 610-275-7070	**Company Description** Dist. & Rep. Of Centrifugal, ANSI, Mag-Drive, Sealless, Vertical, Turbine, Rotary Gear, Relief Valve, Air Operated, Diaphragm, Double Suction, Multi-Stage, Submersible, Self-Priming, Sump, Metering, Progressive, Cavity & Screw Pumps; Repair Service. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East
Zoeller Pump Co., Inc. 3649 Cane Run Road Louisville, KY 40211-1961 USA Tel: 800-928-2731 Fax: 502-774-3624 http://www.zoeller.com	**Company Description** Mfr. Of Mechanical Power Transmission Components For Electric Motor Drives (.5 To 4000 Hp@ 1800 Rpm) Or Flywheel Diesel (Gas) Engine Drives (Up To 500 Hp). Lines Of Couplings Include Rotex® Torsionally Flexible Shaft Couplings, Rotex® Gs Precision Zero Backlash Flexible Shaft Couplings, Rotex® Gs-Syntex® Backlash Free Overload Couplings, Bowex® M Flexible Gear Shaft Couplings, Bowex® Fle Flexible Flywheel Couplings For Hydrostatic Pump Drives, Bowex® He Elastic Flywheel Couplings For High Mass Drive Applications, Radex® Flexible Steel Disc Shaft Couplings, Lamex® Flexible Plastic Laminae Shaft Couplings, Clampex® Friction Shaft-Hub Clamping Devices, Revolex® Torsionally Flexible Shaft Couplings, Ktr Frictionally Engaged Torque Limiters, Ktr Engine Bell Housings & Mounting Plates For Hydrostatic Pump Drives. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe **Parent**: Zoeller Co.
AmTek Inc. 10961-T Rte. 98 Edinboro, PA 16412-9757 USA Tel: 800-696-3327; 814-734-3327 Fax: 814-734-4469 http://www.amtekballast.com	**Company Description** Mfr. Of Solid State Fluorescent Lamp Ballasts. Specializing In A.C. Electronic & D.C. Inverter Lighting Ballast Technologies. Complete Product Line As Well As Custom Designs For All Fluorescent Lamp Types Including Ultraviolet & Germicidal.
Pleiger Plastics Company P.O. Box 1271, Crile Rd. Washington, PA 15301 USA	**Company Description** Mfg. Urethane/Polyurethane Molded Parts & Products. Plei-TechTm, VulkollanTm Product Line. Custom Compounding. Balls, Squeegees, Rollers, Wheel, Rod, Sheet, Tube, Couplings,

Tel: 800-753-4437 Fax: 724-228-2253 http://www.pleiger.com	Bumpers, Shock Absorption, Snow Removal & Scrapers. 1 Ounce To 1,000 Pounds.
Houston Service Industries 7901 Hansen Houston, TX 77061 USA Tel: 800-725-2291 Fax: 713-947-6409 Or call: 713-947-1623 http://www.houserv.com http://www.thomasregister.com/houserv	**Company Description** Air Moving Equipment - Remanufactured Hoffman, Lamson & Spencer Multistage & Roots Single Stage Centrifugal Blowers, Dressor Roots, Sutorbilt, MD Pneumatic & Omega Positive Displacement Blowers. Sales, Overhaul, Rental & Field Service Including Routine Predictive Vibration Monitoring, Alignment, Lubrication & Other Maintenance. New & Reconditioned Parts, Complete Machines In Stock. Air Compressors, Kaeser Sales, Parts, Service & Rentals; Air End Overhauls, Rotary Screw & Reciprocating Units; Service For All Types Of Compressors; Air Treatment Filters, Air Dryers-Refrigerated & Desiccant, Aftercoolers, Moisture Separators, Regulators, Air Receivers & Related Equipment. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
Nikro Industries Inc. 638-T N. Iowa St. Villa Park, IL 60181-1508 USA Tel: 800-875-6457 Fax: 630-530-0740 Or call: 630-530-0558 http://www.nikro.com	**Company Description** Mfrs. Of Critical Filtered Cleaning Systems, Including A Full Line Of Vacuum Systems For The Removal Of Asbestos & Toxic Dusts, Along With A Complete Line Of Air Purification Systems For Removal Of Fumes, Smoke, Odors & Particulate Generated From Welding, Printing, Grinding & Many Other Processes Where Clean Air Is Needed.
Mycelx Technologies Corp. 961 Chestnut St. Gainesville, GA 30501 USA Tel: Fax: 770-534-3117 http://www.mycelx.com	**Company Description** Exclusive Developer. Mfr. & Marketer Of Patented MYCELX® Technology. Full Range Of Products Designed For The Removal Of Hydrocarbons From Water & Meeting Needs Of Remediation, Water Treatment & Emergency Response. Entire Product Line Is Infused With MYCELX®, Making Component Materials Highly Absorbent To Oil & Repellent To Water. Oil Immobilant Products Include Veripad, Terraguard, Smartpad, Sheen Devil, Versimat, Superbuoyant RD & Viscochips. For Water Remediation, 10, 20, & 30 Inch Filters Available With A Housing Unit. Multipurpose Solvent, PowerSolve, Environmentally Safe Solvents Available. Marine Products Include BILGEKLEEN. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
PEP Filters 322 Rolling Hills Rd. Mooresville, NC 28117 USA Tel: 800-243-4583 Fax: 704-662-3155 Or call: 704-662-3133 http://www.pepfilters.com	**Company Description** Mfrs. Of A Wide Variety Of Both Standard & Custom Built Pressure Filters To Remove Impurities From Water. Special Permanent Media Filter Utilizes Deep Media Penetration For Longer Contact Time, To Obtain The Most Advanced Particle/Turbidity Removal. Filters That Operate At A Flow Rate Ranging From 2 To 20 GPM Per Sq. Ft. Of Surface Area. (Slower Flow Rates Can Be Used To Achieve Greater Clarity.) Utilizing A Variety Of Media To Suit The Application Including: Sand, Anthracite, Garnet & Activated Carbon. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
Sanborn Technologies Product Group, North American Filtration-	**Company Description** Designs & Mfrs. Centrifuge & Membrane Filtration Systems For Recycling Of Coolants, Oils & Solids In Metalworking Operations

MA, Inc. 630 Currant Rd. Fall River, MA 02720-4732 USA Tel: 800-343-3381 Fax: 508-679-5779 Or call: 508-679-6770 http://www.sanborntechnologies.com	Such As Machining & Grinding. Applications Include Plant Wide Coolant Recycling, Glass & Ceramic Grinding & Vibratory/Tumbling Operations As Well As Oil Purification For Turbine Lube Oils & Waste Oils. Other Applications Include Aqueous Parts Washer Bath Recycling, Paint Spray Booth Wash Water Recycling & Oily Wastewater Treatment. Systems Can Be Custom Designed For Original Equipment Mfrs. **Exports To**: Asia **Parent**: Waterlink Inc.
L.F. Manufacturing, Inc. P.O. Box 578 Giddings, TX 78942 USA Tel: 800-237-5791 Fax: 979-542-0911 http://www.lfm-frp.com	**Company Description** Diversified Fiberglass Reinforced Plastic Mfr. Produces Pipe, Duct (Air & Fluid), Tanks, Manholes, Wetwells, Basins, Resin Transfer Molded Fiberglass Products & Vacuum Formed ABS Plastic. Durability & Corrosive Resistance. **Exports To**: Africa, Asia, Latin America & The Caribbean, Middle East, Western Europe
Xerxes Corp. 7901 Xerxes Ave. S. Minneapolis, MN 55431-1253 USA Tel: 800-394-3490 Fax: 952-887-1882 Or call: 952-887-1890, Ext. 828 http://www.xerxescorp.com	**Company Description** Mfrs. A Full Line Of U.L. Listed Fiberglass Underground Storage Tanks That Meet EPA Regulations. Available In Sizes From 600 To 50,000 Gallons. Fiberglass Oil/Water Separators Remove Free-Floating Oils & Settable Solids From Oil/Water Mixtures & Stormwater Run-Off. Separator Units Attain Minimum Effluent Quality Of 10 ppm & Handle Flows From 0 To 14,000 gpm. Above Ground Chemical Storage Tanks For Corrosive Fluids & Environment.
Peabody Engineering 13435 Estelle Street Corona, CA 92879 USA Tel: 800-473-2263 Fax: http://www.etanks.com	**Company Description** Process & Storage Tanks 2 To 20,000 Gallons-Plastic, Fiberglass, Steel. Vertical, Horizontal, Cone Bottom, Rectangular, Custom, Below Ground Cistern & Septic To 1700 Gallons, Storage & Process Models, Private Labeling, Plastic & Fiberglass Fabrication. Complete Process Systems-Manual Or Automated, CAD Design & Engineering, Custom Molding, Job Shop, O.E.M. Assembly Services, Fiberglass Pultruded Products, Grating, Handrails, Ladders & Catwalks, Filtration & Waste Pumping Systems, Environmental Containment & Response Products, Stormwater Filtration Products. **Exports To**: Asia, Australia, Latin America & The Caribbean, North America, Western Europe
McAbee Construction Inc. 5724 21st St., P.O. Box 1460 Tuscaloosa, AL 35403 USA Tel: 205-349-2212 Fax: 205-758-0762 http://www.mcabeeconstruction.com	**Company Description** Autoclaves 6" To 20' Diameter, To 160' Length, Any Application. Quick Opening Doors For Autoclaves & Other Applications. Fabricated Tanks For Many Applications. Heat Exchangers, ASME Pressure Vessel Fabrication, Reactor Type Vessels, Internal Coils, External Jackets, Trayed Separation Columns To 200' Length, Carbon, Stainless, Chrome, Nickel, Monel, Hastelloy, Inconel, Incoloy Alloy 20 & Titanium. Pipe Fabrication, Carbon To Stainless, Small Or Large Diameter, Exotic Alloys For Process, Petroleum, Pulp & Paper, Other Applications. Modular Assemblies. Also Sheet Metal Fabrication. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
Fluid Components Intl. 1755 La Costa Meadows Dr. San Marcos, CA 92069-5115 USA	**Company Description** Mfrs. Of Thermal Mass Flowmeters, Flow Switches & Monitors, Liquid Level & Interface Controllers & Flow Conditioners.

Tel: 800-473-3980 Fax: 760-736-6250 Or call: 760-744-6950 http://www.fluidcomponents.com	**Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
AGSCO Corp. 160 W. Hintz Rd. Wheeling, IL 60090-5755 USA Tel: 847-520-4455 Fax: 847-520-4970 `	**Company Description** Abrasives, Sandblasting Equipment & Supplies, Vibratory & Tumbling Equipment & Supplies, Aqueous Parts Cleaning Systems, In-Plant Wastewater Treatment Systems, Filter Media, Foundry Sands, Resin Fillers, Aluminum Oxide, Silicon Carbide, Boron Carbide, Diamond, Silica Sand, Quartz, Flint, Novaculite, Starblast®, Pumice, Walnut Shells, Corn Cobs, Glass Beads, Plastic Media. Custom Precision Size Classification, Blending, Or Coating Of Granular Materials Or Standard Grades In Stock. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
Abanaki Corp., Oil Skimmer Div. 17387 Munn Rd., PO Box 149 Chagrin Falls, OH 44023 USA Tel: 800-358-SKIM (7546) Fax: 440-543-7404 Or call: 440-543-7400 http://www.abanaki.com	**Company Description** Belt Skimmers Remove Oil/Grease From Wastewater. Removal Rates From 1-200 gph. Small Portable Units For Coolant Tanks & Parts Washers. Groundwater Remediation Skimmers & Complete Systems Available. Heavy Duty Units For Serious Oil Contamination Problems. Grease Grabber Units Remove High Melting Point Greases. Stainless Steel Units Available. Removal To Depths Of 100 Feet Or More. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe
ITT Flygt Corp. 35 Nutmeg Dr. Trumbull, CT 06611 USA Tel: 800-843-5948 Fax: 203-380-4705 Or call: 203-380-4700 http://www.flygtus.com	**Company Description** Worldwide Mfr. Of Heavy Duty Submersible Pumps & Mixers. On Line Experience, 2 Million Worldwide Installations, Flygt Submersible Pumps & Mixers, For Handling Applications Such As Process Water, Slurry & Wastewater. Pump Capacities To 50,000 GPM, Motor Sizes To 1000 HP. Mixer Flow Rates To 40,000 GPM, Motors To 40 HP. ISO Certified. **Parent**: ITT Corp
Roto-Finish Co., Inc. 1600 Douglas Kalamazoo, MI 49007 USA Tel: 800-992-1417 Fax: 269-345-1710 Or call: 269-327-7071 http://www.roto-finish.com	**Company Description** Mass Finishing Industry Equipment For Deburring, Burnishing, Drying, Polishing, Washing/Cleaning, Surface Finishing, Preplate Finishing & Radiusing Metal, Rubber, Plastic & Ceramic Parts. Processes Use Roto-Brite® Compounds & Media Of All Types. From Single Machines For Simple Deburring Through Multiple Machine Systems Incorporating Robotic Integration. Wastewater & Water Treatment Equipment.
Rite-Kem P.O. Box 3454 Tupelo, MS 38803 USA Tel: 662-840-6060 Fax: 662-840-7007 http://www.ritekem.com	**Company Description** Mfg. Of Cleaners, Detergents, Degreasers, Absorbents, Solvents, Coatings, Odor Control Compounds For Industrial, Commercial, Institutional, Hospitality Industries. Related Equipment & Supplies Available Including Vacuum Cleaners, Wipes, & Floor Buffers.
John Zink Company LLC 11920 E. Apache St. Tulsa, OK 74121 USA Tel: 918-234-1800	**Company Description** Equipment & Systems For Clean & Efficient Combustion Of Fossil Fuels & For The Removal Of Contaminants From Process Effluents Entering The Atmosphere. Products Include Low-Emission Fossil Fuel Burners For Heat In Industrial, Commercial, Process & Electric

Fax: 918-234-2700 http://www.johnzink.com	Utility Furnaces, Heaters & Boilers; Flare Systems & Accessories For The Destruction Of Waste Gases; Activated Carbon Systems For The Recovery Of Organic Vapors From Hydrocarbon Streams; & Thermal & Catalytic Oxidation Systems For The Conversion Of Liquid & Gaseous Chemical Wastes.
Strongwell 400 Commonwealth Ave., P.O. Box 580 Bristol, VA 24203-0580 USA Tel: 540-645-8000 Fax: 540-645-8132 http://www.strongwell.com	**Company Description** Producer Of Pultruded Fiberglass Reinforced Plastics & Precast Polymer Concrete Products. FRP Polyester, Vinyl Ester & Epoxy Standard & Custom Shapes. Standard Shapes (EXTREN®) Include I-Beams, Wide Flange Beams, Channels, Angles, Square & Round Tubing, Square & Round Rods, & Plate. Custom Pultrusions In Fiberglass & Advanced Composites Of Carbon/Graphite. Proprietary Products Include Durashield, Foam Core Building Panels; FIBREBOLT®, Fiberglass Studs & Nuts. Fabrication Capabilities For A Wide Variety Of Applications & Environments (Platforms, Walkways, Handrail Systems). Mfrs. Of Pultrusion Equipment & Tooling. **Exports To**: Asia, Australia, Latin America & The Caribbean, Middle East, North America
Fluid Systems Inc., Modular Systems Div. 25 Greenbrook Rd., P.O. Drawer 1538 Fairfield, NJ 07004-3890 USA Tel: 973-226-0200 Fax: 973-226-1348	**Company Description** Specializing In The Design & Mfr. Of API Lube Oil & Seal Oil Consoles. Packaged Fluid Systems Of All Types. Pump Heater Sets, Fuel, Oil, Custom Built To Specifications. Distributors For Nacol Bladder Type Accumulators. Emergency Marine Steering Systems.
Bird Machine Co. 100 Neponset St. South Walpole, MA 02071 USA Tel: 508-668-0400 Fax: 508-668-6855 http://www.birdmachine.com	**Company Description** ISO 9001, Design, Manufacture & Repair Of Centrifuges & Filters For Continuous & Batch Processes. Specializing In Solid-Liquid Separation Equipment For Chemical, Industrial, Municipal, Mineral, Pharmaceutical & Food Industries. Equipment Includes Decanters, Basket Centrifuges, Pusher Centrifuges, Screen Scroll & Vibratory Centrifuges, Vacuum & Pressure Rotary Filters, Tilting Pan Filters, Batch Pressure Filters With & Without Pre-Coat Requirements, & Recessed Chamber Membrane Filter Presses. Large & Small Scale Lab Testing Facilities & Available Test Equipment For Field Testing For Separation Applications. Typical Applications Include: Dewatering, Thickening, Classification, Degritting, Clarification, Recycling.
Durr Environmental, Inc. 40600 Plymouth Rd., P.O. Box 2129 Plymouth, MI 48170 USA Tel: 734-459-6800 Fax: 734-459-5837 http://www.durrenvironmental.com	**Company Description** Air Pollution Control Systems Include Regenerative, Recuperative, Rotary & Catalytic Oxidizers; Rotary Concentrators; Wet Electrostatic Precipitators. Water Pollution: Fresh Water Purification & Wastewater Treatment Systems. Services: Environmental Engineering, Feasibility Studies, Regulatory Review, Emissions Estimates, Stack Testing & Permit Assistance. VOC & HAP Abatement Equipment. Manufacture, Engineer & Install Systems Designed Specifically For Customer Abatement Needs. **Exports To**: Africa, Asia, Australia, Eastern Europe, Latin America & The Caribbean, Middle East, North America, Western Europe **Parent**: Durr GmbH
Valmont Water Management Group 7150 Supra Drive S.W. Albany, OR 97321	**Company Description** Valmont is a global company holding leading positions in its two major markets. For the infrastructure market, the company manufactures highly engineered poles, towers and structures for

Phone: (541) 812-6612 Cell: (503) 931-1821 FAX: (541) 967-7619 E-mail: terryr@cascade-earth.com	lighting, utility and communication applications, and provides custom galvanizing, anodizing and coating services. For the irrigation market the company manufactures mechanized irrigation equipment for water management and agriculture. Valmont is the world's leading producer, and only worldwide-integrated manufacturer, of highly engineered poles, towers, structures and components for various industries including lighting, utility and communication. Valmont is the world leader in manufacturing efficient irrigation equipment for agriculture. Valmont's mechanized irrigation equipment provides solutions towards meeting the world's increasing demand for food. The company currently operates over 31 plants located in five continents, and markets its products in more than 100 countries.
Environmental Dynamics Inc. 5601 Paris Road Columbia, MO 65202 Phone: (573) 474-9456 FAX: (573) 474-6988 E-mail: vikram.pattarkine@wastewater.com	**Company Description** Environmental Dynamics, Inc. (EDI) specializes in designing, developing, testing, manufacturing, marketing, selling and servicing advanced technology aeration and mixing systems used in municipal and industrial water and wastewater treatment facilities. Special capabilities are also offered in total biological system treatment plant design and supply. EDI's products are required in new water and wastewater treatment plant construction, plant upgrades and rebuilds, plant expansions, and on a continual replacement basis as installed units are upgraded or replaced. EDI's products are installed worldwide in over 45 countries in more than 3,000 concrete basins, steel tanks, lagoons, lakes, and aquaculture applications. The installed products include fine bubble diffusers, coarse bubble diffusers, and floating spray coolers.
Myron L Company 6115 Corte del Cedro Carlsbad, CA 92009 Phone: (760) 438-2021 FAX: (760) 931-9189 E-mail: jmorgan@myronl.com	**Company Description** A part of the water instrumentation industry for 45 years & world leader in water quality instruments, Myron L manufactures a comprehensive line of hand-held and in-line instruments that measure a variety of parameters.
DATAC Technologies Ltd. General Sales Manager - Americas 22001 Northpark Drive, Suite 200 Kingwood, Texas 77339 Phone (281) 348-1038 Fax (281) 348-2340 Cell (321) 302-9216 Email - rortega@datac-technologies.com Website - www.datac-technologies.com	**Company Description** DATAC is a world leader in the Design and Manufacture of Remote Monitoring Systems, SCADA Software, Remote Terminal Units and Automatic Meter Readers. THE DATAC GROUP provides Telemetry and SCADA solutions for organizations working in the Water and Wastewater, Oil and Gas, Marine, Power & Telecommunications sectors. In addition to the supply of SCADA, Telemetry, AMR, FlexWin and RealFlex products we also offer training and maintenance support, project management and system design services. For specialist applications we also provide a product design and board manufacture service.
Spatial NetWorks, Inc. 18860 US Highway 19N, Suite 153 Clearwater, FL 33764 Phone: (727) 528-0545 E-mail: ajq3@spatialnetwrks.com	**Company Description** Spatial NetWorks is a cutting-edge consultancy and solutions provider that brings a unique geographical perspective to solving today's complex business problems. Experienced in providing quality solutions for companies around the globe, Spatial NetWorks delivers AM/FM/GIS solutions for customers in the electric, gas, telecommunications, and water utilities industries. Our expertise also covers business geographics, Internet GIS, location-based services and natural resources.

Appendix I
Vendor Information Packages

The Association of Water Technologies

DATAC Technologies Ltd.

UEM Group

Myron L Company

Valmont Water Management Group

Spatial NetWorks, Inc.

Environmental Dynamics Inc.

The Association of Water Technologies

With an international network of more than 600 independent water treatment companies and representing the largest share of the U.S. water treatment market, the Association of Water Technologies (AWT) is the leading voice in the water treatment industry.

The Association of Water Technologies is dedicated to serving its member firms by providing business and professional education and resource support. To help promote member growth and development, AWT provides training, certification, networking opportunities and regulatory and public awareness programs.

AWT members are regional independent water treatment firms that specialize in providing products, technical services and consulting for boiler water, cooling water and wastewater treatment programs. In addition, AWT represents more than 100 consultants, distributors and manufacturers providing a wide array of water treatment services, chemicals and equipment.

DATAC Technologies Ltd.

UEM Group

Myron L Company

Valmont Water Management Group

Spatial NetWorks, Inc.

Environmental Dynamics Inc.