COMPANY PROFILE
&
CAPABILITY STATEMENT

November 2014
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1. Introduction

Established in 1992, CRS Industrial Water Treatment Systems Pty Ltd is an Australian owned engineering company specialising in the fields of water and wastewater treatment, embracing environmental and chemical engineering applications.

The company is based in Castle Hill, Sydney along with representation interstate and in provincial centres of Australia as well as New Zealand.

CRS has developed a strong reputation for technical development in the water and wastewater industry by pioneering and developing systems, methods and equipment designs, leading to efficient procedures and practices being implemented throughout all our projects in Australia and abroad.

CRS prides itself in maintaining quality and innovation in the services we provide to our clients through close liaison with regulatory bodies, water authorities and water industry groups. We utilise our up to date knowledge of proven and emerging technologies and regulatory constraints to customise innovative solutions to our client's needs.

The CRS organisation is actively involved with the design and implementation of numerous overseas projects for water, wastewater and recycling applications in locations throughout South East Asia, Russia, Africa, New Zealand and The Pacific region.

The company has developed a number of process systems for the treatment of water and wastewater, utilising various technologies including:

- Membrane BioReactor – biological treatment systems.
- Reverse Osmosis filtration
- Ultrafiltration
- Microfiltration
- Chemical oxidation and dosing
- UV disinfection
- Clarification/sedimentation

Much of the fabrication and engineering of our packaged plants occurs at our head office factory in Castle Hill, Sydney, where we also host laboratory and pilot test facilities.

Design and manufacture of electrical control panels incorporating the use of PLC technology is provided by CRS and our electrical engineers are highly experienced in all forms of process control, logic and computer programming.
1.1. Corporate Summary

Company Name: CRS Industrial Water Treatment Systems Pty Ltd
Postal Address: PO Box 6020, Baulkham Hills BC
NSW 2153, Australia
Registered Address 1 O’Conell St, Sydney, Australia
Year Registered 1992
ABN 98 894 822 094
Telephone 02 9899 7811
Facsimile 02 9899 7336
Email crs@watertreatment.net.au
Website www.watertreatment.net.au
Managing Director William Kelly
Company Offices:
Head Office: 4/9 Packard Avenue
Castle Hill, NSW 2154
Agents – Australia
Perth WA
Melbourne VIC
Adelaide SA
Agents - Asia
Tuia Group Ltd
Agencies Represented Clearwater Tech, Inc. (USA)
- Ozone Generation Systems
NMC (Belgium)
- Centrifugal Filters
Alamo Water Refiners, Inc (USA)
- Filter Vessels
- Control Valves
- Softeners
- Ultraviolet Systems
- Aerators
- Pumps
Bank National Australia Bank
Norwest Sydney
Accountant Lawler Partners, Sydney
Solicitor Norton Rose
Circular Quay, Sydney
2. Extent of Capabilities

2.1. General

CRS Industrial Water treatment Systems designs and installs various water and wastewater treatment facilities for municipal and industrial applications.

We are also capable of providing professional engineering and environmental services in a wide range of areas. A list of these capabilities follows:

- Feasibility Studies, including
  - Environmental Impact Statements
  - Reviews of Environmental Factors
  - Data and sample collection methods
  - Data interpretation and analysis methods
  - Treatment process evaluation and optimisation
  - Economic analysis of treatment options
  - Residuals treatment and disposal

- Project Management - from simple to complex projects including performance based Design-Build-Operate (DBO) Contract Management.

- Trade Waste Surveys
- General Environmental Audits
- Research and Development of Emerging Technologies
- Process, Civil, Electrical, Mechanical and Infrastructure Design
- Specification Preparation and Tender Assessment
- Operation and Maintenance Assessment and optimisation
- Legislative Compliance Interpretation and negotiations with regulators
- Preparation of Regulatory Applications
- Wastewater Strategic Planning

These capabilities apply particularly, but not exclusively, to the fields of water supply, sewage and trade waste treatment, re-use of treated water and byproducts, liquid handling, odours, emissions and noise mitigation, occupational health and safety, and other environmental issues.

2.2. Water Treatment

CRS can design and supply a range of water treatment equipment from pressure filters to ozone disinfection equipment to reverse osmosis & ultrafiltration. CRS also designs facilities for the treatment of bore water or water from rivers and streams which require colloidal particle removal and disinfection.

If purified water to a high standard is required then CRS can supply either a nano-filtration or reverse osmosis filtration systems to ensure the cleanest water is available for any industrial or municipal application.

CRS will design and engineer a water treatment system for your application which will be cost effective and efficient.

2.3. Municipal Wastewater Treatment

Experience in the investigation, design, documentation and supervision of domestic and trade waste plants from 0.1 ML/d to 16 ML/d is included in the background of the company’s engineers. The complete package of civil, mechanical and electrical design can be offered, or alternatively CRS can
assist you in specification preparation (including the specialised area of performance based specification), tender assessment and project management of third parties.

The augmentation or upgrading of existing plants with innovative low cost technologies is a specialised field in which the company can be of valuable assistance. The issue of nutrient removal (ammonia, phosphorus and nitrogen) has been thoroughly investigated by CRS engineers as a result of their key involvement in large scale riverine nutrient reduction programs over many years.

The company also has experience in the area of plant assessment, thus enabling a performance audit to be carried out and provide detailed recommendations to enable plant upgrade and augmentation to be implemented with various objectives in mind such as:

- Process enhancement
- Capacity upgrade
- Nutrient removal

CRS realises that the maximum utilisation of existing facilities is the key to cost effective augmentations and upgrades. Whilst most engineers will provide a package 'tack on' facility solution, CRS engineers will offer a range of solutions which are formulated around your unique combination of existing facilities and operating protocols.

2.4. Industrial Wastewater Treatment

CRS specialises in design and supply of systems for the treatment of numerous industrial wastewaters. Facilities which have been supplied in the past include chemical flocculation, clarification, dissolved air flotation, screening, biological treatment using both fixed and floating media, filtration and oxidation using ozonation and chlorination.

The reuse of treated effluent has been achieved by applying our experience in membrane separation, specifically ultrafiltration and reverse osmosis. As the price of buying raw water and discharging untreated effluent rises, increasing opportunities for recycling industrial waste streams present themselves.

These opportunities are being converted into treatment plants by companies such as CRS who can deliver the technologies required at realistic prices. CRS will facilitate the provision of a treatment plant suitable for your specific requirements which will be cost effective and require minimal operator attendance allowing your organisation to continue with its core business and not require considerable time and money to be allocated to wastewater treatment.

2.5. Environmental Services

CRS is capable of providing a complete service as an environmental consultant. Our staff have operated in this field for many years and are fully familiar with the latest developments and proposed modifications to NSW Planning and Environmental Legislation as well as the Pollution Control Acts and the relevant section of the Local Government Act.

2.6. Operation and Maintenance Assessments

CRS provide an operation and maintenance optimisation service to industry through the experience of its engineers and technical officers who have commissioned, operated and maintained water and wastewater treatment plants.

We can assess the design capability of a plant and check this against a performance assessment by visual and instrument checks, as well as monitoring and collating available data. The results of our assessments are included in comprehensive reports, describing the plants capability, performance
and the necessary steps to either tune the plant or modify it to produce effluent to meet the statutory standards or provide cost saving in disposal charges.

Operational process optimisation through reference to biochemical process kinetics can often yield capacity and performance improvements which minimise or even negate the need for further infrastructure investment.

CRS can also carry out the operation and maintenance of your water or wastewater treatment plant. CRS has the capacity to operate all water and wastewater treatment facilities and have considerable experience in the maintenance of such facilities.

2.7. Training

With the need to make the most of scarce capital resources it has become necessary to place increased stress on facility operation, requiring a higher degree of operator knowledge and skills. CRS have found that the provision of both initial and ongoing training for operators and staff of its clients has become an essential service and a viable alternative to infrastructure investment. The preparation of Standard Operating Procedures (SOP’s) has also become a more common requirement of informed clients; a requirement which CRS is familiar with satisfying.

2.8. Project Management

Engineering complex projects with sensitivity and economy describes our approach to project management. Our project managers appreciate the need for compromise in the project development process by a multi-disciplined team and are capable of driving the project on a correct course having defined the constraints.

Our project managers are familiar with Microsoft Project 98, project management software and supply reports to the client on a fortnightly basis to ensure the client has an understanding of current tasks underway.

The industry shift towards ‘Turnkey’ project management has been recognised by CRS as an important factor in cost and risk minimisation. CRS is familiar with the many different ‘Turnkey’ contract approaches including Design-Build-Operate (DBO), Build-Own-Operate-Transfer (BOOT) and Operate-Build-Operate-Transfer (OBOT).