ICN HELPS TO DROUGHT PROOF LOCAL SUPPLIERS

The project

In 2005, continued drought conditions across south-east Queensland required Gold Coast City Council to make a decision about an emergency bulk water supply that could be ready by the end of 2008.

Desalination was selected for several reasons including:

- it could be implemented within the required emergency timeframe of 18 months
- the alternative, IPR - also known as Purified Recycled Water, requires extensive community consultation and highly comprehensive technical research into the effectiveness of treatment methods for recycled water along with microbiological and chemical testing of water quality
- further scientific studies are required into the effects of combining IPR water with a raw water source such as the water from the Hinze Dam. The significance of nutrient contributions (such as ortho phosphate and soluble un-biodegradable nitrogen) to the overall water eco-system in the dam is not clear and requires further investigation and evaluation

Research identified that desalination was more acceptable to the Gold Coast community. Of 3,823 surveys, 81% of respondents were supportive of desalination.

Aerial view of the Desalination plant

The opportunity

The Gold Coast Desalination Project, worth $1.12 billion, was initiated by the Gold Coast City Council (GCCC) but full ownership has since been acquired by the Queensland Government. The project is being delivered by the GCD Alliance which comprises Veolia Water, John Holland Group, Sinclair Knight Merz and Cardno. The owner of the project is a statutory authority of the State Government: South East Queensland (Gold Coast) Desalination Company Pty Ltd trading as Sure Smart Water.

GCD Alliance's Procurement Manager, Terry Casey said ICN Queensland's input to the project was invaluable. "ICN's knowledge and expertise in recommending local suppliers was second to none.

INDUSTRY CAPABILITY NETWORK QUEENSLAND

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It was important that the project, which had the potential to be controversial, had local, State and Australian suppliers involved."

"ICN saved us a lot of time too with the assessment of contracts and with input into delivery schedules. ICN Queensland's knowledge of the capability of local industry meant there was better supply and delivery. Their recommendations were invaluable and resulted in more local suppliers accessing to the project and more timely delivery than if they weren't involved," Casey said.

Profiled GCD Alliance suppliers in this case study include; Corrosion Control Engineering and i.Power Solutions.

The benefits

Corrosion Control Engineering (CCE) is the largest, Australian-owned corrosion engineering company specialising in all facets of corrosion engineering and related fields.

CCE were charged with the task of providing the cathodic protection system for the desalination plant's network pipeline.

Cathodic protection uses DC current produced by anodes to control the corrosion of steel structures. Sacrificial anodes provided the cathodic protection for the desalination networks pipeline

Senior Corrosion Engineer David Pettigrew said cathodic protection is used primarily for metal structures, usually steel, that are located underground or under water, or have water inside them.

"Cathodic protection works in league with coatings to prevent corrosion. As a result the structure can be protected almost indefinitely, as long as the protection system is maintained properly." Pettigrew said.

"The project with the GCD Alliance began in late 2007 and we are due for completion in December 2008, culminating in the commissioning and testing of the whole system."

"There were two sections of the pipeline network we worked on totalling 14 km. Section 1 stretched from the Desalination Plant at Tugun to Elanora and the second section followed from Elanora to Reedy Creek. Our contract was to supply and install cathodic protection systems to both sections."

Pettigrew says the two components of the work, worth approximately $300,000 to CCE, involved installing sacrificial magnesium and zinc anodes at approximately 1 km spacings along the pipeline. Test facilities were also installed at scour valves and air valves along the pipeline. A coating defect survey was undertaken for the entire pipeline length and the system also required commissioning and testing to comply with Australian Standards.

"The project has been a challenging but rewarding one. We developed a good relationship with the pipeline teams and the GCD Alliance. The team effort resulted in a successful project." Pettigrew said.

CCE is also presently engaged in other major infrastructure projects such as the Queensland Government's Southern Regional Water Pipeline, the Dalrymple Bay Coal Terminal Wharf Expansion and the Braemer 2 Gas Pipeline Project.

CCE personnel have been involved in the design, supply, installation and monitoring of cathodic protection systems and the supply of specialist materials for pipelines, wharves and jetties, storage tanks, reservoirs, water treatment facilities, marine vessels and steel reinforced concrete structures.

CCE's clients include government departments, construction companies, the petroleum industry, port authorities and private contractors.

Queensland-based i.Power Solutions specialises in:

- turnkey electrical design and construct projects
- design and manufacture of low and medium voltage switchgear products
- design and manufacture of surface and underground mining substations, switch rooms and transportable switchgear
- overhaul of electrical equipment including flameproof equipment
- the design, testing, implementation and commissioning of automation and process control systems and business information solutions
- IT software and hardware support
- electrical consulting services and project management
- renewable energy project specialists

i.Power Solutions won a number of contracts within the GCD Alliance project, which included the installation and delivery of Medium Voltage Switchgear , Low Voltage Motor Control Centres and Plant Control System.

i.Power's Major Accounts Manager David Morrison said the GCD Alliance contract totalled approximately $10 million and placed i.Power well to win similar contracts. "It was certainly one of the larger contracts for us and because of the experience we won a successful tender for the Sydney Desalination Plant," Morrison said.

"The low voltage control centres controlled all electric motors in the plant including lighting and air-conditioning for offices and switch rooms. The medium voltage control centres received the incoming feeds from Energex and fed, via transformers, power to satisfy motors with higher voltage requirements such as the desalination motors and the reverse osmosis switchboard. These centres were commissioned in June/July 2008."

"i.Power also installed the plant wired automation system as the central control for everything in the GCD Allicance plant including all motors, valves, fluid levels, lighting and security systems and was up and running by March 2008."

i.Power designed procured and Factory tested all plant Control system components , taking plant functional descriptions from process designers and delivering a tested and working state of the art control system.

Morrison said all components were engineered and manufactured at i.Power's head office and Murrarie with final detailed engineering for the control system undertaken at GCD Alliance's site office.

"ICN provides a great service for industry, introducing local suppliers for major projects like the Desalination plant is not only good for business experience, but also for assisting us to build relationships with project proponents" Morrison said.

According to the *Manufacturing Sector Impacts Report 2007*, compiled by ICN and Australian Economic Consultants Group, every $1 million of manufacturing business retained in Australia or freshly generated by Australian companies creates 12 full-time jobs. Every $1 million of manufacturing business retained or generated by Australian manufacturers also generates $394,000 in taxes and charges, which benefits Australians as the government can reinvest it into the economy.

For more information or advice, please contact:

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