Israel

ASHDOD TENDER DELAYED AGAIN

Last Sunday, Mekorot Development & Enterprise (MD&E) delayed the tender date for the 274,000 m³/d (72.4 MGD) Ashdod Desalination Project for a second time, until 23 September. MD&E is a wholly owned subsidiary of Mekorot Water, Israel’s state-owned national water company.

Initially conceived as a conventional turnkey project when tenders were issued in early 2001, Mekorot hoped to be producing water by the end of 2003. Since then, the project has gone through fits and starts that saw it award a $95 million contract for a 123,300 m³/d (32.6 MGD) SWRO plant to a Baran and GE (then Ionics) partnership.

The project was delayed while Mekorot was restructured to create MD&E, which was then given responsibility for the project. Then, last June, MD&E lost a legal challenge from IDE, who contended that the project was not publicly tendered as required by law. A public EPC tender was called in February specifying that the plant is to be run by a special purpose company (SPC), for which MD&E would be a 60 percent shareholder.

Admittedly, two bid submittal delays totaling three months for a project of this size and complexity is not significant, especially considering that it has taken eight years to get to this stage. However, there are already rumblings about some of the project’s onerous conditions.

One condition causing consternation among some bidders says that MD&E may, at its sole discretion, offer the winning team, or certain members of the winning bidder’s team, the opportunity to become a 40 percent shareholder in the SPC. In fact, the bidders are told that their willingness to join MD&E as a shareholder in the SPC “is a prequalification requirement to participate in the tender process.”

Yet, there is no advance indication of the share price, what the bidder’s rights may be, whether the bidder’s business partners could participate, and how to define whether or not one was acting in good faith. Because MD&E retains the exclusive right to choose which companies in the winning consortium can be partners, there seems to be a high potential for conflict among the partners.

Some bidders are also reportedly concerned that all bids become the “sole property of MD&E”, a company created to compete in the international desalination market. Would the technical know-how gleaned from the proposals give MD&E – a company that has never built a large-scale desal project – the needed insight to be more competitive at the expense of others?

Since there was no prequalification step, it is not known how many bidders will respond to the tender.

The timetable now calls for the plant to be online in 2012.

Technology

WASTEWATER + SALT = H₂O + ENERGY

Energy and desalination have always been inextricably linked, and a new development announced by Penn State University researchers has once again demonstrated the importance of this relationship. Last week, Bruce Logan said that an international team of researchers from Penn State and China’s Tsinghua University, with support from King Abdullah University of Science and Technology, has demonstrated the proof–of–concept for a process that treats wastewater, generates electricity and desalinates water.

The process employs a modified microbial fuel cell (MFC), a device that converts chemical energy, produced as bacteria consume soluble organics in wastewater, into electrical energy. Professor Logan told WDR that the new process doesn’t use the produced electricity to run a desal system, it integrates the desal process within the system.

A third chamber containing saline water is added between the two existing MFC chambers and separated by ion–specific membranes. Bacteria growing on the anode consume soluble organic wastes producing electrons and protons, resulting in the diffusion of chloride ions from the saline water through the AEM and into the anode chamber for charge balance. Oxygen reduction at the cathode removes protons, so sodium ions move into the cathode chamber to maintain charge balance, while desalinating the middle chamber.
“This process has the advantage of not requiring electricity, and at the same time producing electrical energy for pumping or other processes. It means that wastewater, or any source of biodegradable organic matter, can be a renewable energy source for desal. It also improves an MFC’s wastewater treatability because the saltier water improves charge transfer in the water and increases power generation,” said Logan.

If desalters think MDC sounds and looks a bit like an electrodialysis system, they’re right. “Although we call it a microbial desalination cell, it would probably be more descriptive to call it a microbial electrodialysis cell,” Logan said. “We’re probably at least five years from a commercial product. In fact, we’re not yet sure what form the commercialization of this technology might take.”

The National Water Research Institute recently awarded Professor Logan the 2009 Clarke Prize for his work. Readers interested in learning more about the process can download his paper Energy Sustainability of the Water Infrastructure at www.nwri-usa.org/pdfs/2009ClarkeLecture.pdf.

Australia
FINANCING PACKAGE COMING TOGETHER
Information on the financing package for the AS3.5 million ($2.9 billion) Victoria Desalination Plant indicates that things are moving forward for the project, which is to be delivered as a public-private partnership. No one would comment on the proportional equity breakdown, and a full report is unlikely before the scheduled 4 September financial closing of the contract.

Australia Financing package coming together

California
CARLSBAD
A San Diego Superior Court Judge has dismissed the last pending legal challenge standing in the way of the Poseidon Resources’ Carlsbad Desalination Plant. The lawsuit, filed by Surfrider Foundation and San Diego Coastkeeper, challenged the State Lands Commission’s approval of the project citing concerns over possible marine life impacts.

Marco Gonzalez, an attorney for both environmental groups, predicts that the project’s legal battles are not over. He told WDR that although the judge’s decision favored Poseidon, the ruling said that the desal plant was to operate in conjunction with the existing power plant intake and outfall structures and will require an environmental review when the Encina Power Plant permanently shuts down to ensure that the intake uses the best available measures to minimize intake and marine life mortality.

WDR has learned that a full list of equity holders includes Suez Environnement, Thiess, Macquarie Capital, Australian pension fund UniSuper, HSBC Environmental Infrastructure Fund, Itochu and a Korean group that includes Samsung C&T with Korean Development Bank, Korea Life Insurance and Korean Teachers Credit Union.

The 12 debt providers are understood to be National Australia Bank, Westpac Banking, Intesa Sanpaolo, BBVA, Banco Santander, HSBC, Sumitomo-Mitsui Banking, Mizuho Corporate Bank, Tokyo-Mitsubishi UFJ, Dexia Credit Local, ICBC and Macquarie Bank.

California Carlsbad

Where will the money go?

The 2009 DesalData.com global desal market forecast estimates the desal market’s capital expenditure at $106 billion between 2008 and 2016 with total capacity increasing from 60 million m$^3$/d (15,850 MGD) to over 113 million m$^3$/d (29,855 MGD).

Seawater desal will continue to drive growth, and membrane desalination will continue to be the preferred technology for the majority of the new capacity.

Saudi Arabia is projected to be the biggest market followed by Australia, the UAE, the US and Kuwait.
He said that a policy being considered by the California Energy Commission could also have a significant impact on the project. According to Gonzalez, “The policy says that the owner of an existing power plant must cease intake flows if the plant is not directly engaged in power generation. For a co-located facility, that means you can’t use the intake for desalination if the power plant shuts down. This could seriously affect the long-term viability of the desal plant. If I was investing in a $320 million project, I wouldn’t want that liability looming on the horizon.”

Meanwhile, the next milestone facing the project is a public hearing to be held by the City of Carlsbad’s Planning Commission on 19 August. At the meeting, the Planning Commission will consider a request to approve Poseidon’s addendum to the Environmental Impact Report and Development Plan including a reconfiguration of the plant site and a realignment of the distribution pipelines.

California

Beverage plant NF/RO has 90% recovery

Dr Pepper Snapple Group’s new $120 million production and distribution center in Victorville is set to receive a new NF and RO water treatment system from Siemens Water Technologies. The treated water will be used to make purified bottled water products and a variety of soft drinks.

According to Siemens’ food and beverage business development manager David Bridgers, approximately two-thirds of the 1,200 GPM (273 m³/hr) capacity system will undergo nanofiltration for use in carbonated beverages, while the remainder will also undergo RO treatment for use in purified drinking water products including Deja Blue bottled water.

Bridgers told WDR, “Fifty percent of the RO and NF concentrate will be recovered in a separate recovery RO, and the permeate will be returned to the carbonated beverage line. The backwash water from the multimedia filters and carbon tower used for membrane pretreatment will undergo cartridge filtration and will be blended back to the head of the treatment plant at a rate equal to approximately ten percent of the flow.”

The overall system recovery will be more than 90 percent, and as part of its package, Siemens will provide a UV system to continuously disinfect water recirculated in the product water storage tanks.

Siemens fabricated the system in its Colorado Springs plant and will install it in the plant with commissioning scheduled for early next year. Bridgers said this would be the sixth Dr Pepper Snapple plant to use Siemens water treatment technology.

Israel

Soreq bidders sorted out

Shikun U-binui (Housing and Construction) will join Shapir Engineering and Granit Hacarmel Group’s GES to contend for the 411,000 m³/d (108.5 MGD) Soreq SWRO Project. The pact follows lengthy negotiations, during which it agreed to join GES as a 40 percent shareholder in the special purpose company, while Shapir reduces its stake to 20 percent.

It had apparently been competing with Siemens-Israel for the spot after GE withdrew from the consortium due to difficulties in obtaining foreign financing.

The other two groups competing for the project – which bids on 9 September – are a team of IDE Technologies and the water division of Hitchinson’s World Fund, and another that includes TAHAL and Veolia.

Company News

Stock price down, Spirits remain high

Energy Recovery Inc’s (ERI) stock closed down 17 percent on Friday after announcing its second quarter financial results. The company posted a loss of $71,000 on net revenues of $9.1 million for the quarter. The loss was in line with company expectations, although the revenue was below the $10 to $11 million guidance range.

GG Pique, ERI’s CEO, remains undaunted. He told WDR that the company generated more than $8 million in cash from operations in the first half of 2009 and expects the second half revenues to be even stronger. “We have $84 million in cash and as the recession evolves, the acquisition ideas are starting to look very intriguing,” he said.

California

Intake/outfall workshop planned

As a follow-up last year’s Intake Solutions Workshop held near Boston, Alden Research Laboratory has organized a second, two-day workshop focusing on desal intake and concentrate discharge issues. The workshop will be held in El Segundo, California – near LAX airport – at West Basin’s Edward Little Water Recycling Facility.

Alden’s Tim Hogan said speakers will include regulators, developers, biologists, engineers, consultants and nonprofits. “Feedback from our last workshop indicated that attendees were interested in more ‘how to’ information. So, we’ve designed the agenda to help show how to evaluate intake alternatives, estimate costs, streamline permitting and explain it to the public,” he said, noting the details can be found at: www.aldenlab.com/index.cfm/AldenACRES/Desalination_2009.
**Caribbean**

**EARNINGS UP FOR 1ST SIX MONTHS**

Despite a decline in revenues attributed to lower energy prices and a reduction in plant construction activities, Consolidated Water (CWCO) reported a 95 percent increase, to $3.9 million, in second quarter earnings and a 76 percent improvement in earnings for the first six months. The increase is attributed to reduced construction costs and improved operating efficiencies.

The company also reported that a trial was held in the Eastern Caribbean Supreme Court in late July to address the CWCO’s Baughers Bay ownership issue and its claim for payment of water sold and delivered to the BVI government. Although testimony was heard, the trial was adjourned until mid-September, when expert testimony concerning the cost of water production will be presented. The Court is expected to issue a preliminary ruling on the disputes in August and a final ruling in September or October.

**IN BRIEF**

Waste or resource? An unfortunately named water quality order adopted by California’s State Water Resources Control Board refers to “landscape irrigation using recycled municipal water” as “waste discharge” in the title of its permit requirements. The new permit is intended to streamline the regulatory process, yet takes 19 pages – plus another 19 pages of attachments – to describe the requirements for the use of disinfected tertiary effluent. What might the requirements for desalinated water look like?

Gulf Investment Corp and GDF Suez have completed limited recourse financing of the $2.1 billion Addur (also, Al Dur) IWPP in Bahrain. The greenfield project will deliver 1,240 MW of electricity and 218,000 m³/d (60 MGD) of desalinated seawater by means of a Degrémont SWRO at a water tariff that has been reported to be $1.31/m³ ($4.96/kgal). It is scheduled to be operational in 2011.

A South Australian Parliamentary Committee has recommended that BHP Billiton reconsiders the location of a proposed Olympic Dam seawater desal plant. A draft EIS for the 280 ML/d (74 MGD) SWRO facility identified a project site at Point Lowly, near Whyalla on the semi-enclosed Upper Spencer Gulf, near the mass breeding area of the Giant Australian Cuttlefish. Although the EIS identified mitigation measures to ensure RO concentrate would not impact the breeding grounds, a legislative council member said it was the “worst possible site” for a plant. The public submission period for the project closed on Friday.

**PEOPLE**

Univar has announced the appointment of Nick Powell as Dubai-based general manager of its Middle East & Africa operations, effective 1 September. He joins Univar from Aqualyng where he was managing director of Aqualyng Middle East. For most of his career, he was with BetzDearborn and its successor, GE Water. He can be contacted at nick.powell@univareurope.com.

Although no longer editor of Desalination, Miriam Balaban wants to assure desalters that she remains devoted to the desal community and continues to edit the monthly journal Desalination and Water Treatment, which is now in volume seven. She can be contacted at Balaban@desline.com.

CH2M Hill has appointed Neil Reynolds as international operations director for its Water Business Group. He previously served as managing director for Biwater’s European business unit. He will be based in London and can be contacted at Neil.Reynolds@ch2m.com.

Siemens Water Technologies has named Brent Hillier to lead its US organization. He was formerly vice president of Siemens Water Technologies service segment and he can be contacted at brent.hillier@siemens.com.

**JOBS**

Schlumberger Water Services (www.water.slb.com) seeks a Business Development Manager for the Middle East. Applicants should be experienced in building relationships with the water sector’s main actors, prepare proposals, respond to tenders and identify new opportunities. Minimum MSc in environmental or engineering sciences. Requires 15 years water industry experience on large projects and Arabic fluency with extensive regional travel experience. Email resume to water-recruiting@slb.com.

Woongjin Chemical America, also known as “CSM”, a leading membrane manufacturer, seeks a Florida-based Sales Engineer for the Southeast US to develop customer relationships, identify new opportunities, review project specifications, write proposals, prepare membrane design simulations and support customers. Applicants should be proficient with MS Office, membrane design simulation software. An engineering degree is preferred, and up to 50% travel is required. Email resume to kenyoon@wjcs.com.

Rate for one year: £290 or US$500. Subscribe and renew online at: www.waterdesalreport.com

Reproduction or electronic distribution is forbidden. Subscribers may circulate their copy on their immediate premises. To e-mail or create additional copies for other office locations, contact Marta Hudecova (mh@globalwaterintel.com) to arrange a site license.