The Dead Sea Works (DSW) Power Plant is a gas fired combined cycle cogeneration plant in Sodom, Israel, on the southern shore of the Dead Sea. The installation provides process steam for use in DSW’s chemical plant as well as electric power. The plant will replace an existing facility built in 1995, which uses diesel generators powered by heavy fuel oil.

Under an equipment supply contract, Alstom delivered the steam turbine-generator set, auxiliaries and control system. Advisory service during installation and commissioning is also part of the scope for the project, which is scheduled to start up in 2015.

The MT steam turbine is a back-pressure, synchronous machine. Its robust design ensures the reliability that delivers the high plant availability, which is essential in industrial applications. This, combined with a competitive offer, was key to the contract award.

Alstom’s responsiveness and flexibility – helping to optimise the customer’s solution throughout the tendering phase – was also beneficial to the customer. This contract once again demonstrates Alstom’s ability to design and deliver steam turbines that can be integrated with existing schemes.

CUSTOMER PROFILE
Dead Sea Works, a business unit of ICL Fertilizers, is the world’s fourth largest producer and supplier of potash products, as well as a broad range of chemical products. Dead Sea Works Ltd was established as a state-owned company in 1952 to extract potash and other minerals from the Dead Sea in Israel.
ENVIRONMENTAL BENEFITS

The replacement of diesel engines with a more efficient, clean burning natural gas fired plant will vastly improve the facility's environmental profile. Its cogeneration configuration will also boost overall fuel efficiency to more than 79%. Cogeneration or combined heat and power (CHP) makes use of the heat that would normally be wasted in a power-only plant to generate steam for the industrial process. The net effect is optimised fuel use and thus reduced emission footprint.

ALSTOM’S SOLUTION

Alstom’s responsiveness and flexibility – in helping to optimize the offer throughout the tendering phase, was very beneficial to the customer. Furthermore, this contract demonstrates once again Alstom’s ability to design and deliver steam turbines that can be integrated with existing schemes.

TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Power Output</td>
<td>61 MW</td>
</tr>
<tr>
<td>Fuel</td>
<td>Gas (Chemical plant)</td>
</tr>
<tr>
<td>Steam Turbine</td>
<td>MT</td>
</tr>
<tr>
<td>Configuration</td>
<td>Back Pressure</td>
</tr>
<tr>
<td>Live-Steam</td>
<td>85 bar / 523.8°C</td>
</tr>
<tr>
<td>Pressure</td>
<td>0.2 bar</td>
</tr>
<tr>
<td>Cycle efficiency (gross)</td>
<td>79%</td>
</tr>
</tbody>
</table>

WHY CHOOSE ALSTOM?

• Supplier of over 20% of the world’s installed steam turbine capacity
• More than 100 years of rich and diverse experience
• Presence in more than 100 countries
• Solutions adapted to any type of fuel or industry
• Over 1,000 small steam turbines delivered (< 100 MW) totaling 17 GW

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