Cove Point
United States of America

Country: USA
Project: Cove Point
Customer: IHI Corporation & Kiewit Energy Company
(End customer: Dominion)
Scope: Two GRT turboset including: single casing axial exhaust turbine, generator, reduction gear, auxiliaries, control system
Electrical output: 2x65 MW
Commercial operation: 2017

Cove Point is a Liquid Natural Gas (LNG) shipping terminal located near Lusby, Maryland in the United States. When completed in 2017, the facility, owned by Dominion, will be the first LNG terminal in the US to export LNG. It is expected to ship 5.25 million t/year of LNG when fully operational.

Alstom will supply two steam turbine-generator packages that will use heat recovered as steam from existing gas turbines that are used for gas compression. The steam turbines will be used to generate electrical power for the facility. Alstom will also supply the auxiliaries and control system and technical advisory services during installation and commissioning.

A competitive offer, combined with Alstom’s flexibility on the equipment delivery schedule, was central to securing the contract. The operational concept that provides Cove Point with highly reliable power was also key.

Secure power supply is vital at an LNG production terminal. The two 65 MW GRT industrial steam turbines are therefore designed to provide the highest level of reliability. Although sized at 65 MW, each steam turbine will run at 40 MW. This provides a high level of redundancy in case one of the turbines are taken offline.

CUSTOMER PROFILE
Kiewit Energy Company, the EPC contractor for Cove Point, is a Houston-based, company that provides integrated engineering, procurement and construction services to the oil, gas, refining, chemicals, petrochemicals, biofuels and other process industries. Kiewit is working with IHI E&C International Corporation, an engineering and construction services company to the global oil and gas industry.

ENVIRONMENTAL BENEFITS
Adding steam turbines to the existing installation, essentially converting it to a combined cycle plant, increases the efficiency of the installation significantly. Having a more fuel-efficient plant, whereby additional power is produced without increasing fuel usage, has obvious environmental benefits.
ALSTOM’S SOLUTION

The contract also requires flexibility in accommodating the overall LNG plant schedule. This called for a departure from the usual approach to executing the power project in terms of turbine warranty and ensuring fast delivery of the turbines, which need to be on site approximately one and a half years before the start of the warranty period.

TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Power Output</td>
<td>2 x 65 MW</td>
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<tr>
<td>Fuel</td>
<td>Gas (LNG plant)</td>
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<tr>
<td>Steam turbine</td>
<td>GRT</td>
</tr>
<tr>
<td>Configuration</td>
<td>Straight Condensing</td>
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<tr>
<td>Live-Steam</td>
<td>72.05 bar / 424°C</td>
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<tr>
<td>Exhaust Pressure</td>
<td>0.151 bar</td>
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<tr>
<td>Cycle efficiency (gross)</td>
<td>29.29%</td>
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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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