Flagship Project of the Energy Turnaround—Stadtwerke Kiel, Kraftanlagen München and GE are Building the Most Flexible Large-Scale Power Plant in Germany

- The New Innovative Gas-Fired Thermal Power Plant in Kiel with over 90 Percent Efficiency Will Set New Standards with Respect to Flexibility, Efficiency and Environmental Sustainability; Contract Signing on August 3
- The Order for 20 Jenbacher J920 Flextra Gas Engines with an Output of 190 MW Represents the Largest Sale in the Worldwide Jenbacher Company History

KIEL, GERMANY—August 3, 2015—Together with general contractor Kraftanlagen München (KAM), GE (NYSE: GE) is supporting the municipal utility Stadtwerke Kiel in the construction of a modern gas-fired thermal power plant, representing a new, extremely flexible generation of energy production plants. The project, which was kicked off today with the contract signing, comprises 20 units of GE’s most powerful gas engine and is to date the largest order for the GE gas engines product line in Jenbach. The new environmentally sound energy solution will replace the existing coal-fired community power plant and will particularly supply the region with district heating. As a nationwide unique project, the new plant already is considered a model, setting new standards with respect to flexibility, efficiency and environmental sustainability.

The 20 Jenbacher J920 FleXtra gas engines form the heart of the plant, supplying a total output of 190 megawatts (MW) of electrical and 192 MW of thermal energy, which will be fed into the electrical and district heating network, thus contributing to grid stability. The total efficiency of the equipment from GE is greater than 90 percent; electrical efficiency is 45 percent. The marketing of balancing energy and the integration of an electrode boiler (power-to-heat) during periods of low electricity prices provide an extremely flexible and economical solution. This ensures not only the regional supply, but also guarantees operational cost-effectiveness. Compared with the previous coal-fired power plant, CO₂ emissions are reduced from 1.8 million tons to approx. 540,000 tons.

“Kraftanlagen München was quick in selecting the right concept and has found the best-suited partner for this project with GE. The new gas-fired thermal power plant in Kiel is a groundbreaking example for the successful realization of the energy transition plan by employing highly efficient combined heat and power generation. We are happy to implement this large-scale project using GE’s Jenbacher gas engines,” stated Gerrit Koll, business unit leader, energy- and power plant technology at KAM.

“With our flexible and highly efficient gas engine technology, we’re proud to make a decisive contribution to the pioneering project from Stadtwerke Kiel and Kraftanlagen München. Versatility in the electricity exchange paired with inexpensive costs for heat generation will be the way forward in Kiel,” said Oliver Klitzke, Executive Operations GE Germany. “Cogeneration systems as distributed and load-oriented applications form the ideal bridge to the energy system of the future, allowing us security in energy supply, the highest level of efficiency and therefore minimal primary energy consumption.”

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GE
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The greatest possible flexibility was a primary requirement of the new Stadtwerke Kiel plant. Due to the high proportion of wind-generated electricity in the regional grid, the power plant has to be able to feed full power into the local electrical grid within a short period in order to offset the volatility of the wind level, thus ensuring stability of the grid. The Jenbacher J920 FleXtra gas engines by GE can optimally compensate for these fluctuations. Their full capacity can be called up in just a few minutes. Thus, the efficient GE engines demonstrate that they are the ideal bridge technology and application to implement the energy transition plan in Germany, with the goal of generating 80 percent of electricity from renewable and therefore, volatile energy sources by 2050.

The order from Stadtwerke Kiel is divided into two phases. The initial project involves the planning and construction of the pump house to connect to the district heating system, the electrode boiler and heat storage as well as scheduling and obtaining operating approval for the entire system, including gas engines. The second phase of the project, including construction of the gas engine power plant, is scheduled to be underway starting in May 2016.

**Technical Data**

<table>
<thead>
<tr>
<th>Customer</th>
<th>Stadtwerke Kiel</th>
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</thead>
<tbody>
<tr>
<td>Location</td>
<td>East bank of the Kieler Förde inlet</td>
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<tr>
<td>General contractor</td>
<td>Kraftanlagen München (KAM)</td>
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<tr>
<td>Engine type / modules supplied</td>
<td>20 Jenbacher J920 FleXtra gas engines made by GE</td>
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<tr>
<td>Type of gas</td>
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<tr>
<td>Electrical output</td>
<td>190 MW$_{el}$</td>
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<tr>
<td>Thermal output</td>
<td>192 MW$_{th}$</td>
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<tr>
<td>Total efficiency</td>
<td>Over 90%</td>
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**About the Kraftanlagen Group**

The Kraftanlagen Group stands for efficient power plant engineering. As a versatile service provider to industry and the energy sector, we are utilizing state-of-the-art processes and technologies all across Europe. Industry, public utility companies and energy providers receive everything they need from a single source: plant technology from drafting of the first designs to project planning, construction, commissioning and maintenance all the way to decommissioning and waste disposal.

With its companies and holdings at numerous locations, the Kraftanlagen Group with more than 2,800 employees provides a comprehensive network of services. In close cooperation with our clients the Group manages both large-scale projects as general contractor as well as individual projects in the following product areas: Energy and power plant technology, decentralized energy supply, underground piping construction, nuclear technology, industrial plants and installation, utility services, engineering and consulting, fabrication and welding technology.
About GE

GE (NYSE: GE) imagines things others don’t, builds things others can’t and delivers outcomes that make the world work better. GE brings together the physical and digital worlds in ways no other company can. In its labs and factories and on the ground with customers, GE is inventing the next industrial era to move, power, build and cure the world. www.ge.com

About GE Power & Water

GE Power & Water provides customers with a broad array of power generation, energy delivery and water process technologies to solve their challenges locally. Power & Water works in all areas of the energy industry including renewable resources such as wind and solar, biogas and alternative fuels; and coal, oil, natural gas and nuclear energy. The business also develops advanced technologies to help solve the world’s most complex challenges related to water availability and quality. Power & Water’s six business units include Distributed Power, Nuclear Energy, Power Generation Products, Power Generation Services, Renewable Energy and Water & Process Technologies. Headquartered in Schenectady, N.Y., Power & Water is GE’s largest industrial business.

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