Press release

Augsburg, February 14, 2019

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New CHP power plant in German city Stuttgart commences operations

MAN Energy Solutions commissions highly efficient gas engine power plant to generate heat and electricity

MAN Energy Solutions is handing over a new solution for combined heat and power generation (CHP) to energy company EnBW Energie Baden-Württemberg AG. The 30 MW plant in the Gaisburg district of Stuttgart (Germany) commenced commercial operations at the end of December 2018. At the heart of the plant lie three MAN 20V35/44G gas engines, which produce not only electrical energy but also 30 MW district heating. Operating at a total efficiency of up to 90 percent, the power plant makes particularly effective use of its fuel.

The new gas engines are part of an extensive modernization program for the HKW3 cogeneration unit in Stuttgart Gaisburg. In addition to the CHP plant, EnBW has also constructed a heat storage and a boiler plant with up to 175 MW thermal energy output to cover fluctuations in supply and demand. The existing coal power plant was decommissioned when the new facility commenced operations.

Jens Rathert, Project Manager at EnBW, said: “The reconstruction of HKW3 is part of EnBW’s strategy for the energy transition, replacing an existing coal-fired plant with a modern gas-powered CHP and boiler plant. By doing this, we are significantly reducing the emissions of CO_2 and other pollutants, which is particularly important given the urban surroundings of the power plant. Looking at the bigger picture of the energy transition, we regard facilities like the HKW3 as a blueprint for further fuel-switch projects and relish the opportunity for more projects along these lines.”

Gas engines provide high flexibility and reaction speed

The CHP plant is a core element of the modular concept of the new construction: While the gas boilers produce exclusively heat and are primarily designed to cover the peaks in demand over winter, the gas engines will ideally be run continually to provide both electricity and heat. By combining the facility with a district heating accumulator, EnBW can fully utilize the flexibility offered by the engines and react to price signals. When demand for heat is low, the waste heat from the engines can be stored. This flexibility is made possible by the high reaction speed of the MAN gas engines, which reach their full output in less than five minutes and can handle load changes effortlessly.

Dr. Tilman Tütken, Vice President and Europe Sales Manager for the power plant division of MAN Energy Solutions, said: “Large gas engine power plants are a new but important technology in Germany: They help to reduce harmful emissions and guarantee an extremely reliable supply. Gas engine power plants have the potential to replace coal power stations in a way that is not only effective but better for the environment. Our modular power plant concept for cogeneration is being

brought to fruition in Stuttgart Gaisburg. The concept works on the modular principle and can be scaled up as required from 7 MW."

MAN Energy Solutions successfully commissioned a new CHP plant in the Gaisburg district of Stuttgart at the end of December 2018.

MAN Energy Solutions enables its customers to achieve sustainable value creation in the transition towards a carbon neutral future. Addressing tomorrow's challenges within the marine, energy and industrial sectors, we improve efficiency and performance at a systemic level. Leading the way in advanced engineering for more than 250 years, we provide a unique portfolio of technologies. Headquartered in Germany, MAN Energy Solutions employs some 14,000 people at over 120 sites globally. Our after-sales brand, MAN PrimeServ, offers a vast network of service centres to our customers all over the world.