

## Press Release

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### **Voith to modernize generator at the Waldeck pumped storage plant – Investments in the technology contribute to the energy transition**

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Voith is to modernize one of the generators at one of the most important pumped storage power plants in Germany. The recently awarded contract from E.ON Kraftwerke GmbH involves the replacement, assembly and commissioning of the stator and rotor of machine 6 at the Waldeck 2 pumped storage power plant in North Hesse, Germany. As well as extending the life time, the project will also ensure an increase of about 10 percent in efficiency of the machine unit. The contract has a volume of around 9 million euros, and includes an option for the modernization of a further machine unit with a volume of an additional 5 million euros.

Investments in modernization and new construction are an important factor for a successful energy transition (“Energiewende”): Pumped storage power plants can store electricity from renewable energies and stabilize the power grid. The Waldeck pumped storage power plant makes a big contribution in this regard: It delivers around 10 percent of the total German pumped-storage capacity, and with its central location in Germany, is particularly suited for the storage of energy from the north and middle of the country.

Each of the two generators at the Waldeck 2 pumped-storage power station has a capacity of 265 MVA. A notable challenge in terms of modernization is presented by the vertical placement of the classical pump-turbine unit: The turbine sits vertically above the motor-generator; and a multi-stage pump is installed underneath. In order to replace the generator, the original turbine, which Voith supplied at the time of construction of the power plant in 1970, will first have to be disassembled.

The need for storage power plants that can take on a balancing function is increasing with the rise in the proportion of volatile renewable energies from wind and solar energy in the electricity grid. As a proven and reliable

technology pumped storage is to date by far the largest industrial-scale storage technology available, supplying 99 percent of the available storage capacity worldwide.

In order to demonstrate the contribution made by pumped storage power plants to the further expansion of renewable energies, Voith has recently carried out a study in cooperation with the RWTH Aachen University. This study shows that pumped storage power plants can significantly support the integration of renewable energies in the electricity grid. As multi-functional power plants, they not only act as huge batteries for surplus electricity from wind and solar energy, but also provide important services to the system, for example in the field of control energy reserve or in the provision of secured output.

Voith has more than 100 years of experience in the development, design and manufacture of equipment for pumped storage power plants. To date, the company has supplied more than 200 pumped-storage units for numerous plants throughout the world.

### **The Importance of Hydropower**

Hydropower is the largest, oldest and also most reliable form of renewable energy generation. Worldwide it makes an indispensable contribution to stable power supplies and hence to economic and social development – both in industrial countries and in emerging markets. At the same time, hydropower significantly contributes to climate-protecting energy generation. Voith has been a leading supplier of this technology since the early beginning, and continuously develops it further.

### **About the Company**

Voith sets standards in the markets energy, oil & gas, paper, raw materials and transportation & automotive. Founded in 1867, Voith employs more than 43,000 people, generates € 5.7 billion in sales, operates in about 50 countries around the world and is today one of the biggest family-owned companies in Europe.

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