Press release

Bosch boilers at Ledvice power plant
167 tons of superheated steam per hour
District heat for 300 companies and 20 000 inhabitants

June 28, 2016

11.6 metres long, 4.5 metres wide and almost eight metres high – these are the impressive dimensions of each of the four Bosch boilers for the new Ledvice power plant unit of the energy company ČEZ. In total the boilers produce up to 167 tons of superheated steam per hour for the start-up process of the new steam turbine which generates power. But the Ledvice power plant does not just supply power, it also supplies heat for some 300 companies and 20 000 inhabitants. The huge boilers provide additional supply during peak load periods and serve as a backup for the district heating network.

In its role as general contractor, the company Škoda Praha Invest was responsible for implementing the turnkey power plant unit and the steam boiler system. The stringent safety requirements and tight time schedule demanded a high degree of flexibility and experience from all those involved in the project. Vilém Šarkády from Škoda Praha Invest is very satisfied with the progress of the project: "In total there were four boiler manufacturers in the final selection. The crucial reasons for choosing Bosch were the product quality and brand as well as the reliability."

After customer-specific manufacturing, the large boilers and their associated components were delivered by low-loader and ship from the industrial boiler factory in Gunzenhausen/Germany to the Czech Republic. The boiler house at the power plant comprises a complete boiler system, including feed water deaeration system and control technology. The boilers are equipped with superheater modules. They produce superheated steam instead of saturated steam. The higher steam temperatures prevent energy losses in the pipe network.

The integrated economizers for using waste heat and the eight natural gas burners in total, had already been installed at the Gunzenhausen factory. The total combustion heat output is more than 136 megawatts – this is equivalent to the heat load of approximately 15 000 detached houses. On this kind of scale, there is a need for a high level of energy efficiency. The burners can be operated

Bosch Industriekessel GmbH
Nürnberger Str. 73
D-91710 Gunzenhausen

E-mail daniel.gosse@de.bosch.com
Tel. +49 9831 56248
Fax +49 9831 5692248

Communication
Manager: Thomas Pelizaeus
www.bosch-thermotechnik.de

particularly economically thanks to the installed speed controls. They reduce the power consumption during partial-load operation by up to 75 percent and also reduce the noise level to a minimum.

Fast availability of the steam boilers is essential for operation of the power plant. Each of the four boilers is equipped with a heat maintenance device. The backup boilers can therefore provide additional steam generation within a very short period of time. The integrated sequence control is implemented by means of a network pressure system. As soon as the primary boiler can no longer generate the required steam pressure, the backup boilers switch in automatically. The higher-level control technology with its industrial Ethernet connection enables information flow between Bosch's control system and the control centre of the power plant. All operating messages and current process data are transmitted directly to the operators at the power plant, thus they can control the system remotely at any time.

In summary, the power plant is equipped with a consistently reliable and energy-efficient steam boiler system. Thanks to the comprehensive automation equipment, a high level of supply reliability as well as operation without continuous supervision (72 h) are guaranteed. The successful project implementation was rounded off with the commissioning of the steam boiler system on schedule.

Ledvice power plant during the building phase of the new boiler house.

The boilers can produce up to 167 tons of superheated steam per hour for starting up the steam turbine and supporting the district heat supply.

Each of the boilers are equipped with two natural gas burners, both single and parallel operation is possible.

Intelligent control system for automated boiler operation.

Press contact:

Annemarie Wittmann

Tel. +49 9831 56 218

annemarie.wittmann@de.bosch.com

Bosch Industriekessel GmbH, part of the Bosch Thermotechnik GmbH, is setting the benchmark for industrial boiler technology over 150 years. Boiler systems for steam, hot water and heating, manufactured to customers' specification, provide efficient heating and process heat for all applications. Boiler house components, which are modular in design and perfectly coordinated, together with intelligent regulation and control technology, significantly simplify the planning, installation and commissioning of the complete system. Comprehensive service support from one source rounds off the innovative product portfolio.

Additional information is available online at http://www.bosch-industrial.com

The Bosch Group is a leading global supplier of technology and services. It employs roughly 375,000 associates worldwide (as of December 31, 2015). The company generated sales of 70.6 billion euros in 2015. Its operations are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. The Bosch Group comprises Robert Bosch GmbH and its roughly 440 subsidiaries and regional companies in some 60 countries. Including sales and service partners, Bosch's global manufacturing and sales network covers some 150 countries. The basis for the company's future growth is its innovative strength. Bosch employs 55,800 associates in research and development at 118 locations across the globe. The Bosch Group's strategic objective is to deliver innovations for a connected life. Bosch improves quality of life worldwide with products and services that are innovative and spark enthusiasm. In short, Bosch creates technology that is "Invented for life."

Additional information is available online at www.bosch.com, www.bosch-press.com, twitter.com/BoschPresse