CHP plants for district heating in Hungary

Wärtsilä has received contracts to supply gas-fuelled generating sets and associated equipment for two combined heat and power (CHP) plants in Hungary.

One plant is to be located at Füredi út in Budapest. The main contractor is Kraftszer Kft., a Hungarian engineering company which has built a number of CHP plants, and the plant will be owned by Zugló-Therm Energiaszolgáltató Kft. Wärtsilä is supplying three Wärtsilä 18V34SG generating sets to give a combined electrical output of 18 MW. The generating sets will be provided with heat recovery systems to gain also 16.5 MW as hot water for district heating. The hot water will be distributed by Fötáv Rt., the main district heating utility in Budapest. The plant is due to be handed over in June 2005.

The second plant is at Újpalota, also in Budapest. For this plant, Wärtsilä is supplying three Wärtsilä 20V34SG generating sets. They have a combined electrical output of nearly 20 MW. Heat recovery from the engines will provide a further 19 MW as hot water for district heating. The plant is being built by CHP-Invest Kft. and EGI Contracting and Engineering Co Ltd, and it will be owned by CHP Eromu Kft. Again the hot water will be supplied to Fötáv Rt. The plant is also due to be fully operational by June 2005.

In both cases, the emphasis is on the supply of hot water for district heating with generated electricity being supplied to the public grid. In Hungary this kind of CHP plant is required to have a minimum total efficiency of 75% each month. Wärtsilä's solutions for the above two plants readily exceed this requirement.

The engines will run on natural gas. They thus combine high efficiency with low exhaust emissions. With the addition of heat recovery for district heating, the plants have overall energy efficiencies of about 82%.

As an example of the scope for such CHP plants, the Újpalota plant serves a suburban area in Budapest in which practically all buildings are connected to the district heating network. There are about 30,000 apartments, together with shops, schools, medical care facilities, administrative buildings, etc. In the summer, the Újpalota plant will provide all necessary heating for the area and during the coldest winter days it will meet about 10-15% of heating demand with the balance being supplied by the existing hot water boiler plant. ■

Over 10 gas engine plants will lower power costs in Japan

Japan's Hitachi Zosen Corporation has earlier this year ordered 20 gas engine power generation units from Wärtsilä. Hitachi Zosen is the EPC (engineering, procurement and construction) contractor for a series of over 10 power plants which will be situated at different locations across Japan.

The power plants will feature the successful Wärtsilä 18V34SG engine operating on natural gas. The electrical outputs of the 6 MW power plants will vary from location to location as some power plants will be in 50Hz areas and some will be located in 60Hz areas.

The contract's scope with Wärtsilä covers each power plant's main equipment: generating units, control system and critical auxiliaries. Most of the equipment will be delivered in the first half of 2005. The control system will be customized with Hitachi Zosen to suit the customer's requirements and includes a bilingual (English/Japanese) human/machine interface.

The power plants' applications will be for generation of both heat and electricity. The plants are mainly for industrial captive power consumption in which any excess electricity will be exported to the grid. The plants are scheduled to be commissioned in the last quarter of 2005.

Hitachi Zosen's industrial customers want environmental complience as well as lower energy costs. Japan's day time electricity tariff is very high, while the night time tariff is low. The new power plants, with their high electrical efficiencies, will operate during the day in a daily start-stop (DSS) mode, thus generating savings for the owners.

In the face of tough competition from domestic suppliers, Hitachi Zosen decided to award the contract to Wärtsilä due to their engine's higher efficiencies and the competitive price.

"Hitachi Zosen started promoting Wärtsilä gas engines two years ago. We built a 12 MW power plant at our Kanagawa works during 2002 for our demonstration purposes. The positive results of our decisions and good marketing can now be clearly seen. We believe Wärtsilä gas engines have a big potential to become best sellers," Mr Kobashi, General Manager, Hitachi Zosen, comments. ■