

US order for 1000-MW gas-fired power plant

ABB has won a turnkey contract to build a 1000-MW gas fired combined cycle power plant in Midlothian, Texas, USA. The contract, worth in excess of US\$ 350 million, was placed by independent power producer *American National Power Inc*, a subsidiary of *National Power PLC*, UK. Construction of the new plant, located about 30 km south of Dallas, is due to begin towards the end of 1998, with commercial operation scheduled to begin in the summer of 2000.

Under the terms of the contract ABB will supply four GT24 gas turbines, the steam turbines, electrical generators, and heat recovery steam generators. In addition, ABB will be responsible for the engineering, procurement and construction and for delivering the power plant control, distribution systems and balance of plant equipment. ABB will also carry out the installation and commissioning.

By ensuring high efficiency and reliability, plus low emissions, ABB's integrated combined cycle technology will help the customer meet short-term demands in the US power market as it continues to deregulate.

Development of an electric drive system for BMW

BMW has signed an agreement with ABB Hybrid Systems, Sweden, for the development of a drive system for BMW's electric cars. The drive system consists of a permanent magnet motor with integrated power and control electronics, and is water-cooled. The first prototypes are due to be delivered this year. In all, the project is expected to last 3 to 4 years.

The drive system is being developed in Sweden with support from ABB Corporate Research and ABB Motors.

135-MW submarine cable link to the Channel Islands

ABB has been selected to supply a turnkey power transmission system that will link the power networks of the British Channel Islands, Guernsey and Jersey, via France to the European grid system. The contract, worth US\$ 80 million, was awarded by the newly formed *Channel Islands Electricity Grid Company Ltd*, a 50:50 joint venture between the *Jersey Electricity Company Ltd* and the *States of Guernsey Electricity Board*. The 135-MW link is scheduled to become operational in the summer of 2000.

Under the terms of the contract, ABB will lay a 65 km long submarine cable between the two islands and the French coast as well as 70 km of cable on the islands themselves. The XLPE submarine link will make use of advanced ABB cable technology.

ABB will additionally supply two new 90-kV substations and modernize three existing ones. Also included in the ABB deliveries are the control and protection systems for the link.

New 380-kV power line between northern and central regions of Saudi Arabia

The Saudi Arabian utility, *Electricity Corporation*, has contracted Saudi-Sademi Technical Construction Co. to build a 220 km long, 380-kV power line from Hail in the north of the country to the Al Quaseem region in central Saudi Arabia. The value of the contract is approximately US\$ 100 million. Saudi-Sademi Technical Construction Co. is a joint venture between Italian-based ABB SAE Sademi and Saudi Arabian investors, who hold a 51 % share.

First installation of the new GTX100 gas turbine in a Swedish power plant

The new high-performance GTX100 gas turbine (see ABB Review 6/97) is to be installed for the first time in the Västhamn power station, a coal-fired facility currently being extended in the southern Swedish town of Helsingborg.

ABB Stal was awarded the contract by the municipal utility *Helsingborg Energi AB*. The scope of supply, in addition to the gas turbine, includes the heat recovery steam generator, the electric generator and all the electrical and control systems. In addition, the GTX100 will be connected in a combined cycle to the existing steam turbine, which ABB Stal is rebuilding to enable it to take steam from the heat recovery steam generator of the gas turbine. The extension will increase the electrical generating capacity of the power plant from 64 MW to 126 MW, and the heat production capacity from 132 MW to 186 MW.

The new gas turbine will burn natural gas and be fitted with modern AEV burners, resulting in emissions of NO_x and CO being below 15 ppmv (at 15% O₂).



Five regional load dispatching centers for Romania

The Romanian utility, *Renel*, has placed an order with ABB Network Partner AG, Switzerland, for five regional load dispatching centers plus a national network control center for standby operation. In addition, the existing national control center is to be refurbished and extended. The regional centers are scheduled to begin commercial operation in the second half of 2000.

With this project, *Renel* is positioning itself to join the UCPTÉ, the union for coordination of the production and transmission of electrical energy. This will allow connection to the Western European power grid, thereby improving the reliability of the country's power supply.

Automation of three new cement production lines in Taiwan

ABB Industrie AG, Switzerland, is to deliver all of the process control equipment, plus the adjustable speed drives, for three new production lines at the Hoping cement plant operated by *Taiwan Cement Corp* (TCC). The contract is for the engineering, project management,

personnel training, erection and commissioning. The first line will begin production at the beginning of 2000.

TCC requested a control center closely resembling the one in the Rüdersdorfer cement plant in Germany (see ABB Review 2/97). The process control for the Hoping plant comprises the Advant Open Control System (OCS), the ABB Cement Information Management System (CIMS) and the LINKman system for optimization of the clinker production process (see ABB Review 6-7/95).

When commissioned, the Hoping cement plant will be the most modern in the world.

First commercial order for Powerformer™

The Swedish utility *Eskilstuna Energi & Miljö* has awarded ABB a contract to supply a 42-MVA Powerformer rated at 136 kV and 3,000 rev/min as well as the steam turbine, for the Eskilstuna combined heat and power plant in central Sweden. The unit is scheduled to become operational towards the end of the year 2000.

The Powerformer (see ABB Review 2/98) is an innovative high-voltage generator capable of supplying power direct to the local power grid without the use of a

step-up transformer. By acting as generator and transformer, the Powerformer reduces the initial cost of the capital investment and improves the efficiency of the power plant.

It is also planned to install the Powerformer in the Porsi hydroelectric power plant on the Lule river in Sweden. Vattenfall and ABB have reached an agreement to replace one of the three generators in this plant with a 100-MVA Powerformer, which will feed electricity directly into the 150-kV network. Operation of this unit is scheduled for the year 2000.

Greek utility orders turnkey 490-MW combined cycle facility

ABB has received a contract from the *Public Power Corporation* (PPC) of Athens to build a 490-MW combined cycle power plant in the town of Komotoni in northern Greece. The total value of the turnkey order is about US\$ 300 million, of which half is for ABB deliveries.

The new power plant will have two GT13E2 gas turbines and be equipped with advanced overall controls. ABB is also responsible for the engineering, erection and commissioning work. The plant is due to be completed in 2001.

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