Electrification equipment for a cement plant in Indonesia

ABB Industrie AG of Switzerland, acting as subcontractor to Kawasaki Heavy Industries, Japan, has been awarded a contract by *PT Indocement Tunggal Prakarsa*, Indonesia's largest cement manufacturer, to deliver the equipment for the complete electrification of production line 11 at its Citeureup-Bogor plant. Start-up of the new line, which will produce 7,500 tons per day of cement, is scheduled for December 1998.

ABB's scope of supply includes distribution voltage switchgear, drives, the standby diesel-generating set, the plant control system with instrumentation, and the lighting and telecommunications equipment, etc. The cement production is controlled and monitored by the Advant Cement System, with support given by the management information system CIMS.

Consortium members besides Kawasaki Heavy Industries are Polysius GmbH of Germany and F.L. Smidth of Denmark, both of whom will supply mechanical parts.

ABB receives order to modernize Swedish nuclear power plant

OKG AB, Oskarshamn, a subsidiary of the privately owned Swedish power utility *Sydkraft AB*, has placed an order with ABB valued at US$ 85 million to modernize Oskarshamn 1 nuclear power plant on Sweden's south-east coast. Oskarshamn 1, which was commissioned in 1971, is the oldest nuclear power plant in Sweden. The modernization programme is scheduled for completion in 1999 and will enable the plant to continue operating well into the next century.

ABB will install the latest generation of electrical and control equipment, which is designed for both BWRs and PWRs, as well as modernize the main control room. ABB will also replace the plant's high-pressure steam turbine with a new radial-flow turbine and deliver six new low-pressure turbines. The upgrade with modern turbine and control technology will improve plant efficiency and boost output by 15 MW. The modernization work will be carried out by ABB Atom and ABB STAL.

Successful commissioning of Europe's first high-pressure processing installation for foodstuffs

Europe's first high-pressure processing (HPP) installation – also currently the largest installation of its kind in the world – was recently commissioned by ABB Pressure Systems of Sweden.

With HPP, aromas, colours and vitamins remain intact while the shelf life of food products is prolonged. By contrast, conventional thermal processing adversely affects the texture and vitamins. Research into the effect of high pressure on food has been going on for many years, and ABB has previously supplied a number of laboratory presses for this purpose. In 1996 ABB also delivered HPP production equipment to *Avomex*, a US-based company producing avocado purée and guacamole.

First dynamic voltage restorer for a semiconductor factory in Singapore

An order has been placed by *PowerGrid Ltd* of Singapore with ABB High Voltage Technology of Switzerland for the delivery of a dynamic voltage restorer (DVR). The DVR, which is a pilot installation and the first to be delivered by ABB, is due to begin operating in November 1997. The DVR will secure a reliable power supply in the event of short circuits in the high-voltage network and enable expensive production downtime in manufacturing facilities to be avoided or significantly reduced.

The DVR can compensate for a voltage dip caused by a fault in the power supply system in less than 0.01 seconds at the infeed location. This fast response is made possible by advanced converter technology based on GTO thyristors.

Also involved in the project are ABB Sécheron SA, who will provide a transformer, and ABB Industrie AG, the supplier of the GTO converter.

World's first HTSC distribution transformer connected to power network

The world's first three-phase transformer based on high-temperature superconductors (HTSC) was recently connected to the power supply network of the city of Geneva, Switzerland. The 630-kVA distribution transformer, designed for 18.7/0.42 kV, was developed jointly by ABB Corporate Research, Baden, and ABB Sécheron SA of Geneva.

The goals of the project were to prove the suitability of the high-temperature superconductor technology for transformer design and to test behaviour under normal operating conditions on the power network. The high-temperature

superconductor material for the transformer windings was supplied by the American Superconductor Corporation.

The HTSC transformer development project was supported by the Swiss Federal Office for Energy Management, the Swiss Utilities Study Fund and Electricité Romande. In developing the transformer, ABB worked closely with *Electricité de France* and *Services Industriels de Genève*.

Turnkey 132/11-kV substation for Abu Dhabi

ABB Calor Emag Schaltanlagen AG of Germany has signed a contract with the *Water and Electricity Department* in Abu Dhabi to deliver a turnkey 132/11-kV transformer substation valued at approximately US$ 22 million. The contract is for the supply of six advanced gas-insulated 132-kV switchbays of type ELK-04, 39 gas-insulated 11-kV switchboards of type ZV2, three 40-MVA transformers and a control system of type PYRAMID. Commissioning is scheduled for March 1999.

The customer chose gas-insulated switchgear on account of the high levels of salt and dust in the air at the site, which is close to the sea and the desert. The ordered substation control system comprises the digital bay control and protection technology for the 11-kV and 132-kV levels.

The transformer substation guarantees a reliable supply of power to the suburbs of Abu Dhabi, where there is a steady increase in demand for energy.

ABB consortium to build lignite-fired 330-MW power plant in Greece

A consortium led by ABB Kraftwerke AG, Germany, has received a turnkey contract to build a 330-MW lignite-fired power plant at Meliti in northern Greece. The US$ 665 million order, of which the ABB part is valued at approximately US$ 200 million, was placed by the Greek state utility *Public Power Corporation* (PPC). The project is the result of a cooperation agreement between Greece and Russia signed in December 1994. ABB's partners in the consortium include EVT, Germany, Technopromexport (TPE), Russia, and Prometheus Gas S.A., Greece. The power plant is scheduled to begin operation in late 1999.

ABB will supply electrical and control systems, the flue-gas desulfurization system, including electrostatic precipitators, the water and steam supply systems, and the balance of plant. Provision will also be made for a future district-heating supply system. Through its local companies in Greece, ABB will also supply the low-voltage equipment and will carry out all of the electrical installation work.

The power plant will conform to the latest European environmental protection standards, producing low emissions whilst achieving high overall efficiency.

Gas turbine for an offshore production ship

ABB STAL AB, Sweden, has received an order worth about US$ 10 million from *Petroleum Geo Services* (PGS) of Norway for a GT35 gas turbine rated at 17 MW. The turbine is to provide electric power for a floating production, storage and offloading vessel (FPSO).

The FPSO is being built in Korea and will be located in the Banff field in the UK sector of the North Sea. It will be able to produce about 60,000 barrels of oil per day and has a storage capacity of 120,000 barrels. The vessel is due to start producing oil in the second quarter of 1998.

ABB electrical equipment for automated aluminium rolling mills in South Africa

Two South African aluminium plants are to have drives and automation equipment supplied by ABB Industrietechnik AG in Mannheim. The contract, awarded by *Hulett Aluminium Pty Ltd* in Pietermaritzburg, is for electrical equipment, with all the drives and control equipment, etc, for a cold rolling mill and a hot aluminium strip mill.

Delivery will begin in mid-1997 and production at the rolling mills is scheduled to start in 1999. ABB Industry Pty Ltd of South Africa is involved in the

contract and will provide after-sales service.

ABB automating a steel plant in Saudi Arabia

ABB has been chosen to supply the main components of the electrical equipment, including the process control system, for a new flat product steel plant being built by Voest Alpine Industrieanlagenbau, Austria, for *Hadeed Saudi Iron and Steel Company*. The value of the contract is approximately US$ 60 million.

ABB Industria S.p.A. of Italy will supply the MV distribution, switchgear, drives and automation systems for 3 processing lines, while ABB Industrie GmbH, Austria, is to supply the hardware components for the basic automation. The plant is scheduled to begin operating at the beginning of 1999.

Electrical equipment for a cold rolling mill in Germany

Wickeder Westfalenstahl GmbH & Co KG has signed a contract with ABB Industrietechnik AG of Germany for the delivery of the electrical equipment for a cold rolling mill. The mill will produce ultra-thin steel strip, mainly for the manufacture of shadow masks for colour monitors.

The scope of supply includes switchgear and drives as well as the process control system. The technological controls are designed to allow a thickness tolerance of 1/1000 millimeter. Production start-up is scheduled for January 1998.

Equipment for an oil refinery in India

ABB has won a major contract valued at over US$ 500 million for the supply of equipment and materials for the Essar Refinery currently under construction at Jamnagar in Gujarat State. The customer is *Essar Oil Ltd*. The refinery, which is one of India's first in the private sector, is being built on a greenfield site and is designed to produce 9 million tonnes of refined oil per year. Under a separate contract, ABB is also responsible for the overall project management.

High-speed wire rod mill ordered from China's largest steel producer

Baoshan Iron & Steel Corporation (Baosteel) has awarded a contract to ABB Industrial Systems AB of Sweden for the delivery of the control and electrical equipment for a new high-speed wire rod mill. The mill will have an annual production capacity of about 400,000 tonnes and an exit speed of 120 m/s. The order includes 2 main drives with load-commutated inverters rated at 4.8 MW and 3.2 MW, AC PWM drives, transformers and mill control systems. ABB will also be responsible for erection, supervision, commissioning, and training of the customer's personnel.

Contracts for two cement production upgrades in Egypt

ABB Industrie AG, Switzerland, has been selected to supply all of the electrical equipment for two new cement production lines in Egypt. The companies involved are the *Suez Cement Company* and the *Egyptian Cement Company*. Both lines are designed to produce 4,300 tons per day of cement, and are scheduled to go into operation in mid-1998 and early 1999, respectively. The total value of the two orders is US$ 30 million.

ABB's deliveries for the two production lines include medium-voltage and low-voltage switchgear and drives, standby diesel-generating sets, lighting and air-conditioning systems, as well as the overall process control technology, which includes the management information system CIMS. Training, construction supervision and commissioning are also included in the orders.

ABB is the main supplier of electrical equipment to cement plants in Egypt, with deliveries made to 8 out of 12 plants in that country.