

Advanced technology ensures top-class performance

Qatalum will be a fully-integrated primary aluminium plant consisting of a smelter, casthouse and carbon plant as well as a dedicated gas fired power plant. With a capacity of 585,000 tonnes of primary aluminium annually, it will be the largest plant built in one phase.

All of Qatalum's production will be shipped as value-added aluminium casthouse products, and there are already plans to boost the production to 609,000 tonnes annually from 2013.

The project is based on Hydro's electrolytic reduction cell technology, which was developed in-house. This technology gives a combination of low investment costs, high productivity, low energy consumption and reduced emissions.

Qatalum is designed to meet high environmental standards. The project's Environmental and Social Impact Assessment was approved by Qatar's Supreme Council for Environment and Natural Reserves (SCNER) in November 2006.

Building on experience

HAL250 was the technology applied in Hydro's project at Sunndal, Norway. The new development in Qatar can build on the experiences gained in Sunndal, at other Hydro plants, and in the course of the company's technology development activities.

The HAL275 technology to be used in Qatalum is an economical and environmental-friendly electrolytic reduction technology. A holistic approach, system knowledge, operational experience and advanced mathematical models have resulted in a compact and highly productive plant with a sound working environment.

Highly efficient purification units will be installed. Due to the temperatures involved, there will also be a high degree of mechanization of operation.

Improved working environment

Hydro's recent technology development has taken place at a time when ever greater consideration has been given to local communities and the environment. This challenge has helped Hydro develop an environmentally friendly and compact electrolytic reduction technology.

The removal of process gases is an important factor for the protection of operators and for ensuring a clean working environment. The patented extraction system collects 99.5 percent of the gases from the process with optimal energy use. All fluoride is recycled.

Production

Primary aluminium production will take place in two long buildings each approximately 1,150 m in length, called potrooms. Each potroom will house two rows of 176 cells, giving a total of 352 cells in each potroom, and 704 cells in the first

phase. Phase one production capacity of the reduction plant will be 585,000 tonnes per annum.

The extrusion ingot casthouse will have a capacity of 350,000 tonnes per year. The primary foundry alloys casthouse will have a capacity of 275,000 tonnes per year.

Power plant

The power plant will be a combined-cycle power plant with a capacity enabling the supply of 1,000 MW as required by the aluminium metal plant. Nominal total power plant capacity will be approximately 1,350 MW.

Carbon plant

The carbon plant will supply approximately 300,000 anodes tonnes per year for use in the potlines. Approximately 63,000 tonnes per year of the spent anodes will be recycled back to the carbon plant.

Port

The port will have berthing facilities to handle import and export of all raw materials and products. The port will be able to handle ships of up to 65,000 dwt.

Environmental issues

The Qatalum project will be subject to the laws of the state of Qatar and the various international and regional protocols and agreements to which the state is a party, as well as to both Hydro's and Qatar Petroleum's corporate requirements.