Lysebotn II

Replacement of an existing Norwegian hydropower plant

▲ Existing switchyard at HPP Lysebotn

In December 2013 ANDRITZ HYDRO signed a contract with Lyse Produksjon AS for the construction of the new Lysebotn II hydropower station in Norway.

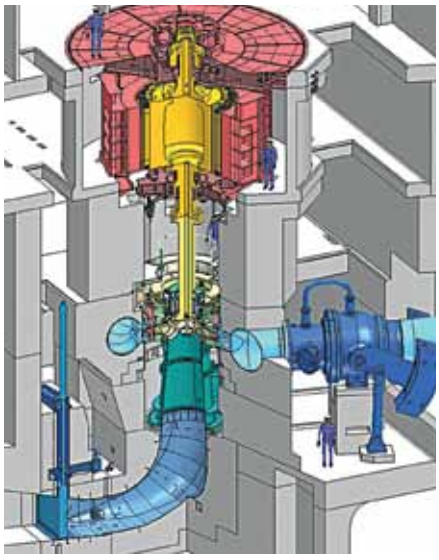
HPP Lysebotn II is located close to Stavanger in southwestern Norway, right at the innermost end of the Lysefjorden. This popular tourist area is well known for outdoor activities, the Lysefjorden itself and impressive rock formations such as Preikestolen, which offers a vertical drop of some 600 m.

HPP Lysebotn II will replace the existing Lysebotn hydropower plant. The project consists of construction, delivery and installation of a new hydropower plant, with an estimated average annual electricity production of 1.5 TWh. This implies an increased annual energy production of approximately 180 GWh (14%). HPP Lysebotn II will be built as an underground power station with new tailrace tunnel and headrace tunnel leading upwards to the plant's two alternative intake reservoirs, Strandvatn and Lyngsvatn.

Power will be generated by two identical units with 185 MW high-pressure Francis turbines. Because of the favorable reservoir situation, the generating units are designed for frequent starts/stops to optimize profits in the electricity production.

Changing water levels and the choice of reservoir bring varying gross heads from 686 m to 618 m. ANDRITZ HYDRO will deliver these extreme high head Francis and generator units as well as the hydraulic steelworks and the steel linings.

▼ Schematic model of the turbine and mechanical components



Furthermore, ANDRITZ HYDRO will perform the model testing of the Francis turbines.

ANDRITZ HYDRO won the contract on the back of a successful project record, a high efficiency level and experience, especially in this high-head market segment. The start-up of production is planned for spring 2018.

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TECHNICAL DATA
Output: 2 x 185 MW/2 x 215 MVA
Voltage: 13.8 kV
Head: 665 m
Speed: 600 rpm
Runner diameter: 2,550 mm