

Kaunertal

Refurbishment of two synchronous generators in Austria

TIROLER WASSERKRAFT AG has awarded a contract to **ANDRITZ HYDRO** for the refurbishment of two synchronous generators for the Kaunertal hydropower plant.

HPP Kaunertal is located in western Austria in the state of Tyrol.

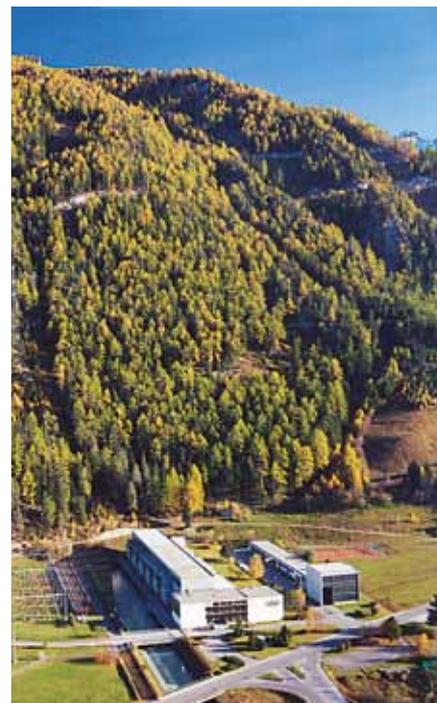
With a total of five units and an installed capacity of 500 MW, HPP Kaunertal produces an average of 664 GWh of electrical energy annually. The power plant uses a head of up to 895 m between the Inn River and the Gepatschspeicher, a dammed lake with 138 million m³ of impoundment volume collecting the water of several surrounding valleys in the Central Eastern Alps.

The existing horizontal synchronous generators with an output of 100 MVA each have been in operation for more than 50 years. ANDRITZ HYDRO will now provide two of them with new stators, new pole windings, new shafts with an in-depth assessment, as well as refurbishment of the remaining rotor-components. Before shutting down the first machine, a 3D-finite-element-analysis of the rotor and the shafts will be

made to detect the areas most stressed. This method offers the opportunity to develop and prepare remedial actions in advance to ensure the shortest possible outage time. The analysis also allows a prediction of the remaining lifetime of the components analyzed and is therefore very helpful for the scheduling of future machine revisions.

The new generator components will be designed and manufactured by ANDRITZ HYDRO Weiz, Austria, where also the in-depth assessment, replacement of the rotor shafts and pole windings, as well as an overspeed-test of the existing rotor is carried out. The completely pre-assembled stator-halves will be delivered in November 2015 to keep the machine downtime as short as possible. All erection and assembly works will be carried out by an ANDRITZ HYDRO erection team in double-shifts.

Following the successful completion of the generator modernization projects HPP Kühtai and HPP Kirchbichl, as well as the new excitation systems and penstocks for the Kaunertal hydropower plant, this award confirms again the satisfaction and trust of TIROLER WASSERKRAFT AG in ANDRITZ HYDRO.



▲ Power house and switchyard

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TECHNICAL DATA

Output: 5 x 100 MVA
Voltage: 10.5 kV
Head: 793–895 m
Speed: 500 rpm
Runner diameter: 2,858 mm

▼ View of generator components

