Austria
Wöllbach and Eisenhutgrabenbach

In December 2013 ANDRITZ HYDRO received orders from the private investors Kraftwerk WOELL GmbH for HPP Wöllbach and WKW EISENHUTGRABENBACH GmbH for HPP Eisenhutgrabenbach.

Both hydropower stations are located in the high-alpine area on the tributaries of the upper reaches of the Mur River in the province of Styria, Austria. ANDRITZ HYDRO will supply a 3-nozzle horizontal Pelton turbine, synchronous generator (400 V), the penstock connecting pipe and an inlet valve as well as being responsible for the erection and commissioning for each hydropower station. After deduction of the ecological flow the turbines will only have approx. 5% of the rated unit flow in the winter. These low flows were the reason for selecting 3-nozzle arrangements for the turbines with an applied technology based upon model testing. The run-of-river power stations are equipped with intake rakes of COANDA type and penstocks made of ductile cast iron pipes.

The start-up for each power plant is scheduled for the summer of 2014.

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TECHNICAL DATA
Wöllbach:
Output: 280 kW
Head: 212 m
Speed: 1,000 rpm
Runner diameter: 590 mm
Eisenhutgrabenbach:
Output: 322 kW
Head: 243.2 m
Speed: 1,000 rpm
Runner diameter: 640 mm

Brazil
Salto Curucaca

In December 2013, ANDRITZ HYDRO INEPAR DO BRASIL S.A., in consortium with WEG and IESA, was awarded a turnkey contract by Santa Maria Companhia de Papel e Celulose for the electromechanical expansion of the 7.34 MW Salto Curucaca hydropower plant. It is located at the Jordão River in the state of Paraná, in southern Brazil.

It will be enlarged with an additional power house, equipped with two units with a total installed capacity of 29.7 MW. ANDRITZ HYDRO will supply Francis turbines, valves, automation, electrical and mechanical auxiliaries and will also carry out the erection. WEG and IESA will deliver the generators, transformers, hydro mechanical and lifting equipment.

Commercial operation is expected to begin during the second half of 2015.

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TECHNICAL DATA
Output: 2 x 15.31 MW
Head: 57.37 m
Speed: 360 rpm
Runner diameter: 1,800 mm

Norway
Govddesåga

In August 2013, SKS Produksjon AS awarded a contract to ANDRITZ HYDRO for the delivery of the complete "Water to Wire" solution to the new Govddesåga hydropower station in Norway.

At present, Norway owns some 900 hydropower plants, which produce an average of 130,000 GWh of electricity each year. It is the sixth largest hydropower producer in the world. The country plans to build several more compact and mini/micro compact units through to 2021 under the green certificate system.

HPP Govddesåga is located in the Beiarn municipality, Norway, in Nordland County, north of Saltfjellet and south of Beiarfjorden. It will utilize the drop of height between Govddesåga at 546.5 m above sea level and Arstaddalsmagasinet, 324 m above sea level. Three Francis units with associated generators and a total output of 29 MW will be installed and will produce an average annual production of about 58 GWh. ANDRITZ HYDRO is going to supply two small generators produced by sub-suppliers and the 20 MVA generator produced by ANDRITZ HYDRO Bhopal in India. ANDRITZ HYDRO Ravensburg, Germany, will provide the turbine equipment in cooperation with ANDRITZ HYDRO Norway, which is also responsible for project management. SKS Produksjon AS annually produces some 1,800 GWh of hydroelectric power from 12 regional power plants.

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TECHNICAL DATA
3 Francis vertical units
Output: 18 MW/8 MW/3 MW
Head: 220 m
Speed: 750 rpm/1,000 rpm/1,500 rpm
Runner diameter:
1,035 mm/660 mm/430 mm