



▲ Spillway



▲ Runner lifting

Paloona

New Kaplan runner for an Australian hydropower plant

In 2011 ANDRITZ HYDRO was awarded a contract by Hydro Tasmania for the rehabilitation and upgrade of two Kaplan units – HPP Paloona and HPP Meadowbank.

Since drinking water is also taken from the river where these machines operate and the units have been in operation for a long time without major outages, the risk of an oil spill tipped the balance for the project in favor of ANDRITZ HYDRO, which offered its environmental friendly oil-free Kaplan runner concept in combination with a high pressure hydraulic power unit.

The scope of ANDRITZ HYDRO consists of model testing for the Hydro Tasmania Kaplan fleet, design and supply of an oil-free Kaplan runner, guide vanes and guide vane regulating mechanism, facing plates, shaft seal, servomotors for the runner and guide vane regulating mechanism, inner top cover, hydraulic power unit and digital turbine governor.

Installation and refurbishment of components which are to be re-used is to be completed by Hydro Tasmania.

Paloona hydropower station is the seventh and last station in the Mersey-Forth scheme, located in the north of Tasmania, an island southeast of Australia. The station was commissioned in 1972 and is equipped with one Kaplan turbine.

Main challenges for the installation are the restricted space at the site, a tough installation schedule to keep the outage time of the power station short, and limited crane capacity, as well as the unknown condition of the existing components. After fingerprint measurements the strip-down of the machine started in September 2013. Since that time, on-site machining as well as refurbishment of re-used components has been completed to fit the new state-of-the-art design.

Hydro Tasmania faced the challenges with very accurate planning of the site activities and involvement of ANDRITZ HYDRO experts in establishing the installation sequence. During installation, ANDRITZ HYDRO is assisting with technical advisory and commissioning services. In December 2013 the re-installation of this unit started and the

runner was lifted into position. The unit is scheduled to be put back into operation mid-2014. With the successful completion of the HPP Paloona project ANDRITZ HYDRO gains an important reference in the Australian market.

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TECHNICAL DATA

Output: 2 x 31.5 MW/35 MVA
Voltage: 11 kV
Head: 30.78 m
Speed: 187.5 rpm
Runner diameter: 3,930 mm



▲ Powerhouse

