

# MAXIMIZING REVENUES



Poatina is located in an artificial underground cavern, hence the name Poatina, Palawa for "cavern" or "cave".



**Australia** – ANDRITZ Hydro has signed a contract with Hydro Tasmania for the refurbishment of the Poatina Power Station in South Esk, Tasmania, Australia.

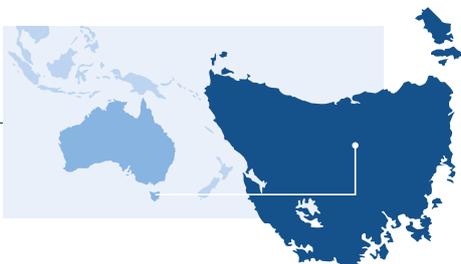
Originally commissioned in 1964, the Poatina station is part of the Great Lake Power Scheme and houses six vertical sets of between 51.6 and 60 MW. Annual energy production is estimated at about 1,255 GWh, which is fed to TasNet-works' transmission grid via underground circuit breakers.

Poatina is the second largest hydropower station in Tasmania and features a huge underground excavation, as wide as a city street, as long as a city block and as high as a seven-story building.

## TECHNICAL DETAILS

### Poatina:

- Total output: 338 MW
- Scope output: 4 × 64 MW
- Head: 735 m
- Speed: 600 rpm
- Runner diameter: 1,883 mm
- Av. annual production: 1,255 GWh

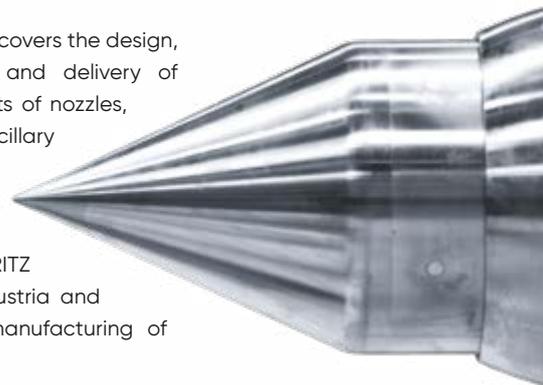


The contract for ANDRITZ Hydro covers the design, manufacture, factory testing, and delivery of four new turbine runners, six sets of nozzles, five governor systems, and ancillary equipment to replace aging equipment. It includes further engineering, model test and transient studies from ANDRITZ Hydro European locations in Austria and Switzerland, as well as the manufacturing of components in Europe.

Technical highlights are the interoperability between the new runners for units #2 and #3 and the existing runners of units #1, #4 and #5. The nozzle profile design is also challenging. A solution featuring a much more compact torpedo has been proposed using a nozzle design without a spring. The absence of the spring helps to reduce the required space, which also leads to better efficiency.

The new equipment will reduce the asset risk over future decades and will maximize the interchangeability of parts between units #1–#5. Model test and transient studies will be performed to increase the turbine output to 64 MW, increase the runner efficiency and improve the operational flexibility from the Poatina machines, maximizing the revenue opportunities in the market.

The contract for Poatina is another important step in strengthening ANDRITZ' presence in the Australian hydropower market.



### AUTHOR

Michael Stepan  
hydronews@andritz.com