

Repulse

Power Station

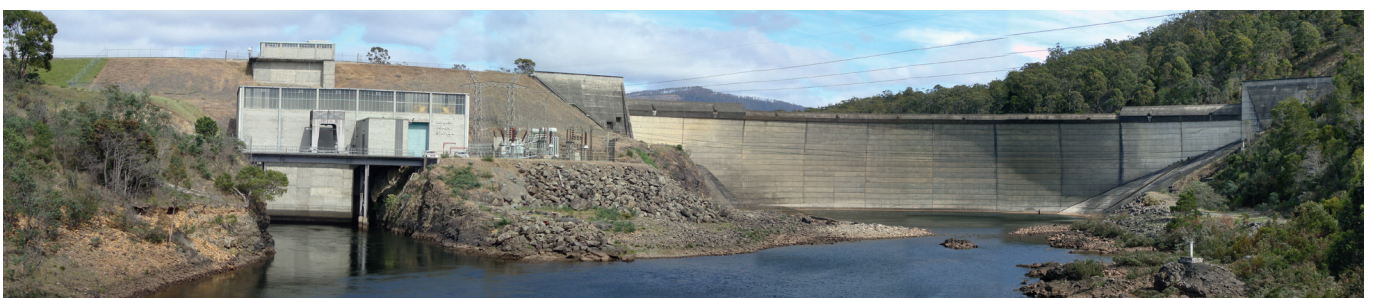
Derwent Catchment

Repulse Power Station is the eighth station in the Lower Derwent / Nive Scheme. The power station was commissioned in 1967 and houses a single Boving Kaplan turbine coupled to a Siemens generator.

Repulse Power Station sits near the base of the concrete arch dam. Repulse Dam features an intake structure with intake gate designed to cut off full flow and a short penstock integral with the dam. The water travels from Repulse through to the Cluny Lagoon and downstream power stations.

The turbine has a five-bladed runner and concrete spiral casing. Pre-stressed cables passing through the stay vanes anchor the spiral casing and form part of the station foundation. No inlet valve is installed in the station.

The power station output is fed to the transmission grid via two 11 kV / 220 kV generator transformers in parallel and 220 kV outdoor switchgear. The switchyard is situated adjacent to the power station.



Fast facts

Scheme:	Lower Derwent / Nive
Year commissioned:	1968
Power station structure:	<ul style="list-style-type: none"> • 37 m long x 14 m wide • Assembly bay and service block adjacent to a deep set rectangular machine bay
Static head:	27 m
Generating set:	Vertical shaft generating set: <ul style="list-style-type: none"> • 29 MW Kaplan turbine • Directly coupled to a 3-phase, 50 Hz, 35 MVA synchronous generator
Turbine manufacturer:	Boving
Generator manufacturer:	Siemens
Rated head:	25m
Rated output:	36 MVA
Rated discharge:	142 m ³ /s
Power factor:	0.8
Rated speed:	136 rev/min
Rated voltage:	11 kV