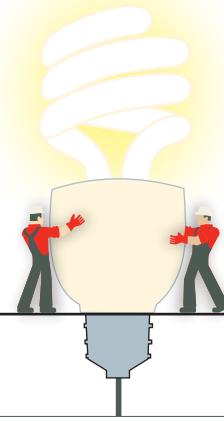


Lake Echo Power Station

Derwent Catchment



Lake Echo Power Station is located on the shores of the Dee Lagoon. The station was commissioned in 1956 and houses a single English Electric Francis turbine coupled to an English Electric generator.

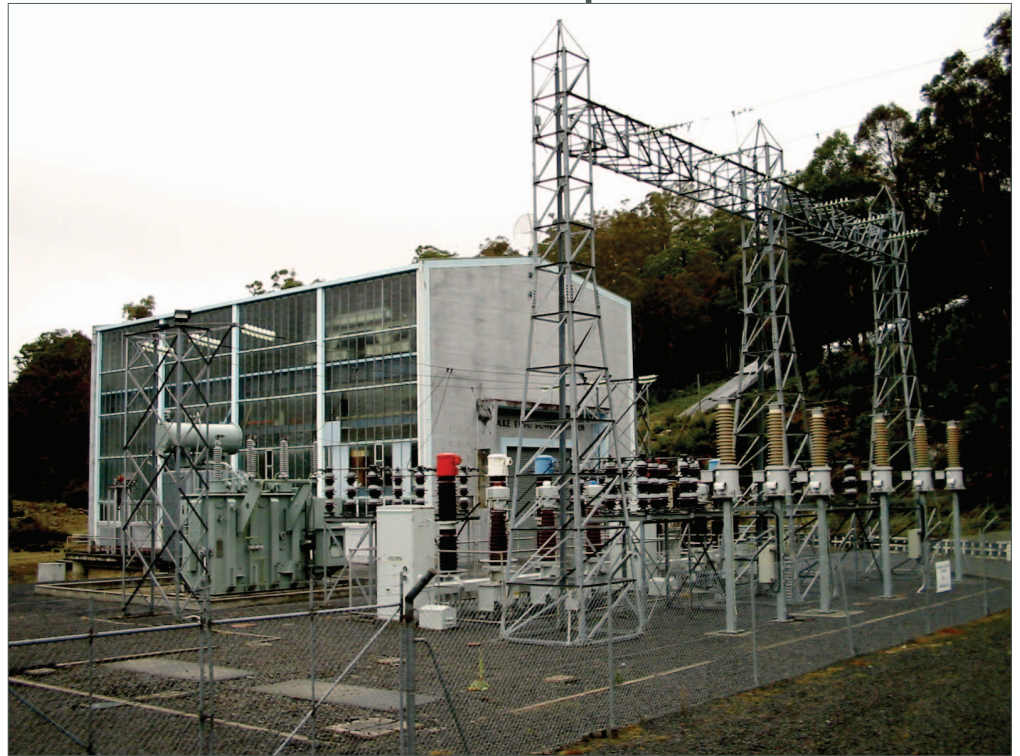
Water is diverted from Lake Echo by a single 2.5 kilometre-long flume and 700 metre-long canal. It then drops 168 metres through a single steel penstock to the station with a surge tower located midway along the penstock.

The turbine has a fully embedded spiral casing and water flow is controlled via a straight flow main inlet valve and a relief valve designed to prevent spiral casing overpressure.

There is a diversion constructed to bypass water from Lake Echo dam to Dee Lagoon without passing through the station in case the machine is not available for service. This is only used under extreme circumstances.

Lake Echo is one of the main headwater storages for Dee Lagoon, Bradys, Binney, Tungatinah Lagoon and Lower Derwent river catchments, releasing water to a further seven stations downstream.

The station output is fed to Transend Networks' transmission grid via one 3-phase 11 kV/110 kV generator transformer and dual 110 kV outdoor switchgear.



Scheme:		Upper Derwent	
Year commissioned:		1956	
Power station structure:		Surface, 28 m long x 16 m wide with the services block adjacent to the assembly bay.	
Static head:		173 m	
Generating set:		Vertical shaft generating set, comprising a 32.4 MW Francis turbine directly coupled to a 3-phase, 50 Hz, 36 MVA synchronous generator.	
Turbine manufacturer:	English Electric	Generator manufacturer:	English Electric
Rated head:	168 m	Rated output:	36 MVA
Rated discharge:	23 m ³ /s	Power factor:	0.9
Rated speed:	428 rev/min	Rated voltage:	11 kV

