

Lemonthyme

Power Station

Mersey-Forth Catchment

Lemonthyme Power Station is the third station in the Mersey-Forth Scheme. The power station was commissioned in 1969 and houses a single Fuji Francis turbine coupled to a Siemens generator.

Water travels to the power station through a 6.5 kilometre-long tunnel and a 1.6 kilometre long surface penstock from Lake Parangana along the Mersey River. The power station consists of an intake structure with intake gate design to cut off full flow, the power station building, generator equipment and associated facilities.

The turbine has a fully embedded spiral casing connected to a turbine inlet valve and is fitted with a relief/discharge valve.

A hilltop valve is provided for the surface penstock. A penstock bypass valve is located next to the hilltop valve to divert water into the Forth River when the station is not operating.

The draft tube gate and relief valve are designed so they can be removed by the power station crane when they need to be inspected. There is also 0.85 MW mini hydro station at Lake Parangana to release water into the lower reaches of the Mersey River.

The power station output is fed to TasNetworks' transmission grid via two 3-phase 11 kV/220 kV generator transformers and outdoor switchyard.



Fast facts

Scheme:	Mersey-Forth
Year commissioned:	1969
Power station structure:	<ul style="list-style-type: none"> • 32 m long x 16.5 m wide • Assembly bay and service block • Rectangular machine bay
Static head:	159 m
Generating set:	<ul style="list-style-type: none"> • Vertical shaft generating set • 54 MW Francis turbine • 3-phase, 50 Hz, 60 MVA synchronous generator
Turbine manufacturer:	Fuji
Generator manufacturer:	Siemens
Rated head:	139 m
Rated output:	60 MVA
Rated discharge:	42 m ³ /s
Power factor:	0.85
Rated speed:	300 rev/min
Rated voltage:	11 kV

