

CATAGUNYA DAM

Location: On the Derwent River near Wayatinah. Turn off the Lyell highway about 16 km west of Ouse.

Owner: Hydro Tasmania

Plaque installation is awaiting dam modifications.

Prestressing

A concrete gravity dam depends on its weight to resist sliding and overturning by the reservoir water pressure.

For a prestressed gravity dam, the vertical steel cables attach a large prism of rock to the dam base, and the (submerged) weight of this prism allows an equivalent weight of expensive concrete to be omitted.

Each cable was lowered into a hole formed in the dam and drilled into the foundation, anchored at the bottom in cement grout and stressed from the top. The hole was then completely filled with cement grout to prevent corrosion of the cables. The dam has 412 cables up to 60 m long and each carrying a load of 200 tonnes.

On completion, the dam was the highest in the world designed for prestressing from the outset.

John Wilkins, Engineer for Civil Design in the Hydro-Electric Commission, proposed the use of prestressing. Designers Michael Fitzpatrick and Ken Webster were supervised by Jack Fidler. Les Hughes supervised the construction. The Cementation Co of London carried out the prestressing work under contract.



Catagunya Dam under construction in 1960.

The prestressing cables heads can be seen protruding from the top of some blocks.

HISTORIC ENGINEERING MARKER

Catagunya Dam

This prestressed concrete gravity dam is 49 m high. Its initial cost and the volume of concrete were reduced by anchoring the dam to the foundation rock with high-tensile steel cables. When completed by the Hydro-Electric Commission in 1961, it was only the second custom-designed prestressed dam in the world (and the first in Australia). Many more have since been built or strengthened with high-tensile steel cables.

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Catagunya Power Development

The dam feeds a power station several hundred metres downstream. It contains two 25 MW Francis turbines. The scheme is one of eight stations utilising the waters of the Derwent River.

Heritage Dams Project

Catagunya Dam was one of the 25 dams selected in a national survey to find those dams with the highest heritage values.