

RED HILLS Diversion

Date: 2010

Principal: **Hydro Tasmania**

Project Value: **\$3.86M**

TASK

Hydro Tasmania has taken up the challenge to identify and develop opportunities from the current system, which could be captured to restore lost water inflows rather than just accepting a reduced system capacity. On this basis a target to identify 1000 GWh of additional energy from system enhancements of the Hydro Tasmania's assets was set. The Red Hills Creek Diversion Project is part of targeted catchment diversion and diversion upgrades.

An objective of the project was to increase existing storages, such as Lake Plimsol, to capture greater inflow to be released during drier periods. Lake Plimsol was reduced in size in the mid 1990s due to the need to cut costs. This project is part of Hydro Tasmania's plan to upgrade or redevelop existing power stations, some of which are up to 70 years old.

Positioning two structures on the Red Hills Creek and Number 1 Creek to capture the natural overland run-off and that of several creek tributaries, the project sees a V drain which catches the overland flow and channels it through a series of pipes which ultimately diverts the flow under a roadway and to a tunnel portal into a natural watercourse.

The catchment goes into an 8km tunnel from the Anthony Dam and then into the underground Tribute Power station. Development of the Red Hills Creek diversion tunnel utilised hand held machine and drill and blast techniques.

Charging and blasting was carried out with the aim of minimising damage to the walls and backs of the tunnel. This required careful selection of explosives and charging to conform to the rock type and geotechnical conditions.

CHALLENGES

Shaw Contracting was required to undertake each of the four relocations in a single day including the largest section, which was over 1.2km in length.

OUTCOMES

On each relocation, the morning train was allowed to pass prior to the relocation commencing and the afternoon train returned on the newly laid alignment.

