



MOUNTAIN CHALLENGE



MCCONNELL Dowell's work on the \$230 million Bogong Hydro Electric scheme comprises construction of a new underground hydro electric power station and a network of tunnels and shafts near Falls Creek in the Victorian ski fields.

The work includes about 5.7 kilometres of 5m-diameter headrace tunnel from the Mackay Creek power station to the new power station, two vertical shafts and a 1km steel-lined high-pressure tunnel. The power station will comprise twin 70-megawatt generators.

After winning the contract in September 2006, MacDow quickly moved to advance a 130m launch tunnel in preparation for the arrival of a 400-tonne tunnel boring machine from the Herrenknecht factory in Schwannau, Germany.

The massive TBM arrived partially broken down and was assembled onsite over eight weeks. The TBM system involves the successful integration of a raft of tunnelling components including the cutter head, backup systems, continuously advancing conveyor systems, ventilation, high-voltage power requirements, and all associated locomotives and rolling stock.

The construction of the underground power station includes the excavation of the station box, which will be a top down excavation utilising secant pile walls, rock anchors and excavation in

rock to some 25m below the ground. A massive box will be created, from which some 30,000 cubic metres of material will be excavated. The construction of the power station will then commence with the foundations requiring more than 10,000 cubic metres of concrete.


Pivotal to the success of the power station will be the coordination of the mechanical equipment including turbines, generators, draft tubes, inlet valves and scroll casings.

Community engagement is also vital to the overall success of the project. Bogong Village houses an outdoor education centre and is a significant bush trekking area. MacDow has improved outdoor activities areas and upgraded walking tracks in the areas surrounding the project.

Sustainability endeavours for the project extend to the disposal of the tunnel rock spoil. The local Alpine Shire intends to use this material to upgrade local roads in the area, particularly the high plains road to Ormeo from Falls Creek.

The new power station forms part of AGL Southern Hydro's strategic energy framework for the supply of green peak demand power. It will harness the Rocky Valley and Pretty Valley branches of the East Kiewa River and also existing water resources released from

the Mackay Creek power station to generate 140MW of renewable power.

MacDow says it looks forward to overcoming the project's challenges to ensure that the Bogong Hydro Electric power station will be online and generating power by late 2009. 



Tunnelling the 5m-diameter headrace.