

## Project Title

Bakun Hydroelectric Project, Philippines

**The 70MW Bakun Hydroelectric Project developed by the Luzon Hydro Corp, an independent power company, is a traditional run of the river scheme on northern Luzon's Bakun River.**

The Bakun Hydro-electric Project, with a 40 year design life, comprises a 9.6km long "horse-shoe" shaped tunnel, constructed by Drill+Blast, which transfers water from the weir/intake structures to the two 35MW turbines located in a surface powerhouse.



*Drilling blast holes for next advance (round).*

The tunnel is divided into three principal elements: a nominally unlined section for the first 6.5km, a 1.8km section which is also nominally unlined though with the flow being carried by an unconfined 2.1m Ø steel pipeline, and a final 1.25km of tunnel where the 2.1m Ø pipeline has been confined by backfilling the annulus between the pipeline and the tunnel wall.

The nominally unlined section of tunnel has some sprayed concrete support, in areas where the rock conditions required supplementary support or protection. In anticipation of rockfalls during operation a rock trap is located immediately

above the junction between the unconfined steel pipeline and the nominally unlined tunnel.

The tunnel falls by some 579m along its length. The gradient is relatively shallow (1%) for the first 3.6km of tunnel then increasing to 10%, with the exception of two relatively short sections at 1%, for the remainder.



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ICC were retained to advise and assist in determining whether any damage had occurred to the nominally unlined tunnel and to the confined steel pipeline during the commissioning of the facility and thus establish whether there was a valid claim.