



Bunji Hydro-Power Project

Pakistan Water and Power Development Authority

Location: Bunji, Pakistan

Date: 2008 – 2011

Structure: Headrace Tunnels, Trailrace Tunnels, Access Tunnel, Caverns, River Diversion Tunnel

Length: Headrace Tunnels: 5 miles (8 kilometers)
Trailrace Tunnels: 1.6 miles (1.7 kilometers)
Access Tunnel: 5 miles (8 kilometers)
River Diversion Tunnels: 0.6 miles (0.9 kilometers)

Cross-Section: Headrace Tunnels: 32.8 feet (10 meters)
Internal Diameter Caverns – 230 feet (70 meters) Height – 105 feet (32 meters) Width
Trailrace Tunnels: 32 feet (9.5 meters)
Internal Diameter Access Tunnel: 39 feet (12 meters) Height – 36 feet (11 meters) Width

Geology: Gneiss, Kamila Amphibolite, Fluvial Sediments and Moraine Deposits; Two Major Fault Zones Include the Main Mantle Thrust (Fault Between Eurasian and Indian Tectonic Plates) and the Raikot Sassi Fault Zone

Cost: US \$1.1 Billion

Client: Pakistan Water and Power Development Authority (WAPDA)

Owner: Pakistan Water and Power Development Authority (WAPDA)



Figure 1. Powerhouse tailrace area.



Figure 2. Project site from across the Indus Valley.

Expert Panel Review of Bunji Hydro-Power Project:

The Bunji Hydro-Power Project is a planned 6,000 MW facility to be constructed on the Indus River in Northern Pakistan. This massive undertaking will consist of at least 11 mined tunnels and powerhouse caverns. The tunnels traverse distances up to 5 miles (8 kilometers) and will run through a tectonically active region and a continental thrust fault.

The owner, MWAPD, assembled a panel of experts in Lahore to conduct independent review of the feasibility study before completion. Gall Zeidler Consultants (GZ) advised on the tunneling scheme associated with this proposed Hydro-Power Project.