

Nadarivatu Hydroelectric Scheme Official Opening Friday 14th September, 2012

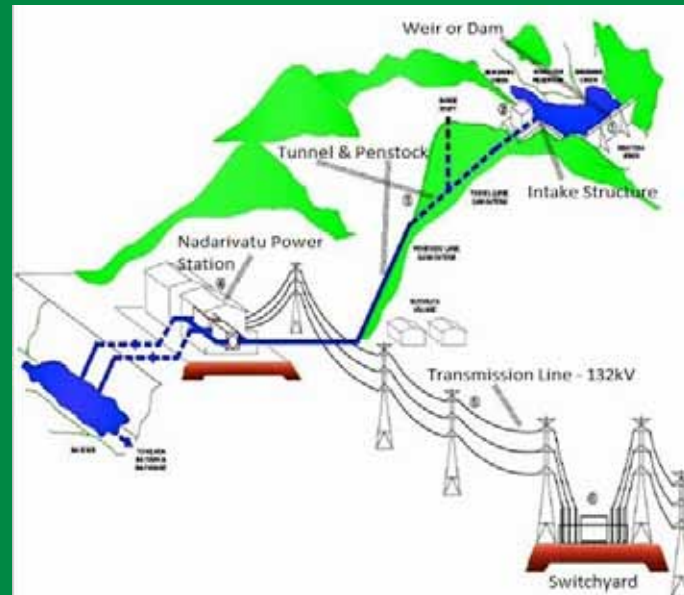
Project Factsheet

Nadarivatu Hydroelectric Scheme Project:

Contract Signed - 15th September, 2008
Contractor - Sinohydro Corporation Ltd (China)
Construction Works Commenced - January, 2009
Construction Duration - 40 months (3 1/2 years)
Project Cost - USD150 million
Power Output - 40MW
Energy Output - 101GWh/annum (101 million units)
Fuel Savings - 22,000t per annum
CO₂ Emission - Nil
Environmental Impact Assessment - 2008
River Catchments Involved - Sigatoka & Ba Rivers
Consulting Engineers - MWH (NZ)
Contractor Workers - 450 including 120 locals
Engineering Team - FEA - 9 & MWH - 6

Nadrivatu Hydroelectric Scheme Components:

1. Weir or Dam
2. Intake Structure
3. Water Conveyance System (Tunnel & Penstock)
4. Power Station
5. 132kV Transmission Line
6. Switchyard



1. Weir or Dam



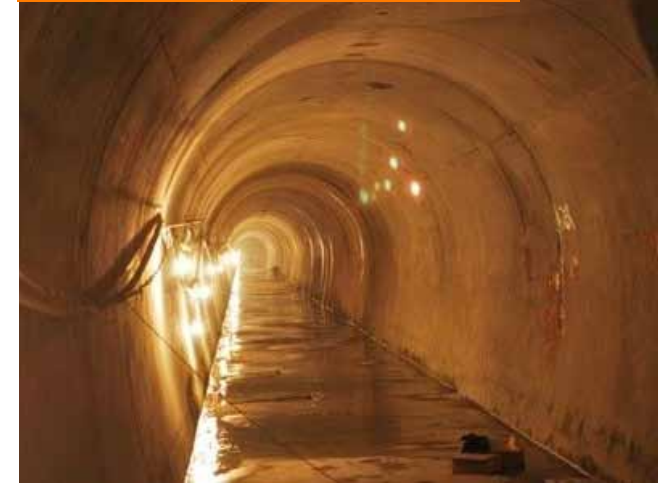
- Situated in the headwaters of Sigatoka River - 130km from the Sigatoka River mouth
- Above Sea Level - 530m
- Nadarivatu - Concrete dam compared to Monasavu which is a rock & earth fill dam
- 30m high dam; 87m crest; 14m wide
- 2 x sluice gates
- 3 x spillways with radial gates for flood control
- Storage capacity - over 1,000,000m³
- Inundated area - 0.09km²
- Amount of concrete used - 40,000m³

2. Intake Structure



- Houses intake gates
- Stop logs
- Screen
- Situated on the inlet end of the tunnel
- Operated from the Control Building
- Water intake - 15 cubic meters per second

3. Water Conveyance Tunnel



Tunnel:

- 2km long underground tunnel
- Horse shoe shaped
- 3.2m x 3.2m size
- Low pressure tunnel
- Approximately 20m Head difference

Penstock:

- 1.4km long above ground high pressure tunnel
- Made of medium & high strength steel
- 2.5m diameter in size
- Approximately 320m Head difference

Water Conveyance Penstock



4. Power Station



- Situated on Ba River side approx. 70km from Ba
- River mouth
- Above Sea Level – 186m
- Houses 2 Pelton turbine generator sets, power station crane, transformers and electrical panels
- Discharge rate – 15cumecs or 15000L/s

5. Transmission Towers & Power Line



- A total of 16 steel latic towers
- Stretches over 6km from Power station to the Switchyard
- The 132kV Transmission transports power to the Switchyard

6. Switchyard



- The Nadarivatu Switching Station
- Connects power to national grid
- Situated near the 132kV Wailoa - Vuda transmission line alignment



Nadarivatu Hydroelectric Scheme

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