

Salient Features of Baramchi Hydropower Project

1 Project Location

Development Region	: Central
Zone	: Bagmati
District	: Sindhuplachowk
Intake Site	: Baramchi & Hagam VDCs
Powerhouse Site	: Baramchi VDC
Geological Co- Ordinates	:
Latitude	: 27° 50'11"N to 27° 51'30"N
Longitude	: 85° 46' 38" E to 85° 48'15"E

2 General

Name of River	: Baramchi Khola
Nearest Town	: Jalbire Bazaar
Type of Scheme	: Run-of –river
Gross Head	:655 m
Capacity for PPA	: 4,158 kW
Average Annual Energy after Outage	: 22.555 GWh

3 Hydrology

Catchment Area	: 14.75 Km ²
Mean Annual Discharge	: 1.26 m ³ /s
Design Discharge	:0.87 m ³ /s
Probability of Exceedance	: 0.02 m ³ /sec
Design Flood Discharge	: 154.6 m ³ /s (100 Yr. flood)

4 Diversion Weir

Type of Diversion Weir	: Free Flow Concrete
Length of Weir	: 12.5 m
Height of Weir	:
Crest Elevation	:1,532.0 m
Undersluice Size	: 1.0 m x 2.0 m

5 Intake

Type : Side Intake
Size of Trashrack : 1.8 m x 2.8 m

6 Desilting Basin

Type : Rectangular
No of Chamber : 1
Dimension (L x B x H) m : 20.0 m x 5.0 m x 4.0 m
Particle Size to be settled : 0.15 mm

7 Water Conveyance

Type : Mild Steel Headrace Pipe
Length of headrace pipe : 2,715
Internal diameter : 0.6 m (for 1,150 m length)
: 0.5 m (for 1,565 m length)
Thickness : 4-8 mm

8 Forebay

Type : Rectangular
Size : 6.0 m x 4.6 x 4 m
Full Supply Level : 1,491.0 m

9 Penstock Pipe

Type : Supported Mild Steel
Length of penstock pipe ; 1,615
Internal diameter : 0.5
Thickness ; 8-16 mm

10 Powerhouse

Type ; Surface
Dimension : 18.0 m x 8.0 m x 7.0 m
Turbine Axis Level : 877 m

11 Tailrace Canal

Type	: Rectangular
Length	: 5.0 m
Size (W x H)	: 2.0 m x 1.8 m
Normal Tail Water Level	: 872.0 m

12 Turbine

Type	: Horizontal Axis Pelton
Number	: Two
Rated Output Capacity per Unit	: 1 MW & 3, 231 Mw
Efficiency	: 90.0%

13 Governor

Type	: Electronic with PID
Adjustment for Speed Droop	: 0-5 %

14 Generator

Type	: Synchronous, Three phase
Rated output capacity	: 5,250 k VA
Power factor	: 0.8
Voltage	: 6.3 k V
Frequency	: 50 Hz.
No of units	: Two
Excitation system	: Brushless
Efficiency	: 96%

15 Transformer

Type	: Oil Immersed, 3 phase
Rated capacity	: 1, 250 kVA & 4,000 kVA
Voltage ratio	: 6.3/33 kV
Efficiency	: 99%

16 Transmission Line to be constructed by Company

Voltage level	: 33 kV
Length (approx...)	: 18 km
From	: Powerhouse (BHP)
To	: NEA lamosangu Sub- station
Conductor	: ACSR “DOG”
17 Construction Period	: 30 Months

Appendix 2: Professional who visited the site following the earthquake

First visit

Kumar Pandey (Project Director)
Dr. Gyanendra Lal Shrestha (Geo technical Expert)

Second visist

Jagannath Gautam (Insurance Surveyor)
Anup Thapa (project Engineer)
Yam Bahadur Thapa (Project P.R. O.)

Third Visit

Kumar Pandey
Jagannath Gautam Insurance Surveyor
RC Sinha Insurance Surveyor
Anup Thapa (Project Engineer)
Mukti Gautam (Insuranec Professional)
Yam Bahadur Thapa (Project P.R. O.)

Fourth Visit:

Bank consortium visit with hydro mechnail consultant from TAC consultants

Fifth Visit

Deepak Ranabhat
Yam Bahadur Thapa