

MARSHYANDI-7 HYDROELECTRIC PROJECT

SALIENT FEATURES

SN	FEATURES	CHARACTERISTICS
GENERAL		
1	Name of the Project	Marshyandi-7 Hydroelectric Project
2	Sector	Hydropower
3	Type of Scheme	Run of River, 54 MW Installed Capacity
4	Gross Head	505. m
5	Net Head	479.75 m.
Power and Energy		
6	Project Capacity	54 MW
7	Dry Energy	102.038 GWh
8	Wet Energy	196.207 GWh

PROJECT LOCATION

1	Province	Province 4
2	Project Location	Zone: Gandaki District: Manang VDC: Pisang and Chame
3	Project Area	Longitude: 84°10' 26"E - 84°16' 00"E Latitude: 28°32'33"N - 28°36'21"N

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TECHNICAL COMPONENTS

1	Hydrology	Catchment area at intake site : 625 KM ² Design Discharge (Q50%) : 12.58 m ³ /s Average Minimum flow : 4.1 m ³ /s Environmental flow : .41 m ³ /s
2	Weir	Weir Type: Concrete Ogee type weir with dressed armouring Weir Crest Length : 60 m Weir Crest Elevation : 3125 masl Weir Height : 6.5 m
3	Under sluice	Size (BXH) : 4m x 4m No. of Under sluice gate : 2 Gate Type : Motor Operated
4	Intake	Type : Side Intake Size : 5.4m x 2.0 m Number of openings: 2
5	Gravel Trap	Length of Gravel Trap at base : 14.00 m Width of Gravel Trap : 8.00 m Width of Flushing Gate : 1.0 m Height of flushing Gate : 1.0 m Length of flushing Gate : 50.00 m
6	Approach Culvert	Type of Culvert : Rectangular Box Culvert Water height in culvert : 2.00 m Depth of culvert : 2.50 m Bottom width of culvert : 3.80 m
7	Settling Basin	Type of Basin : Conventional Hopper Type Sediment size to be settled : 0.20 mm Number of Bays : 2 Length of Settling Basin : 107.00 m Width of Single Basin : 13.50 m
8	River Crossing	Diameter of Steel Pipe : 2.2 m Length : 500 m Pipe Thickness : Varied from 10 mm-20 mm, 250 Grade
9	Headrace Tunnel	Finished Diameter (D-Shaped) : 3.40 m Total Length : 7500 m
10	Surge Tank	Finished Diameter : 3.4 m Total Height : 40.0 m

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11	Penstock Pipe	<p>Vertical shaft Penstock Pipe Finished Diameter, D1 (Concrete Lining): 2.8 m Length: 250 m Finished Diameter, D1 (Steel Lining): 2.2 m Length: 250 m</p> <p>Horizontal Penstock Pipe Finished Diameter, D1 (Concrete Lining): 2.2 m Length: 600 m</p>
12	Powerhouse	<p>Type: Underground Size (LxBxH): 75m x 14m x 28m Switch Yard Type: Indoor Size: 10m x 30 m</p>
13	Turbine and Generator	<p>Turbine Type: Pelton Number of Units: 3 Efficiency: 89.1% No of Jets: 4 Turbine center line elevation: 2620 masl Running Speed: 375 rpm Turbine rated output: 18000 kW x 3</p> <p>Generator Type: Brushless Synchronous Capacity: 20.83 MVA Voltage: 11 KV Power Sector: .80 Operating Range: .8 (lag) – unity – 1 (lead) Number of Units: 3</p>
14	Tailrace Tunnel	<p>Shape: Rectangular Length: 500 m Size (BxH): 3.4m x 3.4</p>

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INDICATIVE FINANCIALS

1	Project Cost before financing	62.14 Million USD
2	Project Cost after financing	69.97 Million USD
3	IRR	19.42%
4	Simple Payback Period	6.92 years
5	ROE	27 %

CONTACT DETAILS

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