MYAGDI KHOLA HYDROPOWER PROJECT

SALIENT FEATURES

SN	FEATURES	CHARACTERISTICS
	GENERAL	
1	Name of Project	Myagdi Khola Hydropower Project
2	Type of the Scheme	Run of River
3	Gross Head	564 m
4	Catchment Area	306 Km2
5	Net head	537.62 m
6	Mean Annual Discharge	23.56 m3/s
7	Design Discharge (at 41% PoE)	12.5 m3/s
8	Design Flood Discharge at intake	659.46 m3/s
9	Design Flood Discharge at powerhouse	731.49 m3/s
10	Installed Capacity	57.30 MW
	PROJECT LOCATION	
1	Latitude	28038'00" N to 28033'20" N
2	Longitude	83025'00" E to 83021'50" E
3	Project Area	Dovan (Kunaban Khola and Myagdi Khola) and Jeltun Village, Myagdi, Pokhara Province
	TECHNICAL INFORMATION	
1	**Diversion/ Weir Type**	Concrete gravity structure with overflow weir section (Broad crested weir)
	Length Of Weir	15.00 m
	Crest Elevation	2417.0 masl
	Spillway type	Ogee Shape
	Under sluice Opening (WxH)	2.50 m x 3.40 m
	Under sluice Crest level	2413.3 masl

SN	FEATURES	CHARACTERISTICS
2	**Intake Structure cum Gravel Trap**	
	Type of Intake	Side intake (Orifice type)
	Nos. of Opening	3 Nos.
	Size of Intake (WxH)	2.80 m x 1.80 m
	Intake Normal Water Level	2417.0 masl
	Length of Gravel Trap	9.80 m
	Width of Gravel Trap (Avg.)	10.40 m
	Overall depth	7.5 m
	Particle size to be trapped	4 mm
	Flushing Channel	1.00 m x 1.00 m (W x H)
3	**Feeder Tunnel**	
	Type	Free flow
	Length	439 m
	Size (W x B)	3.20 m x 3.50 m
4	**Desanding Basin**	
	Type	Hopper type
	Dimension (LxBxH)	95 m x 10 m x 11.21 m
	Inlet Transition Length	22.10 m
	Particle Size to be settled	0.15 mm
	Trapping Efficiency	100% based on Camp's theory and 87.42% based on Vetter's theory
5	**Headrace Tunnel**	
	Type	D-shaped
	Internal Diameter	3.20 x 3.50 m
	Length	5644 m
	Steel Thickness/Type of Lining	Concrete lining
	Nos. of Anchor Blocks	7 nos.
6	**Surge Tank/Forebay**	
	Type	Surface
	Effective Depth	36 m
	Diameter (or Size)	8 m
	Up surge level	2429.68 masl
	Down surge level	2398.34 masl
	Normal Operation level	2412.36 masl
7	**Steel Penstock Pipe**	
	Type	Surface and subsurface; mild steel
	Internal Diameter	1.8 m to 2.0 m
	Length	1069 m upto bifurcation 45 m after bifurcation
	Steel Thickness	12 to 42 mm
	Nos. of Anchor Blocks	7 nos.
	Nos. of Saddle Supports	36 nos.

SN	FEATURES	CHARACTERISTICS
8	**Vertical Shaft**	
	No of Shafts	2 nos
	Length of Shaft	Shaft-1 = 141 m; Shaft-2 = 238 m
	Size	3.5 m dia of each
9	**Powerhouse**	
	Type	Surface
	Size (LxW)	44.5 m x 14 m
	Height	22 m
	Turbine Axis level	1853
10	**Tailrace**	
	Type	Box Culvert
	Tailrace length	60 m
	Size (WxD)	4.5 m x 2.6 m (WxH)
	Tailrace water level	1850.0 masl
11	**Turbine**	
	Type	Pelton (Vertical axis)
	Number	3
	Rated Output Capacity per unit	19900 kW
	Turbine Axis Level	1853 masl
	Net Head	537.62 m
	Discharge per unit	4.17 m3/s
	Efficiency	91%
12	**Governor**	
	Type	microprocessor control
	Adjustment for Speed Droop	0-10%
13	**Generator**	
	Type	Synchronous, 3-phase
	Rated Output Capacity per unit	22.50 MVA
	Power Factor	0.85 (lagging)
	Voltage	11 kV
	Frequency	50 HZ
	No. of Units	3 nos
	Excitation System	Static excitation System
	Efficiency	97%
14	**Transformer**	
	Type	3-phase, oil-immersed
	Rated Capacity	22.50 MVA
	Voltage ratio	132/11 kV
	No. of Units	3 nos.
	Vector Group	YNd11
	Efficiency	99%

SN	FEATURES	CHARACTERISTICS
15	**Transmission Line**	
	Voltage Level	132 kV Double Circuit
	Length	17 km
	Conductor Type	ACSR BEAR
	From	Powerhouse
	To	Proposed Dadakhet S/S, Myagdi

DEVELOPMENT MODALITY

1	Development modality	Public Private Partnership/looking foreign partner
2	Role of Foreign Partner	Arrange Debt/Equity for the project
3	Role of Local Developer	Facilitation and investment in agreed capital structure
4	Development Period	
	a. Pre-Construction Period	1 Year
	b. Financial Closure	1 Year
	c. Construction Period	3 Years
	d. Concession Period	30 years

INDICATIVE FINANCIALS

1	Total Project Cost (including Interest During Construction)	USD 96 Mn.
2	Interest Rate (including hedging cost)	10%
3	Project IRR	17.71%
4	Equity IRR	21.4%

CONTACT DETAILS

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