

# UPPER BALEPHI 'A' HYDROPOWER PROJECT

## SALIENT FEATURES

SN	FEATURES	CHARACTERISTICS
<b>GENERAL</b>		
1	Name of Project`	Upper Balephi 'A' Hydropower Project
2	Type	Run of River
3	Install Capacity	36 MW
4	Status	Under Construction
5	Progress	56% of the Total Work completed
		<ul style="list-style-type: none"> <li>■ Weir and intake structure: 60% completed</li> <li>■ Headrace tunnel: 60% completed</li> <li>■ Powerhouse: 30% completed</li> <li>■ Transmission Line: 56% completed</li> </ul>
6	COD	2020 February

## PROJECT LOCATION

1	Latitude of Project Area	27° 53' 45" N to 27° 57' 00"N
2	Longitude of Project Area	85° 45' 30" E to 85° 47' 40" E
3	Project Area	Jugal Rural Municipality, Sindhupalchowk District, Province 3

## TECHNICAL INFORMATION

1	<b>Diversion Weir</b>	
	Length	51m
	Height	8 m
	Crest Elevation	1257 msl
2	<b>Fish Pass</b>	
	Size :	0.6 m x 0.6 m
	Elevation :	1256.4 msl

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3	Under-sluice	
	Bank :	Left
	Size :	3.0 m x 5.0 m
4	Intake	
	Size:	3.0 m x 3.5 m
	No :	2 (Two)
5	Approach Cannel	
	Size:	3.0 m x 5.0
	Length:	16.8 m
	Combine with Settling Basin	
6	Settling Basin	
	Size :	115 m (L) x 12 m(B) x 10.1 m(H)
	No of bay :	1 (One)
	Particle size :	0.2 mm at 90 % efficiency
7	By-Pass Channel	
	Size :	3.0 m x 5.0 m (W x H)
	Length :	165 m
8	Inverted Siphon	
	Diameter :	3.2 m
	Length :	180 m
	Type :	Steel pipe (12 mm ) encased in RCC
9	Headrace Tunnel	
	Type :	Inverted D
	Diameter :	3.4 m to 4.1 m
	Length:	4447.8
	Support:	Shortcrete, concrete, steel lining (360 m)
10	Surge Shaft	
	Type :	Underground
	Diameter:	8 .0 m (finish)
	Height :	53.82 m
	Surge Level:	1273.88 msl
	Ventilation Tunnel :	2.5 m (dia) , 30 m (length)
11	Penstock	
	Type :	Surface
	Length :	600 m
	Thickness :	12 mm to 32 , 3.0 m (dia)
12	Power House	
	Type:	Surface
	Size :	59 m (L) x 14 m (W) x 22.56 m (H)
	Axis Level :	1044.71 msl

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13	Tailrace	
	Length :	59.6 m
	Size:	32 to 10 m (B) x 3.5 m (H)
	Outlet Level:	1046.5 msl
14	Turbines	
	Type :	Francis
	No of Units :	Three
15	Generators	
	No of units:	Three
	Phase :	Synchronous Three phase
	Voltage :	11 kv
16	Transformer	
	No of Units :	Ten ( Nine + One)
	Phase :	Single
	Voltage :	11 kv / 132 kV
	Rated Capacity :	5.1 MVA
17	Transmission Line	21 km long 132 kV single circuit transmission line to connect Existing Lamosanghu S/S

### CURRENT STATUS OF THE PROJECT

1	Feasibility Study	Completed
2	Detailed Project Report	Completed
3	EIA	Completed
4	PPA and PPA Rate	Take and Pay Model Rs. 4.8/unit for Wet Season Rs. 8.40/unit for Dry Season
5	Land Acquisition	Completed

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#### DEVELOPMENT MODALITY

1	Development modality	Option open for Equity Investment
2	Role of the Foreign Partner	Up to 70% equity investment
3	Role of the Developer	Project management, award construction contract, monitoring and supervision of project, local issues liasioning and settlement, liasioning with Government entities as and when required, evacuate electricity to the national grid.
4	Development Period	<ul style="list-style-type: none"> <li>■ Financial Closure: Completed</li> <li>■ Construction Planning: <ul style="list-style-type: none"> <li>■ Infrastructure development work 2017</li> <li>■ Tunnel excavation to start from 2017</li> <li>■ Other civil structures started from 2017</li> </ul> </li> <li>■ Completion Date: March 2020</li> </ul>

#### INDICATIVE FINANCIALS

1	Total Project Cost (including Interest During Construction)	\$ 55.5 Million
2	Interest Rate (including hedging cost)	12%
3	Project IRR	16%
4	Equity IRR	20.20%

#### CONTACT DETAILS

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