

We under the process of developing **1 X 150 KW - micro Hydel Project** in Coonoor town, Ooty District, Tamilnadu, India.

We have enclosed hereby the salient feature of said project for your kind perusal to quote your best possible rates for Design, Manufacture, Supply, Transport, Erection and Commissioning of electro mechanical works including warranty.

In salient feature we have **mentioned 100 KW but there is potential available more than 150 KW**. Hence you may quote for 150 KW +15% continuous overload capacity.

CHAPTER - 2

Salient Features

1		Location	
	1	State/Country	: Tamil Nadu/India
	2	District	: Nilgiri
	3	River	: Coonoor river a tributary to Bhavani river which finally joins Cauvery River
	4	Nearest Town	: Coonoor
	5	Nearest Air- Port	: Coimbatore (80km)
	6	State Capital	: Chennai
2		Purpose of the Project	: Generation and Transmission of Hydro Electric Power
3		Installed Capacity	: 100kW
4		Avg. Annual Energy Generation	: 0.488 MU
5		Hydrology and Power studies	
	1	Catchment Area	: 53.0 Sq km
	2	Average Annual Rainfall	: 1920 mm
	3	Design Power Discharge	: 0.37 cumecs at rated head.
	4	Gross Head	: 43.0 m
	5	Net Head	: 41.5 m
6		Trench Weir	
	1	Location	: Lat: 11° 19' 56.23" N Lon: 76° 48' 3.05" E
	2	Type	: Trench Weir across Coonoor River
	3	Top of Bridge upstream of trench weir	: EL 1455.00 m
	4	FRL	: EL 1443.00 m

	5	Deepest Foundation level	:	EL 1439.46 m
	6	Crest level	:	EL 1443.00 m (varies)
	7	Depth of the Weir (from top level of trench weir)	:	2.75m to 3.25m (varies)
	8	Length of Overflow Section	:	20 m
	9	Length Non overflow Section	:	Left: 10.38m Right: 1.36m
	10	Intake	:	6.86m
	11	Total Length	:	38.60 m
	12	Design Flood	:	140 cumecs
	13	HFL	:	1445.50m
7		Intake		
		i) Top of Intake	:	EL 1446.50 m
		ii) Length	:	6.86m
		iii) No of Vent	:	1
		iv) Vent Size	:	0.5 m
		v) Design Discharge	:	0.37 cumecs
		vi) Hoist	:	Screw Rod hoist - 1 for power house and 1 for flushing pebbles and silt and sand
		vii) Trash Rack above Trench		
		Nos.	:	1
		Size	:	20 m x 1.75 m
8		Head Race Pipe		
		Inner Diameter of MS Pipe	:	0.50 m
		Thickness	:	4 mm
		Outer Diameter of MS Pipe	:	508 mm
		Length of MS Pipe	:	250 m
		Max. Pressure	:	6.0 Kg/sqcm
		Discharge	:	0.37 cumecs
		Velocity	:	1.90 m/sec

9	Power House	
	1	Location : Lat: 11° 19' 48" N Lon: 76° 48' 02" E (Right bank of Coonoor River upstream of Railway bridge)
	2	Type : Surface
	3	Power House Dimension : 4.66 m x 4.86 m
	4	Installed Capacity : 100 kW
	5	EL of Turbine C/L : EL 1397.00 m
	6	HFL : EL 1395.40 m
10	Tail Channel	
	1	Length : 6.10 m
	2	High Flood Level (River) : EL 1395.40 m
	3	Bed Width : 0.60 m
	4	Design Discharge : 0.37 cumecs
11	Turbines	
	1	Type : Turgo Impulse Turbine
	2	Rated Output : 100 kW
	3	Rated Head : 41.5 m
	4	Rated Discharge : 0.37 cumecs
	5	Rated Speed : 400 rpm
	6	Runner Dia : 660 mm
	7	Efficiency : 70%
	8	Plant Load Factor : 22.68%
12	Generators	
	1	Type : Vertical Cage Rotor Induction Generator
	2	Rated output : 100kW
	3	Generation voltage : 3Ph, 440V, 50Hz
	4	Rated Speed : 1500 rpm
13	Cost	
	1	Estimated cost of Civil works : ₹ 111.00 Lakhs

	2	Estimated cost of E & M works	: ₹ 67.00 Lakhs
	3	Estimated cost of T-Transmission	: ₹ 18.00 Lakhs
	4	Total Cost of the Project on Completion	: ₹ 203.00 Lakhs
14		Energy	
	1	Total Energy Generation	: 0.488 MU
	2	Saleable Energy	: 0.481 MU
	3	Cost of Energy Generation (1 st year)	: ₹ 4.14 per kWhr
15		Implementation Period	: 12 Months from zero date