

**STATUS OF SURVEY & INVESTIGATION OF HE SCHEMES
(PART I)**

I GENERAL INFORMATION	
A	NAME OF THE PROJECT Nongkohlait Hydro Electric Project(ROR) 2x31 MW
B	Location - East Khasi Hills Dist.Meghalaya
(i)	Latitude of Dam 25° 20'8.49 " N } at damsite
(ii)	Longitude of Dam 91° 32'39.91 "E }
C	(i) River Umngi
	(ii) Catchment Area 233 Sq Km
D	INSTALLED CAPACITY 2 x 31 Mw
E	ANNUAL ENERGY POTENTIAL 90% Dependable Year
	Annual Energy 276.35 MkWH
	Annual PLF 50.88%
	Lean PLF 31.41%
II RESERVOIR	
a)	FRL/MWL El 830.00 m
b)	Bed Level El 740.00 m
c)	Gross Storage 6.28 MCM
III WORKS	
DAM	
1	a) Type Concrete Gravity
	b) River Bed Level El 740.00 m
	c) Top Level of Dam El 832.00 m
	d) Height of the Dam 80.00 m
HEAD RACE TUNNEL	
2	a) Number 1
	b) Shape Modified Horse Shoes
	c) Length 5680.00 m
	d) Diameter 3.30 m
	e) Design Discharge 17.34 Cumecs
	f) Maximum Discharge 20.00 Cumecs
SURGE SHAFT	
3	a) Number 1
	b) Diameter 10.00 m
	c) Length 80.00 m
PENSTOCK	
4	a) Number 1 (one)
	b) Diameter 2.20 m
	c) Length 965.00 m
POWER HOUSE	
5	a) Type Surface
	b) Installed Capacity 2X31 MW
	c) Number of Unit 2
	d) Type of turbine Pelton Turbine
	e) Gross Head 440.00 m
	f) Net Head 396.00 m
	g) J.N.L 390.00 m

Please give brief details about the HE Scheme and enclose a layout map.

Brief details on Nongkohlait H.E.Project:

The dam site of Nongkohlait H.E. Project Dam is located between East and South West Khasi Hills Districts, other components of the project fall in South West Khasi Hills District of Meghalaya .The project envisages utilization of the waters of the Umngi, for power generation on a run- of –the river type development harnessing a gross head of about 440.00m and utilizing regulated releases from upstream projects.The project with a proposed installation of 62 (2X31 MW) would afford an annual energy generation of 276.35 Gwh considering upstream Umngi HE Project and 332.87 Gwh (PFR) considering scheme based on natural inflow without Umngi HE Project upstream, in a 90% dependable year. The levelised tariff from the project at present cost would be Rs.3.88/KWh considering upstream Umngi HE Project and Rs.1.72/KWh without considering Umngi HE Project on upstream.

Based on the optimisation study of Umngi Basin the diversion site is located at Latitude 25°20'8.49" N and Longitude 91°32'39.91" E. The damsite is shifted 1.63 km along the river downstream.The damsite is approachable from Umnangrim village on Shillong – Mawsynram road, which is about 50 kms from Shillong. The nearest rail head and airport are located at Guwahati. An airport is also functioning at Umroi, RiBhoi Districts of Meghalaya. The Nongkohlait HE project envisages construction of 80 m high concrete gravity dam, with FRL at El 830 m, 5.68 Km long and 3.30 m dia D-shaped head race tunnel terminating in a surge shaft, 80 m high and 10 m dia surge shaft, 965 m long, 2.20 m dia penstock, an underground power house having an installation of 2 vertical axis Pelton driven generating units of 31 MW each operating under rated head of 396 m.Exploration of alternative surface Power House is in progress.

(Signature)

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**STATUS OF SURVEY & INVESTIGATION OF HE SCHEMES
(PART- II)**

Quarter Ending March, 2019

NAME OF SCHEME SURVEY & INVESTIGATION		Nongkohlait HE Project (2x31 MW)	
1	Date of commencement of S&I	2009 (Hydrological observation)	
2	Date of Sanction	NEC/IRGN/MEG/2K/8 Dt.05.03.2014	
3	Likely date of completion of S& I	2019	
4	Likely date of completion of DPR	2022	
5	Estimated cost of S&I/DPR and Phasing of Expenditure	Rs. 502.00 Lakh	
6	Agency of Investigation (in case of Pvt.Agency, Name, Designation,	Meghalaya Power Generation Corporation Limited.	
7	Details of Progress @	Quantity Done	Quantity to be done
		25%	75%
a	Tracer Path & Approaches		
b	Roads	10%	
c	Construction of Temp. Building	Completed	
d	Purchase of Special T &P	To be initiated	
e	Topographic Survey/Investigation	80%	
f	Const. Material (Survey/Testing)	In progress	
g	Hydrological observations	Data collection since June 2006	
h	Meteorological	Data collected since June 2006	
i	Environmental Survey	To be taken up	
j	Programme of works during the year	<p>Observation, monitoring, compilation and computation of hydrometeorological data of the project are persistent activities.</p> <p>Jan to April :- To select the Alternative discharge site or monitoring the existing discharge site, compilation and computation of Hydrometeorological data , checking the rain gauge at every station, Supervising the Topographical survey of a project and preparation of estimate and drawings.</p> <p>May to December:- Monitoring and collecting of hydrometeorological data, observing HFL during rainy season ,preparing estimate for S&I works, checking the rainfall and discharge data ,correlating the discharging data with Umngi HEP, water availability studies, compilation and computation of hydrometeorological data and Geological mapping of dam site.</p>	
k	Overall progress of works	25%	
l	Geological and foundation Investigation	Geological Mapping initiated	
	@ In case it is not possible to give tentative quantity it should be given as percentage Financial Progress.		
8	Estimated cost of Survey & Investigation with price level year		
9	Capital Expenditure incurred upto December 2018	Rs 51.75 Lakh	
10	Budget estimate		
11	Revised Estimate		
<u>BOTTLE NECKS, IF ANY</u>			
<p>Limited working days (approx. 6(six) months in a year), Difficult Terrain and remoteness of the project area, Shortage of Manpower, irregular allocation/release of fund, Inaccuracy of toposheet covering the project, account to revision of project components result in delay of S&I works.</p>			

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