

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

NAME OF SCHEME:		Nongkhlait H.E Project- ROR, 2x31 MW
<b>GENERAL INFORMATION</b>		
1	State	Meghalaya
2	Location -	South West Khasi Hills Dist.Meghalaya
(a)	Latitude of Dam	} at damsite 25° 20'8.49 " N 91° 32'39.91 "E
(b)	Longitude of Dam	
General layout /Index map may please be furnished		
3	District	South West Khasi Hills District
4	Nearest G&D site	Damsite
5	Catchment Area near G&D site	233.00 Sq.Km
6	Status of availability of G&D site	Established since April 2006.
7	Basin/River	Umngi
8	Catchment Area (Sq.km)	233.00 Sq.Km
9	Type of Scheme (ROR/Storage/PSS)	ROR scheme
10	Firm Power (MW)	Detail study to be taken up
11	Annual Energy Benefits (GWh)	276.35 MU in 90 % Dependable year
12	Inter State Aspects	Does not arise
13	International Aspects	NIL
14	Defense aspects	No defense installations
15	R & R Aspects	Does not arise
16	Forests area involved	Detail Investigation to be taken up
17	Geological problems anticipated, if any	Sub-surface investigation in progress.
18	Accessibility-Nearest Rail head/	Nearest Rail Head: Guwahati - 170 Km.
19	Road and distance from the project.	Nearest Road: Damsite: Shillong-Mawsynram road, Power House:Phlangkynshi village
20	Upstream scheme, if any - - -	Umngi HEP (2x31 MW)
21	Downstream scheme, if any. -	Nongnam HEP (2x15MW),Mawput(2x19MW)
<b>II PROJECT FEATURES</b>		
<b>RESERVOIR</b>		
22	a) Full Reservoir Level (FRL)	EI 830.00 m
	b) Maximum Water Level (MWL)	EI 830.00 m
	c) Minimum Drawdown Level (MDDL)	EI 780.00 m
	d) Gross Storage at FRL	6.28 M Cum
	e) Live Storage	4.19 M Cum
	f) Bed level	EI 750.00 m
<b>Dam</b>		
23	a) Type	Concrete gravity
	b) Top elevation of dam -	EL. 832.00 m
	c) Height of dam above the river bed level	80.00 m
	d) Length of dam at top	164.00 m (NSL to NSL)
	e) River bed level -	EI. 750.00 m
<b>Head Race Tunnel</b>		
24	a) Type	Modified Horse Shoe
	b) Length	5680.00 m
	c) Diameter	3.30 m Φ
	d) Design Discharge	17.34 Cumecs
<b>SURGE SHAFT</b>		
25	a) Number	1
	b) Diameter	10.00 m
	c) Length	80.00 m
<b>PENSTOCK</b>		
26	a) Number	1 (one)
	b) Diameter	2.20 m
	c) Length	965.00 m
<b>POWER HOUSE</b>		
27	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

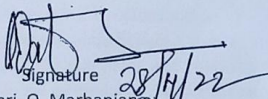
Please give brief details about the HE Scheme and enclose a layout map.

**Brief details on Nongkohlait H.E. Project:**

The Nongkohlait HE project envisages construction of 80 m high concrete gravity dam across Umngi river 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. The project has been proposed to develop as a run-of-the-river type scheme harnessing a gross head of about 440.00m and utilizing regulated releases from upstream project.

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 in a 90% dependable year.

Based on the optimisation study of Umngi Basin the diversion site has been shifted 1.5km along the river downstream of the location proposed in the PFR at Latitude 25°20'8.49" N and Longitude 91°32'39.91" E. The dam site of Nongkohlait H.E. Project Dam is located between East Khasi Hills District and South West Khasi Hills District, which is approachable from Umnangrim village on Shillong – Mawsynram road, which is about 50 kms from Shillong and the project falls in South West Khasi Hills District of Meghalaya. The nearest rail head and airport are located at Guwahati, Assam and Umroi, Ri Bhoi Districts of Meghalaya respectively.

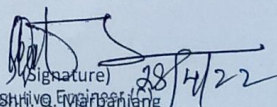
  
Signature

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

Quarter Ending March, 2022

NAME OF SCHEME SURVEY & INVESTIGATION		Nongkohlait HE Project (2x31 MW)	
1	Date of commencement of S&I	2006(Hydrological observation)	
2	Date of Sanction	NEC/IRGN/MEG/2K/8 Dt.05.03.2014	
3	Likely date of completion of S& I	2024	
4	Likely date of completion of DPR	2024	
5	Estimated cost of S&I/DPR and Phasing of	Rs. 502.00 Lakh	
6	Agency of Investigation (in case of Pvt.Agency,	Meghalaya Power Generation Corporation Limited.	
7	<b>Details of Progress @</b>	Quantity Done	Quantity to be done
		30%	70%
a	Tracer Path & Approaches	12%	
b	Roads	To be taken up	
c	Construction of Temp. Building	Completed	
d	Purchase of Special T &P	To be initiated	
e	Topographic Survey/Investigation	70%	
f	Const. Material (CA&FA)	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><b>Jan to March, 2022 :-</b> Observation of Hydrometeorological data, monitoring the existing discharge site, supervising and checking the topographical survey points or marks of the project and checking the instruments of recording and non-recording raingauge at every stations.</p> <p><b>April to June, 2022 :-</b> Taking cross section of discharge, detail survey for location the surge shaft and Power House Area, collecting silt sample, monitoring, compilation and computation of hydrometeorological data, observing HFL during moonsoon.</p> <p><b>July to Sept, 2022 :-</b> Hydrological studies, monitoring and collecting of Hydrometeorological data and Geological mapping of damsite.</p> <p><b>Oct to Dec, 2022 :-</b> Setting up BM pillars along the periphery of reservoir, collecting, monitoring, compilation and computation of hydrometeorological data, setting up BM pillars along periphery of reservoir and Geological mapping along WCS.</p>	
k	Overall progress of works	30%	
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 March 2022	Rs 94.53 Lakh	
10	Budget estimate		
11	Revised Estimate		
<b>BOTTLE NECKS, IF ANY</b>			
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.			

  
 (Signature) 28/4/22

Name: SHRI V. F. W. BANIAJ  
 Designation: Investigation Division-II  
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