

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

NAME OF SCHEME:		Mawblei H.E Project - Storage, 2x38 MW
GENERAL INFORMATION		
1	State	Meghalaya
2	Location -	Damsite- West Khasi Hills District, near Nongmawlong village
(a)	Latitude of Dam	25° 31' 36.96 " N
(b)	Longitude of Dam	91° 02' 14.40 " E
General layout /Index map may please be furnished		
3	District	West Khasi Hills District
4	Nearest G&D site	Damsite
5	Catchment Area near G&D site	218.00 Sq.Km
6	Status of availability of G&D site	Established since May 2006.
7	Basin/River	Wahblei
8	Catchment Area (Sq.km)	218.00 Sq.Km
9	Type of Scheme (ROR/Storage/PSS)	Storage scheme
10	Firm Power (MW)	15.75 MW
11	Annual Energy Benefits (GWh)	277.08 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 - 275 Km.
19	Road and distance from the project.	Nearest Road: Damsite and Power house;10 Km and 19Km from Mawkhap and Umdang villages respectively on the Shillong-Tura Highway.
20	Upstream scheme, if any -	Nil
21	Downstream scheme, if any. -	Kynshi Stage -II HEP.
HYDROLOGY		
22	a) Catchment area at dam site	218.00 Sq Km
	b) Average annual runoff	543.33 M Cum
	c) 90% dependable annual runoff	486.96 M Cum
	d) 50% dependable annual runoff	537.02 M Cum
TENTATIVE PROJECT FEATURES		
RESERVOIR		
23	a) Full Reservoir Level (FRL)	El 762.00 m
	b) Maximum Water Level (MWL)	El 762.00 m
	c) Minimum Drawdown Level (MDDL)	El 750.80 m
	d) Gross Storage at FRL	34.23 M Cum
	e) Live Storage	20.61 M Cum
	f) Area under submergence at FRL	2.20 Sq Km
	g) Distance of the upstream most FRL from Dam site	
	i) Arial distance	4.31 Km
	ii) Distance along the river	5.98 Km
DIVERSION TUNNEL		
24	a) Number	1 No.
	b) Size	2.40 m Φ
	c) Length	250.00 m
	d) Diversion discharge (assumed)	71.51 Cumecs
Dam		
25	a) Type	Concrete gravity
	b) Top elevation of dam -	EL. 764.00 m
	c) Height of dam above the river bed level	36.37 m
	d) Length of dam at top	253.00 m (upto NSL)
	e) River bed level -	El. 727.63 m
SPILLWAY		
26	a) Design flood (PMF)	3253.59 Cumecs
	b) Type	Ogee
	c) Crest Elevation	El 743.80 m
	d) Number of bays	3
	e) Size of radial gates	18.20 m x 8.60 m
	f) Length of Spillway	82.60 m
	g) Energy dissipation	Ski-Jump Bucket

27	INTAKE	
	a) Invert level	El 744.00 m
	b) Number	1
	c) Fixed wheel vertical lift gate	3.00 m x 3.40 m
	d) Trash rack	4 of 12 m x 4.70 m
28	Head Race Tunnel	
	a) Type	Modified Horse Shoe
	b) Length	3.68 km
	c) Diameter	3.00 m Φ
	d) Design Discharge	23.13 Cumecs
29	Pressure Shaft	
	a) Number	1 (Bifurcated into 2 of 1.6 m Φ)
	b) Length	2915.00m
	c) Internal Diameter	2.25 m Φ
30	SURGE SHAFT	
	a) Type	Restricted Orifice
	b) Diameter	10.00 m Φ
	e) Height	40 m
	f) Diameter of orifice	2.50 m Φ
31	POWER HOUSE	
	a) Type	Surface
	b) Installed capacity	76 MW
	c) Number of Units	2 of 38 MW
	d) Type of turbine	Francis turbine
	e) C.L of turbine	El 379.00 m
	f) Rated Head	367.34 m
g) Transformer Cavern	55 m x 12 m x 43.30 m	
32	CHANNEL	
	a) Size	7.50 m x 2.50 m
	b) Length	60.00 m
	c) Design Discharge	38.79 Cumecs
33	SWITCHYARD	Size Gas Insulated Switchyard (GIS) on the floor above the transformation/s in Transformer cavern
34	POWER GENERATION	
	a) Installed Capacity	76 MW (2 x 38 MW)
	b) Annual Energy Generation in 90% dependable Year	277.08 MU
	c) Energy 50% dependable year	322.20 MU

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

Brief details on Mawblei H.E.Project:

Mawblei H.E.Project, is located in Mawshynrut C & R D Block, West Khasi Hills District of Meghalaya, is a storage type development which envisages construction of a concrete gravity dam of about El. 36.37m high across river Wah Blei, a tributary of river Kynshi, where the river bed is about El. 727.63 m to provide a live storage of 20.61 M Cum between the FRL of 762.00m and the MDDL of El 750.80 m. Water from the reservoir are proposed to be diverted to the Surface Power House through a 3.68 m long modified horse shoe shaped head race tunnel of 3.00 m dia. and a 2.915 Km long pressure shaft of 2.25 m dia. bifurcating into 1.6 m dia. for power generation. The power house would have an installation of 2 units of 38 MW each operating under weighted average gross head of 385.3 m (Net Head=373.37 m). The project is proposed to provide annual design energy generation of 227.08MU in a 90% dependable year.

(Signature)

Name: Shri. Q. Marbaniang

Designation: Executive Engineer (C)

Telephone No.....Code No

STATUS OF SURVEY & INVESTIGATION OF HE SCHEMES

(PART- II)

Quarter Ending September,2022

NAME OF SCHEME SURVEY & INVESTIGATION		Mawblei HE Project (2x38 MW)	
1	Date of commencement of S&I	2006-2007(Hydrological observation)	
2	Date of Sanction	NEC/IRGN/MEG/2K/5/408 Dt.23.01.2009	
3	Likely date of completion of S& I	2023	
4	Likely date of completion of DPR	2023	
5	Estimated cost of S&I/DPR and Phasing of Expenditure	Rs. 472.00 Lakh	
	Revised Estimate Cost	Rs. 892.00 Lakh	
6	Agency of Investigation (in case of Pvt.Agency, Name,	Meghalaya Power Generation Corporation Limited.	
7	Details of Progress @	Quantity Done	Quantity to be done
		80%	20%
a	Tracer Path & Approaches	Trace Path completed	
b	Roads	In Progress	
c	Construction of Temp. Building	Completed	
d	Purchase of Special T &P	To be taken up	
e	Topographic Survey/Investigation	100%	
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	15%	
j	Programme of works during the year	<p>Observation, compilation and computation of hydrometeorological data of the project are persistent activities.</p> <p>I. January - March, 2022 Observation of the Hydrometeorological data, relocation of Power House and taking cross section of discharge site.</p> <p>II. April - June, 2022 Monitoring the exploratory drilling of Power House site, Checking instruments of recording and non-recording rain gauge at every stations, collection samples of construction materials for laboratory test, compilation and computation of hydrometeorological data and assessment of the tentative quantity of construction materials.</p> <p>III. July - September, 2022 Collecting silt sample, monitoring and collection of hydrometeorological data, compilation and calculation of TRMM data and observing HFL during moonsoon season .</p> <p>IV. October - December, 2022 Setting up BM pillars at Power House Area, Physical and chemical test of fine and coarse aggregate, monitoring, collection, compilation and computation of hydrometeorological data, demarcation of point and alignment of WCS and others and cross check the levels from discharge site to Dam site and up to TRT .</p>	
k	Overall progress of works	80%	
1	Geological and foundation Investigation	In progress	
	@ 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 September 2022	Rs 320.61 Lakh	
10	Budget estimate		
11	Revised Estimate		
<u>BOTTLE NECKS, IF ANY</u>			
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.			

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