

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

<b>NAME OF SCHEME:</b>		<b>Mawblei H.E Project - Storage, 2x38 MW</b>
<b>GENERAL INFORMATION</b>		
1	State	Meghalaya
2	Location -	Damsite- West Khasi Hills District, near Nongmawlong
(a)	Latitude of Dam	25° 31'36.96 " N
(b)	Longitude of Dam	91° 02' 14.40 " E
<b>General layout /Index map may please be furnished</b>		
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.
<b>HYDROLOGY</b>		
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
<b>TENTATIVE PROJECT FEATURES</b>		
<b>RESERVOIR</b>		
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
<b>DIVERSION TUNNEL</b>		
24	a)Number	1 No.
	b)Size	2.40 m Φ
	c)Length	250.00 m
	d)Diversion discharge (assumed)	71.51 Cumecs

	<b>Dam</b>	
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
	<b>SPILLWAY</b>	
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
	<b>INTAKE</b>	
27	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
	<b>Head Race Tunnel</b>	
28	a) Type	Modified Horse Shoe
	b) Length	3.68 km
	c) Diameter	3.00 m $\Phi$
	d) Design Discharge	23.13 Cumecs
	<b>Pressure Shaft</b>	
29	a) Number	1 (Bifurcated into 2 of 1.6 m $\Phi$ )
	b) Length	2915.00m
	c) Internal Diameter	2.25 m $\Phi$
	<b>SURGE SHAFT</b>	
30	a) Type	Restricted Orifice
	b) Diameter	10.00 m $\Phi$
	e) Height	40 m
	f) Diameter of orifice	2.50 m $\Phi$
	<b>POWER HOUSE</b>	
31	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
	<b>CHANNEL</b>	
32	a) Size	7.50 m x 2.50 m
	b) Length	60.00 m
	c) Design Discharge	38.79 Cumecs
33	<b>SWITCHYARD</b>	Size Gas Insulated Switchyard (GIS) on the floor above the transformation/s in Transformer cavern
	<b>POWER GENERATION</b>	
34	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. It 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)

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Designation: Executive Engineer (C)  
Telephone No.....Code No

**STATUS OF SURVEY & INVESTIGATION OF HE SCHEMES**

**(PART- II)**

Quarter Ending March,2023

	<b>NAME OF SCHEME SURVEY &amp; INVESTIGATION</b>	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	2024	
4	Likely date of completion of DPR	2024	
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	<b>Details of Progress @</b>	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><b>I. January - March, 2023</b> Observation of the Hydrometeorological data,relocation and Monitoring the exploratory drilling of Power House site.</p> <p><b>II. April - June, 2023</b> Logging of both left and right bank drifts by GSI,In -situ test of both left and right bank drifts,relocation of surge shaft area and locating the least of civer of the HRT at 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><b>III. July - September, 2023</b> Collecting silt sample,monitoring and collection of hydrometeorological data.compilation and calculation of</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 March 2023	Rs 330.27 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.</p> <p>Irregular availability of the official expert of the concerned Government agencies/department who are to carry out the study /information of the respective aspects of the Detailed Project Report(DPR) of the project.</p> <p>Clearance/approval of the respective DPR aspects by the concerned Government agencies/department take a considerable amount of time.</p> <p>The land of the project areas are privately owned and issuing of NOC for S&amp;I of the project takes a considerable amount of time.</p>		

(Signature)

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