

STATUS OF SURVEY & INVESTIGATION OF HE SCHEMES

(PART I)

Mawblei H.E Project - Storage, 2x33 MW


NAME OF SCHEME:		Mawblei H.E Project - Storage, 2x33 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)	11.27 MW
11	Annual Energy Benefits (GWh)	207.33 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)	EI 762.00 m
	b) Maximum Water Level (MWL)	EI 762.00 m
	c) Minimum Drawdown Level (MDDL)	EI 750.80 m
	d) Gross Storage at FRL	34.23 M Cum
	e) Live Storage	24.61 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

25	Dam	
	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
26	SPILLWAY	
	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	21.74 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	66 MW
	c) Number of Units	2 of 33 MW
	d) Type of turbine	Francis turbine
	e) C.L of turbine	El 379.00 m
	f) Rated Head	336.33 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 Insulted Switchyard (GIS) on the floor above the transformation/s in Transformer cavern	
34	POWER GENERATION	
	a) Installed Capacity	66 MW (2 x 33 MW)
	b) Annual Energy Generation in 90% dependable Year	207.33 MU
	c) Energy 50% dependable year	274.28 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. 35.00m 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 24.61 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 33 MW each operating under weighted average gross head of 383.0 m (Net Head=336.33 m). The project is proposed to provide annual design energy generation of 207.33 MU in a 90% dependable year.


23/1/25
(Signature)

Name: Smti. I. War

Designation: Executive Engineer (C)

Telephone No. / Division Code No
Investigation Division
MEPCL, Umiam




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

Quarter Ending December, 2024

NAME OF SCHEME SURVEY & INVESTIGATION		Mawblei HE Project (2x33MW)	
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	2025	
4	Likely date of completion of DPR	2025	
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
		85%	15%
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	Surface & Sub-surface Investigation	98%	
g	Const. Material (CA&FA)	In progress	
h	Hydrological observations	Data collection since June 2006	
i	Meteorological	Data collected since June 2006	
j	Environmental Survey	15%	
k	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, 2024 Observation of the Hydrometeorological data, relocation and Monitoring the exploratory drilling of Power House site.</p> <p>II. April - June, 2024 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>III. July - September, 2024 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, 2024 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>	
l	Overall progress of works	85%	
m	Geological and foundation Investigation	In progress	
<p>@ In case it is not possible to give tentative quantity it should be given as percentage Financial Progress.</p>			

8	Estimated cost of Survey & Investigation with price level year	
9	Capital Expenditure incurred upto December 2024	Rs 396.67Lakh
10	Budget estimate	
11	Revised Estimate	
BOTTLE NECKS, IF ANY		
<p>1.Limited working days (approx) 6 months in a year.</p> <p>2.Harsh topography and remoteness of the project area</p> <p>3.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>4.Land holding system-The land of the project areas are privately owned and issuing of NOC for S&I of the project takes a considerable amount of time.</p> <p>5.Scarcity of local firms/contractors capable of carrying out the S&I works such as topographical survey and exploratory drilling of the project.</p> <p>6.The official formalities such as trading license and labour licenses etc. are some of the reasons where the agencies/firms from outside the state are reluctant to take up the S&I works in Meghalaya.</p> <p>7.Compliances to the observation of the concerned Directorates/Divisions/organisations,etc. under CEA by the expert agencies/departments are received after much delay.</p>		


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 (Signature)

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