#### **EXPRESSION OF INTEREST (EOI)**

**FOR** 

SELECTION OF CONSULTANT/BIDDER FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR CONSTRUCTION OF 220 KV D/C LINE FROM 220/132/33 KV MAWPHLANG SUB-STATION TO ICHAMATI ALONG WITH CONSTRUCTION OF 220/132KV 2x160 MVA GIS SUB-STATION AND 132/33KV 2x50 MVA AIS SUB-STATION AT ICHAMATI IN THE STATE OF MEGHALAYA.



No.MePTCL/SETT/T-161/2022-2023/

Dated Shillong ,12th April,2022.

Meghalaya Power Transmission Corporation Limited (MePTCL), Short Round Road, Lumjingshai, Shillong -793001 (Meghalaya)Website:<a href="https://meecl.nic.in">https://meecl.nic.in</a> E-mail.:<a href="mailto:settcmeptclshg@gmail.com">settcmeptclshg@gmail.com</a>

#### SCHEDULE OF EOI PROCESS

MePTCL would endeavor to adhere to the following schedule from the date of issue of notification during the Process:

Events	Date
Issue Date of EOI	18 <sup>th</sup> April, 2022.
EOI Submission Date & Time	12:00 Hrs of 18 <sup>th</sup> May,2022
Pre-bid Meeting Date & Venue	There shall be no Pre- Bid meeting. Any query should be sent to the mail ID mentioned below on or before 17:00 Hrs of 10 <sup>th</sup> May,2022.
Email ID:	E-mail:settcmeptclshg@gmail.com
Date, Time & Venue for Opening of Technical Bids	15:00 Hours of 18 <sup>th</sup> May, 2022 at MeECL Conference Room, Short Round Road, Lumjingshai, Shillong–7930001 (Meghalaya)
Date of Opening of Financial Bids	To be intimated later
Address for communication & Submission of EOI.	Superintending Engineer (T&T)Circle Meghalaya Power Transmission Corporation Limited(MePTCL), Lumjingshai Short Round Road. Shillong-793001(Meghalaya).

- 1) If any date specified herein is a holiday, then the next working day shall be considered for the activity and the time shall remain the same.
- 2) The Schedule indicated above is tentative and MePTCL may change any or the entire schedule under intimation to all through the website of MePTCL only.
- 3) The bid documents can be downloaded from yhe website,meecl.nic.in.Hard copies will not be available for sale.
- 4) If any Corrigendum and Addendum shall be issued further; the same shall be published through the website of MeECL only i.e. <a href="https://meecl.nic.in">https://meecl.nic.in</a>

Superintending Engineer (T&T) Circle
MePTCL,Shillong- 793001

SELECTION OF CONSULTANT/BIDDER FOR PREPARATION OF DETAILED PROJECT REPORT (DPR) FOR CONSTRUCTION OF 220 KV D/C LINE FROM 220/132/33 KV MAWPHLANG SUB-STATION TO ICHAMATI ALONG WITH CONSTRUCTION OF 220/132KV 2x160 MVA GIS SUB-STATION AND 132/33KV 2x50 MVA AIS SUB-STATION AT ICHAMATI IN THE STATE OF MEGHALAYA

For and on behalf of Meghalaya Power Transmission Corporation Ltd (MePTCL), the EOI for Engagement of Consultant/Bidder for preparation of Detailed Project Report (DPR) for Construction of 220 KV D/C line from 220/132/33 KV Mawphlang Sub-Station to Ichamati along with the construction of 220/132 KV, 2x160 MVA GIS Sub-station and 132/33 KV, 2x50 MVA AIS Sub-Station at Ichamati in the state of Meghalaya. The intended Bidders should quote the rate including all kind of taxes (Central and State taxes etc.) in Indian Currency.

- 1.1 **Objective of Engagement:** The firm shall prepare the Detailed Project Report (DPR) for Construction of 220 KV D/C line from 220/132/33 KV Mawphlang Sub-Station to Ichamati along with construction of 220/132 KV, 2x160 MVA GIS Sub-station and 132/33 KV, 2x50 MVA AIS Sub-Station at Ichamati in the state of Meghalaya. The DPR is to be prepared as per the Tower schedule indicated at Schedule-E of the project of Meghalaya Power Transmission Corporation Limited (MePTCL). Survey is to be mandatorily conducted by the successful bidder before preparation of detailed project report. The Central Electricity Authority, Government of India, State Policy (if any) and State Regulations issued by Meghalaya State Electricity Regulatory Commission (MSERC) should be followed during preparation of DPR.
- 1.2 It shall be imperative on each to fully acquaint himself of all local conditions and factors, which may have any effect on the execution of the Contract covered under these documents and specifications. Employer shall not entertain any request for clarifications from the bidders, regarding such local conditions. It must be understood and agreed that such factors have properly been investigated and considered while submitting the Proposals. No claim for financial adjustment to the Contract, awarded under these specifications and documents, shall be entertained by Employer. Neither any change in the time schedule of the Contract nor any financial adjustments arising thereof shall be permitted by the Employer, which are based on the lack of such clear information or its effect on the cost of the Works.

#### 2. Eligibility Criteria:

a. The bidder can either be a company registered in India under the Companies Act or a Limited Liabilities Partnership firm in India or PSU/Government Agencies of India.

#### b. The following are the minimum eligibility criteria:

The Bidders must be a reputed consulting Company/ Firm with high degree of technical and
financial capability with understanding and experience of multiple aspects of construction of
Transmission line of 220 KV and above & Sub-Stations, planning including engineering,
Survey/ GIS mapping works, Socio- economic analysis & conducting technical studies as
required for the project etc., and shall submit documented evidence to prove such experience.

- The Bidders Consultant/Bidder should have prepared/assisted in at least one detailed report /study related to the project for the Government Department / Private Organizations/ Ministries.
- The Consultant/Bidder should have carried out consultancy assignment/study for assistance on similar work in PSUs/Govt. Agencies/ Private Agencies for preparation of Detailed Project Report (DPR).
- The average annual turnover of the bidder should be on the positive side over last three financial years.
- The Bidders should have the requisite man power as per requirement of the Project.
- c. Proposal of all the Bidders shall be evaluated based on appropriate marking system. The categories for marking and their respective weightage are as under:

Sl.No	Criteria	Break-up	Weightage
1	Past Experience of the Firm		35Marks
1.	The Consultant/Bidder should have carried out consultancy assignment for similar assignment for preparation of Detailed Project Report (DPR) in India.		
	1 project	10 Marks	
	2 Projects	12Marks	
	More than 3 Projects	13 Marks	
2	Qualification of Technical Experts		30Marks
	Team of qualified technical experts in the respective field with sound academic record and work experience		
	Team Leader – The Team Leader should be a graduate in Electrical Engineering with Experience of 4 years in 132/220 KV Transmission System and above.	15 Marks	
	Financial Expert – A graduate in Finance minimum 5years of experience. Legal Background shall be preferred.	10 Marks	
	Civil Engineer—A Civil Engineer with at least 3 years of experience	5 Marks	
3	Financial Strength of the Firm		15Marks
	Average Annual turnover up to 50.0 Lakhs	15 Marks	
	Understanding of Preparation of DPRs		20Marks
	Adequacy of Methodology and the proposed work plan With respect to the scope of work	20 Marks	
	Total		100 Marks

- 3. **Selection of the Consultant/Bidder for Engagement:** Only top three bidders as per their score shall be qualified for technical bid and to be selected for opening of financial bid. The lowest quoted bidder (*In Financial Bid*) among the technical qualified bidders shall be engaged as Consultant/Bidder for preparation of the DPRs.
- 4. **Indicative Scope of Services:** The scope of work for preparation of DPR for Construction of 220 KV D/C line from 220/132/33 KV Mawphlang Sub-Station to Ichamati along with construction of 220/132 KV 2x160 MVA GIS Sub-station and 132/33 KV 2x50 MVA AIS Sub-Station at Ichamati in the state of Meghalaya shall be as follows:
  - a. Site survey
  - b. Detailing of existing scenario
  - c. Suitable technology to be adopted
  - d. Preparation of Concept Plans/route survey with profile drawing etc.
  - e. Preparation of DPR for construction of line and sub-stations including provision for extra 220KV, 132KV, 33KV spare bays for future extension as desired by MePTCL.
  - f. Budget estimation for (e) above.
  - g. Any other Items/works, which are not mentioned above and required for the preparation of DPR.
  - 5. **Deliverables and Schedule of Delivery:** The deliverables and schedule of delivery for DPR for Construction of 220 KV D/C line from 220/132/33 KV Mawphlang Sub-Station to Ichamati along with construction of 220/132 KV 2x160 MVA GIS Sub-station and 132/33 KV 2x50 MVA AIS Sub-Station at Ichamati in the state of Meghalaya are as under:
    - a. DPR preparation completion time for Construction of 220 KV D/C line from 220/132/33 KV Mawphlang Sub-Station to Ichamati along with construction of 220/132 KV 2x160 MVA GIS Sub-station and 132/33 KV 2x50 MVA AIS Sub-Station at Ichamati in the state of Meghalaya shall be 2(Two) calendar months from the date of signing the contract.
    - b. The Inception Report shall be due after one month, Draft Report after One and half month and the Final Project Report on or before completion of months from the date of signing the agreement. The Consultant/Bidder shall provide three hard copies each of the draft report and final Detail Project Report.
    - c. The Consultant/Bidder shall also provide 2 DVDs/Pen Drive of the final Detailed Project Report and it shall be the property of MePTCL, which can be used for any other project also.
    - d. Presentation if required for the same may have to be carried out before the authority of MePTCL.

#### **5. Selection of Agency:**

The broad procedure for engagement of Consultant/Bidders constitutes as under:

a. **Submission of EOI:** Bidders shall submit its EOI in two forms; the technical proposal, and the financial proposal.

b. The bidder shall seal the technical proposal and the financial proposal in two separate envelopes, which shall be marked as "TECHNICAL PROPOSAL" and "FINANCIAL PROPOSAL". These two envelopes shall than be sealed in a single outer envelope (MAIN ENVELOPE) and clearly mark as "EXPRESSION OF INTEREST (EOI) FOR SELECTION OF CONSULTANT/BIDDER FOR CONSTRUCTION OF 220 KV D/C LINE FROM 220/132/33 KV MAWPHLANG SUB-STATION TO ICHAMATI ALONG WITH CONSTRUCTION OF 220/132KV 2x160 MVA GIS SUB-STATION AND 132/33KV 2x50 MVA AIS SUB-STATION AT ICHAMATI IN THE STATE OF MEGHALAYA as per the mentioned schedule through Speed Post/Registered Post/ Courier or By Hand at the address mentioned below

# Superintending Engineer(T&T) Circle Meghalaya Power Transmission Corporation Limited(MePTCL), Lumjingshai Short Round Road, Shillong-793001(Meghalaya).

- c. **Scrutiny & Selection: MePTCL** shall scrutinize all the submissions received on the basis of eligibility criteria and selection to be made accordingly.
- d. Cost of Bid Documents: The cost of bid documents is Rs. 500/- (Rupees Five Hundred only) inclusive of GST in the form of demand draft /Bankers Cheque in favor of "Principal Account, MePTCL" from any nationalized/scheduled bank payable at Shillong shall be put in the "Main Envelop", which contain the Technical and Financial Bid, failing which the bidder shall not be considered for evaluation
- e. If the envelope is not sealed and marked as mentioned above, MePTCL shall not be responsible for any misplacement or premature opening. (Telex, cable or facsimile EOI shall be rejected).

#### 6. Pre-Bid Meeting:

There shall be NO pre-Bid Meeting. However, queries may be sent to the Email ID mentioned above on or before17:00Hrs of 10<sup>th</sup> May,2022.

#### 7. Period of Engagement:

The engagement would be valid initially for twelve weeks. However, MePTCL may at its sole discretion be able to increase the validity of such engagement.

#### 8. Termination of Engagement

If in the view of MePTCL, performance of a Consultant/Bidder is not satisfactory MePTCL may at its sole discretion, terminate the engagement of the Consultant/Bidder. In doing so, shall intimate the Consultant/Bidder through a written termination letter. The decision of MePTCL in this matter shall be final and binding.

#### 9. Award of Work:

Letter of Award (LoA) shall be given to the selected Consultant/Bidder and an agreement shall be executed within 7 (seven) days of issuance of Letter of Award (LOA). The selected agency shall have to submit performance security @ 3% of the bid amount in form of Performance Bank Guarantee (PBG) for the contract period from any nationalized/ scheduled bank in India during signing of agreement MePTCL.

#### 10. Payment Conditions

The terms of payment shall be as per the following conditions:

- i. 90% of payment shall be made on submission of DPR up to the satisfaction of authority (including three printed copies).
- ii. 10% of payment shall be made after six months from the date of submission of DPR.

#### 11. Final Decision of the Authority

MePTCL reserves the right to accept or reject any application and to annul the process and reject all/any application at anytime without assigning any reason thereof.

#### 12. Submission Requirements

To be eligible for engagement, the Bidders shall provide documentary evidence shall include the following information:

- a) Forwarding Letter.
- b) Copies of original documents defining the legal status, structure of organization, place of business of the company or corporation or firm or partnership in Schedule 'A';
- c) Reports on the financial standing of the Bidders in Schedule 'B';
- d) Details of the experience and past performance of the Bidders on works of a similar nature and details of current works in hand and other commitments in Schedule 'C';
- e) Photo copies of Income Tax return of the firm for the last 3 (three) years;
- f) Audited balance sheet of last 3 (three) years.

#### 13. Language of Application

The language of the application as well as the supporting documents shall be in English.

#### 14. Number of EOIs

A Bidder shall submit only one Application.

#### 15. EOI Submission Date:

EOI submitted in all respect must reach at the specified address by the date as mentioned above.

#### 16. Late Submission

EOI received after the deadline for submission prescribed by MePTCL shall be rejected. MePTCL shall not be responsible for postal delay.

<b>17.</b>	Modification	and	Withdrawal	of 1	EOI:
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No modifications to the EOI or withdrawal shall be allowed once the EOI is received by MePTCL.

- **18. Date for Opening of EOI:** Technical Bids of EOI shall be opened at 15:00 Hours of 18<sup>th</sup> May, 2022 as mentioned above. Interested bidders/their authorized representatives may attend the same at Time, Date and Venue mentioned above.
- **19. Jurisdiction:** All disputes arising shall be subject to the jurisdiction of the Meghalaya High Court at Shillong, and shall be governed by the laws of India.

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#### **Covering Letter**

#### (ON BIDDERS OFFICIAL LETTER HEAD)

To,

Superintending Engineer (T&T) Circle Meghalaya Power Transmission Corporation Limited (MePTCL), Lumjingshai Short Round Road, Shillong-793001(Meghalaya).

Dear Sir,

Having examined the advertisement and application form, including the instructions for submission, scope of work etc., we hereby submit all the necessary information and relevant documents for our selection in the engagement of Consultancy Firm for preparation of Detailed Project Report for Construction of 220 KV D/C line from 220/132/33 KV Mawphlang SubStation to Ichamati along with construction of 220/132 KV 2x160 MVA GIS Sub-station and 132/33 KV 2x50 MVA AIS Sub-Station at Ichamati in the state of Meghalaya. We understand that Meghalaya Power Transmission Corporation Limited (MePTCL) reserves the right to reject any application without assigning any reason thereof.

(Signature of Authorized Person) Date:

[Name of the authorized person] [Designation]

**Enclosures:** 

# **Information of Bidders**

1. Name of the Consultant/Bidder (In full):
2. Address:
3. Telephone/Mobile No:
4. E-mail:
5. Website (if any):
6. Year of establishment:
(Copy of Certificate of Registration/Incorporation to be furnished by companies)
7. PAN
(Photocopy of PAN Card to be furnished)
8. GST Registration No
(Photocopy of GST Registration No. to be furnished) Place of business:
9. Nature of relevant Assignments carried so far:
i.
ii.
iii.
iv.
v.
10. Nature of assignments in hand
i.
ii.
iii.
iv.
v.
(Signature of Authorized Person) Date:

T70		<b>C</b> 4 4	
Finar	าตาลเ	Status	

A.	Name of the Consultant/Bidder:
В.	Annual Turnover along with audited balance sheets for last three years. (For each of the last 3years).
(Signat	ture of Authorized Person)

# Schedule 'C' Bidders' Experience of Relevant Projects (Both finished and on-going Projects)

(Give information in the following format)

Assignment Name:	Country:
Location within Country:	Professional Staff provided:
Name of Client:	No. of Staff:
Address:	No. of Man Months:
Start Date:	Approximate Value of service:
Completion Date:	
Name of Associated Firm(s)if any:	No. of months of Professional
	Staff provided by Associated
	Firms(s):
Name of senior staff involved, and functions perfor	med:
Narrative Description of Project:	
Description of Actual Services Provided:	
Firm's Name:	

(Prepare a separate sheet for each similar assignment, but not more than 5).

(Signature of Authorized Person)
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Date:

# **Financial Bid Format**

Description of Work	Line Length	Rate (Indian currency)	Time of Completion & Submission of final DPR
Preparation of Detailed Project Report (DPR) for Construction of 220 KV D/C line from 220/132/33 KV Mawphlang Sub-Station to Ichamati along with construction of 220/132 KV 2x160 MVA GIS Sub-station and 132/33 KV 2x50 MVA AIS Sub-Station at Ichamati in the state of Meghalaya as per Scope of Services of the EOI.	42.395 Kms		

(Signature of Authorized Person) Date:

[Name of the authorized person][Designation]

# Schedule-E

# **MEGHALAYA POWER TRANSMISSION CORPORATION LIMITED**

#### **TOWER SCHEDULE**

				R L at			Weight Span HOT(M)		ЮТ(М)	Weigh	t Span Co	OLD (M)	GPS Co		
SI. No.	Loc. No.	Angle of Deviation	Type of Tower	center peg of Location	Span (M)	Chainage in (M)	LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL	Easting	Northing	Remarks
1	GTY	-		1820.927	0		186	-273	-87	211	-396	-185	375419	2816907	Dead End Tower(Ma wphlang Sub Station)
					33.06										
2	AP1	22°21'35"RT	DD+0	1827.292		33.06	306	-130	176	355	-194	161	375386	2816910	
					40.71										Cultivation area
3	AP2	37°11'7"RT	DD+0	1831.36		73.77	171	-200	-29	137	-306	-169	375350	2816929	
					100										
4	AP3	37°18'0"LT	DD+6	1842		173.77	300	-278	22	391	-418	-27	375308	2817020	
					105.38										Village Road & LT line
5	AP4	41°13'23"LT	QD+9	1840		279.15	383	508	891	535	702	1237	375214	2817069	Multi circuit tower to accommod ate 132kV & 220kV line.
					102.5										X-ing of 132kV D/C line
6	AP5	24°52'55"RT	DC+9	1831		381.65	-406	233	-173	-228	289	61	375115	2817045	
					202.4										Cultivation area
7	AP6	35°56'26"LT	DD+3	1819.25		584.05	-31	312	281	129	352	481	374918	2817084	
					433.62										
8	AP7	21°42'2"LT	DC+6	1788.842		1017.67	122	-51	71	-573	-92	-665	374524	2816904	River stream

															crossing Cultivation Area
					94.6										Hill (Small pine tree)
9	AP8	0°3'55"LT	DB+3	1789		1112.27	145	107	252	165	111	276	374458	2816835	
					195.43										Hill (Small pine tree)
10	AP9	0°38'49"LT	DB+0	1799.752		1307.7	88	209	297	84	256	340	374324	2816694	
					195.22										Hill (Small pine tree)
11	AP10	22°10'44"LT	DC+3	1782.337		1502.92	-14	256	242	33	305	338	374190	2816551	
					283.41										Road crossing

#### **TOWER SCHEDULE**

				R L at			Weig	ght Span H	HOT(M)	Weigh	nt Span C	OLD (M)	GPS Cod	ordinates	
SI. No.	Loc. No.	Angle of Deviation	Type of Tower	center peg of Location	Span (M)	Chainage in (M)	LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL	Easting	Northin g	Remarks
12	AP11	5°56'43"LT	DB+9	1754.789		1786.33	27	89	116	-227	95	-132	374090	2816287	
					152.2										
13	AP12	4°35'10"RT	DB+0	1762.455		1938.53	63	109	172	187	73	260	374051	2816140	Cultivation area small,small pine tree
					389										
14	AP13	13°25'3"RT	DB+3	1781.552		2327.53	280	197	477	371	246	617	373921	2815773	River stream crossing
					164.03										
15	AP14	4°37'48"RT	DB+0	1771.993		2491.56	-33	469	436	230	550	780	373832	2815635	<u>.</u>
					556.14										River stream crossing
16	AP15	4°16'30"LT	DD+25	1676.461		3047.7	87	-228	-141	-382	-386	-768	373493	2815194	J
					287.54										Road crossing from Mawngap- Mawkyrwat,pine trees,cultivation area
17	AP16	3°18'6"LT	DB+0	1772.605		3335.24	516	275	791	564	297	861	373335	2814953	
					450.11										Footpath crossing
18	AP17	18°13'16"LT	DC+0	1757.522		3785.35	175	-274	-99	-217	-416	-633	373111	2814563	Behind sacred groove Mawphlang
					117.26										Cultivation area,hill slope
19	AP18	13°49'59"LT	DB+0	1783.485		3902.61	392	-293	99	624	-437	187	373087	2814449	
					96.67										Hill top, cultivation area
20	AP19	5°42'0"LT	DB+0	1805.401		3999.28	390	219	609	383	279	662	373090	2814352	
					152.99										Cultivation area,small pine trees
21	AP20	14°19'42"LT	DB+9	1781.947		4152.27	-66	37	-29	65	-16	49	373111	2814201	

					322.81										Cultivation area,small pine trees
22	AP21	4°15'8"RT	DB+3	1814.633		4475.08	286	271	557	338	316	654	373233	2813902	
															33kV line,
					326										15mtr apart
															from AP 21

#### **TOWER SCHEDULE**

				R L at			Weig	ht Span F	IOT(M)	Weigh	t Span Co	OLD (M)	GPS Co	ordinates	
SI. No.	Loc No.	Angle of Deviation	Type of Tower	center peg of Location	Span (M)	Chainage in (M)	LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL	Easting	Northing	Remarks
23	AP22	00°00'00"	DB+6	1788.324		4801.08	55	-169	-114	-312	-269	-581	373333	2813592	
					132										Cultivation area, small pine trees
24	AP23	39°44'42"RT	DD+0	1814.947		4933.08	301	14	315	738	6	744	373367	2813484	
					62.5										Cultivation area, small pine trees
25	AP24	00°00'00"	DB+0	1815.678		4995.58	49	153	202	79	190	269	373327	2813384	
					135.59										Thick forest
26	AP25	27°44'40"LT	DC+0	1807.955		5131.17	-18	537	519	195	667	862	373292	2813301	
					461.5										Thick forest
27	AP26	19°12'33"LT	DC+6	1707.946		5592.67	-76	422	346	-636	546	-90	373334	2812841	
					262.43										Thick forest
28	AP27	2°27'5"RT	DB+6	1657.18		5855.1	-160	391	231	-422	513	91	373443	2812603	
					206.88										Thick forest
29	AP28	48°54'31"LT	DD+6	1617.665		6061.98	-184	130	-54	115	70	185	373521	2812411	
					542.18										Umiam river crossing
30	AP29	42°0'49"RT	DD+9	1665.468		6604.16	412	88	500	468	34	502	374033	2812233	
					430.55										Light forest
31	AP30	9°55'5"LT	DB+6	1704.955		7034.71	343	-265	78	523	-416	107	374241	2811857	
					180.64										Light forest
32	AP31	25°19'18"RT	DC+0	1753.637		7215.35	446	4	450	435	-70	365	374354	2811716	
					354.84										Foothpath crossing
33	AP32	25°17'9"RT	DC+0	1794.637		7570.19	351	136	487	428	122	550	374437	2811371	
					339.39										Cultivation area & Laitsohma village
34	AP33	8°57'41"RT	DB+3	1799.22		7909.58	203	186	389	180	224	404	374368	2811038	

					187.94										Cultivation area, David Scott road
35	AP34	28°36'50"RT	DC+3	1787.776		8097.52	2	106	108	41	95	136	374301	2810862	
					266.07										Cultivation area,small pine trees

#### **TOWER SCHEDULE**

		7	Туре	R L at			Weig	ght Span F	IOT(M)	Weigh	ht Span Co	OLD (M)	GPS Cc	oordinates	
SI. No.	Loc No.	Angle of Deviation	of Tower	center peg of Location	Span (M)	Chainage in (M)	LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL	Easting	Northing	Remarks
36	AP35	50°25'49"LT	DD+6	1789.531		8363.59	160	143	303	156	157	313	37410 0	2810689	
					218.96										River stream, David Scott Road crossing
37	AP36	13°19'46"RT	DB+0	1790.63		8582.55	186	272	458	211	304	515	37410 4	2810470	
		'	'		394										Footpath crossing
38	AP37	0°38'51"LT	DD+18	1756.015		8976.55	122	176	298	-7	191	184	37402 0	2810085	
					283										Cultivation area, pine trees, 100 mtr away from river stream in right side
39	AP38	1°6'42"RT	DB+3	1764.502		9259.55	107	92	199	27	90	117	37396 3	2809808	
					196										Cultivation area and thick forest
40	AP39	10°57'28"RT	DB+0	1768.276		9455.55	104	166	270	130	184	314	37392 0	2809616	
					247										Thick forest
41	AP40	0°31'35"RT	DB+0	1761.296		9702.55	81	-75	6	-13	-141	-154	37382 1	2809390	
					160										33kV Line 10-15mtr apart from AP39
42	AP41	8°15'8"LT	DB+6	1771.804		9862.55	235	-181	54	300	-292	8	37375 5	2809245	
			İ		161										Thick forest & cultivation area
43	AP42	25°31'45"LT	DC+0	1805.828		10023.55	342	213	555	348	224	572	37371 1	2809090	
					374										Footpath crossing , Mawbeh village

44	AP43	0°53'28LT	DB+9	1790.369		10397.55	161	167	328	155	157	312	37377 3	2808720	
					382										Hill slope & cultivation area
45	AP44	7°3'8"RT	DB+9	1796.387		10779.55	215	356	571	252	412	664	37384 2	2808345	
					447										Road crossing, road to jathang and mawbri
46	AP45	18°23'34"RT	DD+18	1740.992		11226.55	91	174	265	-352	207	-145	37386 9	2807899	
					189										Cultivation area
47	AP46	5°26'2"RT	DB+0	1756.053		11415.55	15	85	100	-47	86	39	37382 0	2807716	
					165										Cultivation area

#### **TOWER SCHEDULE**

				R L at			Weig	ht Span H	OT(M)	Weig	ght Span C	OLD (M)	GPS Co	oordinates	Remarks
SI. No.	Loc No.	Angle of Deviation	Type of Tower	center peg of Location	Span (M)	Chainage in(M)	LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL	Easting	Northing	
48	AP47	10°5'26"LT	DB+6	1749.786		11580.55	80	192	272	140	213	353	373762	2807561	
					284										Cultivation area,football field R/S of direction line
49	AP48	4°30'6"RT	DB+6	1740.38		11864.55	92	161	253	41	177	218	373711	2807282	
					246										Near existing Loc No. 94 of Mawlai- Cherra,LT line 60m away from direction line
50	AP49	26°5'33"RT	DC+0	1740.235	T	12110.55	85	240	325	144	265	409	373648	2807044	
					361										Hill slope,light pine trees, near existing tower no 95
51	AP50	4°15'6"RT	DB+0	1726.051		12471.55	121	169	290	109	161	270	373412	2806771	
					379										Hill slope, pine trees, near existing tower Loc. No. 96 of Mawlai- Cherra
52	AP51	4°58'59"RT	DB+0	1731.118		12850.55	210	38	248	149	18	167	373143	2806504	
					173										Cultivation area,light trees,near existing Loc. No. 97
53	AP52	12°23'6"LT	DB+3	1733.667		13023.55	135	215	350	234	219	453	373011	2806393	
'	<u></u> '		'		411		<u> </u>		<u> </u>		'	1		<u>L</u>	LT Line

															60mtr apart from AP53
54	AP53	2°56'26"RT	DB+3	1731.031		13434.55	196	227	423	227	222	449	372759	2806069	
					477										Unpaved road
55	AP54	0°35'4"RT	DB+3	1734.766		13911.55	250	167	417	149	189	338	372448	2805707	
					228										Unpaved road
56	AP55	5°55'6"RT	DB+3	1726.796		14139.55	61	200	261	-31	252	221	372298	2805536	
					156										Unpaved road crossing
57	AP56	5°30'16"LT	DB+3	1714.159		14295.55	-44	184	140	75	194	269	372183	2805430	
					320										Unpaved road crossing
58	AP57	3°2'37"LT	DB+6	1706.014		14615.55	136	46	182	16	31	47	371970	2805191	
					165										Unpaved road from Jathang to Mawbri Village, near existing Loc. No. 103

#### **TOWER SCHEDULE**

			Туре	R L at			Weig	ght Span H	IOT(M)	Weigh	t Span C	OLD (M)	GPS Coo	rdinates	
SI. No.	Loc No.	Angle of Deviation	of Tower	center peg of Location	Span (M)	Chainage in(M)	LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL	Easting	Northing	Remarks
59	AP58	23°35'44"LT	DC+0	1715.973		14780.55	119	130	249	152	137	289	371867	2805062	
					231										Pine trees, cultivation area
60	AP59	0°3'13"LT	DB+0	1713.703		15011.55	101	190	291	100	220	320	371807	2804839	
					241										Pine trees, foothpath to Mawmihthied R/S of direction line about 65m
61	AP60	25°27'40"LT	DD+0	1702.543		15252.55	51	429	480	340	453	793	371745	2804607	
					745										Deep gorge crossing from Mawbri to Mawmihthied village, cultivation area, near existing Loc. No. 105
62	AP61	46°28'13"RT	DD+0	1674.614		15997.55	316	147	463	-157	162	5	371880	2803874	
		]			223										LT, 33kV line Left side 70m apart, cultivation area
63	AP62	21°35'56"LT	DC+0	1669.331		16220.55	76	214	290	174	219	393	371749	2803695	
					404										LT line crossing 30mtr apart from AP62
64	AP63	4°58'24"LT	DB+0	1666.19		16624.55	190	255	445	199	272	471	371648	2803303	
					430										90mtr apart from River dam in the R/S
65	AP64	10°6'38"RT	DB+0	1654.699		17054.55	175	177	352	49	194	243	371578	2802879	
					276										90mtr apart from River dam in the R/S
66	AP65	15°27'52"RT	DC+0	1647.534		17330.55	99	293	392	126	344	470	371485	2802619	
					342										Downward Hill
67	AP66	21°39'41"LT	DC+0	1619.859		17672.55	49	220	269	59	227	286	371289	2802338	

					408										33kV crossing,Near tower no 112 L/S of direction line
68	AP67	13°13'23"RT	DB+6	1609.423		18080.55	188	170	358	153	166	319	371194	2801941	
					359										LT line 80-100mtr Apart from AP67
69	AP68	17°29'15"LT	DC+3	1614.665		18439.55	189	50	239	116	33	149	371033	2801620	
					179										LT line 100-120mtr Apart from AP69

#### **TOWER SCHEDULE**

SI.	Loc	Angle of	Type of	R L at center	Span	Chainage	Weiş	ght Span F	нот(м)	Weigh	ht Span Co	OLD (M)	GPS Co	ordinates	Remarks
No.	No.	Deviation	Tower	peg of Location	(M)	in (M)	LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL	Easting	Northing	Nemarks
70	AP69	12°34'58"RT	DB+0	1622.391	<u></u> '	18618.55	129	73	202	171	48	219	371005	2801444	
					265										Coalmine unpaved road, 33kV L/S direction line of about 10-25m apart, near existing Loc. No.115
71	AP70	1°54'21"LT	DB+0	1632.902		18883.55	192	330	522	285	369	654	370907	2801197	
					475										Near Loc. No. 116, LT line 33kV L/S of direction line of about 120m
72	AP71	31°8'37"RT	DD+18	1585.677		19358.55	145	134	279	80	97	177	370717	2800762	
			<u> </u>		443		<u> </u>								Deep gorge, pine trees
73	AP72	20°59'6"RT	DC+0	1629.415	<u> </u>	19801.55	309	103	412	346	96	442	370775	2800323	
	'	1	'		240		'								Near existing tower in between Loc. No. 118- 119
74	AP73	11°35'29"RT	DB+0	1632.089		20041.55	137	248	385	144	307	451	370719	2800090	
			<u> </u>		216										Near existing Loc. No. 121 of 132 Kv line
75	AP74	6°11'2"LT	DB+0	1612.042	<u> </u>	20257.55	-32	135	103	-35	137	102	370628	2799894	
		1	 		260.19	'	 					'			Near existing Loc. No. 121 of 132 Kv line
76	AP75	14°35'49"LT	DB+0	1611.255		20517.74	126	231	357	136	269	405	370544	2799648	
	<u> </u>		<u> </u>		284.3										coal mining area
77	AP76	9°42'48"RT	DB+3	1591.43		20802.04	53	173	226	20	186	206	370387	2799411	
	<u>                                     </u>		<u> </u>	<u> </u>	288.81	<u> </u>	<u> </u>			<u> </u>		<u> </u>	<b></b> '		
78	AP77	2°7'24"RT	DB+3	1585.855	<b></b> '	21090.85	115	389	504	91	496	587	370190	2799200	
	<b></b> '	<del> </del>	<u> </u>	<b></b> '	271.06	<b></b> '	<u> </u>			<u> </u>		<u> </u>	<u> </u>		
79	AP78	2°26'1"RT	DB+6	1537.213	<u> </u>	21361.91	-118	327	209	-177	402	225	369997	2799009	
	<del> </del>		<u> </u>	<del>                                     </del>	299.05	<u> </u>	<u> </u>				1 200	<u> </u>	<u> </u>		
80	AP79	0°5'20"LT	DB+6	1501.954	'	21660.96	-28	263	235	-215	326	111	369776	2798808	

		229.31					LT line 40 mtr apart from AP80, near existing Loc. No.
							124

#### **TOWER SCHEDULE**

SI.	Loc	Angle of	Type of	R L at	Span	Chainage	Weig	ht Span F	HOT(M)	Weigh	nt Span C	OLD (M)	GPS Co	ordinates	
No.	No.	Deviation	Tower	center peg of Location	(M)	in (M)	LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL	Easting	Northing	Remarks
81	AP80	13°58'50"LT	DB+3	1482.337		21890.27	-34	154	120	-83	169	86	369606	2798654	
					239.16										Cultivation area & River stream
82	AP81	4°43'38"LT	DB+3	1476.85		22129.43	85	-6	79	58	-56	2	369473	2798455	
					221.32										Up hill
83	AP82	6°53'6"LT	DB+0	1497.052		22350.75	228	187	415	275	217	492	369366	2798262	
					229.72										Down hill
84	AP83	0°36'52"LT	DB+0	1486.05		22580.47	43	246	289	-79	318	239	369279	2798049	
					151.96										Down hill
85	AP84	6°9'38"RT	DB+0	1468.895		22732.43	-94	315	221	35	384	419	369223	2797908	
					307.84										Near Sa-I-Mika park
86	AP85	17°19'36"LT	DC+6	1429.827		23040.27	-8	202	194	-167	235	68	369079	2797636	
					244.82										Near Sa-I-Mika park & construction pillar
87	AP86	53°35'22"LT	DD+9	1413.928		23285.09	43	252	295	-23	314	291	369035	2797395	
					213.28										Near Sa-I-Mika park, Rock bed
88	AP87	20°23'54"LT	DC+0	1402.284		23498.37	-39	189	150	-67	219	152	369181	2797239	
					237.52										Near Sa-I-Mika park, fall stream
89	AP88	44°18'2"RT	DD+9	1382.132		23735.89	48	33	81	101	-25	76	369394	2797134	
					342.39										Uphill, near roadway to Nohkalikai falls
90	AP89	7°44'1"RT	DB+3	1419.528		24078.28	309	172	481	676	222	898	369507	2796810	
					108.23										33kV, coal minning area
91	AP90	13°31'18"LT	DB+0	1414.03		24186.51	-64	408	344	59	526	585	369528	2796704	
					258.26										Down hill

92	AP91	17°34'46"RT	DC+6	1360.195		24444.77	-150	-88	-238	-424	-167	-591	369638	2796470	
					196.36										Down hill

#### **TOWER SCHEDULE**

	[		Туре	R L at			Weis	ght Span H	HOT(M)	Weigh	ht Span Co	OLD (M)	GPS Co	ordinates	
SI. No.	Loc No.	Angle of Deviation	of Tower	center peg of Location	Span (M)	Chainage in (M)	LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL	Easting	Northing	Remarks
93	AP92	3°50'39"RT	DB+6	1384.54	<b>'</b>	24641.13	285	191	476	348	225	573	369663	2796276	
			<u>'</u>		218.71										Down hill
94	AP93	11°17'10"RT	DB+6	1372.719		24859.84	28	383	411	27	492	519	369677	2796057	
					253.3										Uphill, river stream R/S of line
95	AP94	12°15'8"RT	DB+9	1326.532	<u> </u>	25113.14	-130	292	162	-135	349	214	369643	2795806	
	<u> </u>	<u> </u>	<u> </u>		315.65		<u> </u>							<u> </u>	Down hill
96	AP95	9°50'0"LT	DB+0	1307.327	<u> </u>	25428.79	23	103	126	-273	111	-162	369536	2795510	
	'				169.08										Cherra S/S left side of line about 700- 1200mtr away
97	AP96	21°23'7"LT	DC+0	1305.215		25597.87	66	191	257	89	226	315	369506	2795343	
					219.12										Down hill
98	AP97	48°53'36"RT	DD+0	1293.324		25816.99	28	237	265	159	245	404	369549	2795128	
	<u> </u>	<u> </u>	'		434.33										
99	AP98	44°7'3"LT	DD+0	1287.651	'	26251.32	198	194	392	125	207	332	369284	2794784	
	<u> </u>		<u> </u>		324.28		<u> </u>					<u> </u>			Up hill near Mawmluh village
100	AP99	8°39'28"RT	DB+3	1277.788	<u> </u>	26575.6	130	277	407	126	323	449	369321	2794462	
					338.57										Downhill, near graveyard & Mawmluh view point
101	AP100	10°50'31"RT	DB+3	1253.453	<u> </u>	26914.17	61	158	219	-165	183	18	369309	2794125	
	<u> </u>	<u> </u>	'		197.46										Down hill
102	AP101	13°9'19"RT	DB+9	1239.682	<u> </u>	27111.63	40	50	90	-15	36	21	369264	2793933	
					167.95										Near football field & Mawmluh village
103	AP102	7°53'6"RT	DB+0	1252.471	<u> </u>	27279.58	118	142	260	128	174	302	369190	2793780	
			<u> </u>		133.48										Near football field & Mawmluh village
104	AP103	29°17'32"LT	DD+0	1245.812	'	27413.06	-8	-84	-92	-108	-139	-247	369115	2793669	

								Near 33kV line &
			92.54					Mawmluh village
								area

#### **TOWER SCHEDULE**

		1	Туре	R L at			Weis	ght Span H	IOT(M)	Weigh	ht Span C	OLD (M)	GPS Co	ordinates	
SI. No.	Loc No.	Angle of Deviation	of Tower	center peg of Location	Span (M)	Chainage in(M)	LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL	Easting	Northing	Remarks
105	AP104	33°9'7"RT	DD+0	1253.816		27505.6	176	32	208	186	2	188	369107	2793577	
					205.4										Near 11kV &33kV line, thick forest
106	AP105	1°18'7"LT	DB+0	1263.458	<u> </u>	27711	173	266	439	265	359	624	368981	2793415	
			<u> </u>	<u> </u>	94.7		<u> </u>								Near 11kV &33kV line, thick forest
107	AP106	4°33'7"RT	DB+0	1249.684	<u> </u>	27805.7	-172	437	265	-160	595	435	368925	2793339	
					130.8										Road crossing, Mawmluh- Mawshamok Road, Near footpath area & 11kV & 33kV line
108	AP107	4°8'55"RT	DB+9	1208.35	<u> </u>	27936.5	-307	638	331	-659	889	230	368839	2793240	
					97.84										Road crossing, Roadway from Mawmluh to Mawshamok village
109	AP108	5°15'35"RT	DB+6	1173		28034.34	-541	422	-119	-921	582	-339	368769	2793172	
					85.22										Road from Mawmluh- Mawshamok, down hill near 33kV line
110	AP109	4°34'55"LT	DB+9	1148.529	<u> </u>	28119.56	-337	324	-13	-497	404	-93	368704	2793117	
			<u> </u>	<u> </u>	271.6		<u> </u>								Down hill near 33kV line
111	AP110	3°6'2"LT	DB+9	1114.54	<u> </u>	28391.16	-53	363	310	-132	465	333	368508	2792929	
			<u> </u>	<u> </u>	245.36		<u> </u> '								Down hill near 33kV line, footpath
112	AP111	2°55'9"RT	DB+9	1075.379	<u> </u>	28636.52	-118	289	171	-219	386	167	368342	2792749	
					117.9										Down hill near 33kV line,Mawmluh - Mawshamok road
113	AP112	10°3'0"RT	DB+0	1066.36	<u> </u>	28754.42	-171	346	175	-268	462	194	368257	2792666	
		<u> </u>			145.75		<u> </u>	<u></u>							Mawmluh- Mawshamok road,

															Road crossing
114	AP113	11°28'50"RT	DB+0	1036.965		28900.17	97	345	442	62	460	522	368137	2792585	
					148										
115	AP114	17°52'18"LT	DC+0	1010.291		29048.17	-197	559	362	-312	700	388	368005	2792517	NEW SPOT due to avoid violation.
					450.08										

#### **TOWER SCHEDULE**

				R L at			Weig	ht Span F	ЮТ(М)	Weigh	t Span C	OLD (M)	GPS Cod	ordinates	
SI. No.	Loc No.	Angle of Deviation	Type of Tower	center peg of Location	Span (M)	Chainage in (M)	LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL	Easting	Northing	Remarks
116	AP115	12°48'18"RT	DD+25	885.493		29498.25	-109	569	460	-250	773	523	367687	2792198	Mawmluh Mawshamok village Road, deep thick jungle and deep gorge
					174.91										
117	AP116	22°38'11"LT	DC+9	845.539		29673.16	-394	456	62	-598	608	10	367539	2792105	Downhill,Thick Forest,Near Mawmluh- Mawshamok village road
					196.45										
118	AP117	11°45'8"LT	DD+18	789.791		29869.61	-260	436	176	-412	599	187	367426	2791944	Downhill,thick forest
					104.78										
119	AP118	11°30'56"LT	DB+6	775.057		29974.39	-332	232	-100	-494	205	-289	367385	2791848	Near 33kV DP line,thick forest
					590.07										
120	AP119	3°46'30"LT	DC+6	799.945		30564.46	359	-387	-28	385	-578	-193	367264	2791270	Near 33kV DP line,thick jungle large rocks
					128.85										
121	AP120	0°6'30"LT	DD+18	826.605		30693.31	516	-263	253	707	-470	237	367246	2791143	Uphill, thick forest,downw ard slope
					448.35										
122	AP121	23°32'21"RT	DC+0	989.956		31141.66	712	-137	575	919	-220	699	367184	2790699	Uphill, thick forest,downw ard slope
					117.82										
123	AP122	1°46'55"RT	DB+0	1005.272		31259.48	255	-215	40	337	-326	11	367122	2790598	Uphill, near 33kV line,thick

															forest
					93.23										
124	AP123	31°58'33"RT	DD+0	1021.49		31352.71	308	-12	296	419	-38	381	367071	2790520	Near 33kV line, Thick jungle uphill
					97.83										
125	AP124	22°51'40"LT	DC+0	1025.461		31450.54	110	290	400	136	387	523	366982	2790479	Thick forest
					125.5										
126	AP125	3°21'8"RT	DB+0	1006.465		31576.04	-165	351	186	-262	460	198	366898	2790387	Thick jungle, 33kV line L/S of line
					185.47										

#### **TOWER SCHEDULE**

	1	1	Туре	R L at			Weis	ght Span H	IOT(M)	Weig!	ht Span C	OLD (M)	GPS Co	oordinates	
SI. No.	Loc No.	Angle of Deviation	of Tower	center peg of Location	Span (M)	Chainage in (M)	LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL	Easting	Northing	Remarks
127	AP126	24°36'7"LT	DC+0	974.672		31761.51	-165	417	252	-274	561	287	366765	2790257	Downhill, Thick forest
<u> </u>	<b>─</b> ── <sup>'</sup>	+	<u> </u> '	<del></del> '	157.73		<u> </u>		<u> </u>	<u> </u>		<u> </u>			
128	AP127	28°50'51"RT	DD+18	921.171		31919.24	-260	359	99	-403	430	27	366708	2790110	Downhill, Cultivation Area
	T T				380.68										
129	AP128	27°16'3"RT	DC+6	890.591		32299.92	22	64	86	-49	58	9	366416	2789865	Uphill thick forest, Near Footpath to Village area
	<u> </u>	<u> </u>	'	<u> </u>	153.58								<u> </u>		
130	AP129	12°20'31"LT	DB+0	897.944	<u> </u>	32453.5	90	224	314	96	274	370	366267	2789831	Light Forest
<u> </u>	J	<del> </del>	<u> </u>	<b></b> '	214.55		<del> </del>	<del></del>		<u> </u>				<u> </u>	
131	AP130	26°12'29"LT	DC+0	881.25	115.04	32668.05	-10	248	238	-59	328	269	366072	2789740	Downhill Thick forest Area
<u> </u>		<del> </del>	<del>                                     </del>	<del> </del>	116.94		<del>                                     </del>			<u> </u>	<del>                                     </del>	-		<u> </u>	Downhill Thick
132	AP131	19°33'37"RT	DC+6	860.541		32784.99	-131	423	292	-211	569	358	365999	2789649	Forest Area
<u></u> '	<u> </u>	<del> </del>	<u> </u>	<u> </u>	158.29		<u> </u>			<u> </u>		<u> </u>		<u> </u>	
133	AP132	20°1'14"RT	DC+6	824.355		32943.28	-265	199	-66	-411	244	-167	365865	2789566	Downhill Thick forest Area
<u> </u>	<b>└</b>	+	<u> </u> '	<b></b>	189.34		<b></b> '		<del></del>	<u></u> '	<u> </u>	<u> </u>	<u> </u>	<u> </u>	
134	AP133	18°58'37"LT	DC+3	814.198		33132.62	-10	-48	-58	-54	-94	-148	365679	2789527	Light Forest Area
<u> </u>	<b>↓</b> '	<b></b>	<u> </u> '	<b></b> '	115.58		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>		<u> </u>		
135	AP134	5°54'54"LT	DB+0	825.361		33248.2	164	7	171	209	-8	201	365580	2789468	Thick forest area
<u> </u>	<b>↓</b> '	+	<u> </u>	<u> </u>	85.01		<u> </u>		<u> </u>	<u> </u>			<u> </u>		
136	AP135	49°4'15"RT	DD+0	827.377	<u> </u>	33333.21	78	94	172	93	91	184	365512	2789418	Thick forest
<u> </u>	<del></del> '	<del> </del>	<u> </u>	<del> </del>	201.64		<u> </u>			<u> </u>	<u> </u>		<u> </u>		
137	AP136	57°22'21"LT	DD+0	828.337		33534.85	108	386	494	111	526	637	365315	2789461	Thick forest near footpath

															& River stream
					112.18										
138	AP137	4°2'38"LT	DB+0	803.755		33647.03	-274	184	-90	-413	231	-182	365235	2789382	Thick forest
					149.63										

#### **TOWER SCHEDULE**

				R L at			Weig	ht Span F	IOT(M)	Weigh	nt Span C	OLD (M)	GPS Co	ordinates	
SI. No.	Loc No.	Angle of Deviation	Type of Tower	center peg of Locatio n	Span (M)	Chainage in (M)	LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL	Easting	Northing	Remarks
139	AP138	14°51'41"RT	DB+0	792.862		33796.66	-35	247	212	-81	308	227	365137	2789269	Thick forest
					202.82										
140	AP139	3°7'41"LT	DB+0	773.26		33999.48	-44	431	387	-106	530	424	364969	2789155	Thick forest
					397.07										
141	AP140	3°4'11"RT	DB+9	702.84		34396.55	-34	407	373	-133	511	378	364653	2788915	Thick forest
					324.56										
142	AP141	10°19'51"LT	DB+9	650.073		34721.11	-82	203	121	-186	243	57	364384	2788733	Downward Hill, thick Forest
					219.92										
143	AP142	10°55'10"RT	DB+9	636.459		34941.03	17	122	139	-23	135	112	364228	2788579	Thick forest
					183.64										
144	AP143	8°54'9"LT	DB+0	641.729	11010	35124.67	61	273	334	48	359	407	364074	2788477	Thick Forest
					140.18										Downhill Thick
145	AP144	5°32'30"LT	DB+3	619.809		35264.84	-133	434	301	-219	596	377	363971	2788383	forest Area,
					107.48										
146	AP145	14°3'41"LT	DB+0	595.626		35372.32	-327	533	206	-488	738	250	363899	2788303	Downhill, Broom cultivation Area
					103.57										
147	AP146	19°37'47"RT	DC+0	562.472		35475.89	-430	703	273	-634	905	271	363851	2788211	Downhill, Broom cultivation Area
					456.38										
148	AP147	8°54'39"RT	DD+25	393.292		35932.27	-247	439	192	-449	593	144	363514	2787903	Downhill, Betel Nut Cultivation Area
					154.16										
149	AP148	17°11'29"RT	DC+0	381.183		36086.43	-285	403	118	-439	547	108	363385	2787818	Downhill, Betel Nut Cultivation Area, light forest
					125.36										
150	AP149	1°24'59"LT	DB+0	352.813		36211.79	-278	210	-68	-422	282	-140	363306	2787721	Downhill, thick Forest, Large

								Limestone & Rocky Area
			75.79					

#### **TOWER SCHEDULE**

			Туре	R L at			Weig	ht Span H	IOT(M)	Weigh	t Span C	OLD (M)	GPS Co	ordinates	
SI. No.	Loc No.	Angle of Deviation	of Tower	center peg of Location	Span (M)	Chainage in (M)	LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL	Easting	Northing	Remarks
151	AP150	27°54'34"LT	DB+0	344.16		36287.58	-134	520	386	-207	637	430	363260	2787661	Downhill,thick Forest, Large Limestone & Rocky Area
					492.47										
152	AP151	35°21'39"RT	DD+25	229.381		36780.05	-28	503	475	-144	659	515	363175	2787176	Downhill,Thick Forest,Large Limestone & rocky Area ,Near Roadway from Mustoh to Shella & Jatap village
					271.61										
153	AP152	32°23'1"LT	DB+9	179.077		37051.66	-232	242	10	-387	304	-83	362982	2786985	Thick Forest, Limestone & rocky area, Near Roadway to Shella & Jatap Village
					187.42										
154	AP153	23°46'34"RT	DC+9	160.651		37239.08	-54	197	143	-117	244	127	362940	2786802	Thick forest, Limestone area, rock 5m high need demolition or blasting
					170.76										
155	AP154	4°17'18"LT	DB+0	157.012		37409.84	-26	256	230	-73	348	275	362972	2786635	Thick Forest,near limestone quarry area & road to Shella & Jatap village
					80.546										
156	AP155	23°31'12"LT	DC+0	145.435		37490.39	-176	352	176	-268	449	181	362993	2786557	Near Quarry area,Limestone Area, +6m uplift of tower required
					245.12										
157	AP156	14°52'51"RT	DB+0	108.029		37735.51	-107	279	172	-204	349	145	363146	2786366	Large Limestone area, Thick forest,

															Near roadway to Shella & Jatap village
					227.3										
158	AP157	23°54'58"RT	DC+0	83.051		37962.81	-52	200	148	-122	263	141	363238	2786158	Large Limestone area,Thick forest, near roadway to Shella & Jatap village
					106.76										
159	AP158	7°46'44"LT	DB+0	72.629		38069.57	-94	167	73	-156	176	20	363238	2786051	Limestone area, thick Forest, Near Roadway to Shella & Jatap
		·			295.32										

#### **TOWER SCHEDULE**

				R L at			Weig	ht Span H	IOT(M)	Weight Span COLD (M)			GPS Co	ordinates	
SI. No.	Loc No.	Angle of Deviation	Type of Tower	center peg of Locatio n	Span (M)	Chainage in (M)	LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL	Easting	Northing	Remarks
160	AP159	6°43'38"RT	DB+0	68.756		38364.89	128	-253	-125	120	-383	-263	363277	2785758	Thick Forest
					106.79										
161	AP160	7°11'34"RT	DB+6	84.531		38471.68	360	43	403	490	12	502	363279	2785651	Uphill thick forest, Betel Nut Cultivation Area
					234.39										
162	AP161	2°46'6"RT	DB+0	102.016		38706.07	191	169	360	222	207	429	363253	2785418	Small uphill, Betel Nut Cultivation Area, Forest
					159.88										
163	AP162	1°34'12"LT	DB+0	92.569		38865.95	-9	120	111	-47	125	78	363228	2785260	Near 33kV Line, +6m uplift of tower Required, light trees jungle
					214.76										
164	AP163	7°8'0"LT	DB+0	90.76		39080.71	95	154	249	89	192	281	363200	2785048	Thick Forest
					132.37										
165	AP164	28°10'0"LT	DC+3	79.997		39213.08	-22	106	84	59	101	42	363199	2784916	11Kv line crossing 15 mtr apart from Loc. No. 163
					237.87										
166	AP165	28°10'0"LT	DC+6	79.023		39450.95	132	201	333	137	219	356	363311	2784705	Cultivation area, Light trees forest, near Foothpath
					317.93										
167	AP166	4°11'45"RT	DB+6	70.137		39768.88	117	142	259	99	145	244	363522	2784467	Betel nut Cultivation area
					271.3										
168	AP167	18°13'44"RT	DC+3	71.957		40040.18	129	90	219	126	71	197	363686	2784251	Betel Nut Cultivation Area
					267.23										
169	AP168	4°8'32"RT	DB+3	79.738		40307.41	177	113	290	196	112	308	363773	2783999	Thick Forest area,

															Near foothpath
					232.44										
170	AP169	21°5'56"LT	DC+6	77.201		40539.85	119	153	272	120	167	287	363833	2783774	Betel nut Cultivation area, near roadway from shella-sohra
					239.93										

#### **TOWER SCHEDULE**

			Туре	R L at			Weiş	Weight Span HOT(M)			Weight Span COLD (M)			ordinates	
SI. No.	Loc No.	Angle of Deviation	of Tower	center peg of Location	Span (M)	Chainage in (M)	LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL	Easting	Northing	Remarks
171	AP170	25°19'25"LT	DC+6	71.972		40779.78	87	238	325	73	301	374	363974	2783580	Cultivation area, Near Village Area
<u> </u>	<u>                                     </u>	<u> </u>	<u> </u>		176	<u> </u>						<u> </u>			
172	AP171	3°38'44"RT	DB+0	60.433	!	40955.78	-62	58	-4	-125	20	-105	364007	2783407	Forest, cultivation Area & near Village Area
					294.89										
173	AP172	6°56'3"RT	DB+0	78		41250.67	237	137	374	275	137	412	364043	2783115	
	<u> </u> '	<b></b> '	<u> </u>		273.22	<b></b> '	<u> </u>				<u> </u>	<u> </u>			
174	AP173	14°49'25"LT	DB+0	78.004		41523.89	137	144	281	137	171	308	364044	2782841	Near 33kV line & Roadway to proposed Ichamati Sub Station
					163.17										
175	AP174	6°30'43"LT	DB+0	71.201		41687.05	19	250	269	-8	288	280	364086	2782684	Near Village forest Area
'	<u>                                     </u>	<u> </u>	<u> </u>		321.62	<u> </u>						<u> </u>			
176	AP175	11°54'49"LT	DB+0	52.157	<u> </u> '	42008.68	72	188	260	34	224	258	364204	2782384	Cultivation Area, thick Forest
'	<u> </u>	<b></b> '			208.07	<b></b> '				<u> </u>		<u> </u>	<u> </u>		
177	AP176	13°25'25"RT	DB+0	40.495	<u> </u> '	42216.75	20	174	194	-16	171	155	364318	2782211	Forest cultivation Area
'	<u> </u> '	<b></b> '	<u> </u>		363.34	<b></b> '				<u> </u>	<u> </u>	<u> </u>	<u> </u>		
178	AP177	26°5'0"LT	DC+0	42.352	<u> </u> '	42580.09	189	74	263	193	69	262	364442	2781869	Uphill forest area, near 11kV LT line
	<u> </u>	<b></b> '			168.4	<b></b> '				<u> </u>		<u> </u>	<u> </u>		
179	AP178	11°24'35"LT	DB+0	43.545	<u> </u>	42748.49	95	23	118	99	10	109	364564	2781752	Cultivation Area
<u> </u>	<u> </u> '	<u> </u>	<u> </u>		106.31	<b></b>		<u> </u>		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	
180	AP179	9°18'29"LT	DB+0	45.674	<u> </u>	42854.8	83	112	195	96	143	239	364653	2781695	Cultivation Area
<u> </u>	<del>                                     </del>	<b></b> '	<del></del>	<b></b>	79.82	<b></b>	<b></b>				<u> </u>	<u> </u>		<u> </u>	<u> </u>
181	AP180	TO BE DECIDED LATER	DD+0	41.834		42934.62	-32			-63			364727	2781664	Proposed Substation Area

# MEGHALAYA POWER TRANSMISSION CORPORATION LIMITED TOWER SCHEDULE DETAILS SURVEY OF 220kV D/C LINE FROM MAWPHLANG SUB STATION TO ICHAMATI

#### **ABSTRACT TYPE OF TOWER NO. OF LOCATION TOTAL LOCATIONS 57** DB + 0**DB** + 3 19 106 **TOTAL LINE LENGTH: 42.935 Km. DB + 6** 16 DB + 914 DC + 023 DC + 3 43 6 DC + 6 11 DC + 93 DD + 0**13** DD + 31 30 DD + 6 DD + 93 DD + 18 DD + 25 QD + 9 (Multi Circuit) 1 **TOTAL** 180