Annual Energy Audit (Accounting) Report

Designated Consumer

Meghalaya Energy Corporation Limited

(MeECL)
Lum Jingshai, Short Round Road, East Khasi Hills
Shillong– 793001

(Meghalaya)

FY 2020 -21

Conducted by

A-Z Energy Engineers Private Limited

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ACKNOWLEDGEMENT

A-Z Energy Engineers Pvt. Ltd. is grateful to the MeECL, Shillong for giving us an opportunity to conduct the Energy Audit Accounting of their DISCOM, under the Bureau of Energy efficiency 2021 Scheme.

We also express sincere thanks to the management of MeECL, Shillong, which is a Designated Consumers in the DISCOM sector for extending necessary co-operation and providing relevant information to us for the successful completion of the audit. Our sincere thanks to the entire plant working group comprising of:

- SHRI. P. Sahkhar – Chief Engineer (PMC), MePDCL
- SMTI. S. Rymbai, Executive Engineer (MIS), MePDCL
- SHRI. J.E.Marbaniang, Executive Engineer (MTI), MePDCL
- SHRI. A. Mylliemngap, Account Officer (Audit), MePDCL
- SHRI. S. Mandal - Energy Manager, MeECL

A-Z Energy Engineers Pvt. Ltd. looks forward to their continued support in all future endeavours as well.

(Dr.P.P.Mittal)
Director

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List of Abbreviations

AMI	Advanced Metering Infrastructure
AMR	Automated Meter Reading
AMRUT	Atal Mission for Rejuvenation and Urban Transformation
AT & C	Aggregate Technical and Commercial
BEE	Bureau of Energy Efficiency
ckt	Circuit
CT	Current Transformer
DC	Designated Consumer
DEEP	Discovery of Efficient Electricity Price
DISCOM	Electricity Distribution Company
DT	Distribution Transformer
EA	Energy Auditor
EHT	Extra High Tension
EHV	Extra High Voltage
EM	Energy Manager
FY	Financial Year
HT	High Tension
HVDS	High Voltage Distribution System
KVA	Kilo Volt Ampere
LT	Low Tension
MoP	Ministry of Power
MU	Million Units
MW	Mega Watt
NO	Nodal Officer
OA	Open Access
POC	Point of Connection
PT	Potential Transformer
PX	Power Exchange
RE	Renewable Energy
RLDC	Regional Load Dispatch Centre
SDA	State Designated Agency
SLD	Single Line Diagram
SLDC	State Load Dispatch Centre
T & D	Transmission and Distribution

Executive Summary & Critical Analysis

Bureau of Energy efficiency (BEE) notified the Bureau of Energy Efficiency (Manner and intervals for conduct the energy audit (Accounting) in Electricity Distribution Companies) Regulations, 2021 on 6th October 2021. As per regulation, all Electricity Distribution Companies are Mandate to conduct annual energy audit and periodic energy accounting on quarterly basis.

Meghalaya Energy Corporation Limited (MeECL), is a state-owned electric utility company headquartered in Shillong, Meghalaya, India. It engages in Generation, Transmission and Distribution of Hydro-Power.

Meghalaya Energy Corporation Limited, State Electricity Board to distribute electricity from the end point of transmission to the end consumers. While the energy Purchased, Net Input & billed MeECL for the customer is 2511.51MU, 1818.14MU & 1326.45MU. The monthly consumption per customer stands at 185.46 KWH/Month. MeECL caters to area spread in 6 circles, 17Division.

➢ Input Energy Purchase from Generation Sources FY 2020-21

The power availability in the state of Meghalaya is primarily from three key sources- (a) from the generating stations of MePGCL, (b) from the allocated share of central power sector generating companies like NEEPCO, NHPC and NTPC etc. and (c) from short term power purchase from IEX/bilateral trade and banking etc. The comparison of actual source wise energy availability and the approved energy availability in FY 2020-21, is provided in the table below:

Sr. No.	Source	FY-2020-21
A	**MePGCL**	1229.06
B	**Outside purchase**	
1	NTPC	0.00
2	NHPC Loktak HEP	
3	NEEPCO	573.85
4	OTPC Pallatana GPP	437.44
C	**Short Term (Bilateral/ Banking/ UI etc.)**	
	I. At NER periphery	
1	Kreate Energy (I) Pvt Ltd- Swapping	19.537
2	Kreate Energy (I) Pvt Ltd- Bilateral	47.96
3	Kreate Energy (I) Pvt Ltd- IEX	1.052
4	APPCL – Swapping	78.957

Sr. No.	Source	FY-2020-21
5	APPCL – Bilateral	88.019
6	APPCL – IEX	3.928
	NTPC Vidyut Vyapar Nigan Ltd. (NVVN)	
D	Deviation Inter	14.249
	II. Within the State periphery	
1	Meghalaya Power Ltd. (MPL) – Banking	7.855
2	Dalmia Cement (Bharat) Ltd (Swapping)	4.459
3	Deviation Intra	5.153
	Total Availability	**2511.51**

The Month wise energy purchase bill & Unit consumption of the MeECL is Shown Below

Months	Purchase Energy (in MU)
Apr-20	134.64
May-20	183.49
Jun-20	251.11
Jul-20	271.61
Aug-20	227.55
Sep-20	236.88
Oct-20	261.44
Nov-20	188.84
Dec-20	194.50
Jan-21	207.72
Feb-21	178.43
Mar-21	175.32
FY-2020-21	**2511.51**

Note: Details Sheet Attached in Annexure

➢ Discom Energy Accounting FY-2020-2021

Net Energy Input to the Discom for FY 2020-2021 is estimated and presented in the table:

S. No	Particulars	Values
1	Input Energy purchased (MU)	2511.51
2	Transmission loss (%)	3.92%
3	Transmission loss (MU)	98.45

S. No	Particulars	Values
4	Energy sold outside the periphery(MU)	594.94
5	Net input energy (received at DISCOM periphery or at distribution point)-(MU)	1818.14
6	Billed Units (Mus)	1326.45
7	T& D Losses (Mus)	491.69
8	Billed Amount (Rs Crore)	793.95
9	Collected Amount (Rs Crore)	797.44
10	Collection Efficiency (Rs Crore)	100.44%
11	% T& D Loss	27.04%
12	% AT&C	26.72%

The technical losses and AT&C losses for FY 2020-2021 are estimated and presented below:

Total Losses	T & D Loss		AT & C Loss (%)
	T & D Loss (MU)	T & D Loss (%)	26.72%
	491.69	27.04%	

➢ Categories wise Consumers & Billed Units FY 2020-21

The total sales (metered and assessed) for the various consumer categories are presented in the following table:

S.No	Type of Consumers	Voltage Level	No of Consumers	Total Consumption (In MU)
1	Domestic	HT/LT	563089	500.01
2	Commercial	LT	28800	61.40
3	Water Supply	LT	417	10.83
4	Public Lighting	LT	60	0.55
5	HT Water Supply	HT	36	28.11
6	HT Industrial	HT	137	616.63
7	Industrial (Small)	LT	700	4.55
8	HT Commercial	HT	132	20.18
9	Government offices and department	HT/LT	2614	83.89

S.No	Type of Consumers	Voltage Level	No of Consumers	Total Consumption (In MU)
10	Agriculture	LT	28	0.14
11	Others-2 (CRM, Crematorium)	HT/LT	1	0.15
		Total	**596014**	**1326.45**

➢ Customer Profile of MeECL for FY 2020-21

Energy consumption with type of customer is given in the table:

Consumer category	Total connections (Nos)	Total Load (MW)	Input energy (MU)	Total energy	Distribution loss (MU)
Residential	562991	610.69	1818.14	482.62	491.69
Agricultural	28	0.23		0.14	
Commercial/Industrial-LT	29500	95.15		65.96	
Commercial/Industrial-HT	268	186.50		636.81	
Others	3227	98.07		140.93	
	596014	**990.64**	**1818.14**	**1326.46**	**491.69**

Consumer category	Distribution loss (%)	Billed Amount in Rs. Crore	Collected Amount in Rs. Crore	Collection Efficiency	AT& C loss (%)
Residential	27.04%	260.25	252.72	97.11%	
Agricultural		0.08	0.03	41.87%	
Commercial/Industrial-LT		60.50	62.66	103.57%	
Commercial/Industrial-HT		356.38	320.44	89.91%	
Others		116.74	161.59	138.42%	
	27.04%	793.95	797.44	100.44%	26.72%

➢ Goals and Objectives

MeECL is a designated consumer in Discom sector. Being a designated Consumer MeECL need to have Annual energy audit (Accounting) of their facilities as per BEE notification No 18/1/BEE/Discom/2021 dated 6th October 2021.

The Annual Energy Audit (Accounting) at MeECL is conducted with the following Objectives:

- Verification of existing pattern of energy distribution across periphery of electricity Distribution Company.
- Verification of accounted energy flow submitted by electricity Distribution Company at all applicable voltage levels of the distribution network.
- Verification of the accuracy of the data collected and analyses and processes the data with respect to consistency, improvement in accounting and reducing loss of DISCOM.
- Verification of the information submitted by DC to the SDA/BEE about status of energy input, Output and loss for the previous two year.
- Access the past performance of the establishment.
- Quantification of Energy Losses, and Energy Saving Potential.

➢ Energy Input, Output & Losses for FY 2020-21

Meghalaya Energy Corporation Limited (MeECL), is a state-owned electric utility company headquartered in Shillong, Meghalaya, India. It engages in Generation, Transmission and Distribution of Hydro-Power. Meghalaya Energy Corporation Limited (MeECL), State Electricity Board to distribute electricity from the end point of transmission to the end consumers. While the energy Purchased, Net Input & billed MeECL for the customer is 2511.51MU, 1818.14MU & 1326.45MU. The monthly consumption per customer stands at 185.46 KWH/Month. MeECL caters to area spread in 6 circles, 17 Division. It is divided into 6 circles, 17 divisions & the overall purchased Energy, consumptions & AT &C losses for the FY-2020-2021 is shown in table below the AT&C losses for FY2020-2021 is 26.72% & the T&D losses of the sector is 27.04%.

Technical Details (FY2020-21)		
Energy Input Details	**UoM**	**Value**
Input Energy Purchase (From Generation Source)	Million kwh	2511.51
Net input energy (at DISCOM Periphery after adjusting the transmission losses and energy traded)	Million kwh	1818.14
Total Energy billed (is the Net energy billed, adjusted for energy traded))	Million kwh	1326.45

Technical Details (FY2020-21)		
Energy Input Details	**UoM**	**Value**
Transmission and Distribution (T&D) loss Details	Million kwh	491.69
	%	27.04%
Collection Efficiency	%	100.44%
Aggregate Technical & Commercial Loss	%	26.72%

➢ Details of Input Energy & Infrastructure

The Input energy, consumption & transmission losses of the MeECL are shown in table below:

Parameters	FY 2020-2021
Input Energy purchased (MU)	2511.51
Transmission loss (%)	4%
Transmission loss (MU)	98.45
Energy sold outside the periphery(MU)	594.94
Net input energy (received at DISCOM periphery or at distribution point)-(MU)	1818.14
Is 100% metering available at 66/33 kV (Select yes or no from list)	No
% of metering available at DT	20%
% of metering available at consumer end	99%
No of feeders at 66kV voltage level	0
No of feeders at 33kV voltage level	180
No of feeders at 11kV voltage level	365
No of LT feeders level	0
Line length (ckt. km) at 66kV voltage level	0
Line length (ckt. km) at 33kV voltage level	2524.14
Line length (ckt. km) at 11kV voltage level	17815.04
Line length (km) at LT level	27120.92
Length of Aerial Bunched Cables	
Length of Underground Cables	
HT/LT ratio	0.75

➢ Energy Conservation Measures Already Taken and Proposed for Future

Following energy conservation Measures (ECMs) is adopted for line loss reduction

1. Installation of Smart AMR Meters.
2. Maintained the accuracy on the billing date.
3. System improvement & automation.
4. Feeder meters AMR to be increased
5. Targeted Work for Distribution loss reduction under proposed RDSS Scheme

- Installation of power transformers in Substations.
- GIS based monitoring in substations
- Smart switching Systems.
- Increases HT Lines Feeders.

6. Replacement of Service wire with armoured wire to reduce the line losses.
7. Agricultural Feeder segregation and solarisation
8. Replacement of existing 33KV lines with monoblock tower lines.
9. SCADA & DMS Implementation for monitoring.
10. Replacing of conventional/non star rated transformer into energy efficient transformers.
11. Laying of AB cable in theft prone area where loss are in higher side.
12. Increase in HT/LT Ratio.
13. Installation of solar generation plant & solar pumps.
14. Strengthening of energy accounting infrastructure-100% consumer metering.

Critical Analysis:-

- Meghalaya Energy Corporation Limited (MeECL), State Electricity Board to distribute electricity from the end point of transmission to the end consumers. While the energy Purchased, Net Input & billed MeECL for the customer is 2511.51MU, 1818.14MU & 1326.45MU. The monthly consumption per customer stands at 185.46 KWH/Month. MeECL caters to area spread in 6 circles, 17 Division.
- Verified transmission losses, distribution (T&D) losses, collection efficiency & aggregate technical & commercial losses of MeECL for FY2020-21, i.e., 1st April'2020 to 31st March'2021 is 3.92%, 27.04%, 100.44% & 26.72% respectively.
- The electrical energy which is supplied by various interstate Purchase power agreement at 220 KV, 132KV,33 KV and same is supplied to customers at 220 KV , 132 KV , 33 KV, 11 KV, 400V and 230 V single phase.
- MeECL has metering available at 11/33/66 KV system. However, there is 98.66% metering at consumer end and 80% metering available at DT.

- MeECL is a distribution network having 6 numbers of circles, 17 numbers of divisions, 52 numbers of sub-division, 545 numbers of feeders, 12405 number of DTs and 596014 numbers of consumers.

II. Background

2.1 Extent Regulation & Role of BEE

The Objectives of BEE

- To develop policies and programmes on efficient use of energy and its conservation with the involvement of stakeholders.
- To plan, manage and implement energy conservation programmes as envisaged in the EC Act.
- To assume leadership and provide policy framework and direction to national energy efficiency and conservation efforts and programmes.
- To demonstrate energy efficiency delivery mechanisms, as envisaged in the EC Act, through Public-Private Partnership (PPP).
- To establish systems and procedures to measure, monitor and verify energy efficiency results in individual sectors as well as at the national level.
- To leverage multi-lateral, bi-lateral and private sector support in implementation of programmes and projects on efficient use of energy and its conservation.
- To promote awareness of energy savings and energy conservation.

Role of BEE

- BEE coordinates with designated agencies, designated consumers and other organization working in the field of energy conservation/efficiency to recognize and utilize the existing resources and infrastructure in performing the functions assigned to the Bureau under the Energy Conservation Act.
- The Act provides regulatory mandate for: standards &labelling of equipment and appliances; energy conservation building code for commercial buildings; and energy consumption norms for energy intensive industries.
- The EC Act was amended in 2010 to incorporate few additional provisions required to better equip BEE to manage ever evolving sphere of energy efficiency in the country.

The main amendments made to the original Act are given below:

- The Central Government may issue the energy savings certificate to the designated consumer whose energy consumption is less than the prescribed norms and standards in accordance with the procedure as may be prescribed.
- The designated consumer whose energy consumption is more than the prescribed norms and standards shall be entitled to purchase the energy

savings certificate to comply with the prescribed norms and standards

- The Central Government may, in consultation with the Bureau, prescribe the value of per metric ton of oil equivalent of energy consumed
- Commercial buildings which are having a connected load of 100 kW or contract demand of 120 Kva and above brought under the purview under the EC Act.

Promotional Role

The major Promotional Role of BEE includes:

- Create awareness and disseminate information on energy efficiency and conservation.
- Arrange and organize training of personnel and specialists in the techniques for efficient use of energy and its conservation.
- Strengthen consultancy services in the field of Energy Efficiency.
- Promote research and development.
- Develop testing and certification procedures and promote testing facilities.
- Formulate and facilitate implementation of pilot projects and demonstration projects.
- Promote use of energy efficient processes, equipment, devices and systems.
- Take steps to encourage preferential treatment for use of energy efficient equipment or appliances.
- Promote innovative financing of energy efficiency projects.
- Give financial assistance to institutions for promoting efficient use of energy and its conservation.
- Prepare educational curriculum on efficient use of energy and its conservation.
- Implement international co-operation programmes relating to efficient use of energy and its conservation.

2.2 Purpose of Audit & Accounting Report

MeECL is a designated consumer in Discom sector. Being a designated Consumer MeECL need to have Annual energy audit (Accounting) of their facilities as per BEE notification No 18/1/BEE/Discom/2021 dated 6th October 2021.

The energy intensity of India is higher with respect to GDP growth and there is an urgent need to address these issues on priority through integrated and comprehensive approach and by adopting latest techniques and technologies with active participation of all stakeholders.

Sensing the need of the hour Government of India initiated a mechanism for all energy intensive large industries and facilities (designated consumer) known as PAT Scheme which is “A market based mechanism to enhance cost effectiveness of improvements in energy efficiency in designated consumers, through certification of energy savings that could be traded.”

Annual Energy audit (Accounting) will not only help in reducing losses in system but it also helps DISCOM in sustainable growth. The objective of this energy audit is to reduce T&D loss and AT&C loss of the DISCOM through identification of commercially viable and implementable scheme for reduction of technical and commercial loss in the DISCOM thus leading to sustainable energy cost reductions.

The Annual Energy Audit (Accounting) at MeECL is conducted with the following Objectives:

- Verification of existing pattern of energy distribution across periphery of electricity Distribution Company.
- Verification of accounted energy flow submitted by electricity Distribution Company at all applicable voltage levels of the distribution network.
- Verification of the accuracy of the data collected and analyses and processes the data with respect to consistency, improvement in accounting and reducing loss of DISCOM.
- Verification of the information submitted by DC to the SDA/BEE about status of energy input, Output and loss for the previous two year.
- Access the past performance of the establishment.
- Quantification of Energy Losses, and Energy Saving Potential.

2.3 Period of Energy Audit& Accounting

Energy audit activity was started with a meeting at Head Office of MeECL in the month of Dec 2022. Based on the requirement visit was made to Division, Subdivision, Grid etc. for data collection and technical discussion. The period of study was from April 2020 to March 2021.

III. Introduction of Designated Consumer

3.1 Sector

Meghalaya Energy Corporation Limited belongs to the DISCOM Sector.

3.2 Name and Address of Designated Consumer

PARTICULARS	DETAILS
Name of DC	Meghalaya Energy Corporation Limited., (MeECL)
Address	Lum Jingshai, Short Round Road, Shillong– 793001 (Meghalya)

3.3 Name and details of energy manager and Authorised signatory of DC

PARTICULARS	DETAILS
Energy Manager	Shri. Santanu Mandal Energy Manager EA-23306 Mobile: 9851628686 Email: cem.meecl@gmail.com
Authorized Signatory	Shri. P.Sahkhar Chief Engineer (PMC) Mobile: 9863074990 Email: cemoneva.meecl@gmail.com

3.4 Summary profile of DC's

The Meghalaya Energy Corporation Ltd. (MeECL) is a Government Company within the meaning of section 45 of the Companies Act, 2013, wholly owned by the Government of Meghalaya, incorporated under the Companies Act, 2013 in the year 2009 and inherited its business from the erstwhile Meghalaya State Electricity Board (MeSEB) in the year 2010. It has wholly owned three subsidiary Companies namely, Meghalaya Power Generation Corporation Ltd. (MePGCL), Meghalaya Power Transmission Corporation Ltd. (MePTCL) and Meghalaya Power Distribution Corporation Ltd. (MePDCL) responsible for Generation, Transmission and Distribution of Electricity respectively throughout the State as State Utilities.

The erstwhile Meghalaya State Electricity Board (MeSEB) was formed in the year 1975 after the formation of new State of Meghalaya from undivided State of Assam. The first Hydro

Electric project in Meghalaya had started its operation in the year 1921, thereafter different Hydro Electric projects are being constructed throughout the State of Meghalaya utilising the natural water resources, efficient and experienced engineering wing and beautiful working environment of the State.

FUNCTIONS OF MeECL

The MeECL is a Government Company within the meaning of section 45 of the Companies Act, 2013. Your Company is 100% owned by the Government of Meghalaya.

The MeECL is comprising of all the assets, liabilities including all rights, obligations, contingences and proceedings belonging/related to the common activities or not specifically associated with the generation, transmission and distribution activities.

Inter-alia, the MeECL is performing the following major activities:

i) HR & Administration of the MeECL and its three subsidiaries.
ii) Maintaining the provident Fund, Pension Fund, Gratuity Fund etc. for employees of MeECL and its three subsidiaries.
iii) Corporate Social Responsibility
iv) Preparation of Accounts and Fund Management
v) Commercial, Material Management and Planning & Design for MeECL and of subsidiary companies.

Meghalaya Energy Corporation Limited (MeECL), State Electricity Board to distribute electricity from the end point of transmission to the end consumers. While the energy Purchased, Net Input & billed MeECL for the customer is 2511.51MU, 1818.14MU & 1326.45MU. The monthly consumption per customer stands at 185.46 KWH/Month. MeECL caters to area spread in 6 circles, 17 Division.

Verified transmission losses, distribution (T&D) losses, collection efficiency & aggregate technical & commercial losses of MeECL for FY2020-21, i.e., 1st April' 2020 to 31st March' 2021 is 3.92%, 27.04%, 100.44% & 26.72% respectively.

- Administration Details

The total number of circles, Divisions, Feeders & DT's of MeECL is given in the below table:

Parameters	Total
Number of circles	6
Number of divisions	17
Number of sub-divisions	52
Number of feeders	545

- Voltage wise Meter Consumers

The voltage wise meter types of meter values given table:

Parameters	66kV and above	33kV	11/22kV	LT
Number of conventional metered consumers	11	19	538	577023
Number of consumers with 'smart' meters				
Number of consumers with 'smart prepaid' meters				
Number of consumers with 'AMR' meters				
Number of consumers with 'non-smart prepaid' meters				10454
Number of unmetered consumers				7969
Number of total consumers	**11**	**19**	**538**	**595446**

- Numbers of Distribution Transformers

Parameters	66kV and above	33kV	11/22kV	LT
Number of conventionally metered Distribution Transformers			2461	
Number of DTs with communicable meters				
Number of unmetered DTs			9944	
Number of total Transformers			**12405**	

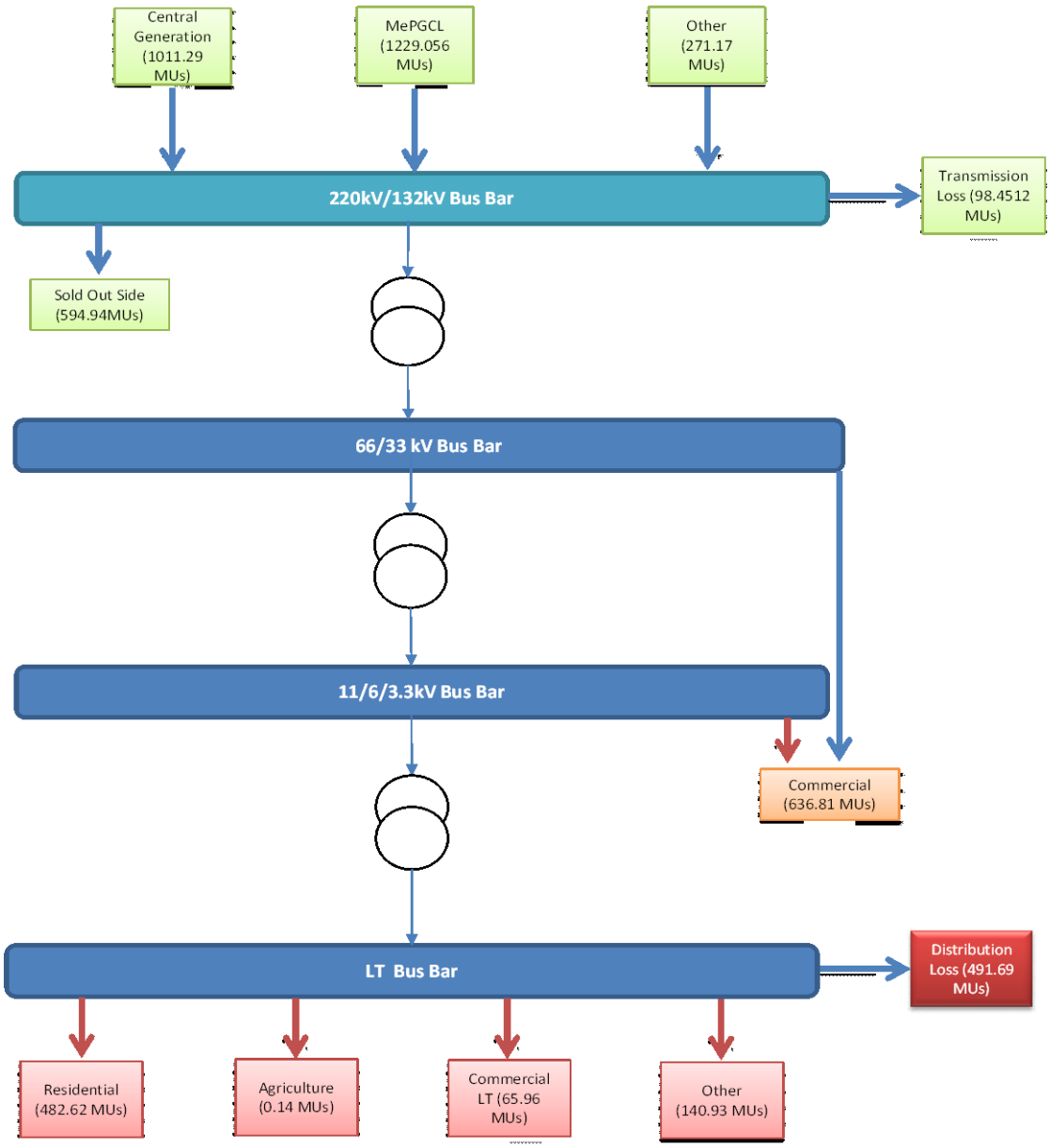
- Numbers of Feeders

Parameters	66kV and above	33kV	11/22kV	LT
Number of metered feeders		180	221	
Number of feeders with communicable meters				
Number of unmetered feeders			144	
Number of total feeders		**180**	**365**	

- Length of Cables

Particulars	Value (kM)
Line length (ct km)	27120.92
Length of Aerial Bunched Cables	-
Length of Underground Cables	-

- Energy Flow Diagram



IV. Discussions & Analysis

4.1 Energy Accounts for Previous Year

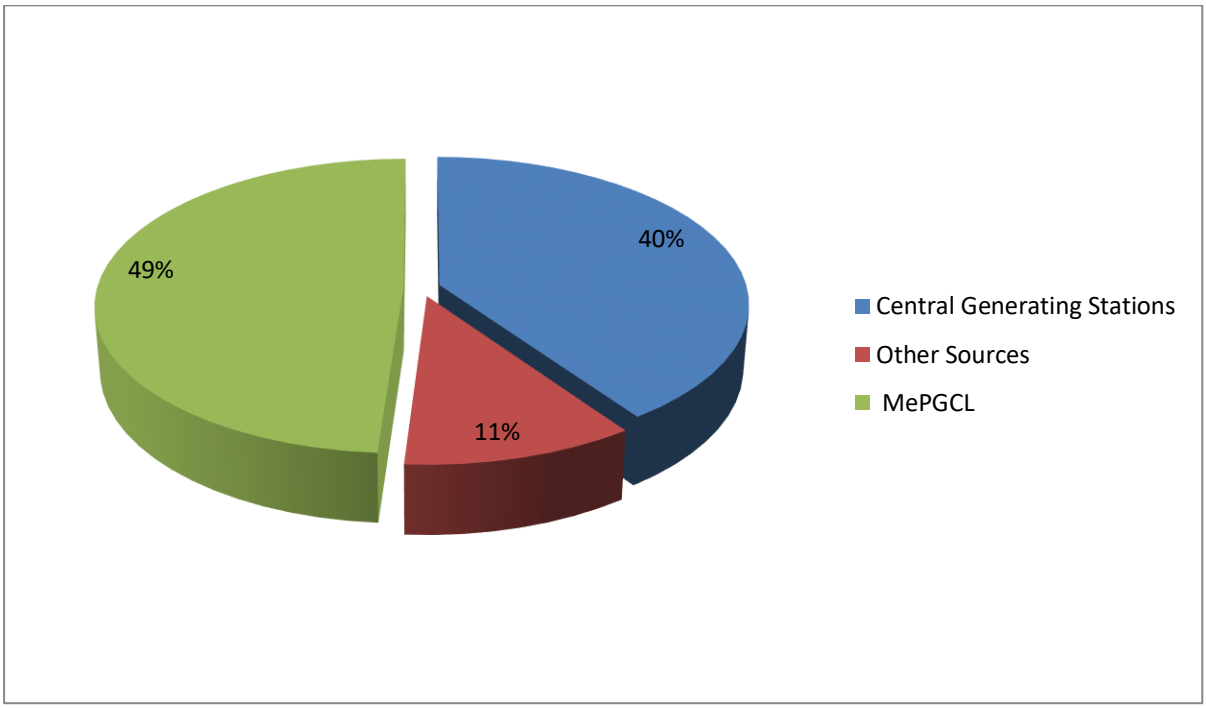
Current cycle of audit is first year of energy accounting base on the notification no. No. 18/1/BEE/DISCOM/2021 from **BUREAU OF ENERGY EFFICIENCY** dated 6th October, 2021.

4.2 Energy Accounts & Performance in current year

- Input Purchase Power for FY -2020-21

The power availability in the state of Meghalaya is primarily from three key sources- (a) from the generating stations of MePGCL, (b) from the allocated share of central power sector generating companies like NEEPCO, NHPC and NTPC etc. and (c) from short term power purchase from IEX/bilateral trade and banking etc. The comparison of actual source wise energy availability and the approved energy availability in FY 2020-21, is provided in the table below

Sources	Units
Central Generating Stations	1011.290
Other Sources	271.168
MePGCL	1229.056



The Month wise energy purchase bill & Unit consumption of the MeECL

Months	Purchase Energy (in MU)
Apr-20	134.64
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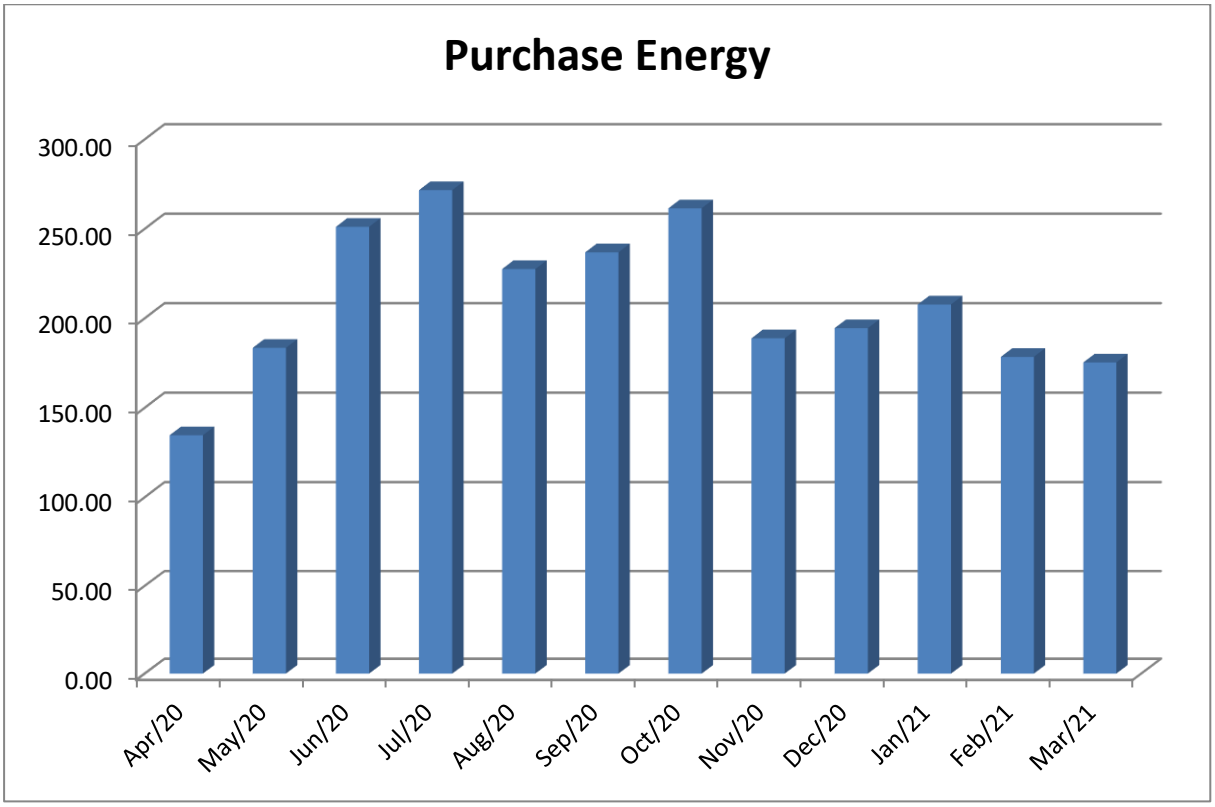
Mar-21	175.32
2020-21	**2511.51**



Note: Detailed sheet attached in Annexure

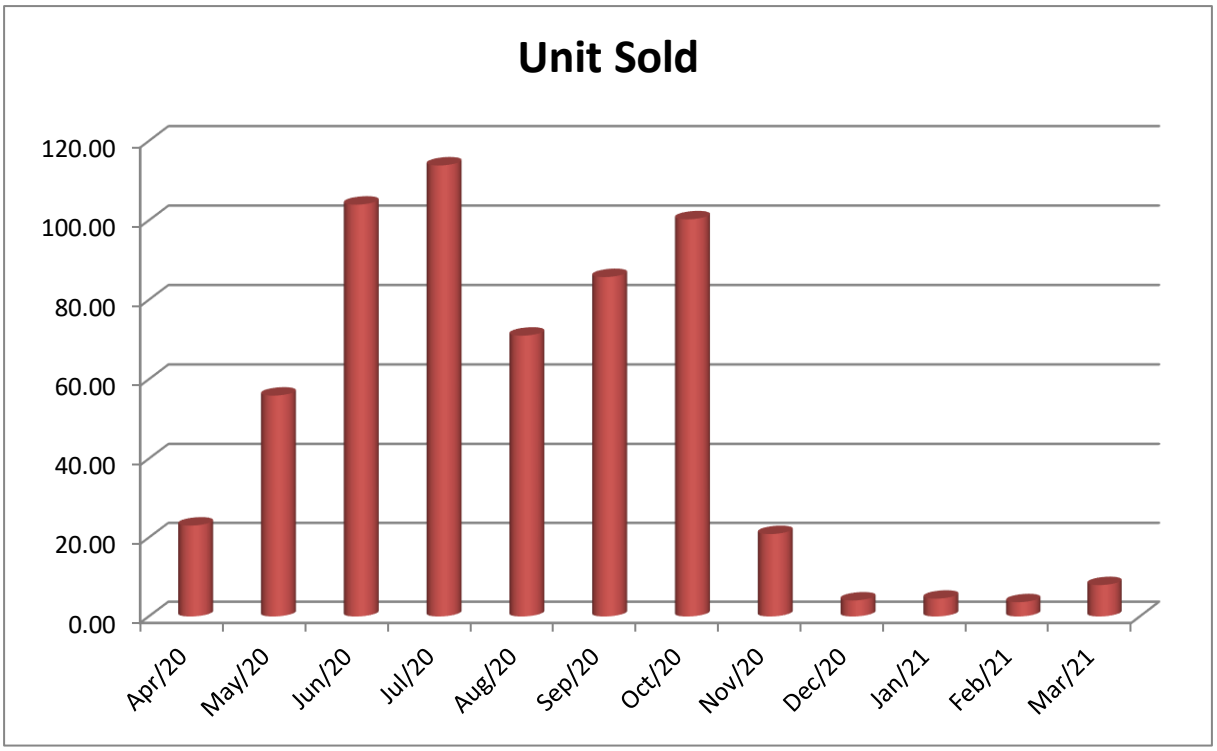
- Energy Sold Outside the Periphery

The Energy sale to others both inside and outside the State in FY 2020-21 is shown below:

	Sale at NER/ NER_ER periphery	MePDCL
1	Kreate Energy (I) Pvt Ltd - IEX	238.357
2	Kreate Energy (I) Pvt Ltd -Swapping	118.001
3	Kreate Energy (I) Pvt Ltd -RE power (Non solar)	0.967
4	APPCPL - IEX	0.288
5	APPCPL - Swapping	116.053
6	APPCPL - RE power (Non solar)	20.076
7	DSM Inter	60.981
	Sub Total	**554.723**
	Sale at State periphery	
8	MPL - Swapping	26.785
9	Dalmia (P) Ltd- Swapping	13.434
10	DSM Intra	
	Sub Total	**40.219**
	Total	**594.942**

The Month wise energy Sold Outside the Periphery of the MeECL

Months	Sold Outside
Apr-20	23.06
May-20	55.91
Jun-20	103.99
Jul-20	113.85
Aug-20	71.00
Sep-20	85.76
Oct-20	100.29
Nov-20	20.91
Dec-20	4.07
Jan-21	4.52
Feb-21	3.62
Mar-21	7.97
2020-21	594.94



- Distribution Losses

The actual Distribution losses in FY 2020-21is shown in the table below

Sl. No.	Particulars	Calculation	Amount
1	Energy purchase from Eastern Region (ER)	A	0
2	Inter-State Transmission Loss in ER	B	1.80%
3	Net Power purchased from ER	C=A(1-B%)	0
4	Power purchase from CGS including Pallatana North Eastern Region (NER)	D	1011.29
5	Total Power at NER	E=C+D	1011.29
6	Inter-State Transmission Loss in NER	F	3%
7	Net Power available at state bus from external sources on long term	G=E*(1-F%)	980.9513
8	Power purchase from State generating stations within the state	H	1229.06
9	Power purchase from other sources (both from outside & within the State)	I	271.17
10	Net power available **at State Bus** for sale of power within the state	J=G+H+I	2481.1813
11	Power sold to consumers within the state	K	1326.44

Sl. No.	Particulars	Calculation	Amount
12	**Distribution Losses (%)**	L	27.04%
13	**Distribution Losses** MU	M = N - K	491.60
14	Energy Requirement for sale by Discom **within state**	N = K/(1-L)	1818.04
15	Energy Requirement for sale within state **at State Bus**	O=N/(1-3.616%)	1886.24
16	Surplus Energy**at State Bus**	P = J-O	594.94
17	Power sold to others (both outside & inside the State) (incl.swap/UI/bilateral)**at State Bus**	Q	594.94
18	Unaccounted Energy (MU)	R = P - Q	0.00

- Summary of Energy Consumption

The consumer wise input energy consumptions & no of consumers is given in the table:

DLN. DLG & DHT	Domestic
CLT	Commercial LT
GP	General Purpose, Govt Consumers
ILT	Industrial LT
WSLT	Public water Supply LT
KJ	Kutir Jyoti
PLG	Public Lighting
AP	Agriculture
CRM	Crematorium
CTV	Cable TV
BS	Bulk Supply
FAHT	Ferro Alloy High Tension

Category	Units	Consumers
Domestic	**500.008**	**563089**
DLN	394.920	355725
KJ	87.700	207266
DHT	17.389	98
Commercial	**61.404**	**28800**
CLT	61.396	28766
CTV	0.008	34

Category	Units	Consumers
Water Supply	**10.831**	**417**
WSLT	10.831	417
Public Lighting	**0.552**	**60**
PLN	0.543	60
PLG	0.009	0
HT Water Supply	**28.107**	**36**
WSHT	28.107	36
HT Industrial	**616.635**	**137**
IHTB	21.590	107
IHTA	44.222	10
EHT	43.639	5
FAEHT	363.009	4
FAHT	61.940	2
SP. Tarrif	82.234	9
Industrial (Small)	**4.553**	**700**
ILT	4.553	700
HT Commercial	**20.176**	**132**
CHT	20.027	131
CP	0.000	0
BSCP	0.149	1
Government offices	**83.892**	**2614**
GP	15.032	2419
BS	68.861	195
Agriculture	0.142	**28**
AP	0.142	28
Others-2 (CRM)	0.155	
CRM	0.155	1

Month	DLN	CLT	GP	ILT	WSLT	KJ	PLG	PLN	AP	CRM	CTV
Apr-20	24.50	2.60	0.97	0.17	1.80	4.68	0.00	0.00	0.05	0.01	0.00
May-20	38.60	4.34	0.76	0.25	0.47	7.42	0.01	0.01	0.01	0.00	0.01
Jun-20	30.61	4.53	0.97	0.26	0.45	6.50	0.00	0.00	0.00	0.02	0.00
Jul-20	35.23	6.16	1.26	0.37	1.24	6.36	0.00	0.01	0.01	0.02	0.00
Aug-20	31.62	4.94	1.18	0.42	0.59	6.98	0.00	0.25	0.01	0.00	0.00

Month	DLN	CLT	GP	ILT	WSLT	KJ	PLG	PLN	AP	CRM	CTV
Sep-20	30.31	5.29	1.53	0.40	0.82	8.82	0.00	0.01	0.01	0.01	0.00
Oct-20	30.61	5.45	1.55	0.45	0.61	7.70	0.00	0.01	0.01	0.02	0.00
Nov-20	29.45	5.08	1.28	0.34	1.18	7.49	0.00	0.04	0.01	0.01	0.00
Dec-20	32.26	5.41	1.31	0.45	1.00	6.33	0.00	0.07	0.01	0.01	0.00
Jan-21	40.39	6.14	1.41	0.50	0.69	8.92	0.00	0.07	0.01	0.01	0.00
Feb-21	38.60	5.94	1.47	0.45	0.70	7.94	0.00	0.04	0.01	0.02	0.00
Mar-21	32.73	5.53	1.34	0.50	1.27	8.54	0.00	0.04	0.01	0.01	0.00
Total	394.92	61.40	15.03	4.55	10.83	87.70	0.01	0.54	0.14	0.15	0.01

Month	CHT	DHT	IHTB	IHTA	WSHT	BS	BSCP	EHT	FAEHT	FAHT	Sp. Tarrif
Apr-20	2.20	1.24	1.04	0.27	2.70	5.82	0.01	3.46	18.79	0.92	0.00
May-20	0.28	0.79	1.23	1.47	0.19	5.56	0.02	7.57	24.74	4.13	0.00
Jun-20	1.27	1.12	1.92	2.37	2.67	5.59	0.01	6.53	34.18	7.40	0.00
Jul-20	1.65	1.38	1.87	5.22	2.55	5.37	0.02	8.36	30.84	4.13	0.00
Aug-20	1.64	1.42	1.86	5.27	0.56	4.79	0.01	0.00	29.79	4.93	0.00
Sep-20	1.64	1.30	1.94	6.22	2.61	4.84	0.02	0.00	31.74	4.03	0.00
Oct-20	1.83	1.35	2.15	7.78	2.55	7.65	0.02	2.97	32.51	4.90	0.00
Nov-20	1.72	1.53	2.23	3.47	2.70	5.38	0.00	0.60	31.02	6.47	11.02
Dec-20	1.93	1.77	1.86	3.76	2.63	2.05	0.01	3.26	32.73	5.48	13.18
Jan-21	1.98	2.02	1.67	2.89	2.99	7.91	0.01	2.29	33.80	5.59	18.55
Feb-21	1.67	1.76	1.88	2.75	2.77	6.71	0.01	4.01	29.49	6.89	21.19
Mar-21	2.21	1.70	1.97	2.77	3.19	7.19	0.01	4.56	33.40	7.08	18.30
Total	20.03	17.39	21.59	44.22	28.11	68.86	0.15	43.64	363.01	61.94	82.23

- % Losses – Circle wise

The Range of T&D Losses, collection efficiency and AT &C losses among the circle is tabulated below:

Description	Data
T & D Losses	27.04%
T & D Losses Range	12.42% to 69.93%
Circle with highest losses	East Garo

Description	Data
Circle with lowest losses	Western
Collection efficiency	100.44%
Collection efficiency range	82.01% to 116.94%
AT & C Loss (%)	26.72%
AT & C Range	9.88% to 75.34%
Circle with highest AT&C Losses	East Garo
Circle with lowest AT&C Losses	Shillong

- Summary Sheet of AT& C losses

The energy input, billed & AT&C Losses of the MeECL is given below:

Particulars	East Garo Hills	Jaintia Hills	Khasi Hills	Ri-Bhoi	Shillong	West Garo Hills	FY-2020-2021
Billed Input (Mus)	44.07	155.94	106.27	610.22	332.05	77.90	1326.45
Input Energy (Mus)	146.59	240.90	155.03	696.75	382.54	196.35	1818.15
D Loss (Mus)	102.51	84.96	48.76	86.53	50.49	118.44	491.69
% D Loss	69.93%	35.27%	31.45%	12.42%	13.20%	60.32%	27.04%
Billed Amount (Rs Crore)	27.50	94.50	65.75	326.95	231.53	47.71	793.95
Collected Amount (Rs Crore)	22.55	110.51	70.08	273.30	240.39	47.48	797.44
% Collection Efficiency	82.01%	116.94%	106.59%	83.59%	103.82%	99.50%	100.44%
% AT&C	75.34%	24.30%	26.94%	26.79%	9.88%	60.52%	**26.72%**

Technical Details (FY2020-21)		
Energy Input Details	**UoM**	**Value**
Input Energy Purchase (From Generation Source)	Million kwh	2511.51
Net input energy (at DISCOM Periphery after adjusting the transmission losses and energy traded)	Million kwh	1818.14
Total Energy billed (is the Net energy billed, adjusted for energy traded))	Million kwh	1326.46
Transmission and Distribution (T&D) loss Details	Million kwh	491.69
	%	27.04%

Technical Details (FY2020-21)		
Energy Input Details	**UoM**	**Value**
Collection Efficiency	%	100.44%
Aggregate Technical & Commercial Loss	%	26.72%

- Circle wise Connections &Input Energy

MeECL, Shillong having 6 circles and 17numbers of division & 52 numbers of sub division, the circle wise total numbers of connections, connected load (MW), Total input energy (MU)is given in the table:

S. No	Name of circle	Total connections (Nos)	% of Metered connections	Total Load (MW)	Input energy (MU)	Metered energy	Unmetered energy	Total energy
1	Shilong	118718	100%	328.88	382.54	332.05	0	332.05
2	Western	60962	100%	181.93	696.75	610.22	0	610.22
3	West Garo	107013	96%	97.04	196.35	74.23	3.678	77.90
4	East Garo	74233	100%	73.77	146.59	43.90	0.18	44.08
5	Eastern	83951	100%	131.31	240.90	155.95	0	155.95
6	Central	151137	98%	177.70	155.03	105.89	0.37	106.26
	Total	596014	98.66%	990.64	1818.14	1322.23	4.23	1326.46

- Circle wise T & D & AT & C Losses

The circle wise connected load & input energy & metered energy with transmission & distribution losses is given in following table:

S. No	Name of circle	D loss (MU)	D loss (%)	Billed Amount in Rs. Crore	Collected Amount in Rs. Crore	% Collection Efficiency	AT & C loss (%)
1	Shilong	50.49	13%	231.53	240.39	103.82%	10%
2	Western	86.53	12%	326.95	273.30	83.59%	27%
3	West Garo	118.44	60%	47.71	47.48	99.50%	61%
4	East Garo	102.51	70%	27.50	22.55	82.01%	75%
5	Eastern	84.95	35%	94.50	110.51	116.95%	24%
6	Central	48.77	31%	65.75	70.08	106.59%	27%

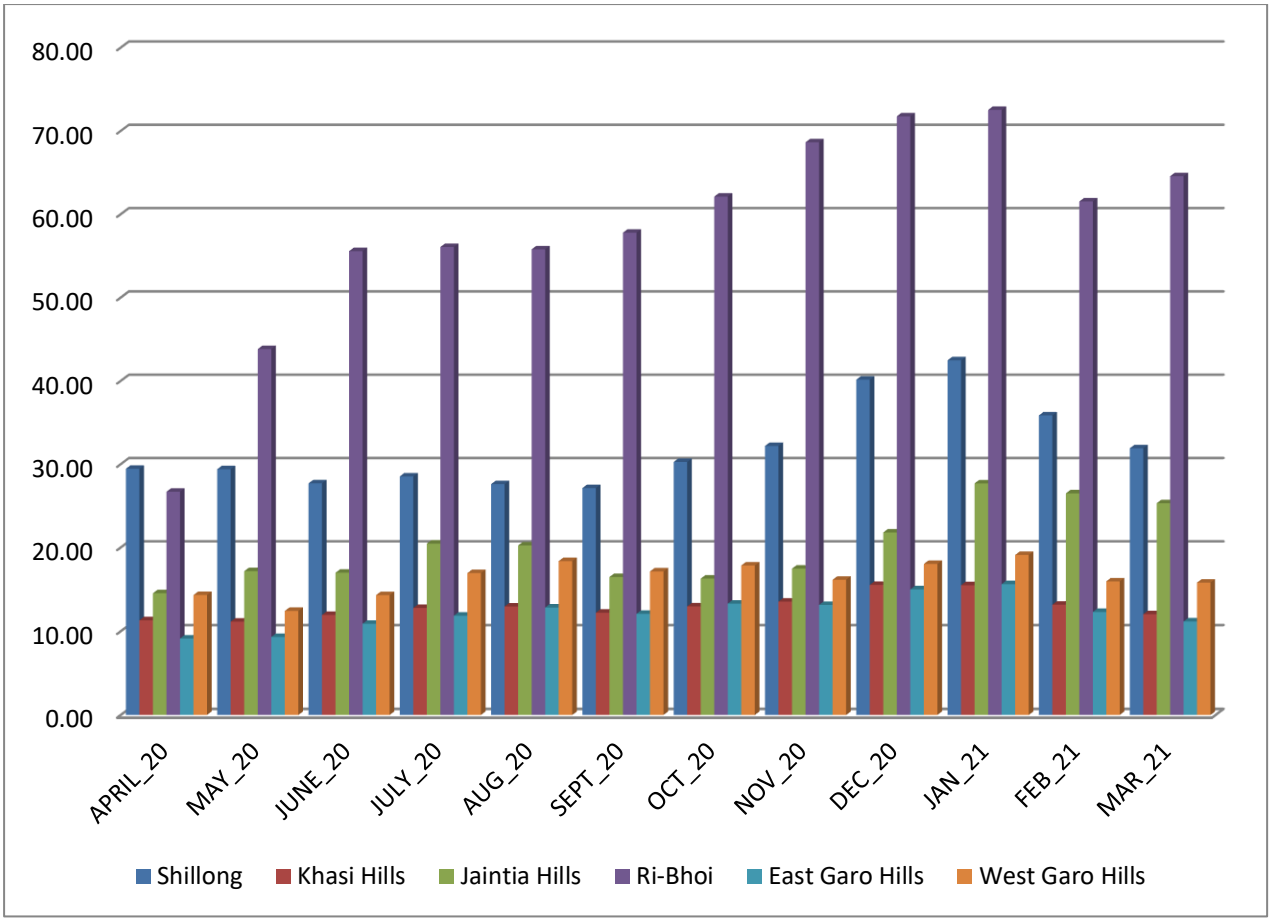
S. No	Name of circle	D loss (MU)	D loss (%)	Billed Amount in Rs. Crore	Collected Amount in Rs. Crore	% Collection Efficiency	AT & C loss (%)
	Total	491.69	27.04%	793.95	764.31	100.00%	27.04%
Total (As Per Proforma)		491.69	27.04%	793.95	797.44	**100.44%**	26.72%

Note: All the circle wise losses and AT&C Values are as per BEE Division wise sheet it is not freeze at collection efficiency at 100%.

- Circle Wise Monthly Input Energy for FY -2020-21

The Month wise Input Energy Unit consumption of the MeECL

Months	Shillong	Khasi Hills	Jaintia Hills	Ri-Bhoi	East Garo Hills	West Garo Hills
Apr-20	29.44	11.31	14.53	26.68	9.13	14.32
May-20	29.39	11.15	17.17	43.81	9.31	12.42
Jun-20	27.69	11.94	16.98	55.56	10.88	14.31
Jul-20	28.52	12.77	20.46	56.06	11.85	16.94
Aug-20	27.59	12.95	20.24	55.78	12.82	18.36
Sep-20	27.13	12.21	16.47	57.77	12.07	17.13
Oct-20	30.26	12.96	16.28	62.11	13.29	17.84
Nov-20	32.17	13.54	17.47	68.63	13.14	16.14
Dec-20	40.13	15.53	21.80	71.74	15.00	18.03
Jan-21	42.46	15.49	27.69	72.52	15.62	19.10
Feb-21	35.85	13.16	26.50	61.53	12.29	15.94
Mar-21	31.90	12.03	25.31	64.56	11.17	15.80
Total (MUS)	382.54	155.03	240.90	696.75	146.59	196.35
Net Input	**1818.15**					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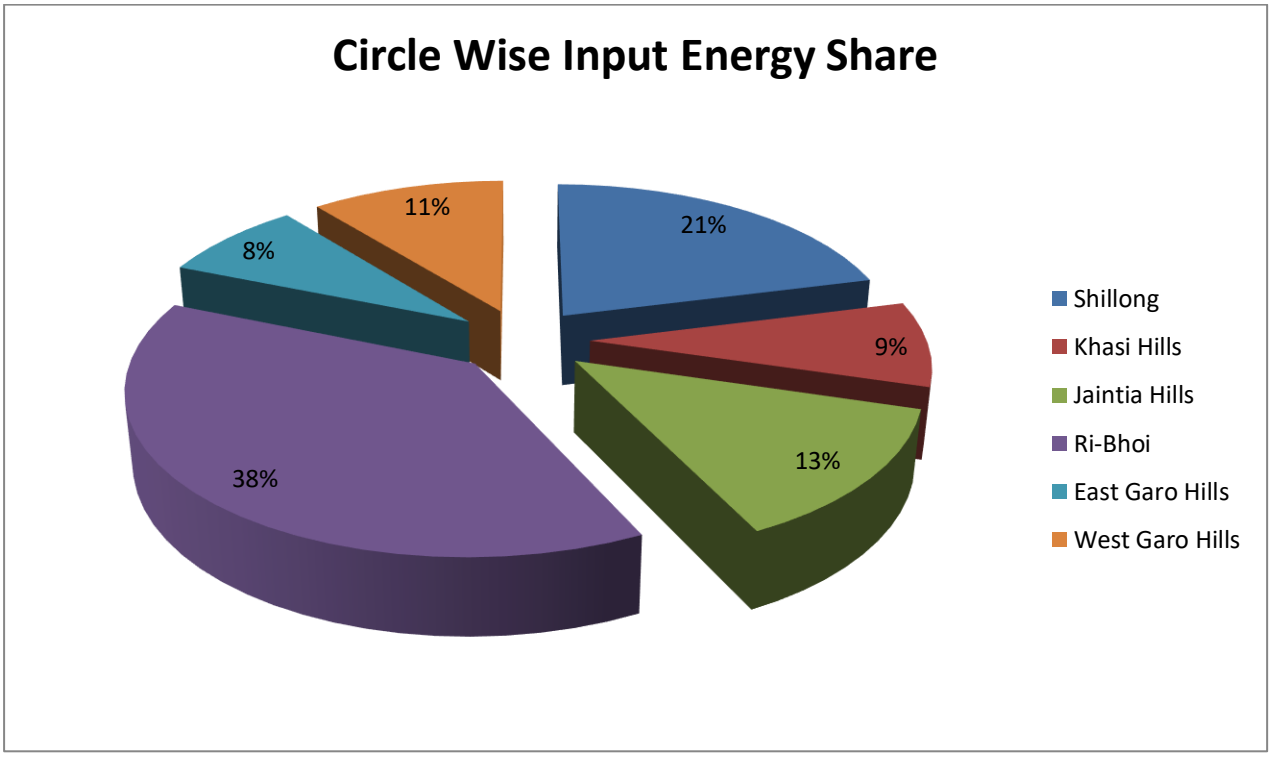
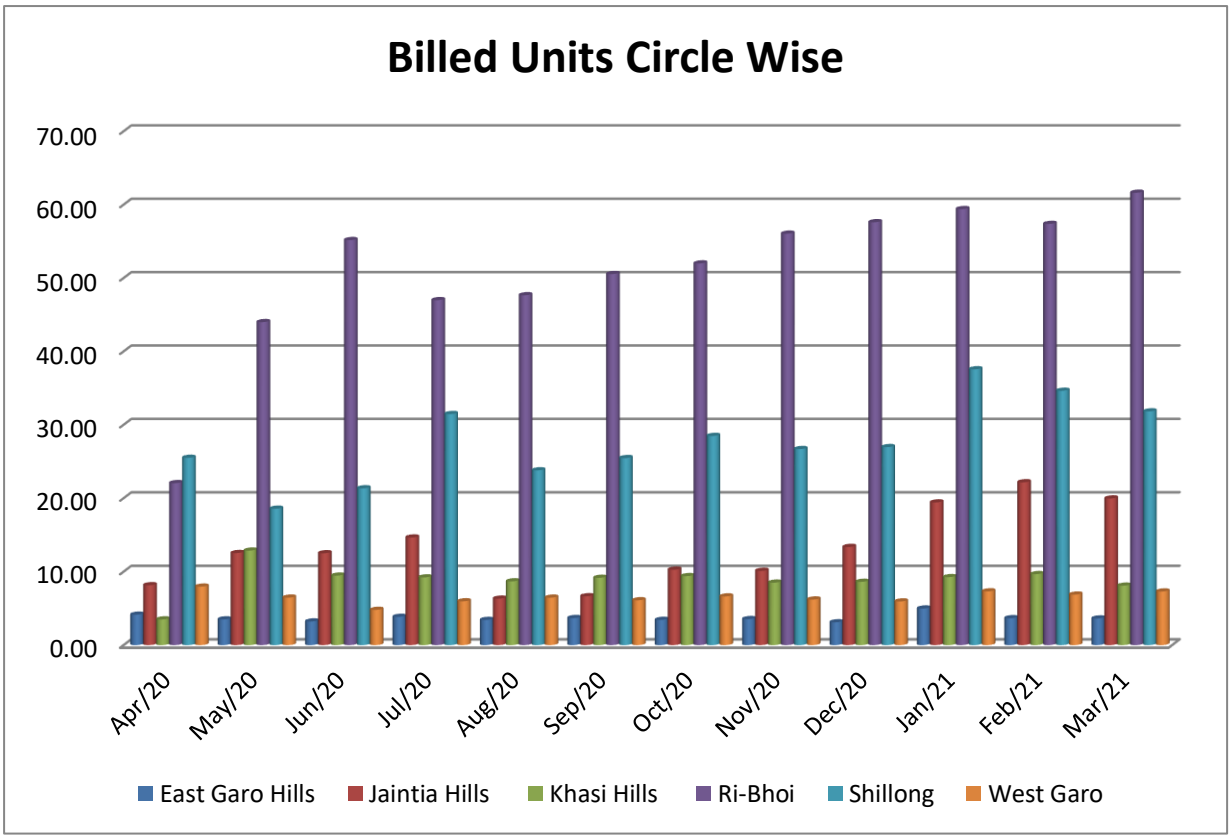
Shillong
Khasi Hills
Jaintia Hills
Ri-Bhoi
East Garo Hills
West Garo Hills

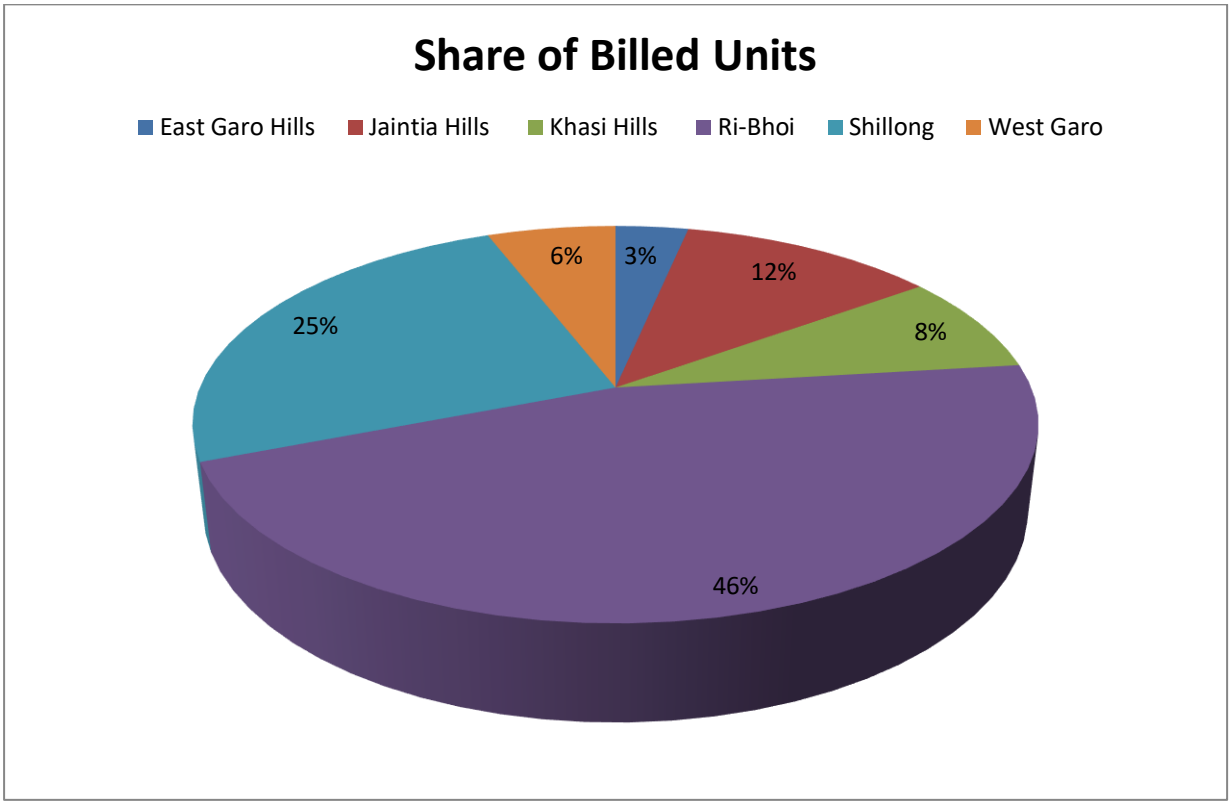

Circle Wise Input Energy Share
11%
8%
21%
9%
13%
38%
Shillong
Khasi Hills
Jaintia Hills
Ri-Bhoi
East Garo Hills
West Garo Hills

- Circle Wise Monthly Input Energy & Billed Energy for FY -2020-21

The Month wise Input Energy & Billed Energy Unit consumption of the MeECL

Month	East Garo Hills	Jaintia Hills	Khasi Hills	Ri-Bhoi	Shillong	West Garo
Apr-20	4.13	8.14	3.49	22.03	25.48	7.95
May-20	3.49	12.52	12.85	43.98	18.55	6.46
Jun-20	3.21	12.49	9.45	55.16	21.32	4.79
Jul-20	3.84	14.63	9.21	46.97	31.44	5.95
Aug-20	3.42	6.32	8.67	47.64	23.77	6.45
Sep-20	3.67	6.64	9.15	50.53	25.44	6.09
Oct-20	3.43	10.26	9.38	51.97	28.46	6.62
Nov-20	3.54	10.10	8.49	56.03	26.67	6.20
Dec-20	3.10	13.35	8.60	57.59	26.94	5.93
Jan-21	4.97	19.40	9.24	59.38	37.54	7.30
Feb-21	3.66	22.14	9.66	57.36	34.61	6.87
Mar-21	3.62	19.95	8.08	61.61	31.81	7.29
Billed Units	**44.07**	**155.94**	**106.27**	**610.22**	**332.05**	**77.90**
	1326.45					



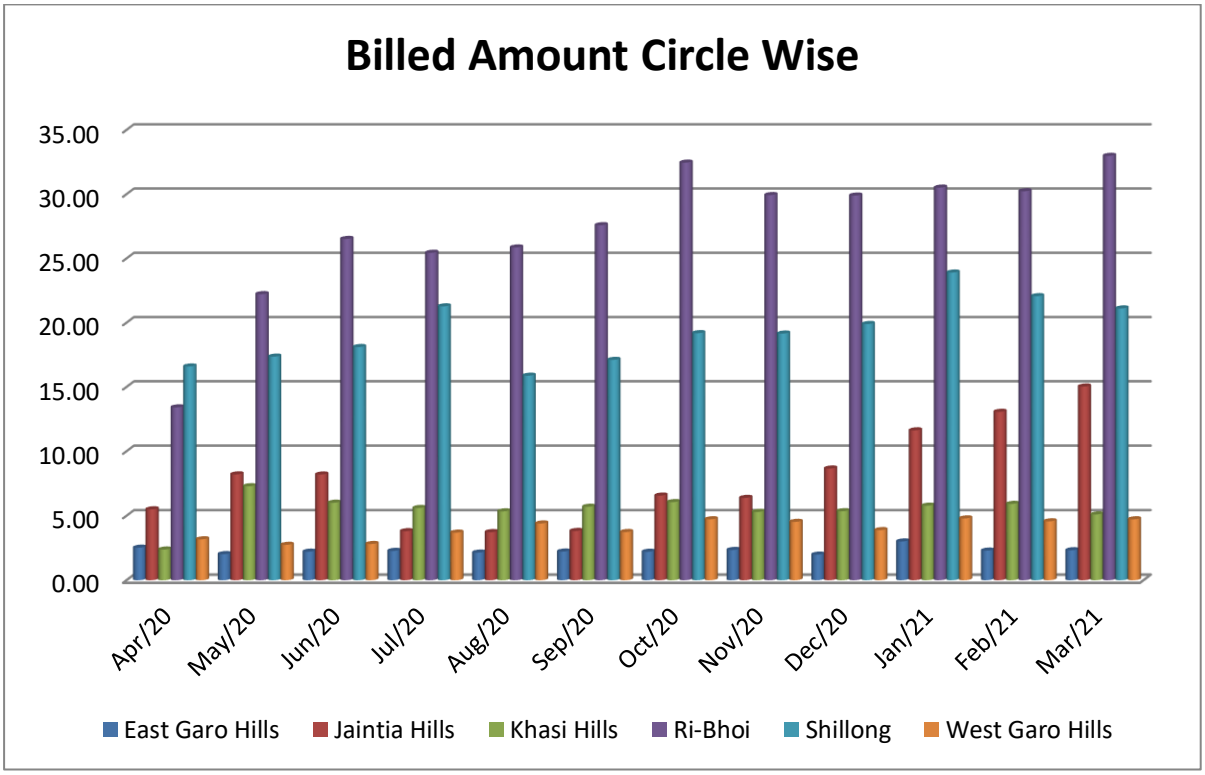


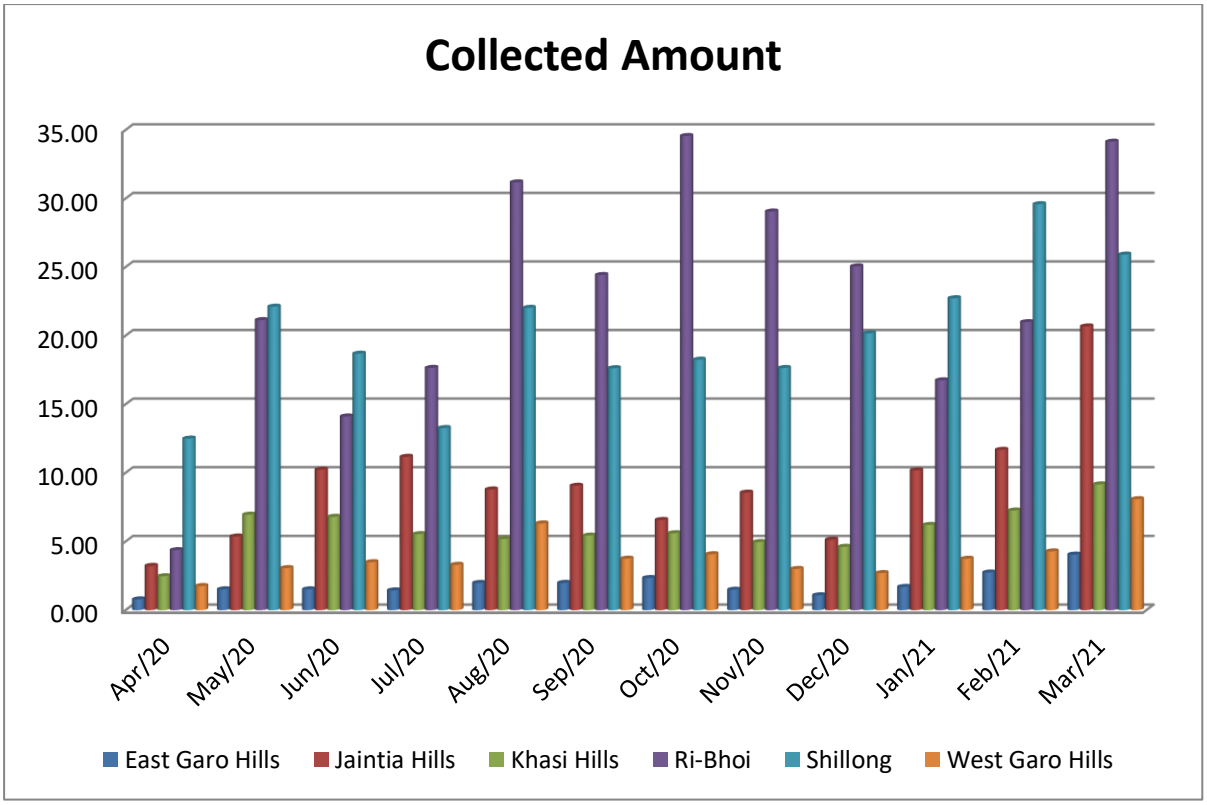
- Circle wise Monthly Billed Amount & Collected Amount

The circle wise Billed Amount & Collected Amount is given in following table:

Month	East Garo	Jaintia	Khasi	Ri-Bhoi	Shillong	West Garo
Apr-20	2.52	5.49	2.37	13.40	16.58	3.17
May-20	2.02	8.20	7.28	22.22	17.35	2.74
Jun-20	2.21	8.19	6.00	26.51	18.10	2.80
Jul-20	2.27	3.80	5.60	25.43	21.26	3.69
Aug-20	2.14	3.72	5.33	25.85	15.87	4.40
Sep-20	2.22	3.82	5.69	27.58	17.10	3.73
Oct-20	2.20	6.55	6.05	32.45	19.18	4.72
Nov-20	2.34	6.38	5.29	29.92	19.15	4.52
Dec-20	1.98	8.66	5.34	29.88	19.89	3.88
Jan-21	3.00	11.61	5.77	30.51	23.90	4.79
Feb-21	2.29	13.06	5.92	30.22	22.06	4.56
Mar-21	2.32	15.02	5.09	32.98	21.10	4.72
Billed (Cr)	**27.50**	**94.50**	**65.75**	**326.95**	**231.53**	**47.71**

Month	East Garo	Jaintia	Khasi	Ri-Bhoi	Shillong	West Garo
Apr-20	0.78	3.22	2.47	4.36	12.48	1.75
May-20	1.51	5.36	6.95	21.13	22.10	3.05
Jun-20	1.51	10.22	6.79	14.10	18.68	3.48
Jul-20	1.43	11.16	5.53	17.64	13.26	3.30
Aug-20	1.97	8.78	5.18	31.17	22.02	6.31
Sep-20	1.98	9.05	5.42	24.41	17.62	3.74
Oct-20	2.34	6.56	5.59	34.55	18.24	4.07
Nov-20	1.48	8.55	4.95	29.05	17.63	3.00
Dec-20	1.08	5.12	4.60	25.04	20.16	2.69
Jan-21	1.69	10.17	6.20	16.73	22.72	3.74
Feb-21	2.73	11.67	7.25	20.98	29.58	4.27
Mar-21	4.04	20.66	9.15	34.14	25.90	8.07
Collection (Cr.)	**22.55**	**110.51**	**70.08**	**273.30**	**240.39**	**47.48**
* Deviation in the collection with the books of Accounts is due to RTGS, NEFT, Online payment.					**33.135**	**797.44**





- Division wise energy parameters& Losses

The division wise energy parameter input energy, metered energy, Billed Energy and T& D losses of division wise is shown in below table:

The collection efficiency of the MeECL Discom as per the data provided is given in the following table:

Collection efficiency = Collected Amount/ (Billed Amount*100)

Zone	Division (KVA)	Sub-Division. (KVA)	Import (MU)	Export (MU)	Sales (MU)	Net Input	D Losses	% D Loss
Eastern	Shillong	Shillong	412.18	29.64	332.05	382.54	50.49	13.2%
	East khasi hills	Mawryngkneng	23.85	5.43	16.25	18.42	2.17	11.8%
		Sohiong	19.09	5.29	7.50	13.80	6.30	45.6%
		Cherra	16.79	0.00	13.91	16.79	2.88	17.2%
		Pynursla	9.33	0.00	7.12	9.33	2.21	23.6%
	South Khasi Hills	Mawsynram	42.44	20.73	12.93	21.71	8.78	40.4%
		Mawkyrwat	20.56	0.00	12.71	20.56	7.85	38.2%
	West Khasi Hills	Nongstoin	23.28	0.00	16.37	23.28	6.91	29.7%
		Riangdo	13.93	0.00	7.64	13.93	6.29	45.2%
		Mairang	17.20	0.00	12.55	17.20	4.65	27.0%
	Jowai+Jowai	Jowai,Khliehtyrshi,Aml	70.02	0.00	32.39	70.02	37.63	53.7%

Zone	Division (KVA)	Sub-Division. (KVA)	Import (MU)	Export (MU)	Sales (MU)	Net Input	D Losses	% D Loss
	Rural	arem						
	Khliehriat	Khliehriat+Sutnga	170.88	0.00	123.55	170.88	47.33	27.7%
	Umiam	Umiam	95.68	6.69	68.98	88.99	20.01	22.5%
		Umsning	66.24	27.47	11.43	38.77	27.34	70.5%
	Nongpoh	Nongpoh	27.45	0.00	17.01	27.45	10.44	38.0%
	Byrnihat	Byrnihat	541.54	0.00	512.80	541.54	28.74	5.3%
Western	East Garo Hills	Bajengdoba	33.52	0.05	7.50	33.47	25.97	77.6%
		Mendipathar	44.10	0.00	11.02	44.10	33.08	75.0%
		Williamnagar	16.52	0.00	7.79	16.52	8.73	52.9%
	South Garo Hills	Baghmara	18.05	0.00	8.29	18.05	9.76	54.1%
		Nangalbibra	34.44	0.00	6.14	34.44	28.30	82.2%
	Tura	Tura+Chockpot	85.48	19.68	28.35	65.80	37.45	56.9%
	West Garo Hills	Dalu	19.67	0.00	16.98	19.67	2.69	13.7%
		Phulbari	43.19	0.00	15.43	43.19	27.76	64.3%
	South West Garo Hills	Garobadha	75.37	47.29	6.68	28.08	21.40	76.2%
		Ampati+Mahendraganj	35.52	0.00	11.50	35.52	24.02	67.6%
		Selsella	4.09	0.00	1.57	4.09	2.52	61.5%
		Total	**1980.41**	**162.27**	**1326.45**	**1818.14**	**491.69**	**27.04%**

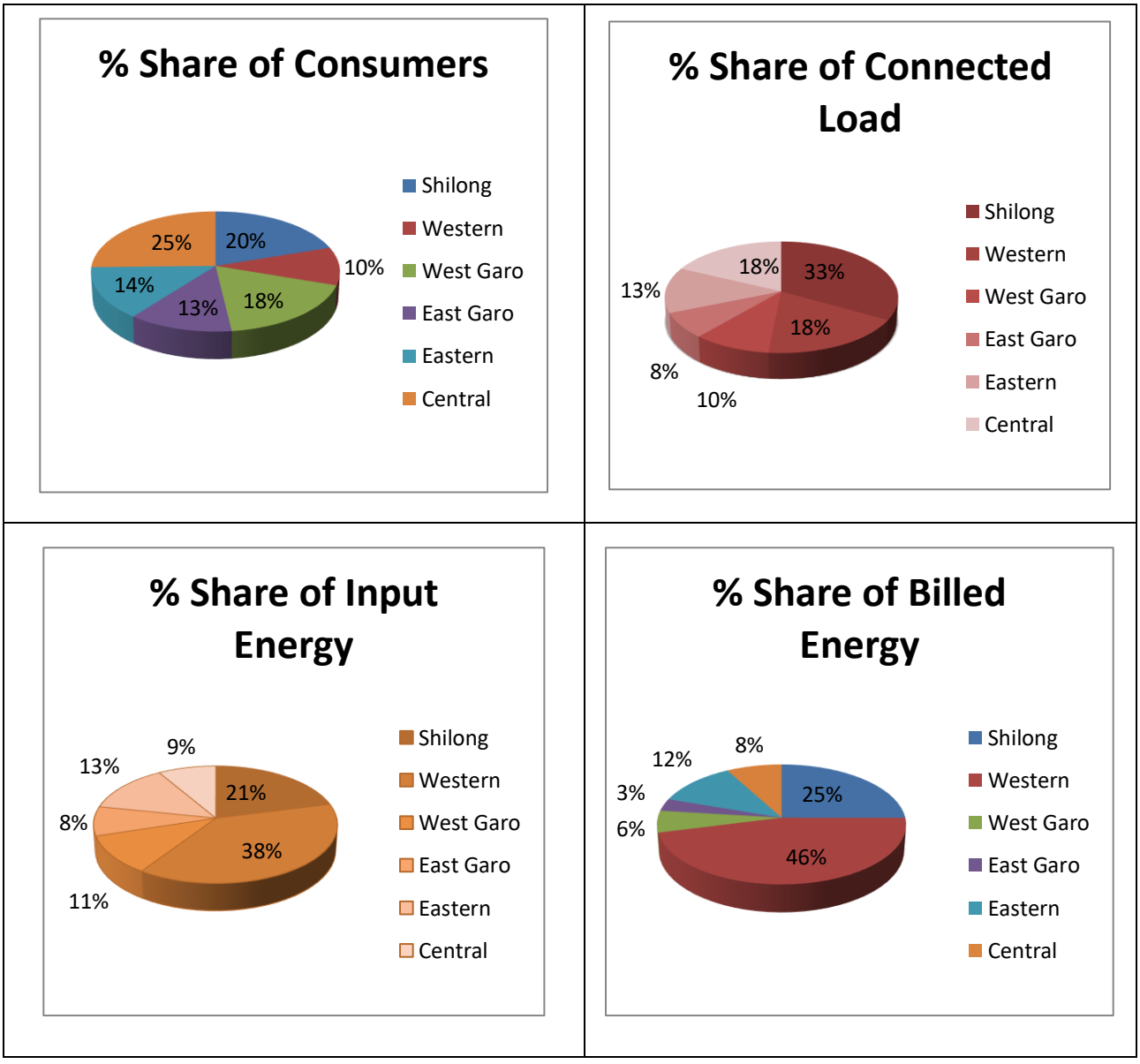
Note : All the Values are as per BEE Form Input Annual Accounting Proforma

- Category wise Energy Parameter

Category wise consumers, connected load, input energy, Billed energy, Revenue & Losses are given in below table:

Consumer category	Total Number of connections (Nos)	Total Connected Load (MW)	Input energy (MU)	Total energy	D loss (MU)
Residential	562991	610.69	1818.14	482.62	491.69
Agricultural	28	0.23		0.14	
Commercial/Industrial-LT	29500	95.15		65.96	
Commercial/Industrial-HT	268	186.50		636.81	
Others	3227	98.07		140.93	
	596014	**990.64**	**1818.14**	**1326.46**	**491.69**

Consumer category	D loss (MU)	D loss (%)	Billed Amount in Rs. Crore	Collected Amount in Rs. Crore	Collection Efficiency	AT& C loss (%)
Residential			260.25	252.72	97.11%	
Agricultural			0.08	0.03	41.87%	
Commercial/Industrial-LT	491.69	27.04%	60.50	62.66	103.57%	
Commercial/Industrial-HT			356.38	320.44	89.91%	
Others			116.74	161.59	138.42%	
	491.69	27.04%	793.95	797.44	100.44%	26.72%



- Details of Receiving Sources

Purchase energy from the different sources the detailed type of fuel based energy source data with connected load is shown in below table:

Voltage Level	Name of Generation Station	Generation Capacity (MW)	Type of Station Generation	Type of Contract	Type of Grid	Point of Connection (POC) Loss
132	Umiam I	4X9	Hydro	PPA (25)	Intra-state	
132	Umiam II	2X10	Hydro	PPA (25)	Intra-state	
132	Umiam III	2X30	Hydro	PPA (25)	Intra-state	
132	Umiam IV	2X30	Hydro	PPA (25)	Intra-state	
132	MLHEP	3X42	Hydro	PPA (25)	Intra-state	
132	Umtru	4X2.8	Hydro	PPA (25)	Intra-state	
132	Sunapani	1X1.5	Hydro	PPA (25)	Intra-state	
132	New Umtru	2X20	Hydro	PPA	Intra-state	
132	Lakroh	1X1.5	Hydro	PPA	Intra-state	14.19045
132	KOPILI	4X50	Hydro	PPA (5)	Inter-state	
132	KOPILI-Ext	1X25	Hydro	PPA (5)	Inter-state	
132	KHANDONG	2X25	Hydro	PPA (5)	Inter-state	0.12
132	RANGANADI	3X135	Hydro	PPA (5)	Inter-state	
132	DOYANG	3X25	Hydro	PPA (5)	Inter-state	0.25
132	AGBPP	6X33.5 +3X30	Gas-Steam	PPA (5)	Inter-state	1.96
132	AGTPP	4X21+2x25.5	Gas	PPA (5)	Inter-state	1.26
132	FSTPS	3X200+2X500	Coal	PPA (NA)	Inter-state	
132	KHSTPS-I	4X210	Coal	PPA (NA)	Inter-state	
132	KHSTPS-II	3X500	Coal	PPA (25)	Inter-state	

Voltage Level	Name of Generation Station	Generation Capacity (MW)	Type of Station Generation	Type of Contract	Type of Grid	Point of Connection (POC) Loss
132	TSTPS-I	2X500	Coal	PPA (NA)	Inter-state	
132	OTPC	2X363.3	Gas-Steam	PPA (25)	Inter-state	
132	Loktak	3X35	Hydro	PPA (15)	Inter-state	
132	AGTPP-CS	41	Gas-Steam	PPA	Inter-state	
132	Tipaimukh	1500	Hydro	PPA (5)	Inter-state	
132	BTPS	3X250	Coal	PPA (25)	Inter-state	
132	Loktak-DS	3X30	Hydro	PPA (5)	Inter-state	
132	Subansiri	8X250	Hydro	PPA (5)	Inter-state	
132	Pare	2X55	Hydro	PPA (5)	Inter-state	0.79
132	Kameng	4X150	Hydro	PPA (5)	Inter-state	0.4

4.3 Unit wise Performance

The MeECL Discom have total having 6 numbers of circles, 17 numbers of divisions& there are following category in which the energy consumption is divided Residential, agriculture, Commercial / Industrial LT, Commercial/ Industrial HT& others. The performance of all the division is shown in below table:

S.No	Name of circle	Consumer category	Total connections (Nos)	Total Load (MW)	Input energy (MU)	Total energy	T&D loss (MU)	T&D loss (%)	Billed Amount in Rs. Crore	Collected Amount in Rs. Crore	Collection Efficiency	AT & C loss (%)
1	Shillong	Residential	105877	220.05	382.537	192.84	50.49	13%	108.39	108.32	99.93%	
		Agricultural	8	0.06		0.01			0.01	0.01	171.72%	
		Commercial/Industrial-LT	11885	42.31		28.65			27.88	27.46	98.51%	
		Commercial/Industrial-HT	96	15.09		18.39			17.73	17.53	98.85%	
		Others	852	51.38		92.16			77.53	87.07	112.31%	
Sub-total			**118718**	**328.88**	**382.537**	**332.05**	**50.49**	**13%**	**231.53**	**240.39**	**103.82%**	**10%**
2	Western	Residential	57347	34.74	696.748	53.06	86.53	12%	27.76	20.26	72.97%	
		Agricultural	3	0.02		0.01			0.01	0.00	40.77%	
		Commercial/Industrial-LT	3137	8.38		8.67			7.45	7.58	101.75%	
		Commercial/Industrial-HT	113	130.85		533.09			281.39	236.36	84.00%	
		Others	362	7.94		15.39			10.35	9.10	87.89%	
Sub-total			**60962**	**181.93**	**696.748**	**610.22**	**86.53**	**12%**	**326.95**	**273.30**	**83.59%**	**27%**
3	West Garo	Residential	102969	72.59	196.346	58.36	118.44	60%	30.66	27.23	88.81%	
		Agricultural	14	0.14		0.05			0.04	0.02	46.16%	
		Commercial/Industrial-LT	3334	8.45		6.03			5.29	5.80	109.74%	
		Commercial/Industrial-HT	12	1.22		0.64			0.79	0.45	56.20%	
		Others	684	14.64		12.82			10.93	13.98	127.85%	
Sub-total			**107013**	**97.04**	**196.346**	**77.90**	**118.44**	**60%**	**47.71**	**47.48**	**99.50%**	**61%**
4	East Garo	Residential	71503	63.09	146.585	37.71	102.51	70%	21.32	17.13	80.33%	

S.No	Name of circle	Consumer category	Total connections (Nos)	Total Load (MW)	Input energy (MU)	Total energy	T&D loss (MU)	T&D loss (%)	Billed Amount in Rs. Crore	Collected Amount in Rs. Crore	Collection Efficiency	AT & C loss (%)
		Agricultural	3	0.00		0.06			0.03	0.00	0.00%	
		Commercial/Industrial-LT	2346	4.86		3.35			2.94	2.65	90.01%	
		Commercial/Industrial-HT	2	1.51		0.30			0.65	0.01	1.11%	
		Others	379	4.30		2.66			2.56	2.77	108.36%	
Sub-total			**74233**	**73.77**	**146.585**	**44.08**	**102.51**	**70%**	**27.50**	**22.55**	**82.01%**	**75%**
5	Eastern	Residential	79621	75.57	240.898	58.72	84.95	35%	28.52	31.30	109.73%	
		Agricultural	0	0.00		0.00			0.00	0.00	0.00%	
		Commercial/Industrial-LT	3941	13.10		9.07			7.91	8.39	106.17%	
		Commercial/Industrial-HT	23	35.92		81.22			51.98	64.97	124.99%	
		Others	366	6.73		6.93			6.09	5.85	96.03%	
Sub-total			**83951**	**131.31**	**240.898**	**155.95**	**84.95**	**35%**	**94.50**	**110.51**	**116.95%**	**24%**
6	Central	Residential	145674	144.65	155.03	81.93	48.77	31%	43.59	48.49	111.23%	
		Agricultural	0	0.00		0.00			0.00	0.00	0.00%	
		Commercial/Industrial-LT	4857	18.04		10.19			9.04	10.77	119.19%	
		Commercial/Industrial-HT	22	1.92		3.17			3.83	1.13	29.37%	
		Others	584	13.08		10.97			9.28	9.69	104.42%	
Sub-total			**151137**	**177.70**	**155.03**	**106.26**	**48.77**	**31%**	**65.75**	**70.08**	**106.59%**	**27%**
7	*Deviation.	Residential	0	0.00	0	0.00	0.00	0%	0.00	0.00	0.00%	
		Agricultural	0	0.00		0.00			0.00	0.00	0.00%	
		Commercial/Industrial-LT	0	0.00		0.00			0.00	0.00	0.00%	
		Commercial/Industrial-HT	0	0.00		0.00			0.00	0.00	0.00%	
		Others	0	0.00		0.00			0.00	33.13	0.00%	
		Residential	562991	610.69	1818.14	482.62	491.69	27%	260.25	252.72	97.11%	
		Agricultural	28	0.23		0.14			0.08	0.03	41.87%	
		Commercial/Industrial-LT	29500	95.15		65.96			60.50	62.66	103.57%	

S.No	Name of circle	Consumer category	Total connections (Nos)	Total Load (MW)	Input energy (MU)	Total energy	T&D loss (MU)	T&D loss (%)	Billed Amount in Rs. Crore	Collected Amount in Rs. Crore	Collection Efficiency	AT & C loss (%)
		Commercial/Industrial-HT	268	186.50		636.81			356.38	320.44	89.91%	
		Others	3227	98.07		140.93			116.74	161.59	138.42%	
	At company level		**596014**	**990.64**	**1818.14**	**1326.46**	**491.69**	**27.04%**	**793.95**	**797.44**	**100.44%**	**26.72%**

4.4 Energy Conservation measures already taken & proposed for Future

Following energy conservation Measures (ECMs) is adopted for line loss reduction

1. Installation of Smart AMR Meters.
2. Maintained the accuracy on the billing date.
3. System improvement & automation.
4. Feeder meters AMR to be increased
5. Targeted Work for Distribution loss reduction under proposed RDSSScheme

- Installation of power transformers in Substations.
- GIS based monitoring in substations
- Smart switching Systems.
- Increases HT Lines Feeders.

6. Replacement of Service wire with armoured wire to reduce the line losses.
7. Agricultural Feeder segregation and solarisation
8. SCADA & DMS Implementation for monitoring.
9. Replacing of conventional/non star rated transformer into energy efficient transformers.
10. Laying of AB cable in theft prone area where loss are in higher side.
11. Increase in HT/LT Ratio.
12. Strengthening of energy accounting infrastructure-100% consumer metering.

4.5 Critical Analysis

During field interaction & on-site visit auditor wanted to know the status of identification and mapping status of all of the electrical network assets, status of identification and mapping of high tension and low-tension consumers, status of the development and implementation of information technology status enabled energy accounting and audit system, including associated software, installation status of functional meters for consumers, transformers and feeders, status of adoption of an information technology enabled system to create energy accounting report reports without any manual interference and status of formation of cell for centralized energy accounting etc.

During field interaction & on-site visit auditor observed that MeECL possessed communicable meters connected with feeders & DTRs of MeECL for capturing loss data, having system for identification and mapping of all high-tension consumers, but not having for low tension consumers. Still, during verification processes with their officials in their

Meeting hall, MeECL was unable to show the loss figures in details for feeders/DTRs in their records.

Management response for action plan of MeECL was found to be very positive and MeECL was agreed upon to implement it with top priority within the target stipulated in pre-requisites of BEE's regulation.

A critical analysis is carried out by deputed Accredited Energy Auditor with several interactions with MeECL's Energy Manager & others to know the facts of efficient managing of Aggregate Technical & Commercial losses.

I. Discom Parameter for evaluation of performance

- Ideally, reduction of technical losses should be the parameter for evaluation of performance of Discoms sector.
- However, the technical losses of the Discoms are not available and also it involves a cumbersome process to calculate the technical losses, which varies based on various factors like loading pattern etc.
- Now, only the T&D losses and AT&C losses are available as the performance parameter for achieving energy efficiency by DISCOMs.
- It was decided that out of the two parameters, T&D loss parameter seems to be appropriate parameter which reflects energy savings to a greater extent as compared to AT&C losses.
- The MeECL is not maintaining the Division wise data they provide the circle wise details.
- There is a gap in circle wise collected amount to the book of amount sheets.

Transmission & Distribution losses (T&D losses)

T& D Losses = {1- (Total energy Billed/ Total energy Input in the system)} x 100

Aggregate technical and commercial losses (AT&C losses)

AT&C Losses = {1- (Billing Efficiency x Collection Efficiency) } x 100

Where,

Billing efficiency= Total unit Billed/ Total unit Inputs

Collection efficiency = Revenue collected / Amount Billed

The overall averaged T & D Losses & AT & C Losses of the MeECL Discom, Meghalaya is 27.04% & 26.72%.

4.6 Inclusion & Exclusions

Not Applicable

4.7 Detailed Formats to be annexed

An annual energy audit checklist is used to assess the energy efficiency of MeECL based on equipment, appliances, design, and usage. Accredited Energy Audi tor develops this checklist to identify opportunities for energy cost reduction and recommend solutions.

Documentary evidence for T & D system related data voltage-wise energy input data, sale data, feeder-wise loss data, collection efficiency etc.

► List of Measures adopted for energy conservation and quantity of energy saved with proper document support.

► Checking & verification of over loading of feeders at Substation level either by the study of SCADA system or by the log book

- Month wise input and billed energy.
- T&D losses computation approach.
- Un-metered energy consumption approach.
- Internal field audit report of input and billed energy.
- Performance of discom on distribution losses.
- Outcome of internal filed audit.
- Measures taken to reduce losses and improve losses.
- Zone/circle/Division/Sub-division wise loss computation.
- Reduction achieved, measures adopted for energy conservation and quantity of energy saved.
- Report on distribution losses.
- Write up on energy scenario.
- Net Input Energy Computation Details.
- Category wise consumer's details.
- Category wise consumers connected load and % load
- Bifurcation of Billed Energy (metered billed energy and unmetered billed energy).

V. Note of the EA/EMalong with queries & replies to data gaps

MeECL has T&D losses 27.04% which is slightly higher side. AT&C losses 26.72% which is slightly higher side for Discom sector. Various schemes have been implemented by MeECL to reduce losses.

Feeder-wise/unit-wise losses are not available due to:

I. The entire EHT/HT/LT system is in Ring Main. For ring-main connectivity, the electrical connection keeps changing in fault conditions, maintenance purpose and optimization of asset. Thus, feeder-wise energy accounting will not be correct; it is calculated as a whole.

II. 100% consumer indexing is not in place; thus, feeder wise /DTR wise energy accounting or loss calculation is not possible.

III. MeECL operates in small area comprising of single unit. Thus, loss of entire unit is given. However, from FY 21-22 onwards, unit wise loss can be provided by dividing the licensed area in units/divisions by proper arrangement at our end.

IV. MeECL is having the following documents for purchase power, Input/Billed energy i.e. Internal Departmental Report, SAP &MIS Department Data Base& Book of Account. Also supporting documents for the same has been provided which is attached in annexure of report

(Dr.P.P.Mittal)
Director

VI. Annexures

I. Introduction to verification firm

We A-Z Energy Engineers Pvt. Ltd. provides consultancy services in the areas of energy management while conducting Energy Audits in all segments of energy input. For conducting Detailed Energy Audits, Energy Audits under PAT (Mandatory and M&V), we have a pool of experienced BEE Accredited & Certified Energy Auditors, Electrical Engineers, Mechanical Engineers and Technicians having experience of more than 30 years. The Energy Audits is being carried out with sophisticated instruments namely Power-Analyzer, Flue Gas Analyzer, Ultra-sonic flow meter, Techo-meter, Anemometer, Hego-Meter, Digital Thermometer, Thermographic Camera's, Lux Meter, Leak detectors. Laser gun etc. etc.

Objective

- To carry out and take ahead the business of Energy Efficiency and climate change including promotion and dissemination of energy efficient product and services.
- To disseminate the culture of safe manufacturing and Services through safety audits and trainings.
- To facilitate implementation of energy efficiency projects for Demand Side Measures including optimization of energy mix for industries, railways, building sector, lighting, HVAC etc.
- To facilitate implementation of schemes, programs and policies of central and state governments or its agencies applicable for enhancing energy efficiency.
- To provide consultancy services in the field of Clean Development Mechanism and Renewable Energy Certificate projects, Carbon Markets, Demand Side Management, Energy Efficiency, Climate change and other related areas.
- To identify and impart training to build the capacity of stakeholders in the field of Energy Efficiency and safe practices in Industry.
- To act as a resource center in the field of Energy Efficiency and take up the activities of Capacity Building Training and other related activities.

Vision

- To make use of energy sustainable.
- To create and sustain markets for energy efficiency in India
- To facilitate energy efficiency improvement through private sector investments in energy efficiency.

Mission

- ❖ To assist all stakeholders in implementing energy efficiency and realizing savings.
- ❖ To create awareness regarding merits of improvement of energy efficiency and safety practices in private and public sector.

We are Accredited Energy Auditor from BEE, also empaneled by BEE for PAT M & V Audits and Mandatory Energy Audit Projects. A-Z Energy Engineers Pvt. Ltd. has been short listed by Bureau of Energy Efficiency as an Energy Service Company (ESCO), it is an ISO 9001:2015 certified company. We have completed more than 1260 nos. projects, including 52 PAT projects

Dr. P.P. Mittal the Founder Director of A-Z Energy Engineers Pvt. Ltd. was awarded by Govt. of India in National Energy Conservation Award 2013, 2015 & 2016. MSME Ministry Govt. of India awarded "Best Services Providing Company" it was awarded by Hon'ble Prime Minister of India. Dr. P.P. Mittal, also received the "Energy Engineer" of South-East Asia Sub-continent award 2016 & 2018 at Washington DC & Charlotte USA respectively. Haryana Govt. also recognized the services of Dr. P.P. Mittal, Ph.D, MBA, Post Graduate Diploma in Power Districution, Chartered Engineer, Leed Auditor - Indian Green Building Council Hyderabad, Accrediated Energy Auditor (AEA-011).

Accolades

- Stand first in MSME Micro Services Award 2013 and award received from **Hon;ble Prime Minister of India on 18/10/2016 at Ludhaiana.** This award consist Trophy, Certifiate & cash prize of Rs. 3 lacs.
- Reveived prestigious "**Legend in Energy**" Award for Asian Sub-contitnet from AEE, Atlanta at Wahington, DC on 20/09/2016.
- Received Award from AEE Atlanta at Washington citing as "Energy Engineer–2016 & 2018" of South-East Aisa sub-continent
- Received Letter of appreciateion from **Chief Minister of Haryana**
- Winner Haryana State Energy Conservation Award 2012 with Certificate & Rs. 50,000/-
- National Energy Conservation Award 2013
- National Energy Conservation Award 2015
- National Energy Conservation Award 2016
- Appreciation from Sh. Kalraj Misra, Hon'ble Minister of State for MSME.
- Recevied Appreciation from Sh. Haribahi Parathibhai Chaudhary, Minister of State for MSME, Govt. of India

- Recevied Appreciation from Sh. K.K. Jalan, IAS Seecretary, MSME
- Received appcreciation from Sh. Devender Singh, IAS, Secretary Power, Haryana
- Recevied Appreciation from Institute of Engineers on Energy Day
- Received Appreciation from HAREDA, Chandigarh

Received feedback & appreciation from 400 units including CERC, UNDP & CAG

II. Name of the Firm

Name of Accredited Firm	Accredited Energy Auditor
A-Z Energy Engineers Pvt. Ltd. Darya Ganj New Delhi-110002	Dr. P PMittal :– AEA 0011 Registration Number:– EmAEA-0024

III. Composition of Team

Sr. No.	Name	Qualification	EM/EA/AEA/EmAEA Registration No	Experience (In Years)/ Sector
Team Head				
1	Dr. P.P Mittal	Ph.D, MBA	AEA-011	+45 Years
Sector Expert				
2	Mr. ViponChanda	DISCOM Sector	-	30
Team Members				
3	Mr. V.P Sharma	B. Tech	EA- 10061	32 Years
4	Mr. Alok Kumar Tiwari	Team Member	EM-300137	6 Years
5	Mr. Pankaj Chauhan	Team Member	-	8 Years

IV. Registration No.

EmAEA – 0024

V. Undertaking from EmAEA

We A-Z Energy Engineers Pvt. Ltd. hereby confirm that our AEA and any of the audit team member mentioned in this report has conduct mandatory annual energy audit (Accounting) for MeECL, Meghalaya (hereafter called as MeECL).

We also confirm that none of our team member was in the employment of the MeECL within the previous four years, and was not involved in undertaking energy audit of the MeECL within the previous four years.

M/s A-Z Energy Engineers Pvt. Ltd. Dr. P. P. MITTAL Accredited Energy Auditor AEA-011 Faridabad

Authorised Signatory

(Dr. P.P. MITTAL)

Director

II. Minutes of Meeting with the Discom Firm.

Minutes of Meeting with Meghalaya Energy Corporation Limited (MeECL)., Shillong & A-Z Energy Engineers Pvt. Ltd., New Delhi

Meghalaya Energy Corporation Limited. **AZ Energy Engineers Pvt. Ltd.**

AZ Energy Engineers audit team visited the site on 18th to 22nd Dec'22 and conduct the energy audit accounting with reference to the MeECL work order dated 7th Dec 2022 and notification from the Bureau of Energy Efficiency dated 6th October 2021 for Conduct of Energy Audit (Accounting) in Electricity Distribution Companies).

Following are the key observations during audit.

- Filled in proforma (Circle Wise) for FY 2020-21 was filled with MeECL available & Audit team.
- Client has provided the following documents for purchase power (Month wise), Input Energy (Month wise) ,Billed energy (Month wise), No. of consumers, Nos. of DT's Nos. of Circle i.e. MIS Data Base & Internal Department sheet.
- Client has provided the category wise consumers (HT/LT) Billed energy & No's of Consumers.
- Monthly Breakup of Input/Billed, Power Purchase & Energy Sold to other is provided for the FY 2020-2021.
- Verified T&D losses, AT&C losses & Collection Efficiency is 27.04%, 26.72% & 100.44% respectively based on the filled in proforma and verified source documents.
- Client has not provided the feeder wise input/billed energy, export energy, T & D Losses & AT& C losses.
- Client has provided the Book of Account as a source document to verify the Energy sold & Purchase.

1/2

- Collected amount is Rs 797.44 Crore as per Annual Account Report, However it is Rs 764.307 Crore as per Circle wise filled proforma. Deviation in the collection with the books of Accounts is due to RTGS, NEFT, Online payment.

Meghalaya Energy Corporation Limited.

Chief Engineer,
Planning Monitoring & Commercial
MePDCL, Shillong

Executive Engineer
Management Information Services
Me.P.D.C.L, Lumjingshai, Shillong

Energy Manager,
MeECL, Meghalaya
BEE Reg. No: EA-23306

AZ Energy Engineers Pvt. Ltd.

M/s A-Z Energy Engineers Pvt. Ltd.
Dr. P. P. MITTAL
Accredited
Energy Auditor
AEA-011
Faridabad

2/2

III. Check List prepared by EmAEA

List of documents required are:

An annual energy audit checklist is used to assess the energy efficiency of MeECL based on equipment, appliances, design, and usage. Accredited Energy Audi tor develops this checklist to identify opportunities for energy cost reduction and recommend solutions.

Documentary evidence for T & D system related data voltage-wise energy input data, sale data, feeder-wise loss data, collection efficiency etc.

► List of Measures adopted for energy conservation and quantity of energy saved with proper document support.

► Checking & verification of over loading of feeders at Substation level either by the study of SCADA system or by the log book

- Month wise input and billed energy.
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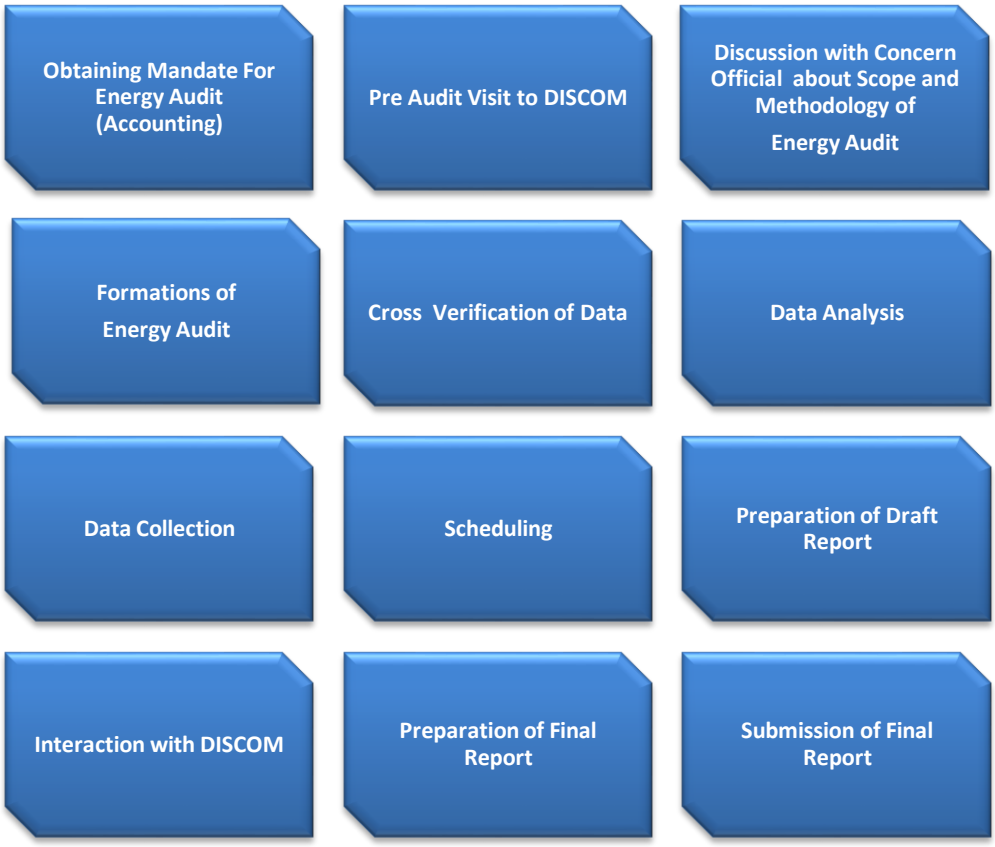
- Category wise consumer's details.
- Category wise consumers connected load and % load
- Bifurcation of Billed Energy (metered billed energy and unmetered billed energy

IV. Brief Approach, Scope & Methodology for audit

Scope of annual energy accounting is as per guidelines and notification from BUREAU OF ENERGY EFFICIENCY, New Delhi dated 6th October, 2021



V. Infrastructure Details

Parameters	Total	Covered during in audit	Verified by Auditor in Sample Check	Remarks (Source of data)
Number of circles	6	6		
Number of divisions	17	17		
Number of sub-divisions	52	52		
Number of feeders	545	545		
Number of DTs	12405	12405		
Number of consumers	596014	596014		
Parameters	**66kV and above**	**33kV**	**11/22kV**	**LT**
Number of conventional metered consumers	11	19	538	577023
Number of consumers with 'smart' meters				
Number of consumers with 'smart prepaid' meters				
Number of consumers with 'AMR' meters				
Number of consumers with 'non-smart prepaid' meters				10454
Number of unmetered consumers				7969
Number of total consumers				
Number of conventionally metered Distribution Transformers			2461	
Number of DTs with communicable meters				
Number of unmetered DTs			9944	
Number of total Transformers				
Number of metered feeders		180	221	
Number of feeders with communicable meters				

Number of unmetered feeders			144	
Number of total feeders				
Line length (ct km)	27120.92			
Length of Aerial Bunched Cables				
Length of Underground Cables				

4	Voltage level	Energy Sales Particulars	MU	Reference
i	LT Level	DISCOM' consumers	781	Include sales to consumers in franchisee areas, unmetered consumers
		Demand from open access, captive		Non DISCOM's sales
		Embedded generation used at LT level		Demand from embedded generation at LT level
		Sale at LT level	781	
		Quantum of LT level losses	-781	
		Energy Input at LT level		
ii	11 kV Level	DISCOM' consumers	10	Include sales to consumers in franchisee areas, unmetered consumers
		Demand from open access, captive		Non DISCOM's sales
		Embedded generation at 11 kV level used		Demand from embedded generation at 11kV level
		Sales at 11 kV level	10	
		Quantum of Losses at 11 kV	-10	
		Energy input at 11 kV level		
iii	33 kV Level	DISCOM' consumers	75	Include sales to consumers in franchisee areas, unmetered consumers
		Demand from open access, captive		Non DISCOM's sales

4	Voltage level	Energy Sales Particulars	MU	Reference
		Embedded generation at 33 kV or below level		This is DISCOM and OA demand met via energy generated at same voltage level
		Sales at 33 kV level	75	
		Quantum of Losses at 33 kV	-75	
		Energy input at 33kV Level		
iv	> 33 kV	DISCOM' consumers	460.46475	Include sales to consumers in franchisee areas, unmetered consumers
		Demand from open access, captive		Non DISCOM's sales
		Cross border sale of energy		
		Sale to other DISCOMs		
		Banking		
		Energy input at > 33kV Level		
		Sales at 66kV and above (EHV)	460	
Total Energy Requirement			**0**	
Total Energy Sales			**1,327**	

VI. Power Purchase details

MeECL, Meghalaya purchase the power from the various type of generation station the details of month wise purchase power is given in the following table:

Month	AGBPP	AGTPP	Doyang	Kameng	Khan-dong	Pallatana	Pare	RHEP	MePGCL	PB	BP	IEX	Inter-state	Intra-state	MPL	DCL	Total
Apr-20	13.50	8.69	0.26	0.00	0.00	43.93	2.72	7.32	29.89	27.0	0.0	0.00	0.00	0.24	0.00	1.09	
May-20	16.27	10.34	0.39	0.00	0.00	47.27	5.50	17.42	85.29	0.0	0.0	0.00	0.00	0.39	0.32	0.30	183.49
Jun-20	13.13	8.88	2.25	1.13	0.00	41.68	10.48	25.04	146.97	0.0	0.0	0.17	0.78	0.44	0.08	0.08	251.11
Jul-20	8.82	7.20	3.65	5.53	0.00	16.46	11.62	29.28	186.36	0.0	0.0	0.00	0.54	0.39	1.36	0.40	271.61
Aug-20	8.59	7.07	4.14	5.22	0.00	0.00	9.75	21.54	166.53	0.0	0.0	0.00	0.00	0.31	3.37	1.03	227.55
Sep-20	11.92	8.26	3.59	3.94	0.00	30.16	9.39	19.76	146.70	0.0	0.0	0.00	0.16	0.24	2.23	0.52	236.88
Oct-20	16.98	9.63	3.38	5.60	0.00	47.02	7.99	14.02	155.65	0.0	0.0	0.00	0.46	0.24	0.07	0.39	261.44
Nov-20	15.12	10.90	1.51	3.61	4.70	41.97	3.52	6.77	91.37	7.2	0.0	0.04	1.31	0.26	0.16	0.39	188.84
Dec-20	15.44	10.57	0.57	3.00	3.21	42.64	2.39	4.97	73.23	18.0	16.4	0.84	1.64	1.00	0.25	0.26	194.50
Jan-21	18.85	10.76	0.53	2.65	1.38	48.03	2.02	4.42	60.12	19.3	36.9	0.11	2.09	0.55	0.00	0.00	207.72
Feb-21	15.03	7.71	0.58	2.00	0.72	42.97	1.39	3.10	50.91	8.7	38.7	1.39	4.62	0.55	0.00	0.00	178.43
Mar-21	15.80	8.76	1.54	1.94	0.78	35.31	2.08	5.34	36.03	18.2	43.9	2.42	2.64	0.55	0.00	0.00	175.32
2020-21	**169.45**	**108.77**	**22.39**	**34.63**	**10.79**	**437.44**	**68.85**	**158.97**	**1229.06**	**98.5**	**135.98**	**4.98**	**14.25**	**5.15**	**7.86**	**4.46**	**2511.51**

VII. Category of service details

Type of consumers with different type of voltage & number of consumers are shown in below table:

S. No	Type of Consumers	Category of Consumers (EHT/HT/LT/ Others)	No of Consumers	Total Consumption (In MU)	kWH/Consumer/ year
1	Domestic	HT/LT	563089	500.01	887.97
2	Commercial	LT	28800	61.40	2132.08
3	Water Supply	LT	417	10.83	25972.98
4	Public Lighting	LT	60	0.55	9194.58
5	HT Water Supply	HT	36	28.11	780749.86
6	HT Industrial	HT	137	616.63	4500982.19
7	Industrial (Small)	LT	700	4.55	6504.09
8	HT Commercial	HT	132	20.18	152847.02
9	Government offices and department	HT/LT	2614	83.89	32093.48
10	Agriculture	LT	28	0.14	5077.82
11	Others-2 (Crematorium (CRM))		1	0.15	154749.00
	Total		596014	1326.45	2225.54

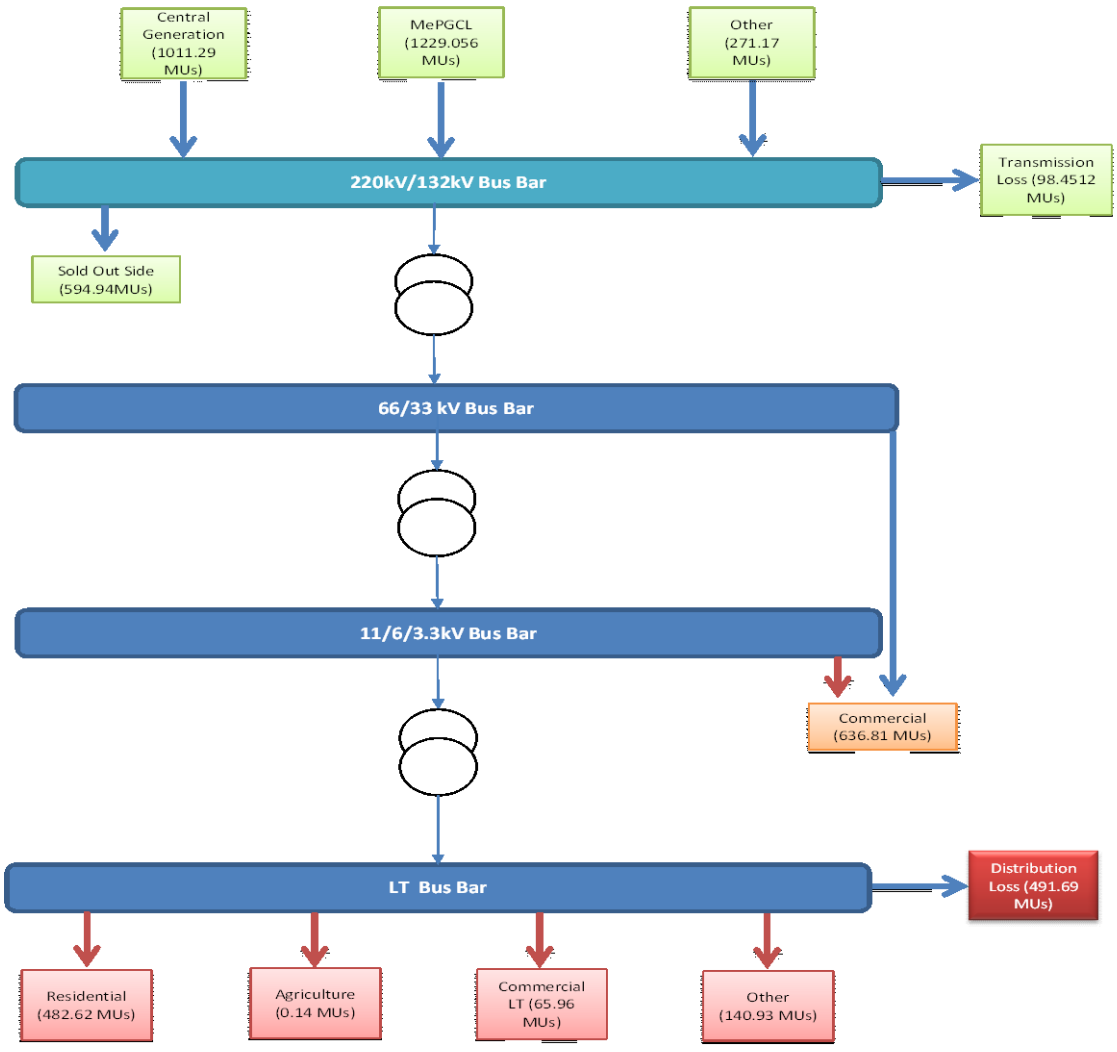
VIII. Electrical Distribution System

► Energy flow between transmission and 220kV/132kV/33kV/20 kV/llkV/6.0 kV/3.3 kV incoming distribution feeders

► Energy flow between 132kV/33kV outgoing and 20 kV/llkV/6.6 kV/6.0 kV incoming feeders

► Energy flow between llkV/6.0 kV/3.3 kV feeders and distribution transformers, or high voltage distribution system

Energy flow between distribution transformer, or high voltage distribution system to end-consumer, including ring main system. Energy flow between Feeder to end-consumer & Energy flow between 132kV/33kV/20 kV/llkV/6.0 kV/3.3 kV directly to consumer



IX. List of Document Verified with each parameter

- **Signed Proforma**

General Information					
1	Name of the DISCOM	Meghalaya Energy Corporation Limited			
2	i) Year of Establishment				
	ii) Government/Public/Private				
3	DISCOM's Contact details & Address				
i	City/Town/Village	Lum Jingshai, Short Round Road			
ii	District	East Khasi Hills			
iii	State	Meghalaya	Pin		793001
iv	Telephone		Fax		
4	Registered Office				
i	Company's Chief Executive Name				
ii	Designation				
iii	Address				
iv	City/Town/Village		P.O.		
v	District				
vi	State		Pin		
vii	Telephone		Fax		
5	Nodal Officer Details*				
i	Nodal Officer Name (Designated at DISCOM's)	P.Sahkhar			
ii	Designation	Chief Engineer (PMC)			
iii	Address	Lum Jingshai, Short Round Road			
iv	City/Town/Village	Lum Jingshai, Short Round	P.O.		Shillong
v	District	East Khasi Hills			
vi	State	Meghalaya	Pin		793001
vii	Telephone	9863074900	Fax		
6	Energy Manager Details*				
i	Name	Santanu Mandal			
ii	Designation	Energy Manager	Whether EA or EM		EM
iii	EA/EM Registration No.	EA-23306			
iv	Telephone	9851628686	Fax		
v	Mobile	9851628686	E-mail ID	cem.meecl@gmail.com	
7	Period of Information				
	Year of (FY) information including Date and Month (Start & End)	1st Apr, 2020- 31st March, 2021			

Energy Manager,
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BEE Reg. No: EA-23306

Performance Summary of Electricity Distribution Companies			
1	Period of Information Year of (FY) information including Date and Month (Start & End)	1st Apr, 2020- 31st March, 2021	
2	Technical Details		
(a)	Energy Input Details		
(i)	Input Energy Purchase (From Generation Source)	Million kwh	2511.51
(ii)	Net input energy (at DISCOM Periphery after adjusting the transmission losses and energy traded)	Million kwh	1818.14
(iii)	Total Energy billed (is the Net energy billed, adjusted for energy traded))	Million kwh	1326.46
(b)	Transmission and Distribution (T&D) loss Details	Million kwh	491.69
		%	27.04%
	Collection Efficiency	%	100%
(c)	Aggregate Technical & Commercial Loss	%	27%

I/We undertake that the information supplied in this Document and Pro-forma is accurate to the best of my knowledge and if any of the information supplied is found to be incorrect and such information result into loss to the Central Government or State Government or any of the authority under them or any other person affected, I/we undertake to indemnify such loss.

Authorised Signatory and Seal

Name of Authorised Signatory
Name of the DISCOM:
Full Address:-

27/1/23
Chief Engineer,
Planning Monitoring & Commercial
MePDCL, Shillong

Seal

Signature:-
Name of Energy Manager*:
Registration Number:

Energy Manager,
MeECL, Meghalaya
BEE Reg. No: EA-23306

Form-Details of Input Infrastructure

1	Parameters	Total	Covered during in audit	Verified by Auditor in Sample Check	Remarks (Source of data)
i	Number of circles	6			
ii	Number of divisions	17			
iii	Number of sub-divisions	52			
iv	Number of feeders	545			
v	Number of DTs	12405			
vi	Number of consumers	596014			
2	Parameters	66kV and above	33kV	11/22kV	LT
a. i.	Number of conventional metered consumers	11	19	538	577023
ii	Number of consumers with 'smart' meters				
iii	Number of consumers with 'smart prepaid' meters				
iv	Number of consumers with 'AMR' meters				
v	Number of consumers with 'non-smart prepaid' meters				10454
vi	Number of unmetered consumers				7969
vii	**Number of total consumers**				
b.i.	Number of conventionally metered Distribution Transformers			2461	
ii	Number of DTs with communicable meters				
iii	Number of unmetered DTs				
iv	**Number of total Transformers**			9944	
c.i.	Number of metered feeders		180	221	
ii	Number of feeders with communicable meters				
iii	Number of unmetered feeders				
iv	**Number of total feeders**			144	
d.	Line length (ct km)				
e.	Length of Aerial Bunched Cables		27120.92		
f.	Length of Underground Cables				
3	Voltage level	Particulars	MU	Reference	Remarks (Source of data)
i	66kV and above	Long-Term Conventional		Includes input energy for franchisees	
		Medium Conventional			
		Short Term Conventional			
		Banking			
		Long-Term Renewable energy			
		Medium and Short-Term RE		Includes power from bilateral/ PX/ DEEP	
		Captive, open access input		Any power wheeled for any purchase other than sale to DISCOM. Does not include input for franchisee.	
		Sale of surplus power			
		Quantum of inter-state transmission loss		As confirmed by SLDC, RLDC etc	
		Power procured from inter-state sources	0	Based on data from Form 5	

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		Power at state transmission boundary	0		
ii	33kV	Long-Term Conventional			
		Medium Conventional			
		Short Term Conventional			
		Banking			
		Long-Term Renewable energy			
		Medium and Short-Term RE			
		Captive, open access input			
		Sale of surplus power			
		Quantum of intra-state transmission loss	0		
		Power procured from intra-state sources	0		
iii		Input in DISCOM wires network	0		
iv	33 kV	Renewable Energy Procurement			
		Small capacity conventional/ biomass/ hydro plants Procurement			
		Captive, open access input			
v	11 kV	Renewable Energy Procurement			
		Small capacity conventional/ biomass/ hydro plants Procurement			
		Sales Migration Input			
vi	LT	Renewable Energy Procurement			
		Sales Migration Input			
vii		Energy Embedded within DISCOM wires network	0		
viii		Total Energy Available/ Input	0		
4	Voltage level	Energy Sales Particulars	MU	Reference	
i	LT Level	DISCOM' consumers	781	Include sales to consumers in franchisee areas, unmetered consumers	
		Demand from open access, captive		Non DISCOM's sales	
		Embedded generation used at LT level		Demand from embedded generation at LT level	
		Sale at LT level	781		
		Quantum of LT level losses	-781		
		Energy Input at LT level			
ii	11 kV Level	DISCOM' consumers	10	Include sales to consumers in franchisee areas, unmetered consumers	
		Demand from open access, captive		Non DISCOM's sales	
		Embedded generation at 11 kV level used		Demand from embedded generation at 11kV level	
		Sales at 11 kV level	10		
		Quantum of Losses at 11 kV	-10		
		Energy input at 11 kV level			
iii	33 kV Level	DISCOM' consumers	75	Include sales to consumers in franchisee areas, unmetered consumers	
		Demand from open access, captive		Non DISCOM's sales	
		Embedded generation at 33 kV or below level		This is DISCOM and OA demand met via energy generated at same voltage level	
		Sales at 33 kV level	75		
		Quantum of Losses at 33 kV	-75		
		Energy input at 33KV Level			

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iv	> 33 kV	DISCOM' consumers	460.46475	Include sales to consumers in franchisee areas, unmetered consumers	
		Demand from open access, captive		Non DISCOM's sales	
		Cross border sale of energy			
		Sale to other DISCOMs			
		Banking			
		Energy input at > 33kV Level			
		Sales at 66kV and above (EHV)	460		
		Total Energy Requirement	**0**		
		Total Energy Sales	**1,327**		

Energy Accounting Summary

S	DISCOM	Input (in MU)	Sale (in MU)	Loss (in MU)	Loss %
i	LT				
ii	11 Kv				
iii	33 kv				
iv	> 33 kv				
ii	Open Access, Captive	Input (in MU)	Sale (in MU)	Loss (in MU)	
i	LT				
ii	11 Kv				
iii	33 kv				
iv	> 33 kv				

Loss Extension for DISCOM	
T&D loss	-1,327
D loss	-1,327
T&D loss (%)	#DIV/0!
D loss (%)	#DIV/0!

Energy Manager,
MeECL, Meghalaya
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Details of Division Wise Losses (See note below**)

Division Wise Losses

Period From 2020To 2021

S.No	Name of circle	Circle code	Name of Division	Consumer category	Consumer profile: No of connection metered (Nos)	No of connection Un-metered (Nos)	Total Number of connections (Nos)	% of number of connections	Connected Load metered (MW)	Connected Load Un-metered (MW)	Total Connected Load (MW)	% of connected load	Energy parameters: Input energy (MU)	Billed energy (MU): Metered energy	Billed energy (MU): Unmetered/assessment energy	Total energy	% of energy consumption	Losses: T&D loss (MU)	T&D loss (%)	Commercial Parameter: Billed Amount in Rs. Crore	Collected Amount in Rs. Crore	Collection Efficiency	AT & C loss (%)
1	Shillong			Residential	105877	0	105877	89%	220.05	0	220.05	67%	382.537	192.84	0	192.8374474	58%	50.48675	13%	108.394443	108.3208	99.93%	
				Agricultural	8	0	8	0%	0.06	0	0.061111111	0%		0.01	0	0.013391	0%			0.00588669	0.01010834	171.72%	
				Commercial/Industrial-LT	11885	0	11885	10%	42.31	0	42.311	13%		28.65	0	28.64881096	9%			27.8765095	27.4619687	98.51%	
				Commercial/Industrial-HT	96	0	96	0%	15.09	0	15.085215	5%		18.39	0	18.392146	6%			17.730855	17.5261135	98.85%	
				Others	852	0	852	1%	51.38	0	51.3771	16%		92.16	0	92.15845113	28%			77.5260693	87.0680471	112.31%	
Sub-total					118718	0	118718	100%	328.88443	0	328.8844261	100%	382.537	332.0502	0	332.0502465	100%	50.48675	13%	231.533754	240.387036	103.82%	10%
2	Western			Residential	57347	0	57347	94%	34.74	0	34.738	19%	696.748	53.06	0	53.059675	9%	86.52953	12%	27.7593476	20.2560734	72.97%	
				Agricultural	3	0	3	0%	0.02	0	0.021	0%		0.01	0	0.011014	0%			0.00652475	0.00266	40.77%	
				Commercial/Industrial-LT	3137	0	3332	5%	8.38	0	8.341	5%		8.67	0	8.66937	1%			7.44858827	7.57852934	101.75%	
				Commercial/Industrial-HT	113	0	113	0%	130.85	0	130.85019	72%		533.09	0	533.089257	87%			281.391179	236.354047	84.00%	
				Others	362	0	362	1%	7.94	0	7.9422	4%		15.39	0	15.389159	3%			10.3485963	9.09576277	87.89%	
Sub-total					60962	0	60962	100%	181.93239	0	181.93239	100%	696.748	610.2185	0	610.218475	100%	86.52953	12%	326.954236	273.297372	83.59%	27%
3	West Garo			Residential	98861	4108	102969	96%	72.59	0	72.59134	75%	196.346	54.68	3.678	58.358	75%	118.441	60%	30.6585175	27.2291567	88.81%	
				Agricultural	14	0	14	0%	0.14	0	0.141	0%		0.05	0	0.054725	0%			0.03825907	0.01766214	46.16%	
				Commercial/Industrial-LT	3334	0	3334	3%	8.45	0	8.44712	9%		6.03	0	6.031084579	8%			5.78889924	5.80396096	109.74%	
				Commercial/Industrial-HT	12	0	12	0%	1.22	0	1.217898	1%		0.64	0	0.6439164	1%			0.79375691	0.44612193	56.20%	
				Others	684	0	684	1%	14.64	0	14.64122	15%		12.82	0	12.81723273	16%			10.9333886	13.9786059	127.85%	
Sub-total					102905	4108	107013	100%	97.038578	0	97.038578	100%	196.346	74.22696	3.678	77.90495871	100%	118.441	60%	47.7128213	47.4755075	99.50%	61%
4	East Garo			Residential	71235	268	71503	96%	63.09	0	63.0943	86%	146.585	37.53	0.18	37.7075	86%	102.5092	70%	21.3227954	17.1281293	80.33%	
				Agricultural	3	0	3	0%	0.00	0	0.002	0%		0.06	0	0.063049	0%			0.02917678	0	0.00%	
				Commercial/Industrial-LT	2346	0	2346	3%	4.86	0	4.86156	7%		3.35	0	3.350903552	8%			2.9436453	2.64955806	90.01%	
				Commercial/Industrial-HT	2	0	2	0%	1.51	0	1.512	2%		0.30	0	0.29734067	1%			0.65073816	0.0072154	1.11%	
				Others	379	0	379	1%	4.30	0	4.3019	6%		2.66	0	2.6569702	6%			2.5550648	2.76857316	108.36%	
Sub-total					73965	268	74233	100%	73.77176	0	73.77176	100%	146.585	43.89576	0.18	44.37576342	100%	102.5092	70%	27.5014204	22.553476	82.01%	75%
5	Eastern			Residential	79621	0	79621	95%	75.57	0	75.56726	58%	240.898	58.72	0	58.724772	38%	84.95122	35%	28.5218236	31.296561	109.73%	
				Agricultural	0	0	0	0%	0.00	0	0	0%		0.00	0	0	0%			0	0.003	0.00%	
				Commercial/Industrial-LT	3941	0	3941	5%	13.10	0	13.101	10%		9.07	0	9.07	6%			7.90671364	8.39464326	106.17%	
				Commercial/Industrial-HT	23	0	23	0%	35.92	0	35.916875	27%		81.22	0	81.22	52%			51.9797374	64.96868	124.99%	
				Others	366	0	366	0%	6.73	0	6.7273	5%		6.93	0	6.932005	4%			6.09014527	5.84839257	96.03%	
Sub-total					83951	0	83951	100%	131.31254	0	131.312535	100%	240.898	155.9468	0	155.946777	100%	84.95122	35%	94.4984199	110.511277	116.95%	24%
6	Central			Residential	142081	3593	145674	96%	144.65	0	144.651	81%	155.03	81.56	0.37	81.93	77%	48.7702	31%	43.5927635	48.4901768	111.23%	
				Agricultural	0	0	0	0%	0.00	0	0	0%		0	0	0	0%			0	0	0.00%	
				Commercial/Industrial-LT	4857	0	4857	3%	18.04	0	18.044	10%		10	0	10.18799817	10%			9.03860286	10.7730282	119.19%	
				Commercial/Industrial-HT	22	0	22	0%	1.92	0	1.922715,	1%		3	0	3.170622	3%			3.8345393	1.1261438	29.37%	
				Others	584	0	584	0%	13.08	0	13.084486	7%		11	0	10.97118237	10%			9.28255981	9.69261554	104.42%	
Sub-total					147544	3593	151137	100%	177.7022	0	177.702201	100%	155.03	105.8898	0.37	106.2598025	100%	48.7702	31%	65.7484654	70.0819644	106.59%	27%
7	ks of Accou			Residential	0	0	0	0%	0	0	0	0%	0	0	0	0	0%	0	0%	0	0	0.00%	
				Agricultural	0	0	0	0%	0	0	0	0%		0	0	0	0%			0	0	0.00%	
				Commercial/Industrial-LT	0	0	0	0%	0	0	0	0%		0	0	0	0%			0	0	0.00%	
				Commercial/Industrial-HT	0	0	0	0%	0	0	0	0%		0	0	0	0%			0	0	0.00%	
				Others	0	0	0	0%	0	0	0	0%		0	0	0	0%			0	33.1345069	0.00%	
Sub-total					0	0	0	100%	0	0	0	100%	0	0	0	0	100%	0	0%	0	33.1345069	0.00%	100%
8				Residential	0	0	0	0%	0	0	0	0%	0	0	0	0	0%	0	0%	0	0	0.00%	
				Agricultural	0	0	0	0%	0	0	0	0%		0	0	0	0%			0	0	0.00%	
				Commercial/Industrial-LT	0	0	0	0%	0	0	0	0%		0	0	0	0%			0	0	0.00%	
				Commercial/Industrial-HT	0	0	0	0%	0	0	0	0%		0	0	0	0%			0	0	0.00%	
				Others	0	0	0	0%	0	0	0	0%		0	0	0	0%			0	0	0.00%	
Sub-total					0	0	0	100%	0	0	0	100%	0	0	0	0	100%	0	0%	0	0	0.00%	100%
9				Residential	0	0	0	0%	0	0	0	0%	0	0	0	0	0%	0	0%	0	0	0.00%	
				Agricultural	0	0	0	0%	0	0	0	0%		0	0	0	0%			0	0	0.00%	
				Commercial/Industrial-LT	0	0	0	0%	0	0	0	0%		0	0	0	0%			0	0	0.00%	
				Commercial/Industrial-HT	0	0	0	0%	0	0	0	0%		0	0	0	0%			0	0	0.00%	
				Others	0	0	0	0%	0	0	0	0%		0	0	0	0%			0	0	0.00%	
Sub-total					0	0	0	100%	0	0	0	100%	0	0	0	0	100%	0	0%	0	0	0.00%	100%
10				Residential	0	0	0	0%	0	0	0	0%	0	0	0	0	0%	0	0%	0	0	0.00%	
				Agricultural	0	0	0	0%	0	0	0	0%		0	0	0	0%			0	0	0.00%	
				Commercial/Industrial-LT	0	0	0	0%	0	0	0	0%		0	0	0	0%			0	0	0.00%	
				Commercial/Industrial-HT	0	0	0	0%	0	0	0	0%		0	0	0	0%			0	0	0.00%	
				Others	0	0	0	0%	0	0	0	0%		0	0	0	0%			0	0	0.00%	
Sub-total					0	0	0	100%	0	0	0	100%	0	0	0	0	100%	0	0%	0	0	0.00%	100%
11				Residential	0	0	0	0%	0	0	0	0%	0	0	0	0	0%	0	0%	0	0	0.00%	
				Agricultural	0	0	0	0%	0	0	0	0%		0	0	0	0%			0	0	0.00%	
				Commercial/Industrial-LT	0	0	0	0%	0	0	0	0%		0	0	0	0%			0	0	0.00%	
				Commercial/Industrial-HT	0	0	0	0%	0	0	0	0%		0	0	0	0%			0	0	0.00%	
				Others	0	0	0	0%	0	0	0	0%		0	0	0	0%			0	0	0.00%	
Sub-total					0	0	0	100%	0	0	0	100%	0	0	0	0	100%	0	0%	0	0	0.00%	100%

Chief Engineer,
Planning Monitoring & Commercial
MePDCL,Shillong

Energy Manager,
MeECL, Meghalaya
BEE Reg. No: EA-23306

Form-Input energy(Details of input energy & Infrastructure)

A. Summary of energy input & infrastructure

S.No	Parameters	Period from 1st April 2020 To 31st March 2021	Remarks (Source of data)
A.1	Input Energy purchased (MU)	2511.51	
A.2	Transmission loss (%)	4%	
A.3	Transmission loss (MU)	98.453192	
A.4	Energy sold outside the periphery(MU)	594.94	excluding R.Y
A.5	Open access sale (MU)	0	
A.6	EHT sale	0	
A.7	Net input energy (received at DISCOM periphery or at distribution point)-(MU)	1838.14	
A.8	Is 100% metering available at 66/33 kV (Select yes or no from list)		
A.9	Is 100% metering available at 11 kV (Select yes or no from list)		
A.10	% of metering available at DT	30%	
A.11	% of metering available at consumer end	99%	
A.12	No of feeders at 66kV voltage level	0	
A.13	No of feeders at 33kV voltage level	180	
A.14	No of feeders at 11kV voltage level	365	
A.15	No of LT feeders level	0	
A.16	Line length (ckt. km) at 66kV voltage level	0	
A.17	Line length (ckt. km) at 33kV voltage level	2524.14	
A.18	Line length (ckt. km) at 11kV voltage level	17815.08572	
A.19	Line length (km) at LT level	7130.92	
A.20	Length of Aerial Bunched Cables		
A.21	Length of Underground Cables		
A.22	HT/LT ratio	0.75	

B. Meter reading of input energy at injection points

S.No	Zone	Circle	Voltage Level (kVA)	Division (RVA)	Sub-Division (RVA)	Feeder ID	Feeder Name	Feeder Metering Status (Metered/Unmetered/AMR/AMI)	Status of Meter (Functional/Non-functional)	Metering Date: Date of last meter reading communication	Feeder Type (Agri/Industrial/Mixed)	Status of Communication: % data received through communicated & feeder AMR/AMI	Status of Communication: Number of times when meter was unable to communicate in period	Status of Communication: Total number of hours in the period	Period from..to: Meter S.No	Period from..to: CT/PT ratio	Period from..to: Import (MU)	Period from..to: Export (MU)	Sales	Remarks (Source of data)	
B.1	Eastern	Shillong	33	Shillong	Shillong			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			412.18	79.64	332.05		
B.2		Khasi Hills	33	East Khasi Hills	Mawryngkneng			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			23.85	5.43	16.25		
B.3			33		Sohiong			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			19.09	5.20	7.50		
B.4			33		Cherra			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			16.79	0.00	13.91		
B.5			33		Pynursla			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			9.33	0.00	7.12		
B.6			33	South Khasi Hills	Mawsynram			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			42.46	20.73	12.93		
B.7			33		Mawkyrwat			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			20.56	0.00	17.71		
B.8			33	West Khasi Hills	Nongstoin			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			23.28	0.00	16.37		
B.9			33		Riangdo			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			13.93	0.00	7.64		
B.10			33		Mairang			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			17.20	0.00	12.55		
B.11		Jaintia Hills	33	Jowai Jowai Rural	Jowai,Khliehtyshi,Amlarem			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			70.02	0.00	32.39		
B.12			33	Khliehriat	Khliehriat+Sutnga			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			170.88	0.00	125.55		
B.13		Ri-Bhoi	33	Umiam	Umiam			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			95.68	6.69	68.98		
B.14			33		Umsning			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			66.24	27.47	11.43		
B.15			33	Nongpoh	Nongpoh			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			27.45	0.00	17.03		
B.16			33	Byrnihat	Byrnihat			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			543.54	0.00	512.80		
B.17	Western	East Garo Hills	33	East Garo Hills	Bajengdoba			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			33.52	0.05	7.50		
B.18			33		Mendipathar			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			44.10	0.00	11.02		
B.19			33		Williamnagar			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			16.52	0.00	7.79		
B.20			33	South Garo Hills	Baghmara			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			18.05	0.00	8.29		
B.21			33		Nangalbibra			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			34.44	0.00	6.14		
B.22		West Garo Hills	33	Tura	Tura+Chockpot			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			85.48	19.68	28.35		
B.23			33	West Garo Hills	Dalu			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			19.67	0.00	16.98		
B.24			33		Phulbari			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			43.19	0.00	15.43		
B.25			33	South West Garo Hills	Garobadha			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			75.37	47.29	6.68		
B.26			33		Ampati+Mahendraganj			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			35.52	0.00	11.50		
B.27			33		Selsella			Metered	Functional	31.03.2021	Mixed	NIL	NIL	NIL			4.09	0.00	1.57		
B.28																					

Energy Manager,
MeECL, Meghalaya
BEE Reg. No: EA-23306

Chief Engineer,
Planning Monitoring & Commercial
MePDCL,Shillong

Energy Manager,
MeECL, Meghalaya
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Details of Input Energy Sources

Period From 1st April 2020 To 31st April 2021

A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal /Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss MU	Voltage Level (At input)	Remarks (Source of data)
1	Umiam I	4X9	Hydro	PPA (25)	Intra-state		132	Management
2	Umiam II	2X10	Hydro	PPA (25)	Intra-state		132	Management
3	Umiam III	2X30	Hydro	PPA (25)	Intra-state		132	Management
4	Umiam IV	2X30	Hydro	PPA (25)	Intra-state		132	Management
5	MLHEP	3X42	Hydro	PPA (25)	Intra-state		132	Management
6	Umtru	4X2.8	Hydro	PPA (25)	Intra-state		132	Management
7	Sunapani	1X1.5	Hydro	PPA (25)	Intra-state		132	Management
8	New Umtru	2X20	Hydro	PPA	Intra-state		132	Management
9	Lakroh	1X1.5	Hydro	PPA	Intra-state	14.19045138	132	Management
10	KOPILI	4X50	Hydro	PPA (5)	Inter-state		132	Management
11	KOPILI-Ext	1X25	Hydro	PPA (5)	Inter-state		132	Management
12	KHANDONG	2X25	Hydro	PPA (5)	Inter-state	0.12	132	Management
13	RANGANADI	3X135	Hydro	PPA (5)	Inter-state		132	Management
14	DOYANG	3X25	Hydro	PPA (5)	Inter-state	0.25	132	Management
15	AGBPP	6X33.5 +3X30	Gas-Steam	PPA (5)	Inter-state	1.96	132	Management
16	AGTPP	4X21+2x25.5	Gas	PPA (5)	Inter-state	1.26	132	Management
17	FSTPS	3X200+2X500	Coal	PPA (NA)	Inter-state		132	Management
18	KHSTPS-I	4X210	Coal	PPA (NA)	Inter-state		132	Management
19	KHSTPS-II	3X500	Coal	PPA (25)	Inter-state		132	Management
20	TSTPS-I	2X500	Coal	PPA (NA)	Inter-state		132	Management
21	OTPC	2X363.3	Gas-Steam	PPA (25)	Inter-state		132	Management
22	Loktak	3X35	Hydro	PPA (15)	Inter-state		132	Management
23	AGTPP-CS	41	Gas-Steam	PPA	Inter-state		132	Management
24	Tipaimukh	1500	Hydro	PPA (5)	Inter-state		132	Management
25	BTPS	3X250	Coal	PPA (25)	Inter-state		132	Management
26	Loktak-DS	3X30	Hydro	PPA (5)	Inter-state		132	Management
27	Subansiri	8X250	Hydro	PPA (5)	Inter-state		132	Management
28	Pare	2X55	Hydro	PPA (5)	Inter-state	0.79	132	Management
29	Kameng	4X150	Hydro	PPA (5)	Inter-state	0.4	132	Management

Energy Manager,
MeECL, Meghalaya
BEE Reg. No: EA-23306

(Details of Consumers)

Summary of Energy

Period From April 20 to March 21

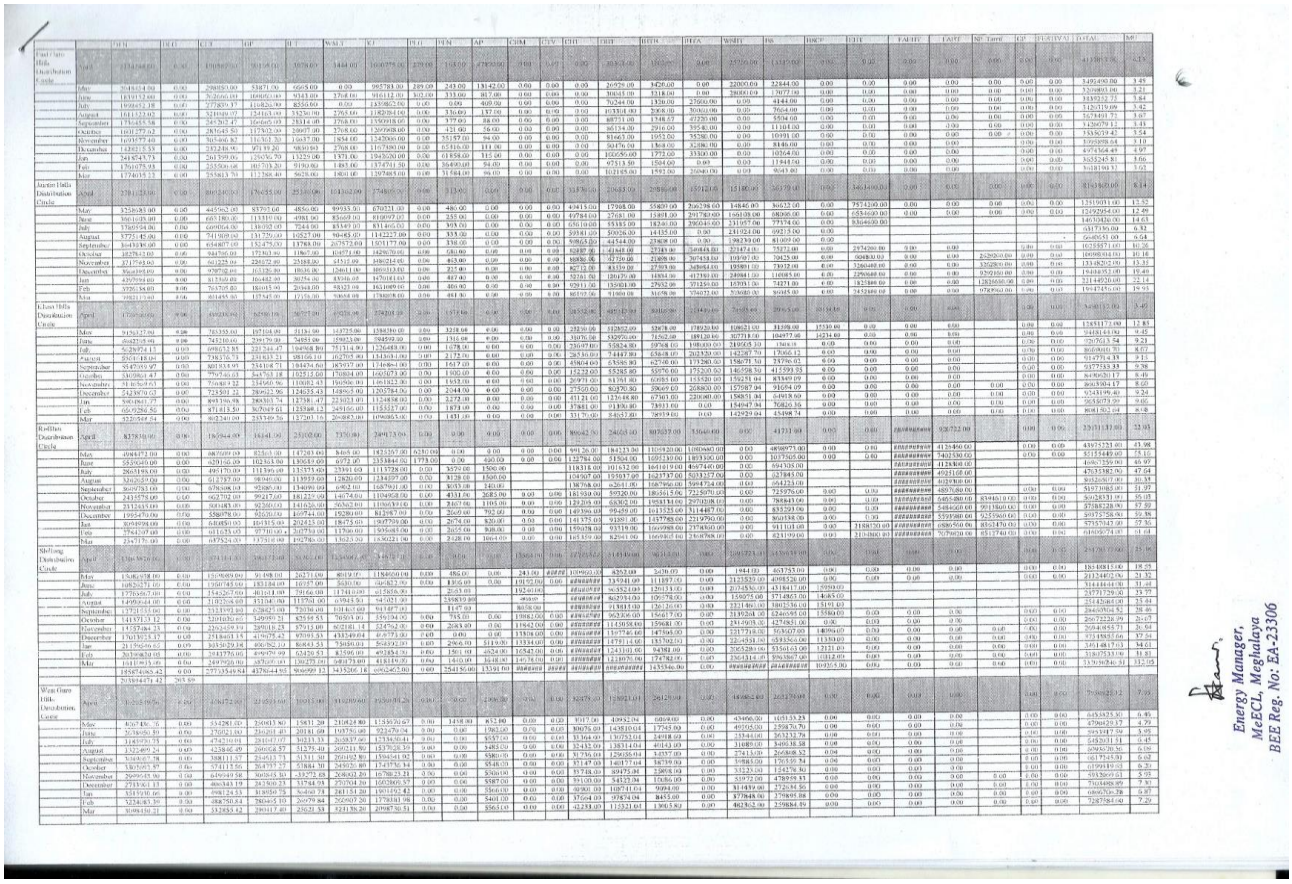
S.No	Type of Consumers	Category of Consumers (EHT/HT/LT/Others)	Voltage Level (in Voltage)	No of Consumers	Total Consumption (in MU)	Remarks (Source of data)
1	Domestic	HT/LT		563089	500.01	
2	Commercial	LT		28800	61.40	
3	IP Sets					
4	Hor. & Nur. & Coffee/Tea & Rubber (Metered)					
5	Hor. & Nur. & Coffee/Tea & Rubber (Flat)					
6	Heating and Motive Power					
7	Water Supply	LT		417	10.83073058	
8	Public Lighting	LT		60	0.551675	
9	HT Water Supply	HT		36	28.1069948	
10	HT Industrial	HT		137	616.6345601	
11	Industrial (Small)	LT		700	4.552862632	
12	Industrial (Medium)				0	
13	HT Commercial	HT		132	20.175807	
14	Applicable to Government Hospitals & Hospitals					
15	Lift Irrigation Schemes/Lift Irrigation Societies					
16	HT Res. Apartments Applicable to all areas					
17	Mixed Load					
18	Government offices and department	HT/LT		2614	83.89234387	
19	Agriculture	LT		28	0.142179	
20	Others-2 (if any , specify in remarks)			1	0.154749	Crematorium (CRM)
21	Others-3 (if any , specify in remarks)					
22	Others-4 (if any , specify in remarks)					
23	Others-5 (if any , specify in remarks)					
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						

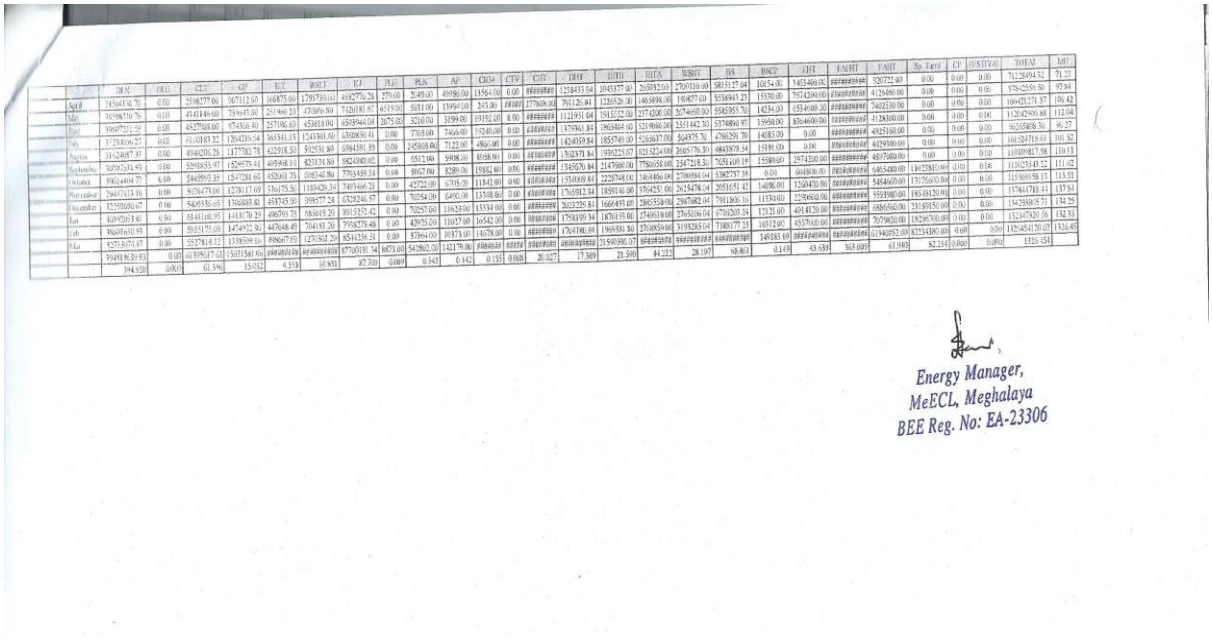
Energy Manager,
MeECL, Meghalaya
BEE Reg. No: EA-23306

35						
36						
37						
38						
39						
40						
			Total	596014	1326.45	

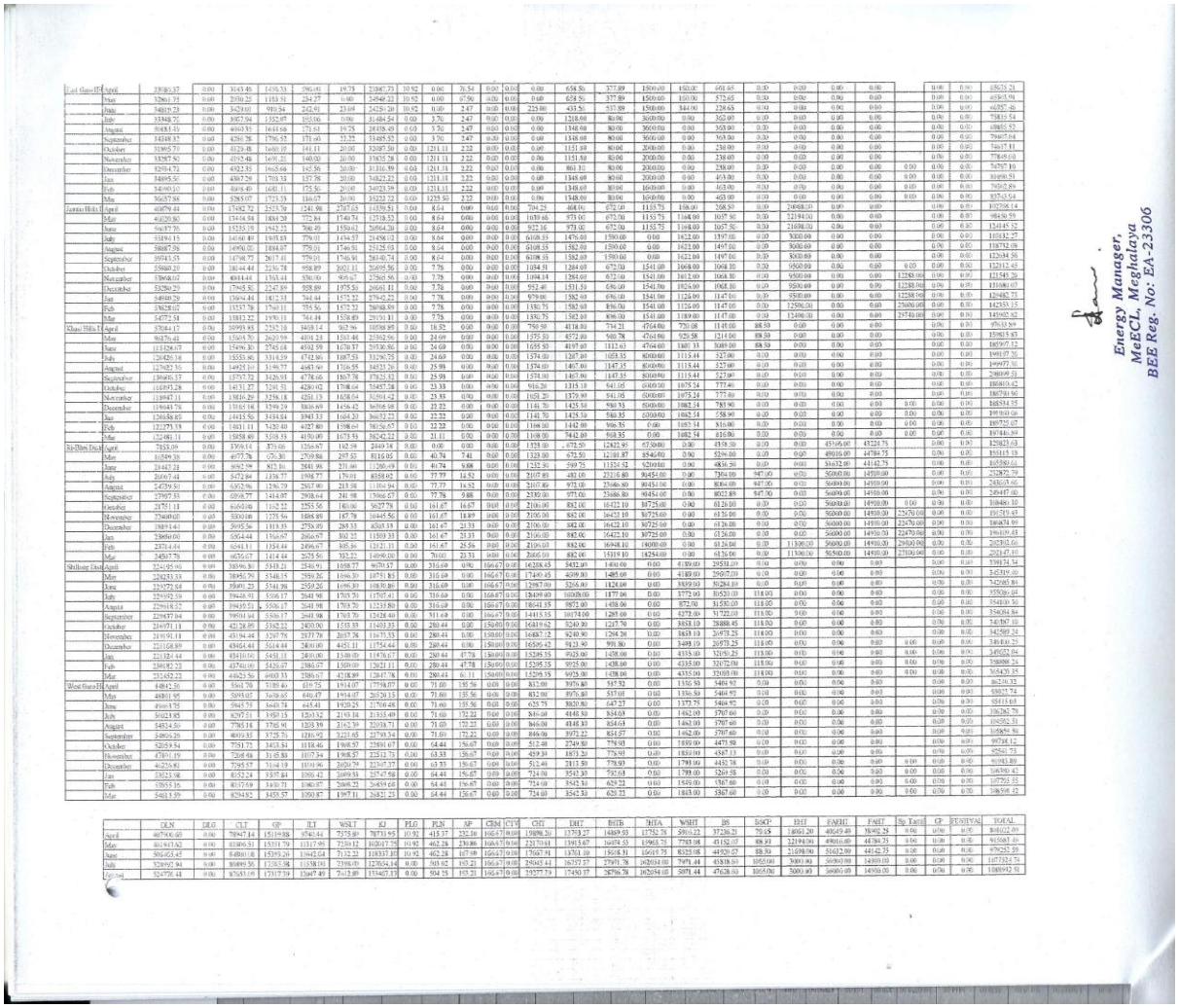
Energy Manager,
MeECL, Meghalaya
BEE Reg. No: EA-23306

- **Billed Units**

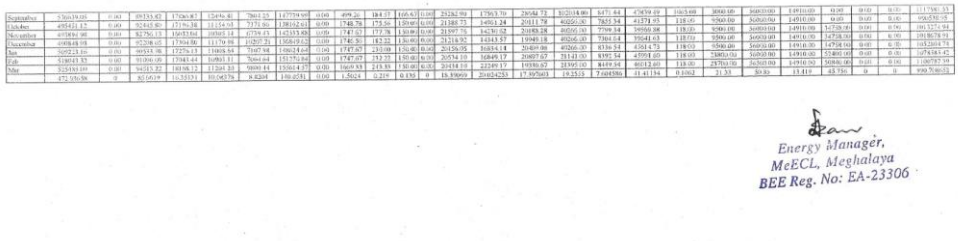




- **Connected Load**



Energy Manager,
MeECL, Meghalaya
BEE Reg. No: EA-23306



Energy Manager,
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- **No of Consumers**

No of Consumers for FY 2020-21

		DLT	DLG	CLT	GP	ILT	WSLT	KJ	PLG	PLN	AP	CRM	CTV	CHT	DHT	IHTB	IHTA	WSHT	BS	BSSG	EHT	FAEHT	FAHT	Sp. Tariff	CP	FESTIVAL	TOTAL
East Garo Hills Distribution Circle	April	31178	0	2320	445	33	3	31739	0	17	3	0	0	0	9	1	1	2	4	0	0	0	0	0	0	0	65746
	May	31507	0	2551	445	33	3	31867	0	17	3	0	0	0	9	1	1	2	4	0	0	0	0	0	0	0	66443
	June	31110	0	2269	438	33	3	32282	0	17	3	0	0	0	9	1	1	2	4	0	0	0	0	0	0	0	66172
	July	30639	0	2401	344	33	3	32970	0	15	3	0	0	0	13	1	1	1	2	0	0	0	0	0	0	0	66426
	August	31117	0	2407	346	33	3	33554	0	15	3	0	0	0	13	1	1	1	2	0	0	0	0	0	0	0	67496
	September	31893	0	2341	346	34	3	33863	0	15	3	0	0	0	13	1	1	1	2	0	0	0	0	0	0	0	68423
	October	32244	0	2299	342	34	3	34459	0	15	3	0	0	0	13	1	1	1	2	0	0	0	0	0	0	0	69417
	November	32361	0	2247	341	34	3	34768	0	15	3	0	0	0	13	1	1	0	2	0	0	0	0	0	0	0	69729
	December	32021	0	2226	342	35	3	34958	0	15	3	0	0	0	14	1	1	0	3	0	0	0	0	0	0	0	69622
	January	32509	0	2232	341	34	3	37381	0	15	3	0	0	0	13	1	1	0	2	0	0	0	0	0	0	0	72535
	February	33036	0	2263	345	34	3	37591	0	15	3	0	0	0	14	1	0	0	3	0	0	0	0	0	0	0	73308
	March	33680	0	2311	344	35	3	37823	0	15	3	0	0	0	14	1	1	0	3	0	0	0	0	0	0	0	74233
Jaintia Hills Distribution Circle	April	45136	0	3695	257	58	71	30602	0	2	0	0	0	14	8	3	4	5	11	0	1	0	0	0	0	0	79767
	May	45208	0	3745	257	58	71	30738	0	2	0	0	0	14	8	3	4	5	11	0	1	0	0	0	0	0	80125
	June	45252	0	3748	258	58	71	31143	0	2	0	0	0	14	8	3	4	5	11	0	1	0	0	0	0	0	80578
	July	45338	0	3754	258	58	71	31452	0	2	0	0	0	14	10	3	4	5	11	0	1	0	0	0	0	0	80981
	August	45486	0	3762	260	58	71	32042	0	2	0	0	0	14	11	3	4	5	11	0	1	0	0	0	0	0	81730
	September	45561	0	3772	260	59	71	32323	0	2	0	0	0	14	11	3	4	5	11	0	1	0	0	0	0	0	82097
	October	45731	0	3784	260	59	71	32653	0	2	0	0	0	14	11	3	4	5	11	0	1	0	0	0	0	0	83609
	November	45816	0	3809	260	59	71	32996	0	2	0	0	0	14	11	3	4	5	11	0	1	0	0	1	0	0	83863
	December	45873	0	3824	262	59	71	33239	0	2	0	0	0	14	11	3	4	5	11	0	1	0	0	1	0	0	83380
	January	45754	0	3760	266	59	71	33424	0	2	0	0	0	10	11	2	1	4	11	0	2	0	0	3	0	0	83369
	February	45836	0	3784	266	59	71	33484	0	2	0	0	0	14	11	3	1	4	11	0	2	0	0	3	0	0	83551
	March	46123	0	3882	266	59	71	33498	0	2	0	0	0	14	11	3	1	5	11	0	2	0	0	3	0	0	83951
[illegible] Distribution Circle	April	97952	0	4239	431	202	91	36556	0	14	0	0	0	11	8	12	1	11	6	0	0	0	0	0	0	0	139534
	May	98219	0	4299	432	211	91	39475	0	14	0	0	0	11	9	13	1	11	6	0	0	0	0	0	0	0	142792
	June	98505	0	4313	433	206	91	39645	0	14	0	0	0	11	9	12	1	11	6	0	0	0	0	0	0	0	143257
	July	98757	0	4341	434	201	91	40220	0	14	0	0	0	11	8	12	1	11	6	0	0	0	0	0	0	0	144107
	August	98836	0	4367	434	201	91	40433	0	14	0	0	0	11	9	13	1	11	6	0	0	0	0	0	0	0	144427
	September	99044	0	4438	434	202	91	41007	0	14	0	0	0	11	9	12	1	11	6	0	0	0	0	0	0	0	145280
	October	99596	0	4491	442	203	91	41910	0	14	0	0	0	11	9	12	1	11	10	0	0	0	0	0	0	0	146801
	November	100051	0	4502	443	204	91	42130	0	14	0	0	0	10	9	12	1	11	10	0	0	0	0	0	0	0	147458
	December	100396	0	4552	443	204	91	43253	0	14	0	0	0	10	8	12	1	11	10	0	0	0	0	0	0	0	149005
	January	100779	0	4487	443	204	91	43907	0	14	0	0	0	10	9	12	1	11	10	0	0	0	0	0	0	0	149978
	February	100978	0	4523	445	206	91	44197	0	14	0	0	0	10	9	11	0	11	10	0	0	0	0	0	0	0	150503
	March	101275	0	4651	448	206	91	44399	0	14	0	0	0	10	10	12	0	11	10	0	0	0	0	0	0	0	151137
Ri-Bhoi Distribution Circle	April	30229	0	2044	231	166	24	22761	0	8	3	0	0	14	5	83	12	0	21	1	4	4	2	0	0	0	55612
	May	30351	0	2057	236	166	24	23305	0	9	3	0	0	14	5	82	12	0	21	1	4	4	2	0	0	0	56296
	June	30593	0	2162	241	166	24	24122	0	9	3	0	0	14	4	77	12	0	21	1	4	4	2	0	0	0	57399
	July	30253	0	2333	267	165	24	24145	0	9	3	0	0	14	4	80	11	0	21	1	4	4	2	0	0	0	57340
	August	30328	0	2374	267	165	24	24413	0	9	3	0	0	14	5	82	11	0	21	1	4	4	2	0	0	0	57727
	September	30724	0	2761	303	165	24	24493	0	9	3	0	0	14	5	82	11	0	21	1	4	4	2	0	0	0	58626
	October	30796	0	2767	303	165	24	24593	0	9	3	0	0	14	5	81	12	0	21	1	4	4	2	5	0	0	58809
	November	30892	0	2777	303	165	24	24717	0	8	3	0	0	14	5	81	8	0	21	1	4	4	2	5	0	0	59034
	December	31712	0	2942	304	166	24	25247	0	8	3	0	0	14	5	81	8	0	21	0	4	4	2	5	0	0	60550
	January	31758	0	2958	304	167	24	25385	0	8	3	0	0	14	5	78	7	0	21	0	0	4	2	6	0	0	60744
	February	31798	0	2968	304	167	24	25472	0	8	3	0	0	14	5	79	8	0	21	0	1	4	2	6	0	0	60884
	March	31828	0	2969	304	168	24	25510	0	8	3	0	0	13	5	77	8	0	21	0	1	4	2	6	0	0	60960
Shillong Distribution Circle	April	91707	0	11340	556	113	113	8978	0	17	9	1	34	88	39	12	0	10	110	1	0	0	0	0	0	0	113128
	May	92131	0	11378	555	114	114	9023	0	17	9	1	34	88	39	12	0	10	110	1	0	0	0	0	0	0	113636
	June	92179	0	11404	554	114	116	9589	0	17	9	1	34	88	39	12	0	10	110	1	0	0	0	0	0	0	114277
	July	92456	0	11388	554	114	116	9881	0	16	9	1	34	88	39	12	0	9	110	1	0	0	0	0	0	0	114828
	August	94559	0	11520	554	114	116	11515	0	16	9	1	34	87	39	10	0	9	110	1	0	0	0	0	0	0	118694
	September	92814	0	11457	559	114	116	10342	0	16	9	1	34	87	40	10	0	9	110	1	0	0	0	0	0	0	115749
	October	93192	0	11525	557	114	116	10514	0	16	9	1	34	87	40	10	0	9	110	1	0	0	0	0	0	0	116335
	November	93591	0	11524	554	114	117	10555	0	16	9	1	34	87	39	10	0	9	111	1	0	0	0	0	0	0	116772
	December	93946	0	11607	555	114	117	10660	0	16	9	1	34	87	39	10	0	9	111	1	0	0	0	0	0	0	117325
	January	94279	0	11655	559	114	117	10743	0	16	9	1	34	88	39	10	0	10	111	1	0	0	0	0	0	0	117786
	February	94614	0	11696	558	114	117	10769	0	16	9	1	34	88	39	10	0	10	111	1	0	0	0	0	0	0	118187
	March	95091	0	11737	560	114	117	10786	0	16	8	1	34	86	39	10	0	10	108	1	0	0	0	0	0	0	118718
		105916																									
West Garo Hills Distribution Circle	April	43517	0	2861	492	119	115	41979	0	5	14	0	0	8	18	5	0	5	39	0	0	0	0	0	0	0	89177
	May	44168	0	2943	494	120	115	43112	0	5	14	0	0	8	18	5	0	5	39	0	0	0	0	0	0	0	91046
	June	44183	0	2894	490	119	115	43898	0	5	14	0	0	8	18	5	0	5	39	0	0	0	0	0	0	0	91791
	July	44692	0	2946	490	120	116	44448	0	5	14	0	0	8	18	5	0	5	39	0	0	0	0	0	0	0	92906
	August	44928	0	2948	488	118	117	45274	0	5	14	0	0	8	18	5	0	8	39	0	0	0	0	0	0	0	93970
	September	45300	0	2971	487	118	117	46315	0	5	14	0	0	8	18	5	0	8	39	0	0	0	0	0	0	0	95405
	October	42834	0	2797	431	117	110	47343	0	4	14	0	0	7	17	5	0	8	35	0	0	0	0	0	0	0	93722
	November	43186	0	2824	437	117	110	47877	0	4	14	0	0	7	17	5	0	8	35	0	0	0	0	0	0	0	94641
	December	43378	0	2852	439	117	110	48438	0	4	14	0	0	7	17	5	0	10	35	0	0	0	0	0	0	0	95426
	January	46464	0	3055	498	118	110	50144	0	5	16	0	0	8	19	3	0	10	42	0	0	0	0	0	0	0	100494
	February	46793	0	3093	495	118	110	50659	0	5	14	0	0	8	19	4	0	10	42	0	0	0	0	0	0	0	101370
	March	47728	0	3216	497	118	111	55241	0	5	14	0	0	8	19	4	0	10	42	0	0	0	0	0	0	0	107013

	DLN	DLG	CLT	GP	ILT	WSLT	KJ	PLG	PLN	AP	CRM	CTV	CHT	DHT	IHTB	IHTA	WSHT	BS	ESCP	EHT	FAEHT	FAHT	Sp. Tariff	CP	FESTIVAL	TOTAL
April	339719	0	26499	2412	691	417	172506	0	63	29	1	34	135	87	116	18	33	191	2	5	4	2	0	0	0	542964
May	341584	0	26973	2419	702	418	177520	0	64	29	1	34	135	88	116	18	33	191	2	5	4	2	0	0	0	550338
June	341822	0	26730	2414	696	420	180677	0	64	29	1	34	135	87	110	18	33	191	2	5	4	2	0	0	0	553471
July	342133	0	27163	2347	691	421	183116	0	61	29	1	34	135	92	113	17	31	189	2	5	4	2	0	0	0	556588
August	345254	0	27378	2349	689	422	187251	0	61	29	1	34	134	95	114	17	34	189	2	5	4	2	0	0	0	560044
September	345275	0	27740	2389	692	422	188343	0	61	29	1	34	134	96	113	17	34	189	2	5	4	2	0	0	0	565580
October	344395	0	27663	2335	692	415	191472	0	60	29	1	34	133	95	112	18	34	189	2	5	4	2	5	0	0	567695
November	345817	0	27685	2338	693	416	193043	0	59	29	1	34	132	94	112	14	33	190	2	5	4	2	6	0	0	570707
December	347326	0	28003	2345	695	416	195804	0	59	29	1	34	132	94	112	14	35	194	1	5	4	2	6	0	0	575308
January	351523	0	28156	2411	696	416	200984	0	60	31	1	34	130	96	108	10	35	197	1	2	4	2	9	0	0	584906
February	353055	0	28327	2413	698	416	202172	0	60	29	1	34	134	97	108	9	35	198	1	5	4	2	9	0	0	587607
March	355725	0	28766	2419	700	417	207266	0	60	28	1	34	131	98	107	10	36	195	1	5	4	2	9	0	0	596014

Energy Manager,
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- **Input Energy**

Provisional Circle Wise Monthly Energy Injection (MWh) for 2020-21 of MePDCL

Circle	Areas	APRIL_20	MAY_20	JUNE_20	JULY_20	AUG_20	SEPT_20	OCT_20	NOV_20	DEC_20	JAN_21	FEB_21	MAR_21	Total	Avg_MU
Shillong	Shillong	29440.58	29388.90	27692.27	28522.23	27591.85	27126.39	30255.86	32174.54	40134.265	42461.94	35845.80	31902.89	382537.50	31.88
Khasi Hills	Mawryngkneng	1256.35	1315.95	1625.25	1512.7	1453.77	1418.00	1485.39	1563.27	1757.09	1619.42	1860.97	1565.91	18434.09	1.54
	Sohra	1356.12	1111.43	1307.54	1387.03	1410.15	1312.90	1388.88	1117.11	1668.17	1855.96	1496.62	1376.53	16788.45	1.40
	Pynursla	686.57	663.90	625.83	820.45	805.53	790.84	739.24	848.92	1060.50	905.90	728.18	650.20	9326.04	0.78
	Sohliong	918.98	1124.74	1176.64	1341.36	1124.69	1275.08	1365.16	1411.94	1036.26	1153.29	970.88	902.19	13801.21	1.15
	Mawsynram	1574.58	1621.28	1695.28	1728.00	1899.85	1796.05	1880.87	1927.19	2106.22	2143.55	1682.14	1653.01	21708.01	1.81
	Mawkyrwat	1435.70	1445.38	1526.46	1648.84	1820.44	1632.22	1704.34	1855.20	2060.05	2118.28	1720.40	1595.99	20563.31	1.71
	Nongstoin	1935.79	1735.93	1811.68	1646.92	1804.16	1549.22	1684.41	1889.70	2542.60	2539.23	2188.98	1949.82	23278.45	1.94
	Riangdo	667.16	690.85	774.68	1195.92	1204.03	1133.13	1313.95	1405.99	1580.07	1619.20	1251.48	1092.47	13928.92	1.16
	Mairang	1476.32	1435.91	1397.65	1493.08	1423.99	1300.93	1397.89	1518.79	1718.26	1535.04	1262.80	1241.22	17201.89	1.43
	Total	11307.57	11145.37	11941.02	12774.29	12946.63	12208.36	12960.13	13538.12	15529.22	15489.88	13162.46	12027.32	155030.36	12.92
Jaintia Hills	Jowai (Urban)	2006.12	1885.36	2045.57	2118.57	1968.75	2385.42	1995.31	2279.87	2704.44	2343.35	2372.51	2365.11	26470.38	2.21
	West Jaintia (excl Jowai)	3070.61	2936.65	3027.06	3310.98	3552.45	3116.89	3820.64	3831.09	4287.58	4713.70	3735.59	4146.76	43549.99	3.63
	EHT Consumer	3907.48	6864.92	5866.07	7965.87	7412.56	3628.38	2874.97	3168.53	5618.16	11372.35	13326.66	13041.06	85047.01	7.09
	Khliehriat	1431.05	1360.28	1438.71	1574.24	1519.01	1535.76	1570.74	1692.31	1988.88	2038.85	1602.38	1550.08	19302.29	1.61
	East Jaintia (ex Khliehriat & EHT consumer)	4118.83	4124.52	4604.56	5492.50	5782.37	5804.12	6016.62	6499.79	7200.93	7217.91	5458.13	4208.25	66528.53	5.54
	Total	14534.10	17171.73	16981.97	20462.15	20235.13	16470.57	16278.28	17471.59	21799.99	27686.16	26495.26	25311.26	240898.20	20.07
Ri-Bhoi	Umiam	4219.40	3291.38	6305.52	7123.72	6871.90	6680.18	7339.56	9140.51	9693.28	10351.02	9146.76	8826.93	88990.17	7.42
	Umsning	1114.54	2982.02	3025.33	3325.65	3158.82	3150.96	3318.06	3664.32	4226.98	4207.16	3408.32	3187.29	38769.45	3.23
	Nongpoh	1804.85	1959.84	2199.63	2242.03	2164.77	2245.81	2348.08	2505.96	2663.91	2766.77	2326.22	2221.62	27449.49	2.29
	Byrnihat	19546.09	35573.91	44033.56	43370.71	43582.66	45692.48	49104.13	53315.73	55159.98	55190.69	46647.70	50322.18	541539.82	45.13
	Total	26684.88	43807.15	55564.04	56062.10	55778.15	57769.43	62109.83	68626.53	71744.15	72515.63	61529.01	64558.02	696748.93	58.06
East Khasi Hills	Bajengdoba	2136.31	1948.78	2505.21	2741.90	3017.33	2911.49	3024.29	2958.36	3411.29	3542.17	2736.37	2534.03	33467.51	2.79
	Mendipathar	2570.68	2761.75	3494.00	3826.01	4018.76	3862.86	4049.98	3912.59	4399.24	4546.93	3464.84	3190.97	44098.60	3.67
	Williamnagar	678.94	988.48	1097.94	1255.92	1260.91	1211.03	1346.6	1481.29	2148.66	2076.56	1667.79	1309.65	16523.77	1.38
	Baghmara	1238.54	1269.98	1238.55	1393.84	1607.10	1321.42	1587.15	1592.31	1814.87	1926.71	1583.82	1482.62	18056.92	1.50
	Nangalbibra	2504.83	2344.96	2548.85	2633.74	2920.15	2765.22	3285.73	3190.67	3228.03	3526.18	2841.97	2648.10	34438.43	2.87
	Total	9129.31	9313.94	10884.54	11851.41	12824.24	12072.02	13293.75	13135.23	15002.09	15618.54	12294.79	11165.38	146585.24	12.22
West Garo Hills	Tura	5207.73	3943.89	4168.90	5915.33	4886.44	4221.17	4693.51	4122.45	4889.55	5392.27	4505.47	4485.94	56432.66	4.70
	Dalu	1143.54	1220.42	1513.6745	1796.82	1621.26	1634.66	1928.82	1636.90	1825.72	2341.29	1657.68	1346.52	19667.30	1.64
	Chockpot					1377.78	1023.50	1147.59	1300.36	1399.07	954.20	1068.84	1095.90	9367.23	0.78
	Garobadha	3096.94	2721.04	1500.91	1520.97	4280.37	4754.00	2852.98	1452.69	1616.88	1673.72	1342.85	1265.72	28079.08	2.34
	Mahendraganj	2612.66	2480.13	2794.26	2943.56	3216.21	2948.49	3200.66	2972.48	3308.29	3483.67	2818.39	2741.18	35519.98	2.34
	Ampati														
	Phulbari	2036.41	1830.69	3830.10	4198.19	2649.44	2267.26	3702.36	4347.82	4632.10	4869.64	4253.55	4574.93	43192.49	3.60
	Selsella	226.95	226.59	498.28	562.98	333.01	284.64	316.55	310.41	358.84	385.54	296.30	287.95	4088.05	0.34
	Total	14324.23	12422.77	14306.12	16937.84	18364.52	17133.71	17842.47	16143.12	18030.46	19100.35	15943.06	15798.14	196346.78	16.36
	Grand Total	105420.67	123249.86	137369.96	146610.02	147740.52	142780.48	152740.32	161089.11	182240.17	192872.51	165270.38	160763.01	1818147.01	151.51

Energy Manager,
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- **Purchase Power**

Energy Accounts of MePDCL at NER Periphery (in Mu) for FY20-21

Month	POWER IMPORTED BY MePDCL																			
	Central Generating Stations											Other Sources								
	AGBPP	AGTPP	Doyang	Kameng	Khan-dong	Kopili	Kopili-2	Pallatana	Pare	RHEP	Sub-Total	MePGCL	Power Banking (Inter-state)	Bilateral Purchase	IEX	DSM	Power Banking (Intra-state)		Sub-Total	Total
																Inter-state	Intra-state	Meghalaya Power Ltd	Dalmia Cement Ltd		
Apr-20	13.50	8.69	0.26	0.00	0.00	0.00	0.00	43.93	2.72	7.32	76.41	29.89	27.0	0.0	0.00	0.00	0.24	0.00	1.09	28.34	134.64
May-20	16.27	10.34	0.39	0.00	0.00	0.00	0.00	47.27	5.50	17.42	97.20	85.29	0.0	0.0	0.00	0.00	0.39	0.32	0.30	1.00	183.49
Jun-20	13.13	8.88	2.25	1.13	0.00	0.00	0.00	41.68	10.48	25.04	102.58	146.97	0.0	0.0	0.17	0.78	0.44	0.08	0.08	1.56	251.11
Jul-20	8.82	7.20	3.65	5.53	0.00	0.00	0.00	16.46	11.62	29.28	82.56	186.36	0.0	0.0	0.00	0.54	0.39	1.36	0.40	2.69	271.61
Aug-20	8.59	7.07	4.14	5.22	0.00	0.00	0.00	0.00	9.75	21.54	56.31	166.53	0.0	0.0	0.00	0.00	0.31	3.37	1.03	4.72	227.55
Sep-20	11.92	8.26	3.59	3.94	0.00	0.00	0.00	30.16	9.39	19.76	87.02	146.70	0.0	0.0	0.00	0.16	0.24	2.23	0.52	3.15	236.88
Oct-20	16.98	9.63	3.38	5.60	0.00	0.00	0.00	47.02	7.99	14.02	104.63	155.65	0.0	0.0	0.00	0.46	0.24	0.07	0.39	1.16	261.44
Nov-20	15.12	10.90	1.51	3.61	4.70	0.00	0.00	41.97	3.52	6.27	88.10	91.35	7.2	0.0	0.04	1.31	0.26	0.16	0.39	9.36	188.84
Dec-20	15.44	10.57	0.57	3.00	3.21	0.00	0.00	42.64	2.39	4.97	82.79	73.23	18.0	16.4	0.84	1.64	1.00	0.25	0.26	38.48	194.50
Jan-21	18.85	10.76	0.53	2.65	1.38	0.00	0.00	48.03	2.02	4.42	88.64	60.12	19.3	36.9	0.11	2.09	0.55	0.00	0.00	58.96	207.72
Feb-21	15.03	7.71	0.58	2.00	0.72	0.00	0.00	42.97	1.39	3.10	73.50	50.91	8.7	38.7	1.39	4.62	0.55	0.00	0.00	54.02	178.43
Mar-21	15.80	8.76	1.54	1.94	0.78	0.00	0.00	35.31	2.08	5.34	71.55	36.03	18.2	43.9	2.42	2.64	0.55	0.00	0.00	67.74	175.32
2020-21	169.45	108.77	22.39	34.63	10.79	0.00	0.00	437.44	68.85	158.97	1011.29	1229.06	98.5	135.98	4.98	14.25	5.15	7.85460	4.46	271.17	2511.51

Energy Manager,
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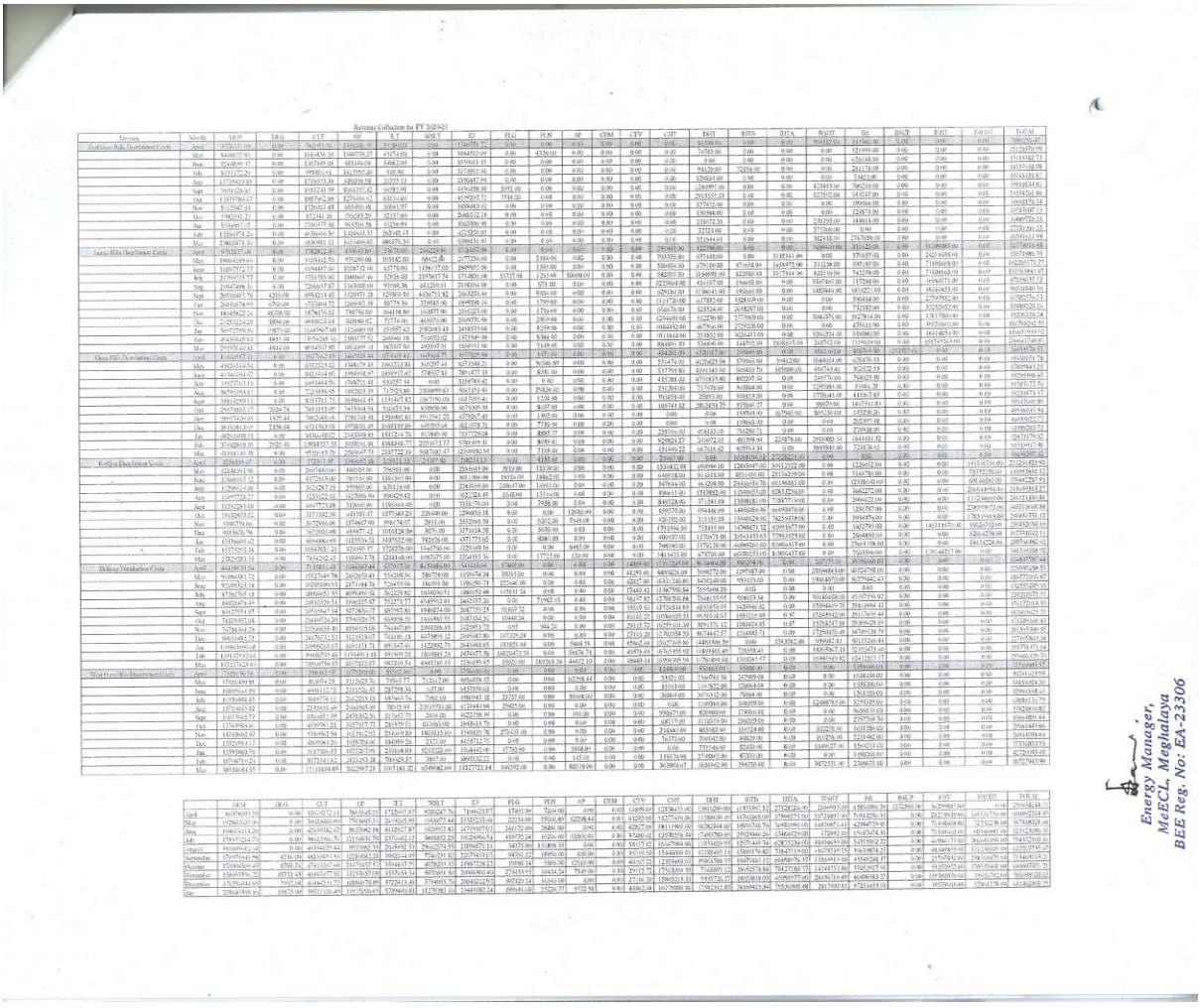
- **Collected Amount**



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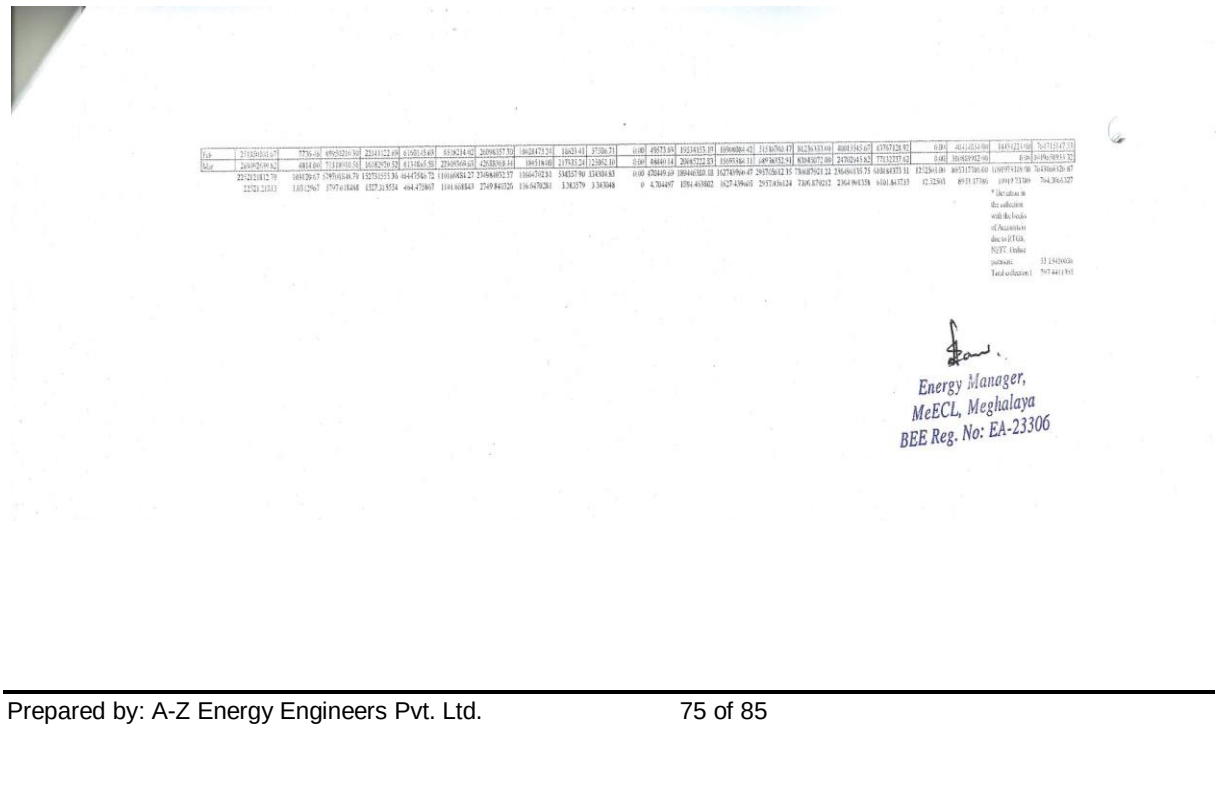

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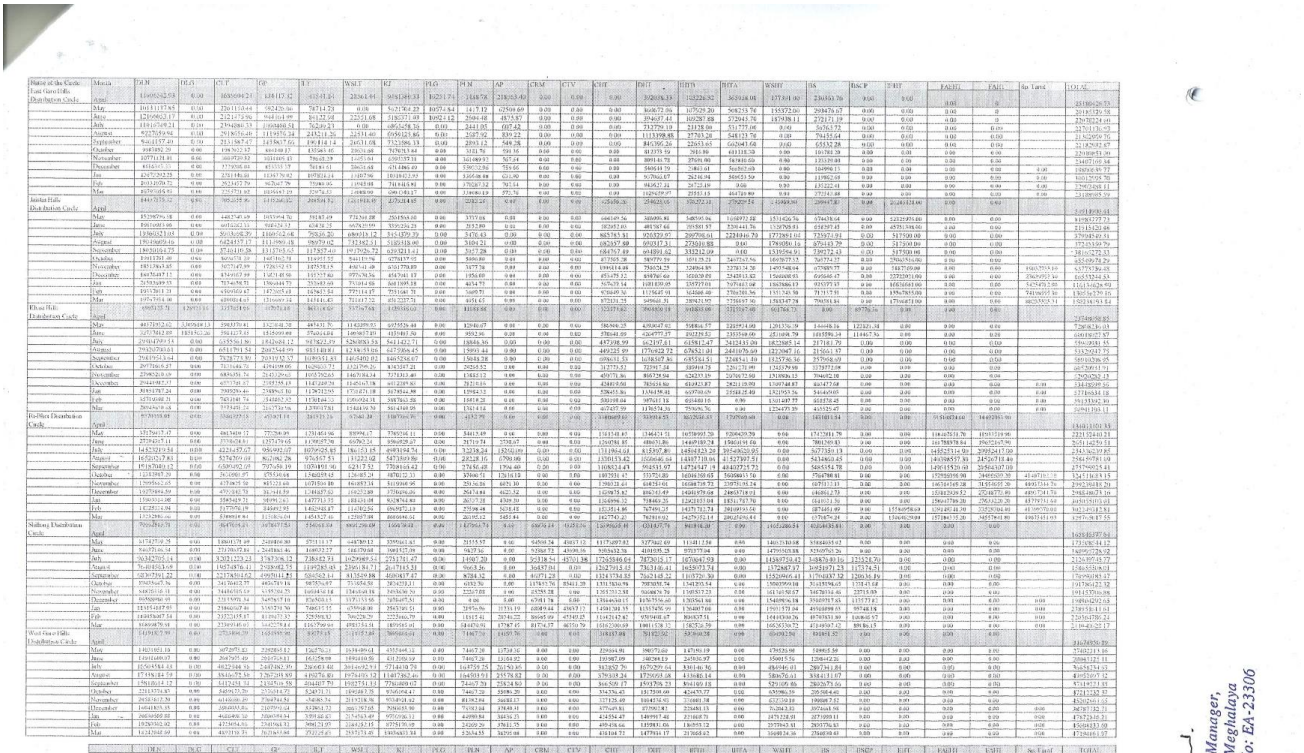
- **Billed Amount**



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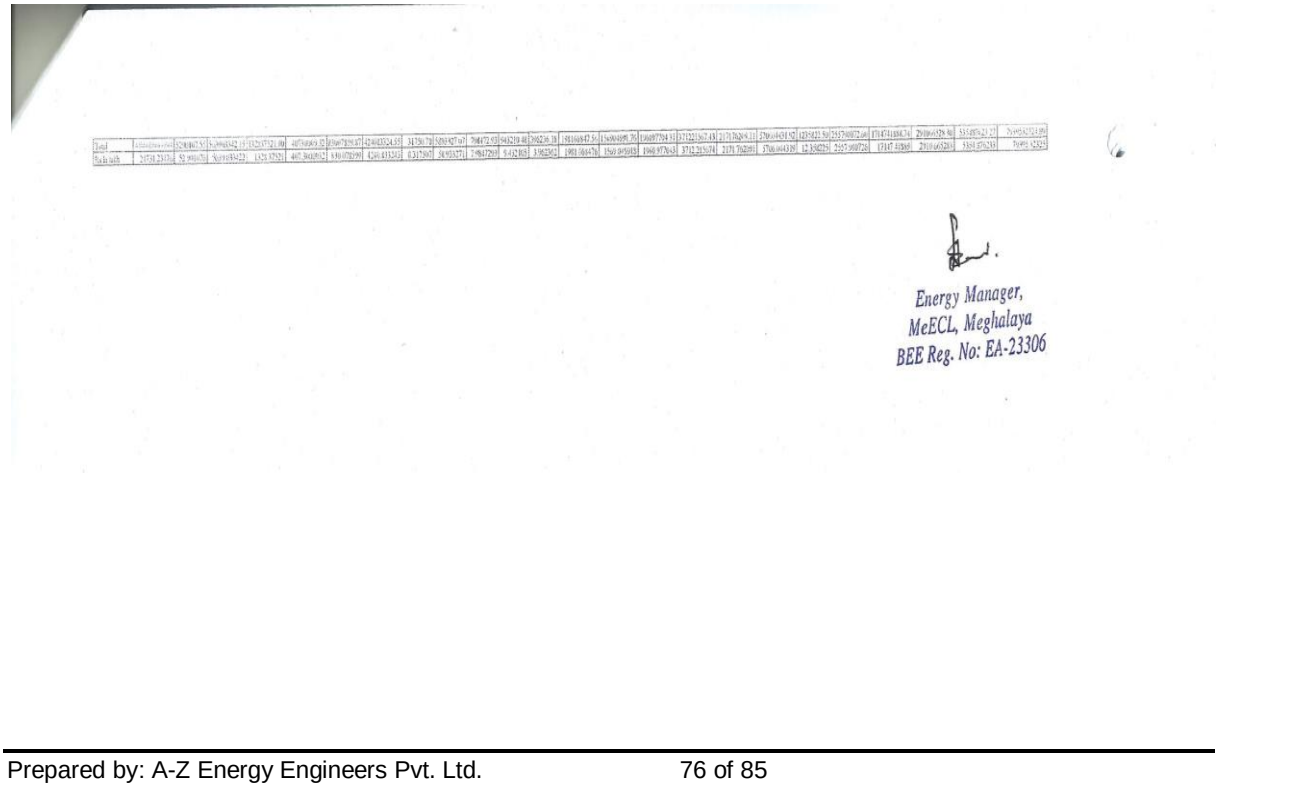

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- **Technical Details**

TECHNICAL DATA AS ON 31ST MARCH 2021

Zones	Circle	Division	Sub Division	11 KV Level: Feeders Total No.	Length (Ckt.Kms) Main	Spur	Total	Feeder Metering: OK (In Nos.)	NOT OK (In Nos.)	Distribution Substations: No. of Sub Stations	No. of DTs	Total Capacity	DT Metering: OK (In Nos.)	NOT OK (In Nos.)	LT Level: 1Ph 2 wire	2Ph 3 wire	2Ph 4 wire	3Ph 4 wire	3Ph 5 wire	Total	33/11 KV SS: Total No of SS	Total Capacity (MVA)	33/0.4 KV SS: Total No of SS	Total Capacity (MVA)	33 KV line connected: Total No of 33 KV Feeders	Ckt. Kms	33 KV line connected: Total No of 33 KV Feeders	Ckt. Kms
1 Central Zone	1 Shillong Circle	1 Shillong East	1 Nongthymmai	10	32.5407	0.56	33.11	8	2	181	181	42514	54	127	11.569	10.621	0	91.288	17.619	131.10	1	15	0	0	0	0	2	8.884
			2 New Shillong	2	133.75	1.02	134.77	2	0	94	94	12266	27	67	77.56	4.14	0	45.27	0	126.97	0	0	0	0	0	0	0	0
			3 Lapalang	14	71.71	0.04	71.75	9	5	190	190	35029	58	132	111.34	10.7	0	127.029	1.25	250.32	4	41.5	1	200	3	13.1	3	21
			4 Umiew	0	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0
		2 Shillong West	5 Upper Shillong	8	108.6	0.2	108.80	3	5	155	155	12517	26	129	178.9	20.29	0	36.23	0	235.41	3	10	1	100	4	58	4	20
			6 Umlyngka	4	110	0	110.00	4	0	96	96	12795	19	77	72.39	25.48	0	37.05	0.85	137.77	1	15	1	50	2	24	3	27
			7 Mawlai	10	15.505	0.05	15.64	6	4	70	70	19365	18	52	6.05	1.88	0	87.62	1.25	96.80	1	20	2	165	1	0.8	1	4
		3 Shillong Central	8 Shillong Central	9	37.374	0.05	37.42	6	3	205	205	37280	100	105	3.475	0.4	0	89.02	3.55	96.05	1	15	1	100	1	1.7	1	1.7
			9 Umjarain	6	29.665	0	29.67	6	0	77	77	15391	19	58	3.165	0	0	31.72	0	34.79	2	12.5	1	250	2	4.57	2	4.9
			10 Polo	12	44.74	0.05	44.79	9	3	122	122	32008	34	88	1.775	1.7	0	89.716	1.57	101.36	2	30	1	250	2	11.5	13	5
			11 Mawprem	7	31.053	0.033	31.07	3	4	101	101	25270	29	72	9.48	5.32	0	48.325	5.57	68.70	2	20	2	563	1	1.51	3	4
Sub Total (Circle)				82.00	695.03	1.98	697.01	56.00	26.00	1291	1291	265655	384.00	907.00	482.20	81.92	0.00	683.47	31.66	1279.25	17.00	178.80	10.00	1676.00	16.00	118.18	28.00	91.48
1 Central Zone	2 Khasi Hill Circle	4 East Khasi Hills	12 Sohra	8	352	0	352.00	7	1	237	232	15463	59	178	139.64	31.3	0	230.433	0	410.37	3	14.1	2	0.126	1	0.2	5	63.7
			13 Sohiong	4	277	0	277.00	4	0	247	247	12430	24	223	380.376	19.75	0	84.464	0	484.59	1	5	1	0.063	0	0	1	12.0
			14 Pynursla	4	350	0	350.00	4	0	210	210	10179	45	105	192.328	2	0	99.544	0	293.87	1	5	0	0	0	0	1	14.5
			15 Mawryngkneng	8	455	0	455.00	7	1	281	281	18519	57	224	589.516	14.94	0	423.679	0	1028.04	3	15	1	0.1	0	0	5	48
		5 West Khasi Hills	16 Riangdo	11	670.08	0	670.08	8	3	386	386	11239	12	374	622.5	11.59	0	176.5	0	810.59	2	5	1	0.063	1	21	2	37.2
			17 Nongstoin	13	669.35	0	669.35	6	7	469	469	26129	72	397	549.9	26.69	0	209.8	0	786.59	4	18.2	1	0.063	1	12	2	48
			18 Mairang	10	571.68	0	571.68	10	0	337	337	19457	119	218	488.272	25.95	0	253.282	0	767.50	3	9.1	1	0.063	0	0	4	56
		6 South West Khasi Hills	19 Mawkyrwat	10	443.668	0	443.67	3	7	271	271	13690	13	258	297.1	78.6	0	94.28	0	469.98	5	12.5	1	0.063	1	29.28	5	43.58
			20 Mawsynram (DF	15	686.4	0	686.40	10	5	367	367	20189	30	337	477.8	0.75	0	215.2	0	693.75	4	13	8	0.189	1	30	5	20
Sub Total (Circle)				83.00	4475.18	0.00	4475.18	59.00	24.00	2800	2800	147295	431.00	2369.00	3737.43	211.67	0.00	1796.18	0.00	5745.28	24.00	96.90	11.00	0.73	5.00	78.48	24.00	397.89
2 Eastern Zone	3 Ri Bhoi Circle	7 Umiam	21 Umiam	8	142.02	5.35	147.37	7	1	153	153	21601	76	77	95.02	8.65	0	63.92	0	166.85	2	10	3	0.006	1	0.5	1	29
			22 Umiam Rural	5	415.23	147.8	563.03	3	2	290	290	21052	26	264	527.8	7.9	0	151.3	0	687.00	2	5	0	0	0	0	1	20
			23 Umsning	11	430	300	730.00	1	10	255	255	23255	29	226	626	124	0	234	0	984.00	3	8.5	0	0	1	8	2	90
		8 Nongpoh	24 Nongpoh Urban	3	119.26	0	119.26	3	0	129	129	10690	80	49	82.1	7.75	0	45.65	0	135.48	1	10	0	0	0	0	2	51
			25 Nongpoh Rural	7	508.1	0	508.10	7	0	434	434	24800	80	354	382.3	23.5	0	125.4	0	529.20	2	15	0	0	0	0	3	64
			26 Patharkhmah	1	234	0	234.00	1	0	124	124	3830	12	112	102.16	2.34	0	36.42	0	140.92	0	0	0	0	0	0	0	0
		9 Byrnihat	27 Byrnihat -I	2	18.2	36.2	54.40	2	0	83	83	11464	2	81	44.2	0	0	48.66	0	92.86	1	10	10	34.24	2	28	5	27
			28 Byrnihat -II	2	35	14.5	49.50	2	0	42	42	6317	1	41	9.1	0	0	23.4	0	32.50	1	10	8	19.62	1	3.5	10	32.5
			29 Kiling	2	86.1	69.73	155.83	2	0	116	116	12354	2	114	68.4	0.12	0	130.5	0	199.02	1	5	0	0	0	0	4	27
Sub Total (Circle)				41.00	1987.91	373.58	2361.49	28.00	13.00	1626	1626	135643	308.00	1318.00	1937.08	174.44	0.00	856.35	0.00	2967.87	12.00	73.50	24.00	53.87	7.00	35.00	20.00	340.50
2 Eastern Zone	4 Jaintia Circle	10 Jowai Division	30 Jowai	8	81.7	56	137.70	8	0	132	153	13636	18	135	175.32	27.15	0	75.85	0	278.32	2	12.5	2	0.5	1	5	0	0
			31 Amlarem	9	168.2	68.8	237.00	2	7	171	171	9200	39	132	201.5	24.14	0	60.1	0	285.74	3	6.6	1	0.065	2	56	0	0
		11 Jowai Rural Division	32 Shangpung	11	143.4	0	143.40	3	8	194	194	9166	49	145	182.81	8.75	0	50.82	0	242.38	3	4.71	1	0.68	4	50	4	88
			33 Khliehtyrshi	11	122.9	154.1	277.00	11	0	328	328	15647	82	246	311.2	26.85	0	109.8	0	447.85	4	14.1	3	0.268	0	0	5	58.2
		12 Khliehriat	34 Khliehriat	8	135	254.21	389.21	5	3	329	329	22615	84	245	218.37	10.55	0	150.26	0	379.18	3	27.5	5	1.78	2	60.55	1	60.55
			35 Sutnga	9	121	255.11	376.11	2	7	307	307	20187	49	258	135.039	4.94	0	79.232	0	219.21	3	6.6	1	1.6	3	46	3	46
Sub Total (Circle)				56.00	772.20	788.22	1560.42	31.00	25.00	1481	1482	95461	321.00	1161.00	1224.24	102.38	0.00	526.06	0.00	1852.68	18.00	72.03	13.00	4.59	12.00	241.55	18.00	255.75
3 Western Zone	5 East Garo Hill	13 South Garo Hills	36 Chockpot	2	32	149	181.00	0	2	119	119	2713	2	117	74.5	0	0	80.5	0	152.00	1	1.6	0	0	0	0	0	0
			37 Baghmara	7	1865.15	156.74	2021.89	3	4	358	356	12299	41	317	1034.51	57	0	516.73	6.5	1614.74	3	14.5	3	0.189	1	42	1	42
			38 Nangalbibra (DF	6	80	107.1	187.10	6	0	143	143	6117	15	128	234.4	79.76	0	44.5	0	338.66	1	10	1	0.02	3	45.5	3	45.5
		14 East Garo Hills	39 Songsak (DFA)	4	83	312	395.00	0	4	276	276	4207	23	253	669	139	0	95.5	0	903.50	2	5.7	0	0	3	72	3	72
			40 Williamnagar	7	587.552	10	597.55	7	0	357	357	28096	64	293	486.45	19.19	0	315.534	23.7	844.87	2	11.6	0	0	2	50	0	0
			41 Mendipathar	10	517.3	268.1	785.40	3	7	398	398	13717	128	270	403	892.2	0	709.75	0	1704.95	2	42.8	2	0.313	2	52.8	0	0
			42 Kharkutta	3	64	170	234.00	0	3	251	251	8300	55	196	464.2	128.27	0	144.71	0	677.18	1	4.1	1	0	1	84	0	0
			43 Bajengdoba	6	467	589	1056.00	2	4	500	500	17093	204	296	984.32	495.19	0	558.55	0	2038.06	1	7.6	0	0	1	72	0	0
Sub Total (Circle)				45.00	3615.98	1751.94	5367.92	21.00	24.00	2402	2402	94142	532.00	1870.00	4267.38	1510.61	0.00	2465.75	30.20	8273.94	15.00	97.90	7.00	0.52	12.00	397.80	7.00	159.50
3 Western Zone	6 West Garo Hills	15 West Garo Hills	44 Rahsangre (DFA	2	137.42	217.26	354.68	0	2	241	273	8541	73	200	489.349	4.2	0	117.287	0	610.84	1	2.5	0	0	0	0	1	27
			45 Phulbari (DFA)	4	108.1	156.98	265.08	0	4	213	225	11091	56	169	305.762	1.71	0	91.7464	0	399.22	1	10	1	0.1	0	0	1	20
			46 Dalu (DFA)	12	197.874	416.64	614.51	6	6	576	576	13801	25	551	979.75	477.15	0	468.64	0	1925.54	3	8.8	2	0.2	0	0	2	53
			47 Dadenggre	2	77.38	106.05	183.43	0	2	122	122	3456	16	106	242.5178	7	0	78.339762	0	327.86	1	2.5	0	0	0	0	1	32
		16 South West Garo Hills	48 Selsella	5	262.259	78.653	340.90	4	1	247	249	9945	68	181	332.025	5.5	0	91.831	0	429.36	2	6.6	0	0	0	0	2	46
			49 Mahendraganj	5	48.36	197.25	245.61	2	3	244	246	11822	8	238	282.117	0	0	109.382	0	391.50	2	6.6	1	0	0	0	0	0
			50 Garobadha	6	130.3	228.72	359.02	2	4	326	327	11736	101	226	491.684	4.35	0	120.82	7.5	624.30	1	11.6	1	0.06	3	77	2	46
			51 Ampati	5	60.43	265.68	326.11	1	4	269	270	10760	54	216	441.56	4.55	0	167.09	0	613.20	1	5.65	0	0	1	15	2	54.5
Sub Total (Circle)				41.00	1022.07	1667.27	2689.35	15.00	26.00	2238	2288	83152	401.00	1887.00	3563.71	504.46	0.00	1240.14	7.50	5321.81	12.00	55.25	5.00	0.36	4.00	92.00	11.00	283.50
3 Western Zone	7 Tura	17 Tura	52 Tura West	7	17.95	63.17	81.12	1	6	138	140	14	22	118	132.95	81.2	0	189.2	25.98	429.33	3	22.5	1	0.1	1	8	2	4.5
			53 Tura East	10	58.58	18.97	77.55	10	0	233	239	28	34	205	212.95	212.6	0	348.11	175.52	949.18	4	30	1	0.25	3	4.01	2	11
			54 Tura North	0	68	237	305.00	0	0	137	137	5	28	109	195.5	11.73	0	94.34	0	301.57	0	0	0	0	0	0	0	0
Sub Total (Circle)				17.00	144.53	319.34	463.87	11.00	6.00	508	516	47	84.00	432.00	541.40	305.53	0.00	631.65	201.50	1680.08	7.00	52.50	2.00	0.35	4.00	17.01	4.00	15.50

SUMMARY OF TECHNICAL DATA AS ON 31ST MARCH 2021

Sl. No	Name of the Zone	Circle	11 KV Level: Feeders Total No.	Length (Ckt.Kms) Main	Spur	Total	Feeder Metering: OK (In Nos.)	NOT OK (In Nos.)	Distribution Substations: No. of Sub Stations	No. of DTs	Total Capacity	DT Metering: OK (In Nos.)	NOT OK (In Nos.)	LT Level: 1Ph 2 wire	2Ph 3 wire	2Ph 4 wire	3Ph 4 wire	3Ph 5 wire	Total	33/11 KV SS: Total No of SS	Total Capacity (MVA)	33/0.4 KV SS: Total No of SS	Total Capacity (MVA)	33 KV line connected: Total No of 33 KV Feeders	Ckt. Kms	33 KV line connected: Total No of 33 KV Feeders	Ckt. Kms
1	Central Zone	1 Shillong Circle	82.00	695.03	1.98	697.01	56.00	26.00	1291	1291	265655	384.00	907.00	482.20	81.92	0.00	683.47	31.66	1279.25	17.00	178.80	10.00	1676.00	16.00	118.18	28.00	91.48
		2 Khasi Hill Circle	83.00	4475.18	0.00	4475.18	59.00	24.00	2800	2800	147295	431.00	2369.00	3737.43	211.67	0.00	1796.18	0.00	5745.28	24.00	96.90	11.00	0.73	5.00	78.48	24.00	397.89
2	Eastern Zone	3 Ri Bhoi Circle	41.00	1987.91	373.58	2361.49	28.00	13.00	1626	1626	135643	308.00	1318.00	1937.08	174.44	0.00	856.35	0.00	2967.87	12.00	73.50	24.00	53.87	7.00	35.00	20.00	340.50
		4 Jaintia Circle	56.00	772.20	788.22	1560.42	31.00	25.00	1481	1482	95461	321.00	1161.00	1234.24	102.38	0.00	526.06	0.00	1852.68	18.00	72.03	13.00	4.59	12.00	241.55	18.00	255.75
3	Western Zone	5 East Garo Hill	45.00	3615.98	1751.94	5367.92	21.00	24.00	2402	2402	94142	532.00	1870.00	4267.38	1510.61	0.00	2465.75	30.20	8273.94	15.00	97.90	7.00	0.52	12.00	397.80	7.00	159.50
		6 West Garo Hills	41.00	1022.07	1667.27	2689.35	15.00	26.00	2238	2288	83152	401.00	1887.00	3563.71	504.46	0.00	1240.14	7.50	5321.81	12.00	55.25	5.00	0.36	4.00	92.00	11.00	283.50
		7 Tura	17.00	144.53	319.34	463.57	11.00	6.00	508	516	47	84.00	432.00	541.40	305.53	0.00	631.65	201.50	1680.08	7.00	52.50	2.00	0.35	4.00	17.01	4.00	15.50
TOTAL			365.00	12712.90	5102.14	17815.04	221.00	144.00	12346	12405	821895	2461.00	9944.00	15753.45	2891.01	0.00	8205.60	270.86	27120.92	105.00	626.88	76.00	1736.41	60.00	988.02	120.00	1544.12

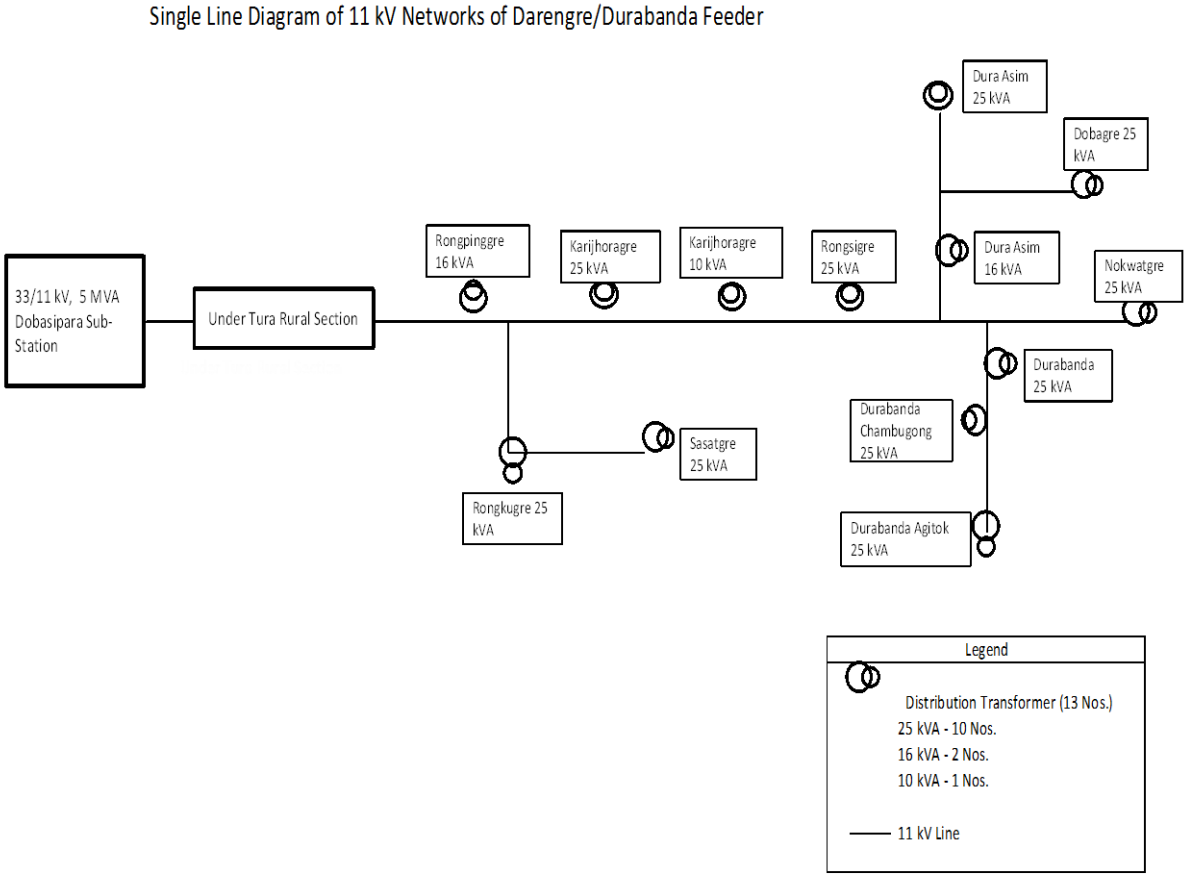
			11 KV Level: Feeders Total No.	Length (Ckt.Kms) Main	Spur	Total	Feeder Metering: OK (In Nos.)	NOT OK (In Nos.)	Distribution Substations: No. of Sub Stations	No. of DTs	Total Capacity	DT Metering: OK (In Nos.)	NOT OK (In Nos.)	LT Level: 1Ph 2 wire	2Ph 3 wire	2Ph 4 wire	3Ph 4 wire	3Ph 5 wire	Total	33/11 KV SS: Total No of SS	Total Capacity (MVA)	33/0.4 KV SS: Total No of SS	Total Capacity (MVA)	33 KV line connected: Total No of 33 KV Feeders	Ckt. Kms	33 KV line connected: Total No of 33 KV Feeders	Ckt. Kms
TOTAL			262.00	7930.31	1363.78	9294.10	174.00	88.00	7198.00	7199.00	644054.00	1444.00	5755.00	7380.96	570.41	0.00	3862.06	31.66	11845.09	71.00	421.23	62.00	1735.18	40.00	473.21	98.00	1085.62
TOTAL			103.00	4782.59	3738.35	8520.94	47.00	56.00	5148.00	5206.00	177840.54	1017.00	4189.00	8372.49	2320.60	0.00	4343.54	239.20	15275.83	34.00	205.65	14.00	1.23	20.00	506.81	22.00	458.50

Energy Manager,
MeECL, Meghalaya
BEE Reg. No: EA-23306

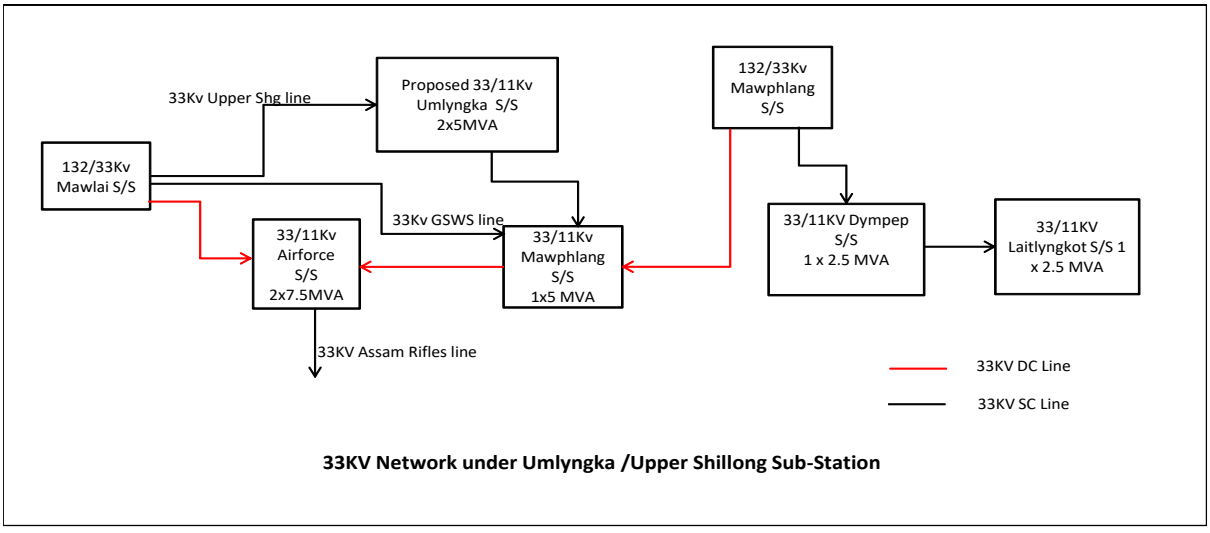
Energy Manager,
MeECL, Meghalaya
BEE Reg. No: EA-23306

X. SLD (Single Line Diagram)

- Western Zone 11kV SLD Network of Durabanda Feeder

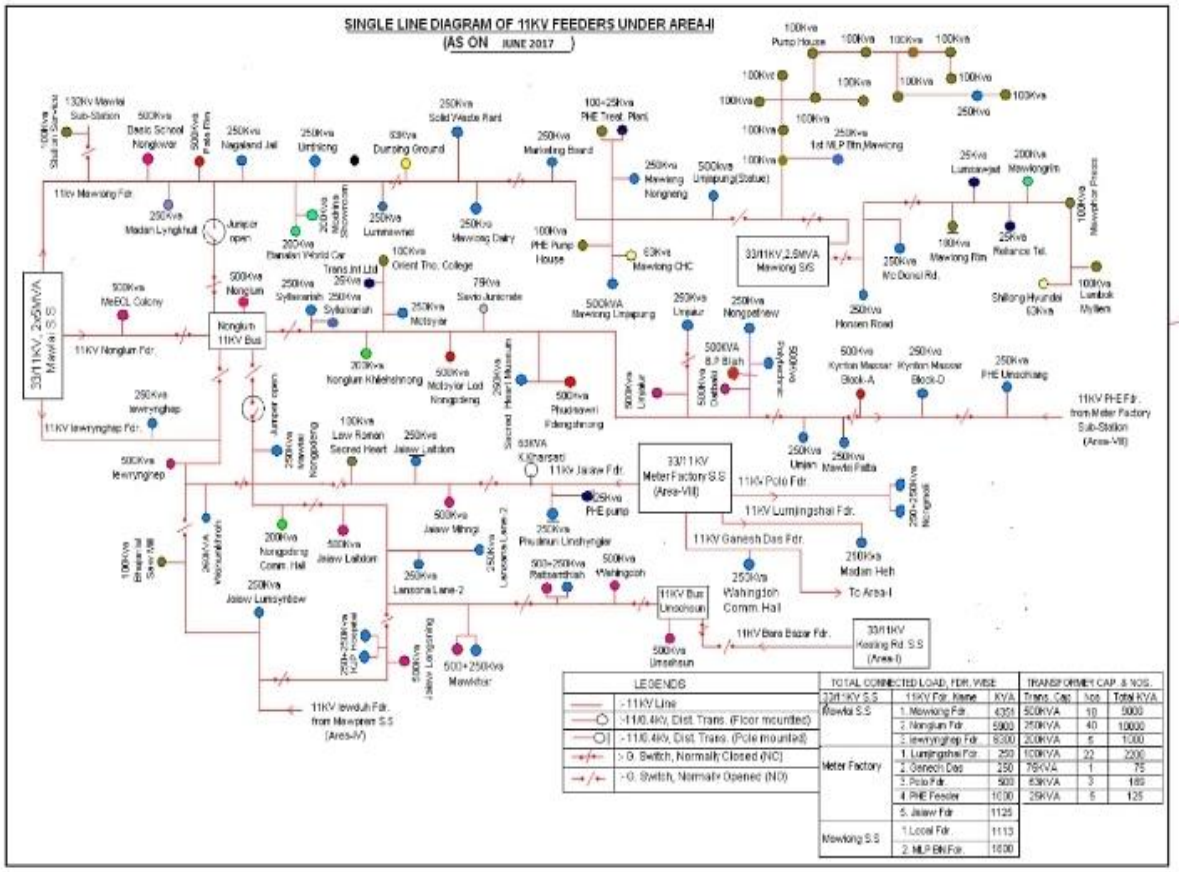


- Eastern Zone 11kV SLD Network of Upper Shillong Circle Feeder



33KV Network under Umlyngka /Upper Shillong Sub-Station

- Eastern Zone 11kV SLD Network of Feeder Under Area-II



XI. Action taken report during FY 2020-2021

Sl No	Detail of Energy efficiency improvement measures (Mention Name of the Scheme and Brief scope of work)	Circle	Quantity
1	Feeder metering	East Garo Hills Dist Circle	13 Nos.
2	Feeder metering	Jaintia Hills Dist Circle	17 Nos
3	Feeder metering	Khasi Hills Dist. Circle	127 Nos.
4	Feeder metering	West Garo Hills Dist. Circle	23 Nos.
5	DT Metering	East Garo Hills Dist Circle	316 Nos.
6	DT Metering	Jaintia Hills Dist Circle	66 Nos.
7	DT Metering	Khasi Hills Dist. Circle	444 Nos.
8	DT Metering	West Garo Hills Dist. Circle	122 Nos.
9	System Strengthening works under DDUGJY – Construction of New substations, feeders etc.	East Garo Hills Dist Circle	6 Nos. new substation and 4 new feeders/ modification
10	System Strengthening works under DDUGJY – Construction of New substations, feeders etc.	Khasi Hills Dist Circle	7 Nos. new substation and 18 nos. new feeders/ modification
11	System Strengthening works under DDUGJY – Construction of New substations, feeders etc.	West Garo Hills Dist. Circle	1 Nos. new substation and 8 nos. new feeders/ modification
12	Village electrification under DDUGJY	Across the State	1030 Nos. of village
13	AT&C Loss Study in association with TERI, New Delhi	Sample study on Technical and Non-Technical losses	

XII. Brief description of Unit

The Meghalaya Energy Corporation Ltd. (MeECL) is a Government Company within the meaning of section 45 of the Companies Act, 2013, wholly owned by the Government of Meghalaya, incorporated under the Companies Act, 2013 in the year 2009 and inherited its business from the erstwhile Meghalaya State Electricity Board (MeSEB) in the year 2010. It has wholly owned three subsidiary Companies namely, Meghalaya Power Generation Corporation Ltd. (MePGCL), Meghalaya Power Transmission Corporation Ltd. (MePTCL) and Meghalaya Power Distribution Corporation Ltd. (MePDCL) responsible for Generation, Transmission and Distribution of Electricity respectively throughout the State as State Utilities.

The erstwhile Meghalaya State Electricity Board (MeSEB) was formed in the year 1975 after the formation of new State of Meghalaya from undivided State of Assam. The first Hydro Electric project in Meghalaya had started its operation in the year 1921, thereafter different Hydro Electric projects are being constructed throughout the State of Meghalaya utilising the natural water resources, efficient and experienced engineering wing and beautiful working environment of the State.

FUNCTIONS OF MeECL

The MeECL is a Government Company within the meaning of section 45 of the Companies Act, 2013. Your Company is 100% owned by the Government of Meghalaya.

The MeECL is comprising of all the assets, liabilities including all rights, obligations, contingences and proceedings belonging/related to the common activities or not specifically associated with the generation, transmission and distribution activities.

Inter-alia, the MeECL is performing the following major activities:

i) HR & Administration of the MeECL and its three subsidiaries.
ii) Maintaining the provident Fund, Pension Fund, Gratuity Fund etc. for employees of MeECL and its three subsidiaries.
iii) Corporate Social Responsibility
iv) Preparation of Accounts and Fund Management
v) Commercial, Material Management and Planning & Design for MeECL and of subsidiary companies.

- Administration Details of MeECL

The total number of circles, Divisions, Feeders & DT's of MeECL is given in the below table:

Parameters	Total
Number of circles	6
Number of divisions	17
Number of sub-divisions	52
Number of feeders	545
Number of DTs	12405
Number of consumers	596014

- Voltage wise Meter Consumers

The voltage wise meter types of meter values given table:

Parameters	66kV and above	33kV	11/22kV	LT
Number of conventional metered consumers	11	19	538	577023
Number of consumers with 'smart' meters				
Number of consumers with 'smart prepaid' meters				
Number of consumers with 'AMR' meters				
Number of consumers with 'non-smart prepaid' meters				10454
Number of unmetered consumers				7969
Number of total consumers	**11**	**19**	**538**	**595446**

- Numbers of Distribution Transformers

Parameters	66kV and above	33kV	11/22kV	LT
Number of conventionally metered Distribution Transformers			2461	
Number of DTs with communicable meters				
Number of unmetered DTs			9944	
Number of total Transformers			**12405**	

- Numbers of Feeders

Parameters	66kV and above	33kV	11/22kV	LT
Number of metered feeders		180	221	
Number of feeders with communicable meters				
Number of unmetered feeders			144	
Number of total feeders		**180**	**365**	

- Length of Cables

Particulars	Value (kM)
Line length (ct km)	27120.92
Length of Aerial Bunched Cables	
Length of Underground Cables	

XIII. List of parameters arrived through calculation or Formulae with list of source of data

➢ Transmission and Distribution Losses (T&D Losses)

- Energy losses occur in the process of supplying electricity to consumers due to technical and commercial reasons.
- The technical losses are due to energy dissipated in the conductors, transformers and other equipment used for transmission, transformation, sub-transmission and distribution of power.
- These technical losses are inherent in a system and can be reduced to a certain level.
- Pilferage by hooking, bypassing meters, defective meters, errors in meter reading and in estimating un-metered supply of energy are the main sources of the commercial losses.
- There is another component of commercial losses, which is attributable to non-recovery of the billed amount, which is reflected in collection efficiency.
- T&D losses together with loss in collection give us Aggregate Technical & Commercial (AT&C) losses.

Calculation of transmission losses:

Particulars	Values
Input Energy purchased (MU)	2511.51
Transmission loss (%)	3.92%
Transmission loss (MU)	98.45
Energy sold outside the periphery(MU)	594.94
Net input energy (received at DISCOM periphery or at distribution point)-(MU)	1818.14
Billed Units (Mus)	1326.45
T& D Losses (Mus)	491.69
Billed Amount (Rs Crore)	793.95
Collected Amount (Rs Crore)	797.44
Collection Efficiency (Rs Crore)	100.44%
% T& D Loss	27.04%
% AT&C	26.72%

XIV. Recommendation to improved technical losses& commercial losses

1. Ensure Installation of Smart Meter/ Functional Meter in all consumers. DTR &Feeder.
2. Installation of Capacitor bank in S/s for power factor improvement.
3. GIS based mapping of all 33/11 KV Substations, 11KV Lines, DTR and all Consumers both HT & LT.
4. Development & Implementation of technology based energy accounting system including associated software as per guideline of BEE.

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