Annual Energy Audit Report

Power Distribution Licensee: MPSEZ Utilities Ltd. (MUL)

Year: 2021-22

Annual Energy Audit for DISCOM Sector under BEE DISCOM Notification

MPSEZ Utilities Ltd (MUL).
(Formerly known as MPSEZ Utilities Private Limited

Mundra, Gujarat

Prepared For

Bureau of Energy Efficiency

[Govt. of India – Ministry of Power]
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Aug 2022

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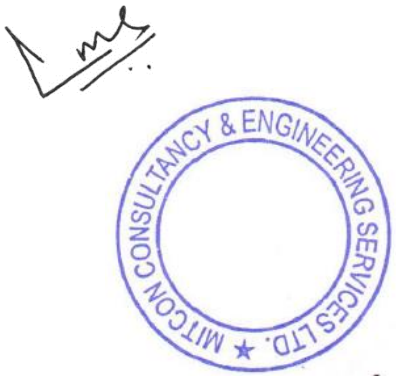

Acknowledgement

We are also thankful to MPSEZ Utilities Limited, Mundra for their positive support in undertaking this intricate task of verification study. The energy audit field visit and data verification process would not have been completed on time without their interaction and timely support. We are grateful for their co-operation during verification and provision of data for the study. We would like to particularly thank

Mr. Sanjay Mittal	-	CEO
Mr. Anil Rabadia	-	Manager

and all other supporting staff who have given full co-operation and support. They took keen interest and gave valuable inputs during the course of study.

Study Team

The annual energy audit involved engagement of following team members representing MITCON Consultancy & Engineering Services Ltd. that was awarded the said work for MPSEZ Utilities Ltd., vide the Order No. 4802017108 dated 17 June 2022

Company/ Institution/ Organization	Team Member	Designation	Role
MITCON Consultancy & Engineering Services Ltd.	Mr. Jignesh Patel	Accredited Energy Auditor (AEA-0104)	Project head, review of data and report
	Mr. Sadan Kumar Sinha	Sector Expert	Field visit Inspection, review of data and report
	Mr. Rahul Kumar	Certified Energy Auditor	Field visit inspection, document verification and report writing
	Mr. Anjum	Chief Consultant	
	Mr. Ankit Srivastava	Chief Consultant	Field visit inspection, document verification and report writing

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 Kilometer
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 Unit
MW	Mega Watt
NO	Nodal Officer
OA	Open Access
POC	Point of Connection
PVC	Polyvinyl Chloride
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	T & D Transmission and Distribution
XLPE	Cross Linked Polyethylene
MUL	MPSEZ Utilities Limited

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1 Executive Summary

1.1 Objective of the study

- To develop and establish a framework and a set of comprehensive guidelines that all Distribution utilities across India can follow and adhere to.
- To identify areas of high loss and pilferage, and thereafter focus efforts to take corrective action

1.2 Brief Overview of DISCOM

MPSEZ Utilities Ltd (MUL) is a company incorporated in 2008 under the Companies Act, 1956. Another company, Adani Ports and Special Economic Zone Ltd. (APSEZL), formerly known as Mundra Port and Special Economic Zone Limited (MPSEZL), is developing a multi-product SEZ at Mundra. The area of MPSEZL is about 8,481 hectares. MUL, created to provide infrastructure facilities in the Special Economic Zone, entered into a co-developer agreement with MPSEZL. The Ministry of Commerce and Industry, Government of India has approved MUL as a co-developer to create infrastructure facilities in MPSEZL. MUL obtained the status of distribution licensee vide Government of India notification dated 03/03/2010. This was also endorsed by the Gujarat Electricity Regulatory Commission (GERC) vide Order No. GERC/Legal 2010/0609 dated 06/04/2010 allowing for distribution of electricity in Mundra SEZ area, Kutch. As such, MUPL is a deemed licensee for distribution of electricity in Mundra SEZ area.

1.3 Important Parameters

- MUL purchases power from Adani Power (Mundra) Limited, Udupi Power Corporation Limited, Adani Renewable Energy (KA) Limited, a part of Adani Group companies.
- MUL is connected with APMuL through a dedicated transmission line, which is in turn connected to both Intra-State and Inter-State transmission networks.
- There are one 220 kV double circuit (220 x 2) line and 1 x 66 kV line.
- The MUL has one 66 kV dedicated line for wind power utilization.
- The Power Transformer installed capacity is 2 x 100 MVA at voltage level is 220/66 kV.
- Present Capacity of the DISCOM is 387 MVA of demand supply through 2 X 100 MVA +1 x 25 MVA + 4 x 25 MVA+ 2 X 16 MVA and 2 x 15 MVA power transformers installed at GIS substation.
- The MUL provides power supply to power in three categories:
    1) LV/LT Connections
    2) HV/HT Connections
    3) Others
- The DISCOM does not include any agriculture tariff based consumer.
- MUL has total 81 consumers with total connected load of 418.45 MW. Out of total consumers, 35% are Commercial/Industrial LT consumers and 49% are Commercial/Industrial HT consumers and 16% are others.
- The average power demand of MUL is about 44.32MW.
- The MUL is in still developing and the number of consumers expected to increase. At present the utilization of power capacity is not more than 11% for FY 2021-22
- DISCOM has completed 100% metering at consumer end. DISCOM has also completed 100 % metering at DT level with communicable meters. DISCOM has plans to replace electronic meters to smart meter within stipulated time. All source end meters at 220 kV are periodically tested by the supplier.
- The input energy at DISCOM periphery for the FY2021-22 was 383.449 MU out of which 371.15 MU were metered and billed; and 12.302 MU (~ 3.208%) was Transmission and Distribution loss. The AT & C losses are 3.215 % as DISCOM is able to achieve 99.99% collection efficiency.

T & D Losses Summary					
Unit	Year 2017-18	Year 2018-19	Year 2019-20	Year 2020-21	Year 2021-22
Input Energy (MU)	293.935	310.341	340.125	375.54	383.449
Energy Billed (MU)	283.979	299.612	327.156	363.34	371.15

T & D Loss (MU)	9.95572	10.7297	12.9693	12.217	12.302
%	3.38	3.45	3.81	3.25	3.208

1.4 Critical Comments

Based on physical inspection of datasheets and invoice history, no variation in the input energy billed vs reported in proforma and output energy sold vs reported in proforma was found. The recommendation provided by auditor for improving energy accounting and monitoring is as below.

1. DISCOM is not maintaining feeder wise losses, they are maintaining voltage level wise losses. It is recommended that to start maintaining feeder wise losses for select feeders based on criteria identified by the DISCOM.

MUL has submitted that it considers Distribution Losses as uncontrollable since it is attributed to technical losses of electrical network which is yet to be optimally loaded. The distribution network in the license area of MUL is yet to be fully established and the consumer load is also yet to be stabilized, hence, the actual Distribution Losses of MUL are considered as uncontrollable.

2 Background

2.1 About PAT under NMEEE

In 2008, Government of India announced 'National Action Plan on Climate Change (NAPCC), identifying eight missions to promote inclusive growth in the country. The National Mission for Enhanced Energy Efficiency (NMEEE) is one of the eight identified missions under.

NAPCC. One of the initiatives under NMEEE is Perform Achieve and Trade (PAT) scheme; which is a market-based mechanism having the objective to enhance energy efficiency (target based) in the country with an option to trade the additional energy savings, in the form of energy saving certificates. Bureau of Energy Efficiency (BEE) under Ministry of Power (MoP) is implementing this scheme in 13 energy intensive sectors namely- Thermal Power Plant, Aluminum, Pulp & Paper, Chlor- Alkali, Cement, Iron & Steel, Textile, Fertilizer, Refinery, Railways, DISCOM, Petro-chemical & Buildings.

In order to further widen the coverage of PAT scheme, in subsequent phases, it is required to bring in more DISCOM units/establishments under its ambit by increasing the number of designated consumers in already notified 13 energy intensive sectors.

The baseline SEC and potential of energy conservation would be considered to arrive at the energy saving targets for newly added DCs by BEE during the subsequent phases of PAT.

2.2 Role of BEE

Role of BEE for formulation of Sector Specific Technical committee and finalization of Target setting methodology. Establishment of Energy Consumption Norms and Standards for DCs in consultation with Technical Committee. Conducting the Regional Workshops and guiding DCs regarding the PAT Scheme.

2.3 About DISCOM Sector

A healthy distribution sector is considered as the key to a financially viable power sector. One of the major challenges affecting the health of Indian distribution sector is the high aggregate technical and commercial (AT&C) losses. AT&C loss is the sum of technical loss and commercial loss. The technical loss occurs due to flow of energy into transmission and distribution network. Technological advancements could help in reduction of technical loss to an optimum level. As per international norms, the technical loss in a distribution system should be in the range of 4-5%.

On the other hand, the commercial loss is mostly man-made and occurs due to inefficient billing and collection of the energy supplied, illegal connections, theft, meter tampering, and pilferage, etc. The commercial loss is occurring mostly due to managerial issues and could be brought down to zero with efficient administrative practices. National aggregate technical and commercial losses stood at 22%. As long as AT&C losses continues to be in such a high range, it is difficult for the DISCOMs to be commercially viable.

In order to improve the energy efficiencies in the power system, State electricity Distribution Companies are included in PAT cycle II. DISCOMs having AT&C losses of 1000 Million Unit (MU) (Equivalent to 86000 MTOE) and above are notified as Designated Consumers (DCs) and targets were assigned to 44 DISCOMs for reducing the T&D losses under PAT Cycle-II. T&D losses is considered as performance matrix of electricity distribution companies under PAT.

As per the notification, which was formulated in consultation with the Bureau of Energy Efficiency (BEE), "All entities having issued distribution license by State/Joint Electricity Regulatory Commission under the Electricity Act, 2003..." are notified as DCs. After this notification, all DISCOMs will be governed under various provisions of the EC Act 2001, such as appointment of energy manager, energy accounting and auditing, identification of energy losses category-wise, and implementation of energy conservation and efficiency measures. With this, the number of DISCOM covered under the EC Act.2001 will increase from 44 to 103.

This decision will facilitate energy accounting and auditing as mandatory activity for all the DISCOM, leading to the actions towards reducing losses and increase their profitability. The amendment is expected to help DISCOMs to monitor their

performance parameters and bring in transparency in the distribution sector through professional inputs, it added. It will also assist in developing projects for reducing the electricity losses by DISCOMs and implementing effective solutions.

The amendment is expected to improve the financial state of DISCOMs. The quarterly data of these DISCOMs will be collected and monitored by the government to suggest measures for increasing the efficiency and reduce the energy losses.

2.4 Period of Energy Auditing and accounting

Period of Energy accounting in this report is considered to by FY 2021-22 i.e. from 1st April 2021 till 31st March 2022.

The detailed energy audit site inspection and data verification exercise carried on 04th Aug 2022 & 05th Aug 2022. Detailed description of day wise activity is mentioned in below table.

Date & Time	Activity	Description of Work Done
04th Aug 2022		
11:30	Arrival on Site	
11:30 till 12:30	Opening Meeting: Scope of work, timetable, and verification methodology	Meeting with concerned site engineers and officers, discussion on audit methodology and site support required
12:30 till 14:30	Substation visit and metering cross verification	Visit to 220kV & 66 kV import feeders and substations and physical site inspection.
14:30 till 18:00	Site inspection	Site inspection at substation level, different consumer level, HT and LT metering areas, DTs, etc. was done
18:00	End of Day	
05th Aug 2022		
10:30 till 17:00	Pro forma and Data Verification	Verification of data filled in pro forma and their source document at DISCOM office.
17:00	Closing Meeting	

3 Introduction of DISCOM [MUL]

3.1 Name and Address of Designated Consumer

MPSEZ Utilities Limited (MUL).
Mundra, Kutch
Gujarat-370421.

3.2 Name and details of energy manager and Authorized signatory of DISCOM

Energy Manager:

Mr. Anil Rabadia, Manager,
2nd Floor, Adani House, Mundra, Gujarat 370421
(T) 9687660309

Nodal Officer:

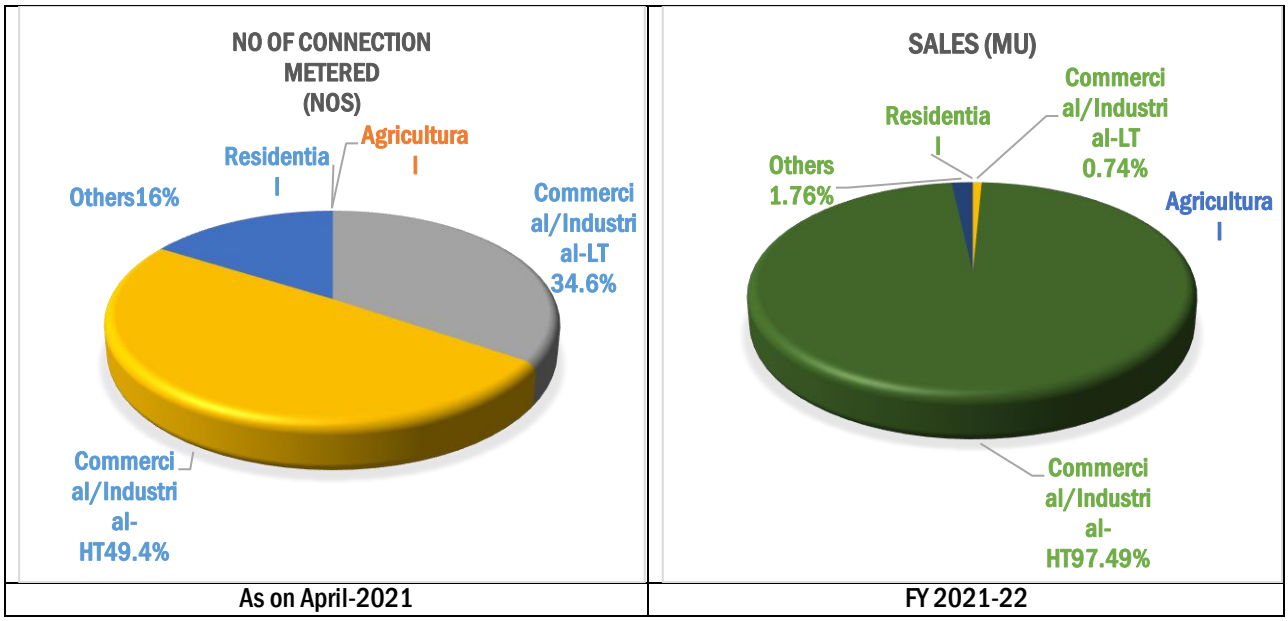
Mr. Anil Rabadia, Manager,
2nd Floor, Adani House, Mundra, Gujarat 370421
(T) 9687660309

3.3 About DISCOM

MPSEZ Utilities Limited has filed the present Petition on 12th December, 2019 under Section 62 of the Electricity Act, 2003, read in conjunction with the Gujarat Electricity Regulatory Commission (Multi-Year Tariff) Regulations, 2016 for the Truing up for FY 2018-19 and for Determination of Tariff for its Mundra Port and Special Economic Zone (SEZ) area in District Kutch,

Gujarat Electricity Regulatory Commission notified the GERC (Multi-Year Tariff) Regulations, 2016 on 29th March, 2016 which shall be applicable for Determination of Tariff in all cases covered under the Regulations from 1st April, 2016 onwards. These Regulations are applicable to all the distribution licensees in the State of Gujarat.: -

Figure 1 Number of Consumers and DISCOM Sales FY21-22



As on April-2021 | FY 2021-22

3.4 General Information

General Information					
1	Name of the DISCOM	MPSEZ Utilities Limited			
2	i) Year of Establishment	2010			
	ii) Government/Public/Private	Private			
3	DISCOM's Contact details & Address				
i	City/Town/Village	Mundra			
ii	District	Kutch			
iii	State	Gujarat		Pin	370421
iv	Telephone			Fax	
4	Registered Office				
i	Company's Chief Executive Name	Sanjay kumar			
ii	Designation	CEO			
iii	Address	Adani Corporate House, Shantigram, Near Vaishnav Devi Circle, S. G. Highway, Khodiyar			
iv	City/Town/Village	Ahmedabad		P.O.	
v	District	Ahmedabad			
vi	State	Gujarat		Pin	382421
vii	Telephone	6358871312		Fax	
5	Nodal Officer Details*				
i	Nodal Officer Name (Designated at DISCOM's)	Sanjay kumar			
ii	Designation	CEO			
iii	Address	2nd Floor, Adani House, Navinal Island			
iv	City/Town/Village	Mundra		P.O.	1
v	District	Kutch			
vi	State	Gujarat		Pin	370421
vii	Telephone	6358871312		Fax	
6	Energy Manager Details*				
i	Name	Anil Rabadia			
ii	Designation	Manager		Whether EA or EM	EM
iii	EA/EM Registration No.	EA-17765			
iv	Telephone			Fax	
v	Mobile	9687660309	E-mail ID	anilb.rabadia@adani.com	
7	Period of Information				
	Year of (FY) information including Date and Month (Start & End)	1st Apr, 2021 - 31st March, 2022			

4 Evaluation of Energy Management System

4.1 Energy accounts for previous years

DISCOM is carrying out energy audit for the first time, the energy accounting for each year will be on built in subsequent years.

4.2 Input Energy Detail

4.2.1 Source of Power Purchase

Below table describes source of power supply and their technical details

Table 1 Source of Power Purchase

Sr. No	Name of Generation Station	Contracted Capacity (In MW/MVA)	Type of Station Generation	Type of Contract	Type of Grid	Point of Connection (POC) Loss MU	Voltage Level	Remarks
1.	APMuL	4620	Coal	25 Year	Intra-State	-	220 KV	-
2.	ARKEAL	12	Wind	Long term	Own grid	-	66 KV	-

4.2.2 Input Energy Feeder Wise

Below table describes quantum of energy injected by each power supplier in MPSEZ Utilities Ltd (MUL) grid. The energy sources are contracted and are connected through dedicated power lines.

Table 2 Input Energy Feeder Wise

Sr. No	Name of Generation Station/ Power Source	Voltage Level	Meter Sr. No.	CT/PT Ratio	Import (MU)	Export (MU)	Remarks
1.	FGD-MRSS Line-1	220 KV	GJ-1050-A	800/1 A 220kV/110V	167.80	-	SLDC/Meter Log
2.	FGD-MRSS Line-2	220 KV	GJ-1052-A	800/1 A 220kV/110V	168.56	-	SLDC/Meter Log
3.	Wind Injection	66 KV	GJU76384	200/1 A 66KV/110 V	47.09	-	SLDC Data

4.3 Infrastructure Details

4.3.1 Transformers and Feeders (Voltage level wise)

Below table describes installed capacity and infrastructure of power distribution available with DISCOM

Table 3 Power and Distribution Transformer Capacity

Parameter	Voltage Level	Transformers			Aggregate Capacity
	kV/kV	Capacity (kVA)	Quantity (Nos)	Class	(kVA)
Power Transformer	220/66	100000	2	Industrial	200000
	66/33	25000	1	Industrial	25000
	66/11	25000	4	Industrial	100000
	66/11	16000	2	Industrial	32000
Total			9		357000
Distribution Transformer	11/0.433	990	2	11kV	1980
	11/0.433	315	5	11kV	1575
	11/0.433	250	2	11kV	500
	11/0.433	125	1	11kV	125
Total			10		4,180

4.3.2 Number of feeders with line length and cable details

Table 4 Feeder and Cable Details

Voltage Level	No. of Feeder	Length of line (ckt. KM)	Type of cable	Cable Size (Sq mm)	Type (Over Head/ Underground)
220 KV	2	3.249	ACSR	520 sqmm	Over Head
66 KV	11	62.908	XLPE / ACSR	630/1000 Sqmm	Overhead as well as Underground
33 KV	1	0.37	XLPE	300 Sqmm	Underground
11 KV	29	65.397	XLPE/HDPE	400/300/185 Sqmm	Underground
LT	23	10.423	XLPE/HDPE	400/300/240/ 70/50 Sqmm	Underground

4.3.3 Single Line Diagram

Whereas it is not possible to describe single line diagram of large network, sample SLD of individual substation in the network is described in annexure- VI.

4.3.4 Summary of Electrical Power Distribution Infrastructure

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	1	1	1	Database
ii	Number of divisions	1	1	1	Database
iii	Number of sub-divisions	0	0	0	Database
iv	Number of feeders	64	64	64	Database
v	Number of DTs	8	8	8	Database
vi	Number of consumers	81	81	81	Database
2	Parameters	66kV and above	33kV	11/22kV	LT
a. i.	Number of conventional metered consumers	0	0	0	0
ii	Number of consumers with 'smart' meters	6	1	36	38
iii	Number of consumers with 'smart prepaid' meters	0	0	0	0
iv	Number of consumers with 'AMR' meters	4	0	17	2
v	Number of consumers with 'non-smart prepaid' meters	0	0	0	0
vi	Number of unmetered consumers	0	0	0	0
vii	**Number of total consumers**	6	1	36	38
b.i.	Number of conventionally metered Distribution Transformers	0	0	0	7
ii	Number of DTs with communicable meters	0	0	0	0
iii	Number of unmetered DTs	0	0	0	1
iv	**Number of total Transformers**	0	0	0	8
c.i.	Number of metered feeders	11	1	29	0

ii	Number of feeders with communicable meters	0	0	0	0
iii	Number of unmetered feeders	0	0	0	23
iv	**Number of total feeders**	11	1	29	23
d.	Line length (ct km)	51.027			
e.	Length of Aerial Bunched Cables	0			
f.	Length of Underground Cables	91.32			
3	Voltage level	Particulars	MU	Reference	Remarks (Source of data)
i	66kV and above	Long-Term Conventional	309.30	Includes input energy for franchisees	SLDC, Bill
		Medium Conventional	0.00		
		Short Term Conventional	23.99		SLDC, Bill
		Banking	0.00		
		Long-Term Renewable energy	47.09		SLDC, Bill
		Medium and Short-Term RE	3.06	Includes power from bilateral/ PX/ DEEP	SLDC, Bill
		Captive, open access input	0.00	Any power wheeled for any purchase other than sale to DISCOM. Does not include input for franchisee.	
		Sale of surplus power	0.00		
		Quantum of inter-state transmission loss	1.80	As confirmed by SLDC/ RLDC etc	Calculation
		Power procured from inter-state sources	385.25	Based on data from Form 5	
		Power at state transmission boundary	383.45		
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**	383		
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**	383		
4	Voltage level	Energy Sales Particulars	MU	Reference	
i	LT Level	DISCOM' consumers	3.28		
		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	3.28		
		Quantum of LT level losses			
		Energy Input at LT level			
ii	11 kV Level	DISCOM' consumers	177.93	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	177.93		

		Quantum of Losses at 11 kV			
		Energy input at 11 kV level			
iii	33 kV Level	DISCOM' consumers	27.85	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	27.85		
		Quantum of Losses at 33 kV			
		Energy input at 33kV Level			
iv	> 33 kV	DISCOM' consumers	162.09	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)	162.09		
		Total Energy Requirement	**385**		
		Total Energy Sales	**371**		

4.4 Energy accounts and performance in the current year

4.4.1 Voltage Wise Losses

The below tables describe losses incurring at each voltage level. DISCOM does not have practice to bifurcate voltage wise losses and so they do not have data specific to voltage wise loss.

Table 5 Voltage Wise Losses

Parameter	> 33kV	33 kV	6.6 and 11 kV	LT level	Total
	A	B	C	D	E
Input Energy (MU)	-	-	383.45	0	383.45
Sales (MU)	-	-	367.87	3.28	371.15
Losses (MU)	-	-	12.302	NA	12.302
% Losses (assumed loss levels based on experience and total system loss)	-	-	3.208	NA	3.208
Source	-	-	Approximated*	Approximated*	Power purchase bills and sales reported in MIS

*Note – Individual Input Energy data is not available so approximation is made based on power purchase bills and sample measurement of losses

4.4.2 Feeder and DT wise losses

DISCOM does not keep record of Feeder and DT wise losses. It is recommended by auditor for engaging suitable technology for automatic meter data storage and loss accounting.

4.5 Unit Performance on Energy Consumption and reduction of losses details

4.5.1 DISCOM Purchase Energy

It is the maximum power distribution capacity of DISCOM

Table 6 Purchase Energy (Last 5 Years)

Unit	Year 2017-18	Year 2018-19	Year 2019-20	Year 2020-21	Year 2021-22
Million kWh	293.935	310.341	340.125	375.54	383.45

Table 7 Import Feeder wise Energy Purchase (FY21-22)

Source	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Total
APMuL	29.43	28.24	26.35	27.02	26.89	27.24	31.38	25.04	26.94	28.62	26.46	32.74	336.36
AREKAL	2.88	5.61	6.43	6.89	6.10	2.97	1.98	2.45	3.59	2.94	2.37	2.89	47.09
Total Purchased	32.31	33.86	32.79	33.90	32.99	30.20	33.35	27.49	30.54	31.56	28.83	35.63	383.45

4.5.2 Net Input Energy

It is the net energy at DISCOM periphery after adjusting the transmission losses and energy traded and off set after accounting

Table 8 Net Input Energy (Last 5 Years)

Unit	Year 2017-18	Year 2018-19	Year 2019-20	Year 2020-21	Year 2021-22
Million kWh	293.935	310.341	340.125	375.54	383.45

4.5.3 Total Billed Energy

It is the Net energy billed to DISCOM consumers.

Table 9 Billed Energy (Last 5 years)

Unit	Year 2017-18	Year 2018-19	Year 2019-20	Year 2020-21	Year 2021-22
Million kWh	283.979	299.612	327.156	363.34	371.146

Table 10 Billed Energy (FY21-22)

Source	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Total
Purchased	32.31	33.86	32.79	33.90	32.99	30.20	33.35	27.49	30.54	31.56	28.83	35.63	383.45
Sales as per EIS Level (Ex 400 kv sale in Exchange)	31.26	32.77	31.72	32.82	31.93	29.11	32.34	26.44	29.48	30.69	27.91	34.66	371.15

4.5.4 Transmission & Distribution loss

It is the total T & D losses incurred for specific financial year.

Table 11 T & D Loss Summary (Last 5 years)

Unit	Year 2017-18	Year 2018-19	Year 2019-20	Year 2020-21	Year 2021-22
Million kWh	9.95572	10.7297	12.9693	12.217	12.302
%	3.38	3.45	3.81	3.25	3.208

Note –

T&D Loss in MUs = Net Input Energy at DISCOM periphery in MUs – Total Billed Energy in MUs

4.5.5 Category wise energy consumption

Sr No.	Year	Consumer Category	No. of Consumer	Connected Load (MW)	% of Connected load	Energy sold MUs
1	2021-22	Residential	0	0	0.00%	0
		Agriculture	0	0	0.00%	0
		Comm-LT	28	2.04	0.49%	2.75
		Comm-HT	40	405.89	97.00%	361.843
		Others	13	10.51	2.51%	6.542
		Total	**81**	**418.45**	**100.00%**	**371.146**

4.5.6 Detailed Consumer Category Wise Energy Consumption

S.No	Type of Consumers	Category of Consumers (EHT/HT/LT/Others)	Voltage Level (In Voltage)	No of Consumers	Total Consumption (In MU)
1	Domestic	-	NA		
2	Commercial	LT	433	23	2.069
3	IP Sets	-	NA		
4	Hor. & Nur. & Coffee/Tea & Rubber (Metered)	-	NA		
5	Hor. & Nur. & Coffee/Tea & Rubber (Flat)	-	NA		
6	Heating and Motive Power	-	NA		
7	Water Supply	LT	433	1	0.473
8	Public Lighting	LT	433	8	0.389
9	HT Water Supply	HT	11000	2	1.384
10	HT Industrial	HT	11000	20	208.375
11	Industrial (Small)	LT	433	1	0.06242
12	Industrial (Medium)	-	NA		
13	HT Commercial	EHV/HT	11000	19	152.856
14	Applicable to Government Hospitals & Hospitals	HT	11000	1	0.614
15	Lift Irrigation Schemes/Lift Irrigation Societies	-	NA		
16	HT Res. Apartments Applicable to all areas	HT	11000	1	4.633
17	Mixed Load	-	NA		
18	Government offices and department	LT	433	3	0.1528
19	Others-1 (if any , specify in remarks)	Others (Temporary)	11000/433	2	0.1347
	Total			**81**	**371.15**

4.5.7 Energy Consumption and reduction of losses details

- The DISCOM has around 3.208% T&D loss.
- MPSEZ Utilities Limited follows the GERC order and tries to keep T&D loss near technical level.
- It can be seen that major consumption of units in licensee area consists of HT industrial connections accounting to nearly 97 % of total units billed.
- DISCOM has an overall collection efficiency of 99.99% in FY2021-22, and A T & C loss is at 3.214%.
- The overall A T & C loss of the DISCOM are considerably lower than that of the average A T & C loss benchmark of 20.66% (CEA Report, Oct 2020)
- The DISCOM has around 12.96 MU of T & D losses in FY 2019-20 which is decreased to 12.302 MU in 2021-212. However, the percentage of losses remains in the band of 3.18% to 3.208%. MUL has declared these losses as uncontrollable as the network is not utilized optimally and also the project work and other unscheduled activities carried out continuously.

4.6 Energy Conservation Measures already taken

MPSEZ Utilities Limited has implemented energy saving project which includes below

- Implementation of LED powered streetlights for the whole complex and operating in staggering mode with zigzag pattern.
- Maintenance of 0.999 PF at 66 KV level for internal grid

However, there is no document with quantum of net units saved under each of the saving scheme as it is unaudited. MPSEZ Utilities Limited team is working on calculating the realizable energy conserved through these programs.

4.7 Energy Conservation Measures Recommended

Below are two measures recommended for improving technical losses as well improving energy accounting.

1. Replacement of old DTs (installed before 2014) in phase wise manner with BEE 4 star rated, IS 1180 labeled DTs. At present 4 star rated transformers ranging up to 2000 kVA are cost effective for replacement with life span of 25 years and with % loading between 35% and 50%, its simple payback period ranges between 7 and 10 years. It has been noticed that MPSEZ Utilities Limited is aware of star rated transformers and are currently identifying immediate replaceable DTs.
2. Replacement of static electronic meters with digital smart meters at feeder level. It is noticed that MPSEZ Utilities Limited is aware about the technology is planning to replace conventional meters in phase wise manner.
3. MPSEZ Utilities Limited to continue the periodic checking of retail consumer energy meter to find out the losses due to meter tamper/ error.

5 Inclusions & Exclusions

It is to be noted that no inclusion and exclusion are made in the report data provided by MPSEZ Utilities Limited during the FY21-22.

6 Critical Analysis

It is the important indicator of the financial viability of DISCOM operations is the gap between the Average Revenue Realized (ARR) per unit of energy supplied and the average cost of supply (ACS).

A DISCOM's operations will be profitable if its ARR exceeds the ACS in a given year of operation. ACS is the sum of all costs associated in supplying power such as the cost of purchasing power from various generators (conventional, non-conventional, power exchanges, etc.), cost of operating and maintaining the distribution network (such as service lines and distribution, transformers Etc.), employee cost, depreciation, and finance cost divided by the total sales to consumers.

On the other hand, ARR is the sum of the total revenue earned by charging consumers at specified tariffs for the energy supplied and subsidy received from the state government, divided by the total sales.

The Average Cost supply (Rs/kWh) and Average realized revenue (Rs./kWh) of MPSEZ Utilities Limited on the basis of Energy Sold for the FY18-19, FY19-20 and FY20-21 are mentioned below-

Table 12 ACS - ARR Gap Summary (Last 4 years)

Financial Year	Total Sold Energy	Revenue Realised from sale of power(Ex Non-Tariff Income)	Average Realisable Revenue	ACS (Average Cost of Supply)	Power Purchase Cost	ACS-ARR Gap
	(MU)	(INR Million)	(INR/kWh)	(INR Million)	(INR/kWh)	(INR/kWh)
2018-19	299.61	1599.20	5.34	1630.9	5.44	0.11
2019-20	327.16	1758.48	5.38	1768.1	5.40	0.03
2020-21	363.33	1999.27	5.50	1902.4	5.24	-0.27

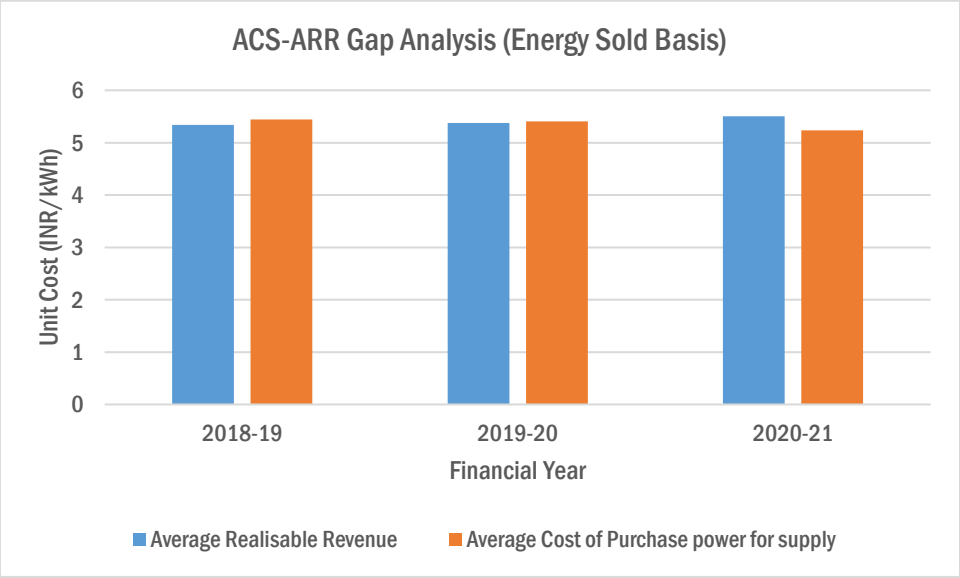


Figure 2 ACS-ARR Summary

As per 4 year ACS-ARR gap analysis values, it can be observed that DISCOM is efficient in terms of technical and collection efficiency, due to which the there is always a surplus after revenue sales. As informed by the DISCOM, these surplus is being used to recover past period ACS- ARR gap, accumulated due to delay in tariff determination in the past.

The company has implemented high-tech automated systems for its entire distribution network. Systems such as, SCADA, Integrated Geographical Information System [GIS], Outage Management System [OMS], DMS and OTS are the cornerstone of the company's distribution automation project.

It is observed that T & D loss of DISCOM is range bound from 3.25 % to 3.208 % (FY-2021-22) and there is no space for improvement in the network that further reduce the loss of high quantum. However, energy accounting can be further improved by quantifying DT wise losses, replacement with smart meters at judicious locations and nullifying or offsetting meter errors.

7 Measuring Equipment and Instrument Calibration

Suppliers of MPSEZ Utilities Limited periodically calibrate their import/export energy meters. They have provided calibration certificates for some random feeders, which were verified by the Auditors.

The Calibration Certificates provided by MPSEZ Utilities Limited has been attached in Annexure IX.

Annexures

Annexure- I Introduction of Verification Team

Company/ Institution/ Organization	Team Member	Designation	Role
MITCON Consultancy & Engineering Services Ltd.	Mr. Jignesh Patel	Accredited Energy Auditor (AEA-0104)	Project head, review of data and report
	Mr. Sadan Kumar Sinha	Sector Expert	Field visit Inspection, review of data and report
	Mr. Rahul Kumar	Certified Energy Auditor	Field visit inspection, document verification and report writing
	Mr. Anjum	Chief Consultant	
	Mr. Ankit Sivastva	Chief Consultant	Field visit inspection, document verification and report writing

Annexure- II Minutes of Meeting with the DISCOM team

MINUTES OF MEETING		
	MPSEZ Utilities Ltd (MUL) Mundra Kutch Gujrat - 370421	Date: 04 Aug 2022
MITCON™ Solutions for Sustainable Tomorrow	MITCON Consultancy and Engineering Services Ltd. Ahmedabad	Revision : NA

Topic	Annual Energy Audit of MPZEZ Utilities Ltd (MUL) for FY-2021-22				
Meeting Details					
Date		**Time**		**Venue**	Conference room 2nd floor Adani house APSEZ Mundra Kutch.
MPZEZ Utilities Ltd (MUL) Mundra Kutch	1. Mr. Anil Rabadia (Manager)				
Participants from MITCON, Ahmedabad	1. Mr. Mohammad Anjum, Chief Consultant 2. Mr. Rahul Kumar 3. Mr. Ankit Srivastava 4. Mr. S K Sinha				

Meeting Involved detailed discussion on the infrastructure details of (MUL) and scope of work including activities to be undertaken for the completion of Annual energy accounting of Discom for FY-2021-22 between 03 Aug and 04 Aug 2022. Following points were discussed/ Reviewed/Performed:

1. Data Provided by Discom in the Annual Energy Accounting Form
2. The consultant Verified the Purchased energy, billed energy, Transmission loss, billed amount, collected amount, T&D Loss.
3. The consultant verified the infrastructure details, such as no. of grid substation, no. of power substation and DT Substations, no of voltage wise feeder etc.
4. The consultant verified the category wise no. of consumers, connected load and billed energy.
5. Sample field measurement for meter reading verification.
6. All data which is being maintained by Discom has been collected as per the Annual Energy Accounting form and sample field measurement have been completed.

Signed on behalf: MPSEZ Utilities Ltd (MUL) Mundra Kutch		**Signed on behalf of MITCON Consultancy & Engineering Services Limited**	
Name	Signature & Date	Name	Signature & Date
Mr. Anil Rabadia (Manager)		Rahul Kumar	Rahul Kumar Rahul Kumar Energy Auditor EA-30703 Mitcon Consultancy & Engineering Services Ltd.

Annexure- III Check List prepared by auditing Firm

Parameter	Primary Documents from where the information can be sourced and to be kept ready for verification by Accredited Energy Auditor (Annual for FY 21-22)	Data Provided by MPSEZ Utilities Limited
Detailed expenditure report	Annual Reports	Petition Report
Details of purchased energy	Power purchase bills, SLDC documents, energy accounts, Audit statement, petition	Utility Bills from MPSEZ Utilities Limited
Transmission loss %	Calculation of transmission loss viz difference in total energy purchased and total energy drawl at distribution periphery.	Calculation Sheet
Transmission loss in (MU) Energy sold outside the periphery, Open access sale, EHT Sale	Energy accounting statements	Statement, Petition Report
Net input energy(received at DISCOM periphery, after adjustment) in MU	GIS Database	GIS Database
Energy input details meter wise, with other mentioned details	SLDC document, meter log	SLDC Statement
Summary of Circle wise Loss Number of metered consumers and connected load, category wise of each circle Number of un-metered consumers and connected load, category wise of each circle	Statements, Database	MIS
Circle wise input Energy for billed meter energy and billed un-metered energy	Meter logs through which input energy of circle was computed. Un-metered energy with reference of calculation should be maintained	MIS

Annexure- IV Brief Approach, Scope & Methodology for audit

Annual Energy Audit shall have verification of:

a) Existing pattern of energy distribution across periphery of the company;

b) Accounted energy flow submitted by the company at all applicable voltage levels of the distribution network, —

(i) Energy flow between transmission and 220kV/66kV/ 33kV/11kV incoming distribution feeders
(ii) Energy flow between 220kV/66kV, 66kV/11kV and 66kV/33kV incoming feeders
(iii) Energy flow between 11 kV feeders and distribution transformers, or high voltage distribution system
(iv) Energy flow between Feeder to end-consumer
(v) Energy flow between 220/33/11 kV/0.44 kV directly to consumer

Auditor, in consultation with the nodal officer of the company shall:

(i) The energy audit shall be conducted strictly as per BEE guidelines for DISCOM audit.
(ii) Agree on best practice procedures on accounting of energy distributed across the network
(iii) Collect data on energy received, and distributed, covered within the scope of energy audit.

Auditor shall:

(i) Verify the accuracy of the data collected in consultation with the nodal officer of the company as per standard practice to assess the validity of the data collected;
(ii) Analyse and process the data with respect to—
(iii) Consistency of data monitoring compared to the collected data;
(iv) Recommendations to facilitate energy accounting and improve energy efficiency;
(v) With respect to the purpose of energy accounting in reducing losses for the company.

Prioritization and preparation of action plan:

- Report shall include following activities, namely: —
- Data collection and verification of energy distribution:
- Monthly energy consumption data of consumers and system metering from the company at following voltage levels —
- 11/33/66/220 kV level feeders of Sub-stations;
- 11 kV level feeders of Distribution Sub-stations;
- 440 V level, including Distribution Transformer and low tension consumer;
- Input energy details for all metered input points;
- Boundary meter details;
- Source of energy supply (e.g. electricity from grid or self-generation), including generation from renewables.
- Review of the current consumption practices in order to identify the energy loss in the system;
- Data verification, validation and correction:
- A monitoring and verification protocol to quantify on annual basis the impact of each measure with respect to energy conservation and cost reduction for reporting to Bureau and the concerned State designated agency;
- Verification and correction of input energy, taking into account the following —
- Recorded system meter reading by metering agency;
- All the input points of transmission system;
- Details provided by the transmission unit;
- Relevant records at each electricity test division for each month;
- Recorded meter reading at all export points (where energy sent outside the State is from the Distribution system); and
- System loading and corresponding infrastructure;
- Energy supplied to Open Access Consumers which is directly purchased by Open Access consumers from any supplier other than electricity distribution company; and

- Verify and validate the system metering data provided by metering agency through random field visit (particularly for data irregularity).

METHODOLOGY

- Auditor shall depute a team of experts for conducting the evaluation / audit and shall work in close association with DISCOM.
- Auditor shall submit an execution work plan for the assignment for which relevant data support will be provided by DISCOM.
- Auditor will arrange meeting and provide presentation on overview, roadmap, scenario and results of the assignment to various plant heads / operational staff / engineering staff.

Annexure- V Power Purchase Detail (Sample Power Purchase bills)

adani Power	ADANI POWER (MUNDRA) LTD Village Tunda & Siracha Taluka Mundra, District Kutch,Gujarat-370435 Fixed:-91-(79)-25556921 Fax:91-(79)-2555717/8758

BILL OF SUPPLY
(DIFFERENTIAL INVOICE)

To: **GENERAL MANAGER** **MPSEZ UTILITIES LTD** **ADANI CORPORATE HOUSE** **SHANTIGRAM, NEAR VAISHNO DEVI CIRCLE** **S G HIGHWAY, KHODIYAR** **AHMEDABAD-382421** **GUJARAT** **GST No: 24AAFCM1901Q1ZE**	Description of Goods: Date: Invoice No.: Invoice period: Service Tax Reg: HSN Code: GST No: PAN No: CIN No:	Electrical Energy 07.04.2022 400000045202 **March 2022** AANCA2426JSD001 27160000 24AANCA2426J2ZP AANCA2426J U40300GJ2015PLC082295

Sub. : Differential Bill for power supplied to MUL for the period 01.03.2022 to 31.03.2022.

S.No.	Description	Unit	Amount
1.	Monthly Invoice Amount due	Rs.	123,014,219
2.	Provisional Invoice Amount claimed	Rs.	105,830,287
3.	**Differential Invoice Amount**	**Rs.**	**17,183,932**
Total		Rs.	17,183,932.00

Rupees (in words) :	One Crore Seventy One Lakh Eighty Three Thousand Nine Hundred Thirty Two Only

Certified that the amount claimed in the invoice is correct and in accordance with the provisions of the agreement.

Note : 1) Rebate would be allowed as per Article 8.3.6 of PPA 2) Interest for delay in Payment shall be applicable as per Article 8.3.5 of PPA	ADANI POWER (MUNDRA) LTD **Authorised Signatory**

Adani Corporate House,Shantigram, S.G Highway, Khodiyar,Ahmedabad-382421, Gujarat, India.

Calculation Summary

Details of Declared Energy and Scheduled Energy

Date	Declared Energy (kWh)	Scheduled Energy (kWh)
01.03.2022	953,350	953,350
02.03.2022	946,327	946,327
03.03.2022	908,827	908,827
04.03.2022	877,458	877,458
05.03.2022	948,640	948,640
06.03.2022	934,730	934,730
07.03.2022	939,335	939,335
08.03.2022	949,149	949,149
09.03.2022	931,693	931,693
10.03.2022	943,260	943,260
11.03.2022	776,475	776,475
12.03.2022	826,089	826,089
13.03.2022	920,672	920,672
14.03.2022	896,745	896,745
15.03.2022	841,364	841,364
16.03.2022	921,560	921,560
17.03.2022	958,864	958,864
18.03.2022	958,864	958,864
19.03.2022	945,216	945,216
20.03.2022	822,365	822,365
21.03.2022	827,574	827,574
22.03.2022	812,421	812,421
23.03.2022	842,211	842,211
24.03.2022	869,876	869,876
25.03.2022	959,855	959,855
26.03.2022	959,855	959,855
27.03.2022	959,855	959,855
28.03.2022	929,827	929,827
29.03.2022	870,843	870,843
30.03.2022	913,401	913,401
31.03.2022	892,134	892,134
Total	**28,038,835**	**28,038,835**

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Calculations:

Tariff Components	Unit	Value
USD - INR Exchange Rate	Rs./USD	74.7327
Contracted Capacity		
No. of Days for the month	Days	31
Contracted Capacity	MW	40
Contracted Capacity for a month/billing period	kWh	29,760,000
Cumulative Contracted Energy till last day of this month	kWh	350,400,000
Declared Capacity		
Declared Energy for a month/billing period	kWh	28,038,835
Cumulative Declared Energy till last day of this month	kWh	329,832,926
Actual Availability		
Actual Availability (Monthly)	%	94.22
Cumulative Actual Availability (AA)	%	94.13
Scheduled Energy		
Scheduled Energy for the billing month	kWh	28,038,835
Cumulative Scheduled Energy till last day of this month	kWh	278,155,764
Normative Availability		
Normative Availability	%	85.00
Cumulative Normative Availability	%	85.00
Normative Availability	kWh	25,296,000
Cumulative Energy corresponding to NA	kWh	297,840,000
Minimum Supply Obligation		
Minimum Supply Obligation	%	80.00
Minimum Supply Obligation for the billing month	kWh	23,808,000
Cumulative Minimum Supply Obligation upto billing month	kWh	280,320,000
Charges received / paid earlier		
Cumulative Capacity Charge upto previous month £FC(m-1)	Rs.	378,563,616
Cumulative Incentive Charge upto previous month £EIP(m-1)	Rs.	7,312,523
Cumulative Penalty Charge upto previous month for Peak Period £EPP(m-1)k	Rs.	-

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(A) Capacity Charge Payment Calculations:

If CAA>=NA,
FC_m= £j(AFC_{yn} * NA * CC * L * Ncontract/24) - £$C_{(m-1)}$
Else, FC_m= £j (AFC_{yn}*AA * CC * L* Ncontract/24) - £$C_{(m-1)}$

Month	No. of Days	Capacity Charge in Rs/kWh	Availability for the month (AA) in kWh	Cumulative Availability (CAA) in kWh	Cummulative Capacity Charge in Rs.	Monthly Capacity Charge in Rs.
APR-2021	30	1.3890	28,798,500	28,798,500	34,002,720	34,002,720
MAY-2021	31	1.3890	29,760,000	58,558,500	69,138,864	35,136,144
JUN-2021	30	1.3890	28,800,000	87,358,500	103,141,584	34,002,720
JUL-2021	31	1.3890	29,760,000	117,118,500	138,277,728	35,136,144
AUG-2021	31	1.3890	29,760,000	146,878,500	173,413,872	35,136,144
SEP-2021	30	1.3890	28,800,000	175,678,500	207,416,592	34,002,720
OCT-2021	31	1.3890	19,106,832	194,785,332	242,552,736	35,136,144
NOV-2021	30	1.3890	26,443,461	221,228,793	276,555,456	34,002,720
DEC-2021	31	1.3890	28,795,856	250,024,649	311,691,600	35,136,144
JAN-2022	31	1.3890	28,584,347	278,608,996	346,827,744	35,136,144
FEB-2022	28	1.3890	23,185,095	301,794,091	378,563,616	31,735,872
MAR-2022	31	1.3890	28,038,835	329,832,926	413,699,760	35,136,144

(B) Energy Charge Payment Calculations:

$MEP_m = AEO_M$ X MEP_N
$MEEP_n = QMEEP_n$ * p(EE) / q(EE)
$MEITP_n = QMEITP_n$ * p(ET)/ q(ET)
$MEEP_n = QMEEP_n$ * p/q * FX

Energy Charge in Rs/kWh (MEP_{nd})	Energy Charge in Rs/kWh (MEP_{ni})	Total Energy Scheduled During Month / Bill Period in kWh (AEO_m)	Energy Charge Payment For A Month in Rs. (MEP_{md})	Energy Charge Payment For A Month in Rs. (MEP_{mi})	Energy Charge Payment For A Month in Rs. (MEP_m)
1.2768	1.8329	28,038,835	35,799,985	51,392,381	87,192,366

(C) Incentive Payment Calculations:

Incentive in Rs./kWh	Excess Cumulative Availability Above NA in kWh	Cummulative Incentive Above NA in Rs.	Monthly Incentive in Rs
0.2500	31,992,926	7,998,231	685,709

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(D) Penalty Calculations:

Cumulative Actual Availability upto Current Month	Availability below which Penalty is Applicable	Availability Applicable for Penalty for the Current Month	Cumulative Penalty upto Current Month	Penalty for the Current Month
(%)	(%)	(kWh)	(Rs.)	(Rs.)
94.13	80.00			-

(E) Billing Summary:

(A) Capacity Charges	Rs.	35,136,144
(B) Energy Charges	Rs.	87,192,366
(C) Incentive	Rs.	685,709
(D) Penalty	Rs.	-
(E) Surcharge	Rs.	-
Net Receivable (((A + B + C) - D) + E):	Rs.	123,014,219

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SBI TT Buying Rate for MUPL		
Days	Date	SBI TT Buying Rate (US$)
15	08.02.2022	74.25000
14	09.02.2022	74.30000
13	10.02.2022	74.47000
12	11.02.2022	75.05000
11	14.02.2022	75.15000
10	15.02.2022	75.20000
9	16.02.2022	74.85000
8	17.02.2022	74.75000
7	18.02.2022	74.70000
6	21.02.2022	74.15000
5	22.02.2022	74.35000
4	23.02.2022	74.25000
3	24.02.2022	75.30000
2	25.02.2022	74.87000
1	28.02.2022	75.35000
Average		**74.7327**

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Evaluation sheet for Escalation

Applicable Esclation Rates		
Time Period	Inland Tran Charges upto 2000Km	Domestic coal
01/04/2013 to 30/09/2013	12.81%	8.31%
01/10/2013 to 31/03/2014	5.80%	1.82%
01/04/2014 to 30/09/2014	7.17%	9.77%
01/10/2014 to 31/03/2015	2.28%	8.27%
01/04/2015 to 30/09/2015	12.48%	0.00%
01/10/2015 to 31/03/2016	6.33%	0.00%
01/04/2016 to 30/09/2016	6.14%	0.00%
01/10/2016 to 31/03/2017	0.00%	2.79%
01/04/2017 to 30/09/2017	-14.77%	13.78%
01/10/2017 to 31/03/2018	-3.74%	0.00%
01/04/2018 to 30/09/2018	7.50%	0.00%
01/10/2018 to 31/03/2019	39.09%	21.66%
01/04/2019 to 30/09/2019	8.53%	0.88%
01/10/2019 to 31/03/2020	11.34%	0.00%
01/04/2020 to 30/09/2020	0.00%	0.00%
01/10/2020 to 31/03/2021	0.00%	0.00%
01/04/2021 to 30/09/2021	-39.63%	0.93%
01/10/2021 to 31/03/2022	0.00%	0.92%

Particulars	
Esc. Index on bid Deadlne	100
Bid Deadline	23-SEP-13
Quoted Esc. Tr. Charges	0.1050
Quotd Esc. EC	0.2850
Quotd Esc. FH	0.0930
Quotd Esc. CC	0.0000

Esclation Calculated for MUPL

Date	Values Of Esclation Index		Esclated Components		Fixed Components				Total Tariff (Rs/kWh)	Exchange Rate (US$)	Capacity Charge (Rs./kWh)	Energy Charge (Rs./kWh)	Total Tariff (Rs./kWh)
	Esc. Index. TC -p(IT)	Escl. Index EC p(EE)	Esclated TC	Esclated EC	Non Esc CC	Non Esc EC	Non Esc FEC	Non Esc FH					
31-AUG-2013	100.0000	100.0000	0.4800	0.2190	1.5990	0.3090	0.0190	0.0890	2.7150				
30-SEP-2013	100.2491	100.1616	0.4800	0.2190	1.5990	0.3090	0.0190	0.0890	2.7150				
31-OCT-2013	100.7336	100.3135	0.4812	0.2194	1.5990	0.3090	0.0190	0.0890	2.7166				
30-NOV-2013	101.2182	100.4654	0.4835	0.2197	1.5990	0.3090	0.0190	0.0890	2.7192				

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31-DEC-2013	101.7027	100.6173	0.4858	0.2200	1.5990	0.3090	0.0190	0.0890	2.7218				
31-JAN-2014	102.1872	100.7692	0.4882	0.2204	1.5990	0.3090	0.0190	0.0890	2.7246				
28-FEB-2014	102.6718	100.9212	0.4905	0.2207	1.5990	0.3090	0.0190	0.0890	2.7272				
31-MAR-2014	103.1563	101.0731	0.4928	0.2210	1.5990	0.3090	0.0190	0.0890	2.7298				
30-APR-2014	103.7727	101.8960	0.4952	0.2214	1.5990	0.3090	0.0190	0.0890	2.7326				
31-MAY-2014	104.3890	102.7189	0.4981	0.2232	1.5990	0.3090	0.0190	0.0890	2.7373				
30-JUN-2014	105.0054	103.5418	0.5011	0.2250	1.5990	0.3090	0.0190	0.0890	2.7421				
31-JUL-2014	105.6217	104.3647	0.5040	0.2268	1.5990	0.3090	0.0190	0.0890	2.7468				
31-AUG-2014	106.2381	105.1876	0.5070	0.2286	1.5990	0.3090	0.0190	0.0890	2.7516				
30-SEP-2014	106.8545	106.0105	0.5099	0.2304	1.5990	0.3090	0.0190	0.0890	2.7563				
31-OCT-2014	107.0575	106.7411	0.5129	0.2322	1.5990	0.3090	0.0190	0.0890	2.7611				
30-NOV-2014	107.2605	107.4717	0.5139	0.2338	1.5990	0.3090	0.0190	0.0890	2.7637				
31-DEC-2014	107.4636	108.2023	0.5149	0.2354	1.5990	0.3090	0.0190	0.0890	2.7663				
31-JAN-2015	107.6666	108.9329	0.5158	0.2370	1.5990	0.3090	0.0190	0.0890	2.7688				
28-FEB-2015	107.8696	109.6634	0.5168	0.2386	1.5990	0.3090	0.0190	0.0890	2.7714				
31-MAR-2015	108.0726	110.3940	0.5178	0.2402	1.5990	0.3090	0.0190	0.0890	2.7740				
30-APR-2015	109.1966	110.3940	0.5187	0.2418	1.5990	0.3090	0.0190	0.0890	2.7765				
31-MAY-2015	110.3205	110.3940	0.5241	0.2418	1.5990	0.3090	0.0190	0.0890	2.7819				
30-JUN-2015	111.4445	110.3940	0.5295	0.2418	1.5990	0.3090	0.0190	0.0890	2.7873				
31-JUL-2015	112.5684	110.3940	0.5349	0.2418	1.5990	0.3090	0.0190	0.0890	2.7927				
31-AUG-2015	113.6924	110.3940	0.5403	0.2418	1.5990	0.3090	0.0190	0.0890	2.7981				
30-SEP-2015	114.8163	110.3940	0.5457	0.2418	1.5990	0.3090	0.0190	0.0890	2.8035				
31-OCT-2015	115.4220	110.3940	0.5511	0.2418	1.5990	0.3090	0.0190	0.0890	2.8089				
30-NOV-2015	116.0276	110.3940	0.5540	0.2418	1.5990	0.3090	0.0190	0.0890	2.8118				
31-DEC-2015	116.6333	110.3940	0.5569	0.2418	1.5990	0.3090	0.0190	0.0890	2.8147				
31-JAN-2016	117.2389	110.3940	0.5598	0.2418	1.5990	0.3090	0.0190	0.0890	2.8176				
29-FEB-2016	117.8446	110.3940	0.5627	0.2418	1.5990	0.3090	0.0190	0.0890	2.8205				
31-MAR-2016	118.4502	110.3940	0.5657	0.2418	1.5990	0.3090	0.0190	0.0890	2.8235				
30-APR-2016	119.0563	110.3940	0.5686	0.2418	1.5990	0.3090	0.0190	0.0890	2.8264	66.3260	1.5990	2.4686	4.0676
31-MAY-2016	119.6623	110.3940	0.5715	0.2418	1.5990	0.3090	0.0190	0.0890	2.8293	66.1113	1.5990	2.4674	4.0664
30-JUN-2016	120.2684	110.3940	0.5744	0.2418	1.5990	0.3090	0.0190	0.0890	2.8322	66.4147	1.5990	2.4761	4.0751
31-JUL-2016	120.8745	110.3940	0.5773	0.2418	1.5990	0.3090	0.0190	0.0890	2.8351	66.6827	1.5990	2.4841	4.0831
31-AUG-2016	121.4806	110.3940	0.5802	0.2418	1.5990	0.3090	0.0190	0.0890	2.8380	66.3913	1.5990	2.4814	4.0804
30-SEP-2016	122.0866	110.3940	0.5831	0.2418	1.5990	0.3090	0.0190	0.0890	2.8409	66.5893	1.5990	2.4881	4.0871
31-OCT-2016	122.0866	110.6507	0.5860	0.2418	1.5990	0.3090	0.0190	0.0890	2.8438	66.4180	1.5990	2.4877	4.0867
30-NOV-2016	122.0866	110.9073	0.5860	0.2423	1.5990	0.3090	0.0190	0.0890	2.8443	66.3953	1.5990	2.4878	4.0868
31-DEC-2016	122.0866	111.1640	0.5860	0.2429	1.5990	0.3090	0.0190	0.0890	2.8449	67.6053	1.5990	2.5114	4.1104
31-JAN-2017	122.0866	111.4207	0.5860	0.2434	1.5990	0.3090	0.0190	0.0890	2.8454	67.4200	1.5990	2.5084	4.1074
28-FEB-2017	122.0866	111.6773	0.5860	0.2440	1.5990	0.3090	0.0190	0.0890	2.8460	67.6980	1.5990	2.5143	4.1133
31-MAR-2017	122.0866	111.9340	0.5860	0.2446	1.5990	0.3090	0.0190	0.0890	2.8466	66.5487	1.5990	2.4930	4.0920
30-APR-2017	120.5839	113.2194	0.5860	0.2451	1.5490	0.3290	0.0200	0.0930	2.8221	65.0287	1.5490	2.5537	4.1027
31-MAY-2017	119.0812	114.5048	0.5788	0.2480	1.5490	0.3290	0.0200	0.0930	2.8178	64.0313	1.5490	2.5294	4.0784
30-JUN-2017	117.5786	115.7901	0.5716	0.2508	1.5490	0.3290	0.0200	0.0930	2.8134	64.0840	1.5490	2.5261	4.0751

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31-JUL-2017	116.0759	117.0755	0.5644	0.2536	1.5490	0.3290	0.0200	0.0930	2.8090	64.0787	1.5490	2.5216	4.0706
31-AUG-2017	114.5732	118.3609	0.5572	0.2564	1.5490	0.3290	0.0200	0.0930	2.8046	63.9393	1.5490	2.5144	4.0634
30-SEP-2017	113.0705	119.6463	0.5500	0.2592	1.5490	0.3290	0.0200	0.0930	2.8002	63.6427	1.5490	2.5041	4.0531
31-OCT-2017	112.7181	119.6463	0.5427	0.2620	1.5490	0.3290	0.0200	0.0930	2.7957	64.1947	1.5490	2.5106	4.0596
30-NOV-2017	112.3657	119.6463	0.5410	0.2620	1.5490	0.3290	0.0200	0.0930	2.7940	64.5607	1.5490	2.5162	4.0652
31-DEC-2017	112.0133	119.6463	0.5394	0.2620	1.5490	0.3290	0.0200	0.0930	2.7924	64.5167	1.5490	2.5137	4.0627
31-JAN-2018	111.6609	119.6463	0.5377	0.2620	1.5490	0.3290	0.0200	0.0930	2.7907	63.8460	1.5490	2.4986	4.0476
28-FEB-2018	111.3085	119.6463	0.5360	0.2620	1.5490	0.3290	0.0200	0.0930	2.7890	63.3233	1.5490	2.4865	4.0355
31-MAR-2018	110.9561	119.6463	0.5343	0.2620	1.5490	0.3290	0.0200	0.0930	2.7873	64.1113	1.5490	2.5005	4.0495
30-APR-2018	111.6496	119.6463	0.5326	0.2620	1.5190	0.3450	0.0210	0.0980	2.7776	64.6133	1.5190	2.5945	4.1135
31-MAY-2018	112.3431	119.6463	0.5359	0.2620	1.5190	0.3450	0.0210	0.0980	2.7809	65.5060	1.5190	2.6165	4.1355
30-JUN-2018	113.0365	119.6463	0.5392	0.2620	1.5190	0.3450	0.0210	0.0980	2.7842	67.4207	1.5190	2.6600	4.1790
31-JUL-2018	113.7300	119.6463	0.5426	0.2620	1.5190	0.3450	0.0210	0.0980	2.7876	67.6873	1.5190	2.6690	4.1880
31-AUG-2018	114.4235	119.6463	0.5459	0.2620	1.5190	0.3450	0.0210	0.0980	2.7909	68.3073	1.5190	2.6854	4.2044
30-SEP-2018	115.1170	119.6463	0.5492	0.2620	1.5190	0.3450	0.0210	0.0980	2.7942	69.6280	1.5190	2.7164	4.2354
31-OCT-2018	118.8669	121.8059	0.5526	0.2620	1.5190	0.3450	0.0210	0.0980	2.7976	72.0667	1.5190	2.7710	4.2900
30-NOV-2018	122.6169	123.9655	0.5706	0.2668	1.5190	0.3450	0.0210	0.0980	2.8204	73.2200	1.5190	2.8180	4.3370
31-DEC-2018	126.3668	126.1251	0.5886	0.2715	1.5190	0.3450	0.0210	0.0980	2.8431	70.9867	1.5190	2.7938	4.3128
31-JAN-2019	130.1167	128.2848	0.6066	0.2762	1.5190	0.3450	0.0210	0.0980	2.8658	70.3953	1.5190	2.8041	4.3231
28-FEB-2019	133.8667	130.4444	0.6246	0.2809	1.5190	0.3450	0.0210	0.0980	2.8885	70.6847	1.5190	2.8329	4.3519
31-MAR-2019	137.6166	132.6040	0.6426	0.2857	1.5190	0.3450	0.0210	0.0980	2.9113	70.7900	1.5190	2.8579	4.3769
30-APR-2019	138.5948	132.7012	0.6606	0.2904	1.4690	0.3620	0.0210	0.1030	2.9060	68.8120	1.4690	2.8611	4.3301
31-MAY-2019	139.5730	132.7985	0.6653	0.2906	1.4690	0.3620	0.0210	0.1030	2.9109	69.2213	1.4690	2.8745	4.3435
30-JUN-2019	140.5513	132.8957	0.6700	0.2908	1.4690	0.3620	0.0210	0.1030	2.9158	69.5173	1.4690	2.8857	4.3547
31-JUL-2019	141.5295	132.9930	0.6746	0.2910	1.4690	0.3620	0.0210	0.1030	2.9206	69.0720	1.4690	2.8811	4.3501
31-AUG-2019	142.5077	133.0902	0.6793	0.2913	1.4690	0.3620	0.0210	0.1030	2.9256	68.3907	1.4690	2.8718	4.3408
30-SEP-2019	143.4859	133.1875	0.6840	0.2915	1.4690	0.3620	0.0210	0.1030	2.9305	71.1140	1.4690	2.9339	4.4029
31-OCT-2019	144.8418	133.1875	0.6887	0.2917	1.4690	0.3620	0.0210	0.1030	2.9354	70.8467	1.4690	2.9332	4.4022
30-NOV-2019	146.1978	133.1875	0.6952	0.2917	1.4690	0.3620	0.0210	0.1030	2.9419	70.6887	1.4690	2.9364	4.4054
31-DEC-2019	147.5537	133.1875	0.7017	0.2917	1.4690	0.3620	0.0210	0.1030	2.9484	71.3180	1.4690	2.9561	4.4251
31-JAN-2020	148.9097	133.1875	0.7083	0.2917	1.4690	0.3620	0.0210	0.1030	2.9550	70.2893	1.4690	2.9411	4.4101
29-FEB-2020	150.2656	133.1875	0.7148	0.2917	1.4690	0.3620	0.0210	0.1030	2.9615	70.7527	1.4690	2.9573	4.4263
31-MAR-2020	151.6216	133.1875	0.7213	0.2917	1.4690	0.3620	0.0210	0.1030	2.9680	71.1713	1.4690	2.9726	4.4416
30-APR-2020	151.6216	133.1875	0.7278	0.2917	1.4390	0.3800	0.0220	0.1080	2.9685	74.5947	1.4390	3.1486	4.5876
31-MAY-2020	151.6216	133.1875	0.7278	0.2917	1.4390	0.3800	0.0220	0.1080	2.9685	75.9133	1.4390	3.1776	4.6166
30-JUN-2020	151.6216	133.1875	0.7278	0.2917	1.4390	0.3800	0.0220	0.1080	2.9685	75.2833	1.4390	3.1637	4.6027
31-JUL-2020	151.6216	133.1875	0.7278	0.2917	1.4390	0.3800	0.0220	0.1080	2.9685	75.4860	1.4390	3.1682	4.6072
31-AUG-2020	151.6216	133.1875	0.7278	0.2917	1.4390	0.3800	0.0220	0.1080	2.9685	74.5613	1.4390	3.1478	4.5868
30-SEP-2020	151.6216	133.1875	0.7278	0.2917	1.4390	0.3800	0.0220	0.1080	2.9685	74.1853	1.4390	3.1396	4.5786
31-OCT-2020	151.6216	133.1875	0.7278	0.2917	1.4390	0.3800	0.0220	0.1080	2.9685	73.2120	1.4390	3.1182	4.5572
30-NOV-2020	151.6216	133.1875	0.7278	0.2917	1.4390	0.3800	0.0220	0.1080	2.9685	72.8573	1.4390	3.1104	4.5494
31-DEC-2020	151.6216	133.1875	0.7278	0.2917	1.4390	0.3800	0.0220	0.1080	2.9685	73.8387	1.4390	3.1320	4.5710
31-JAN-2021	151.6216	133.1875	0.7278	0.2917	1.4390	0.3800	0.0220	0.1080	2.9685	73.2100	1.4390	3.1181	4.5571

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28-FEB-2021	151.6216	133.1875	0.7278	0.2917	1.4390	0.3800	0.0220	0.1080	2.9685	72.7340	1.4390	3.1076	4.5466
31-MAR-2021	151.6216	133.1875	0.7278	0.2917	1.4390	0.3800	0.0220	0.1080	2.9685	72.3347	1.4390	3.0989	4.5379
30-APR-2021	146.6143	133.2907	0.7278	0.2917	1.3890	0.3990	0.0230	0.1140	2.9445	72.2753	1.3890	3.1948	4.5838
31-MAY-2021	141.6070	133.3939	0.7037	0.2919	1.3890	0.3990	0.0230	0.1140	2.9206	74.4447	1.3890	3.2208	4.6098
30-JUN-2021	136.5997	133.4972	0.6797	0.2921	1.3890	0.3990	0.0230	0.1140	2.8968	72.6673	1.3890	3.1561	4.5451
31-JUL-2021	131.5924	133.6004	0.6557	0.2924	1.3890	0.3990	0.0230	0.1140	2.8731	73.4627	1.3890	3.1507	4.5397
31-AUG-2021	126.5851	133.7036	0.6316	0.2926	1.3890	0.3990	0.0230	0.1140	2.8492	74.1153	1.3890	3.1419	4.5309
30-SEP-2021	121.5778	133.8068	0.6076	0.2928	1.3890	0.3990	0.0230	0.1140	2.8254	73.7473	1.3890	3.1096	4.4986
31-OCT-2021	121.5778	133.9094	0.5836	0.2930	1.3890	0.3990	0.0230	0.1140	2.8016	73.3533	1.3890	3.0767	4.4657
30-NOV-2021	121.5778	134.0120	0.5836	0.2933	1.3890	0.3990	0.0230	0.1140	2.8019	74.6793	1.3890	3.1075	4.4965
31-DEC-2021	121.5778	134.1146	0.5836	0.2935	1.3890	0.3990	0.0230	0.1140	2.8021	74.1427	1.3890	3.0954	4.4844
31-JAN-2022	121.5778	134.2171	0.5836	0.2937	1.3890	0.3990	0.0230	0.1140	2.8023	75.0507	1.3890	3.1165	4.5055
28-FEB-2022	121.5778	134.3197	0.5836	0.2939	1.3890	0.3990	0.0230	0.1140	2.8025	74.0453	1.3890	3.0935	4.4825
31-MAR-2022	121.5778	134.4223	0.5836	0.2942	1.3890	0.3990	0.0230	0.1140	2.8028	74.7327	1.3890	3.1097	4.4987

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भारतीय स्टेट बैंक
STATE BANK OF INDIA

STATE BANK OF INDIA					
GLOBAL MARKET UNIT-KOLKATA					
FOREIGN CURRENCY READY RATE					
USD CARD RATE 21.02.2022 TO 28.02.2022					
Card Rates above 10 Lakhs					
VALUE_DATE	CURR_CODE	TTBUY	TTSELL	BILLBUY	BILLSELL
28-02-2022 15:26	USD/INR	74.95	75.8	74.89	75.96
23-02-2022 11:06	USD/INR	75.15	76	75.09	76.16
23-02-2022 10:03	USD/INR	75.35	76.2	75.29	76.36
25-02-2022 09:44	USD/INR	74.87	75.72	74.81	75.88
24-02-2022 15:40	USD/INR	75.3	76.15	75.24	76.31
24-02-2022 13:17	USD/INR	74.95	75.8	74.89	75.96
24-02-2022 10:11	USD/INR	74.74	75.59	74.68	75.75
23-02-2022 17:07	USD/INR	74.25	75.1	74.19	75.26
23-02-2022 16:25	USD/INR	74.25	75.1	74.19	75.26
23-02-2022 09:56	USD/INR	74.25	75.1	74.19	75.26
22-02-2022 09:53	USD/INR	74.35	75.2	74.29	75.36
21-02-2022 09:58	USD/INR	74.15	75	74.09	75.15

20/02/2022

bank.sbi

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AMT-1 : +91 79 2656 1273
AMT-2 : +91 79 2642 6563
AMT-3 : +91 79 2656 0767
A&A : +91 79 2642 6561
IB : +91 79 2642 6897
CSD : +91 79 2644 0163
+91 79 2656 1128
+91 79 2656 1178
sbi.04152@sbi.co.in

વાણિજ્યિક ગ્રાહક સમૂહ શાખા
૫૮, શ્રીમાળી સોસાયટી,
નવરંગપુરા,
અમદાવાદ - ૩૮૦ ૦૦૯.

वाणिज्यिक ग्राहक समूह शाखा
५८, श्रीमाली सोसायटी,
नवरंगपुरा,
अहमदाबाद – ३८० ००९.

Commercial Clients Group Branch
58, Shrimali Society,
Navrangpura,
Ahmedabad - 380 009.

STATE BANK OF INDIA					
GLOBAL MARKET UNIT-KOLKATA					
FOREIGN CURRENCY READY RATE					
USD CARD RATE 16.02.2022 TO 20.02.2022					
Card Rates above 10 Lakhs					
VALUE_DATE	CURR_CODE	TTBUY	TTSELL	BILLBUY	BILLSELL
19-02-2022 09:58	USD/INR	0	0	74.21	75.28
18-02-2022 15:37	USD/INR	74.25	75.1	74.19	75.26
18-02-2022 12:02	USD/INR	74.5	75.35	74.44	75.51
18-02-2022 09:44	USD/INR	74.7	75.55	74.64	75.71
17-02-2022 10:13	USD/INR	74.75	75.6	74.69	75.76
16-02-2022 13:10	USD/INR	74.64	75.49	74.58	75.65
16-02-2022 09:50	USD/INR	74.85	75.7	74.79	75.86

21/02/2022

bank.sbi

GM : +91 79 2656 1044-45
AMT-1 : +91 79 2656 1273
AMT-2 : +91 79 2642 6563
AMT-3 : +91 79 2656 0767
A&A : +91 79 2642 6561
IB : +91 79 2642 6897
CSD : +91 79 2644 0163
+91 79 2656 1128
+91 79 2656 1178
sbi.04152@sbi.co.in

વાણિજ્યિક ગ્રાહક સમૂહ શાખા
૫૮, શ્રીમાળી સોસાયટી,
નવરંગપુરા,
અમદાવાદ - ૩૮૦ ૦૦૯.

वाणिज्यिक ग्राहक समूह शाखा
५८, श्रीमाली सोसायटी,
नवरंगपुरा,
अहमदाबाद – ३८० ००९.

Commercial Clients Group Branch
58, Shrimali Society,
Navrangpura,
Ahmedabad - 380 009.

भारतीय स्टेट बैंक
STATE BANK OF INDIA

STATE BANK OF INDIA					
GLOBAL MARKET UNIT-KOLKATA					
FOREIGN CURRENCY READY RATE					
USD CARD RATE 01.02.2022 TO 15.02.2022					
Card Rates above 10 Lakhs					
VALUE_DATE	CURR_CODE	TTBUY	TTSELL	BILLBUY	BILLSELL
15-02-2022 15:16	USD/INR	74.95	75.8	74.89	75.96
15-02-2022 09:53	USD/INR	75.2	76.05	75.14	76.21
14-02-2022 09:50	USD/INR	75.15	76	75.09	76.16
11-02-2022 10:02	USD/INR	75.05	75.9	74.99	76.06
11-02-2022 09:33	USD/INR	74.85	75.7	74.79	75.86
10-02-2022 11:16	USD/INR	74.47	75.32	74.41	75.48
10-02-2022 10:44	USD/INR	74.47	75.32	74.41	75.48
10-02-2022 09:49	USD/INR	74.47	75.32	74.41	75.48
09-02-2022 09:42	USD/INR	74.3	75.15	74.24	75.31
08-02-2022 09:45	USD/INR	74.25	75.1	74.19	75.26
07-02-2022 10:58	USD/INR	74.3	75.15	74.24	75.31
07-02-2022 10:00	USD/INR	74.3	75.15	74.24	75.31
05-02-2022 09:50	USD/INR	0	0	74.24	75.31
04-02-2022 09:51	USD/INR	74.32	75.17	74.26	75.33
03-02-2022 09:37	USD/INR	74.45	75.3	74.39	75.46
02-02-2022 12:36	USD/INR	74.45	75.3	74.39	75.46
02-02-2022 09:37	USD/INR	74.3	75.15	74.24	75.31
01-02-2022 13:01	USD/INR	74.4	75.25	74.34	75.41
01-02-2022 09:37	USD/INR	74.2	75.05	74.14	75.2

Authorized Signatory
Date: 16.02.2022

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GM : +91 79 2656 1044-45
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CSD : +91 79 2644 0163
+91 79 2656 1128
+91 79 2656 1178
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વાણિજ્યિક ગ્રાહક સમૂહ શાખા
૫૮, શ્રીમાળી સોસાયટી,
નવરંગપુરા,
અમદાવાદ - ૩૮૦ ૦૦૯.

वाणिज्यिक ग्राहक समूह शाखा
५८, श्रीमाली सोसायटी,
नवरंगपुरा,
अहमदाबाद – ३८० ००९.

Commercial Clients Group Branch
58, Shrimali Society,
Navrangpura,
Ahmedabad - 380 009.

गुजरात ऊर्जा ट्रांसमिशन निगम लिमिटेड
GUJARAT ENERGY TRANSMISSION CORPORATION LIMITED

राज्य भार प्रेषण केंद्र
STATE LOAD DESPATCH CENTRE
132KV Substation Campus, Gotri, Vadodara-390021
Email: impl.sldc@gmail.com Fax 0265- 2322204, 2352019

No: F-Guj-SLDC-22/SCH/SEA/2021-22/03.0/795 **Date: 06.04.2022**

Published on website

To:

All beneficiaries /Entities

Subject: State Energy Account (SEA) based on Availability Based Tariff (ABT) for the Month of **March-2022 (R-00) (for conventional generators)**

Sir,

State Energy Account (SEA) for the month of **March-2022** based on Availability Based Tariff (ABT) has been provisionally issued in accordance with order No.3 of 2006 & subsequent amendment issued by GERC with effective from 5th April, 2010. ***Solar energy would be certified in the subsequent provisional SEA. Wind energy for the current month is not taken into account in the provisional SEA. The same shall be incorporated in the final SEA.*** A State Energy Account provides energy accounting of energy transmitted through State Transmission Network for the billing and settlement of 'Capacity Charge', 'Energy Charge', Energy for Incentive etc.

The detailed information is available on SLDC website www.sldcguj.com. A copy of the same is enclosed for your information and necessary action.

All concern entities are requested to intimate any discrepancy / error within **fifteen days** from the date of issue of this provisional SEA. In case of any discrepancy/error, the provisional SEA would be revised based on reexamination, final decision and confirmation. In case no communication is received from any of the entities within time frame indicating mistakes / discrepancy, the provisional SEA as issued, would be treated as final.

Yours faithfully

6/04

(A B Rathod)
Addl. Chief Engineer (SLDC)

राज्य भार प्रेषण केंद्र
State Load Dispatch Centre
Gujarat Energy Transmission Corporation Ltd.

GETCO

STATE ENERGY ACCOUNT UNDER ABT FOR MARCH 2022

No. F-Guj-SLDC-22/SCH /SEA/2021-22/03.0/795 Date :6th April, 2022

DETAILS OF BILATERAL EXCHANGE WITHIN GETCO-GETCO AND WR-GETCO ROUTE

All Figures in MWH

APPROVAL	SELLER	TRADER	BUYER	DISCOM	TRANSACTION	MWh
						Page C-2(ii)(2 of 10)
0	M/s Shreeyam Power And Steel Industries Limited, M	M/s Shr	IEX	NA	STOA,COLLECTIVE,INTER	829.789600
0	M/s Sanghi Industries Limited	M/s San	IEX	NA	STOA,COLLECTIVE,INTER	46.675665
4046	Jaypee Nigerie Super Thermal Power Plant(JNSTPP	M/s NT	M/s Indian Railways Gujarat	IR_GUJ	STOA,BILATERAL,INTER	1114.923804
0	Jindal India Thermal Power Limited	0	DGVCL	DGVCL	STOA,BILATERAL,INTER	0.000000
0	ODISHA	M/s TP	M/s TPL-Ahmedabad Discom	TAECO	STOA,BILATERAL,INTER	16120.278977
0	M/s Gujarat State Electricity Corporation Limited(GS	0	ODISHA	UGVCL	MTOA,BILATERAL,INTER	2026.387500
0	M/s Oil and Natural Gas Corporation Limited-Hazira	M/s Oil	PXIL	NA	STOA,COLLECTIVE,INTER	0.000000
0	M/s Iron Triangle Limited $$	0	ODISHA	PGVCL	MTOA,BILATERAL,INTER	
0	Jharkhand_Bijli_Vitran_Nigam_Limited	M/s Tor	M/s Torrent Power Limited-Dahej	TEL	STOA,BILATERAL,INTER	507.267770
0	RAIGARH ENERGY GENERATION LTD	0	MGVCL	MGVCL	STOA,BILATERAL,INTER	0.000000
4383	IEX	M/s Ind	M/s Indian Railways Gujarat	IR_GUJ	STOA,COLLECTIVE,INTER	2095.493042
0	M/s Oil and Natural Gas Corporation Limited-Hazira	M/s Oil	IEX	NA	STOA,COLLECTIVE,INTER	2475.962512
0	M/s Bhadreshwar Vidyut Pvt Ltd	0	M/s Prafful Overseas Pvt. Ltd. Cons. No. 3976	DGVCL	MTOA,BILATERAL,INTRA	0.000000
3533	DB POWER LTD	M/s Ma	M/s TPL-Surat Discom	TSECO	STOA,BILATERAL,INTER	54424.647704
0	Collective Transaction	M/s Gu	MGVCL	MGVCL	STOA,COLLECTIVE,INTER	16152.044843
0	M/s TPL-Surat Discom	M/s TP	PXIL	NA	STOA,COLLECTIVE,INTER	0.000000
3170	TATA Power Haldia	M/s Tat	M/s TPL-Ahmedabad Discom	TAECO	STOA,BILATERAL,INTER	46448.596133
0	M/s Philips Carbon Black Ltd, Mundra	0	M/s Colourtex Ind. Pvt. Ltd	DGVCL	MTOA,BILATERAL,INTRA	2688.000000
0	M/s Shree Renuka Sugars Ltd.	M/s Shr	PXIL	NA	STOA,COLLECTIVE,INTER	0.000000
4209	NSL Sugars Limited Aland,Karnataka	M/s PT	M/s TPL-Ahmedabad Discom	TAECO	STOA,BILATERAL,INTER	4812.653926
0	M/s Saurashtra Cement Ltd	M/s Sau	PXIL	NA	STOA,COLLECTIVE,INTER	0.000000
4471	IEX	M/s TP	M/s TPL-Ahmedabad Discom	TAECO	STOA,COLLECTIVE,INTER	93178.987569
0	M/s Bhadreshwar Vidyut Pvt Ltd	0	M/s Kejriwal Geotech Pvt. Ltd.	DGVCL	MTOA,BILATERAL,INTRA	0.000000
4456	IEX	M/s Tor	M/s Torrent Power Limited-Dahej	TEL	STOA,COLLECTIVE,INTER	3832.005860
0	M/s Torrent Power 1147.5 Mw Sugen Ccpp, Kamrej	M/s Tor	IEX	NA	STOA,COLLECTIVE,INTER	0.000000
0	M/s Gujarat Power Corporation Limited(GPCL)	0	ODISHA	UGVCL	MTOA,BILATERAL,INTER	2026.032500
0	M/s Philips Carbon Black Ltd, Palej	M/s Phi	IEX	NA	STOA,COLLECTIVE,INTER	2577.015327
3299	Raipur_Energen_Limited_Adani	M/s Ada	M/s Torrent Power Limited-Dahej	TEL	STOA,BILATERAL,INTER	31014.135802
13818	RAIGARH ENERGY GENERATION LTD	0	PGVCL	PGVCL	STOA,BILATERAL,INTER	250543.070710
14510	RAIGARH ENERGY GENERATION LTD	0	PGVCL	PGVCL	STOA,BILATERAL,INTER	6653.635490
3502	Jindal_Power_Ltd_Stage_I	M/s Tat	M/s TPL-Ahmedabad Discom	TAECO	STOA,BILATERAL,INTER	34941.318180
4459	Raipur_Energen_Limited_Adani	M/s Ada	M/s Mpsez Utilities Ltd	MUL	STOA,BILATERAL,INTER	33613.655668
0	Jharkhand_Bijli_Vitran_Nigam_Limited	M/s TP	M/s TPL-Ahmedabad Discom	TAECO	STOA,BILATERAL,INTER	3672.064080
0	RAIGARH ENERGY GENERATION LTD	0	DGVCL	DGVCL	STOA,BILATERAL,INTER	0.000000
0	Collective Transaction	0	UGVCL	UGVCL	STOA,COLLECTIVE,INTER	194781.932228
0	M/s Philips Carbon Black Ltd, Mundra	M/s Phi	IEX	NA	STOA,COLLECTIVE,INTER	1676.486163
14510	RAIGARH ENERGY GENERATION LTD	0	UGVCL	UGVCL	STOA,BILATERAL,INTER	110227.159800
0	M/s Gallantt Metal Limited Cons. No.31459	M/s Ga	IEX	NA	STOA,COLLECTIVE,INTER	0.000000
0	M/s Gallantt Metal Limited Cons. No.31459	M/s Ga	PXIL	NA	STOA,COLLECTIVE,INTER	0.000000
0	M/s Shree Renuka Sugars Ltd.	0	M/s Arvind Limited	UGVCL	MTOA,BILATERAL,INTRA	2718.000000
0	M/s Bhadreshwar Vidyut Pvt Ltd	0	M/s J B Ecotex LLP	DGVCL	MTOA,BILATERAL,INTRA	0.000000
0	M/s Bhadreshwar Vidyut Pvt Ltd	0	M/s Madura Industrial Textiles Ltd	DGVCL	MTOA,BILATERAL,INTRA	0.000000
0	MB POWER (Madhya Pradesh)Ltd.	M/s TP	M/s TPL-Surat Discom	TSECO	STOA,BILATERAL,INTER	34016.393327
0	M/s Bhadreshwar Vidyut Pvt Ltd	0	M/s Godrej Industries Limited	DGVCL	MTOA,BILATERAL,INTRA	0.000000
0	Sembcorp_Energy_India_Limited_Project_2	0	DGVCL	DGVCL	STOA,BILATERAL,INTER	0.000000
0	Sembcorp_Energy_India_Limited_Project_2	0	PGVCL	PGVCL	STOA,BILATERAL,INTER	0.000000
0	M/s Torrent Power 1147.5 Mw Sugen Ccpp, Kamrej	M/s Tor	PXIL	NA	STOA,COLLECTIVE,INTER	0.000000
0	M/s Bhadreshwar Vidyut Pvt Ltd	0	M/s Gokulanand Petrofibers	DGVCL	MTOA,BILATERAL,INTRA	0.000000
4190	Raipur_Energen_Limited_Adani	M/s PT	M/s TPL-Ahmedabad Discom	TAECO	STOA,BILATERAL,INTER	6357.105701
0	Bihar_State_Power_Holding_Company_Ltd	M/s TP	M/s TPL-Surat Discom	TSECO	STOA,BILATERAL,INTER	743.282536
0	Sembcorp_Energy_India_Limited_Project_2	0	UGVCL	UGVCL	STOA,BILATERAL,INTER	64644.696000
0	Collective Transaction	0	MGVCL	MGVCL	STOA,COLLECTIVE,INTER	105505.969993
0	M/s Saurashtra Cement Ltd	M/s Sau	IEX	NA	STOA,COLLECTIVE,INTER	269.660875
0	Jhabua_Power_Ltd	M/s TP	M/s TPL-Surat Discom	TSECO	STOA,BILATERAL,INTER	3103.285186
0	Adhunik Power And Natural Resources Limited(APN	M/s TP	M/s TPL-Ahmedabad Discom	TAECO	STOA,BILATERAL,INTER	704.953005
0	M/s Bhadreshwar Vidyut Pvt Ltd	0	M/s Rajashree Polyfil(A Division Of Century Et	DGVCL	MTOA,BILATERAL,INTRA	0.000000
3942	IEX	M/s Gift	M/s Gift Power Company Ltd	UGVCL	STOA,COLLECTIVE,INTER	1036.496680
0	M/s JINDAL SAW LTD. PARAGPAR	0	M/s Jindal Saw Ltd,Samaghogha	PGVCL	MTOA,BILATERAL,INTRA	11565.750000
0	M/s Welspun Captive Power Generation Limited	0	M/s Welspun India Limited	DGVCL	MTOA,BILATERAL,INTRA	2196.775000
0	Jindal India Thermal Power Limited	0	PGVCL	PGVCL	STOA,BILATERAL,INTER	0.000000
0	M/s Philips Carbon Black Ltd, Mundra	0	M/s PGP Glass Pvt Ltd-Jambusar	DGVCL	MTOA,BILATERAL,INTRA	818.400000
4202	Jindal India Thermal Power Limited	M/s NT	M/s Indian Railways Gujarat	IR_GUJ	STOA,BILATERAL,INTER	5756.874944

Annexure- VI Sample Single Line Diagram

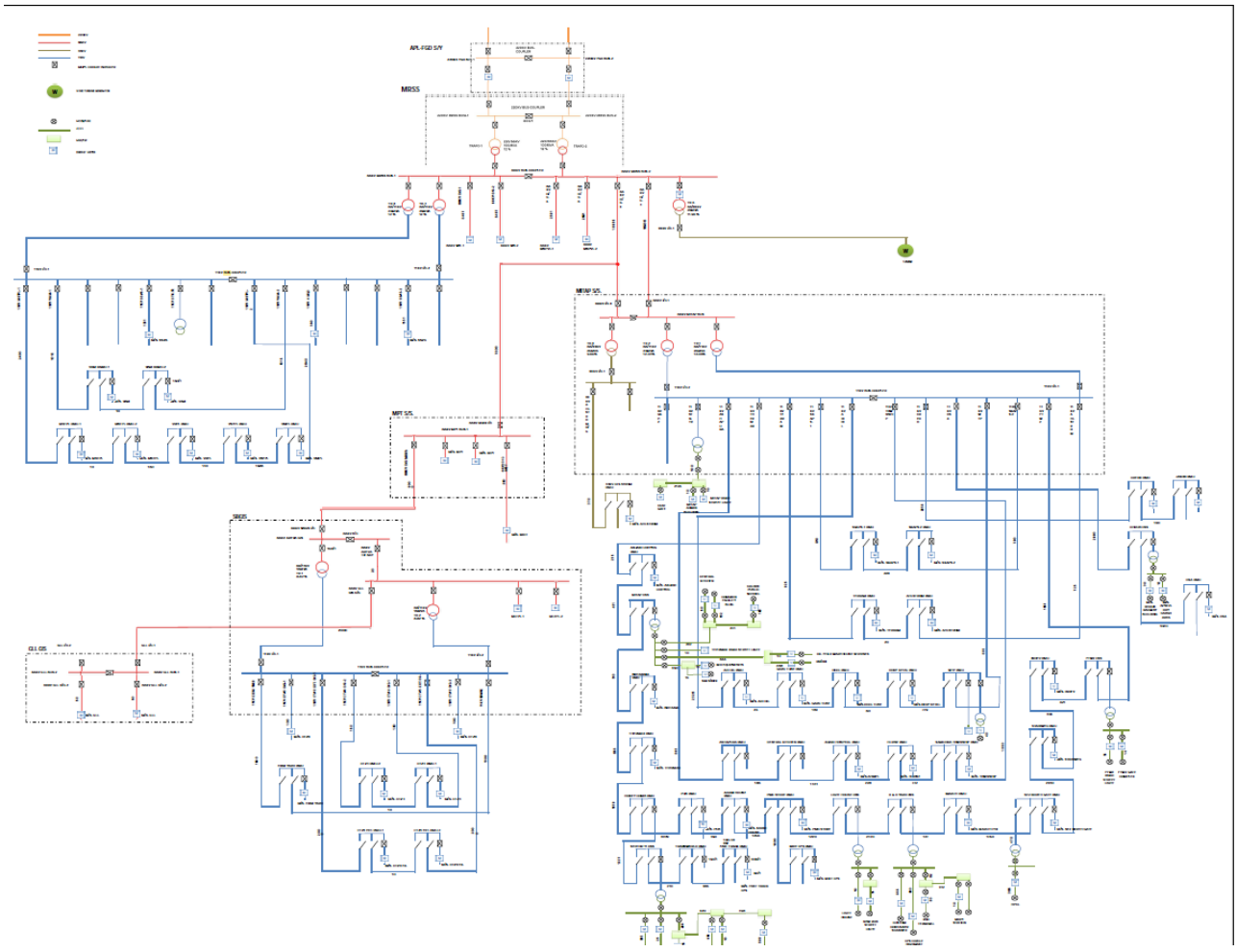

Figure 3 SINGLE LINE DIAGRAM of MUL Network

Annexure- VII Category wise Service Details

S.No	Type of Consumers	Category of Consumers (EHT/HT/LT/Others)	Voltage Level (In Voltage)	No of Consumers	Total Consumption (In MU)
1	Domestic	-	NA		
2	Commercial	LT	433	23	2.069
3	IP Sets	-	NA		
4	Hor. & Nur. & Coffee/Tea & Rubber (Metered)	-	NA		
5	Hor. & Nur. & Coffee/Tea & Rubber (Flat)	-	NA		
6	Heating and Motive Power	-	NA		
7	Water Supply	LT	433	1	0.473
8	Public Lighting	LT	433	8	0.389
9	HT Water Supply	HT	11000	2	1.384
10	HT Industrial	HT	11000	20	208.375
11	Industrial (Small)	LT	433	1	0.06242
12	Industrial (Medium)	-	NA		
13	HT Commercial	EHV/HT	11000	19	152.856
14	Applicable to Government Hospitals & Hospitals	HT	11000	1	0.614
15	Lift Irrigation Schemes/Lift Irrigation Societies	-	NA		
16	HT Res. Apartments Applicable to all areas	HT	11000	1	4.633
17	Mixed Load	-	NA		
18	Government offices and department	LT	433	3	0.1528
19	Others-1 (if any , specify in remarks)	Others (Temporary)	11000/433	2	0.1347
	Total			**81**	**371.15**

Annexure- VIII List of Parameters arrived through calculation or formulae with list of documents as source of data

S. No.	Data	Unit	Sources of data
1	Input Energy Purchased	MUs	Monthly Electricity bills of MPSEZ Utilities Limited
2	Transmission Loss	%	MYT Petition
3	Energy sold outside the periphery	MUs	SAP Statement
4	Open access sale	MUs	SAP Statement
5	EHT sale	MUs	SAP Statement
6	% of metering available at DT	%	Internal Data base
7	% of metering available at consumer end	%	Internal Data base
8	No of feeders at 66kV voltage level	Nos.	N/A
9	No of feeders at 33kV voltage level	Nos.	Internal Data base
10	No of feeders at 11kV voltage level	Nos.	Internal Data base
11	No of LT feeders level	Nos.	Internal Data base
12	Line length (ckt. km) at 66kV voltage level	Km	Internal Data base
13	Line length (ckt. km) at 33kV voltage level	Km	Internal Data base
14	Line length (ckt. km) at 11kV voltage level	Km	Internal Data base
15	Line length (km) at LT level	Km	Internal Data base
16	HT/LT ratio		Internal Data base
17	Feeder wise Import & Export Energy	MUs	Internal Data base
18	Nos. of Consumers	Nos.	Tru up Data
19	Connected Load of Consumers	MW	Statement
20	Input Energy	MUs	Monthly Electricity bills
21	Consumer wise Billed Energy		Year wise G-Form submitted to CEA
22	T&D Loss	MUs	Year wise G-Form submitted to CEA
23	T&D Loss	%	Year wise G-Form submitted to CEA
24	Feeder meters accuracy and error	Document	Latest Calibration reports

Annexure- IX Calibration Reports

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SOP : On-site Testing of Energy Meters at LT Consumer Installations
TITLE : Meter Test Report

Date and Time	22/01/2021
Name of consumer	APSEZL – CFS High mast
Service Number	100020
Contracted Load	29 KVA

Details of Connected Load			
Electrical Appliance	**Wattage**	**Quantity**	**Total Wattage**

Details of Metering Equipment			
Meter		**Current Transformer**	
Make	Secure	Make	Ashmore
Serial Number	MU132013	Serial Number	QE-83060
Current Rating	-/5 A	Current Ratio	100/5 A
Meter Constant	8000 imp/unit	Accuracy Class	0.5
Accuracy Class	0.5s	Rated Burden	1.875VA

Meter Reading			
C_kWh	14264	C_MD kW	–
C_kVAh	15503	MD kW	–
C_kVArh (Lg)	4325	C_MD kVA	37.202
C_kVArh (Ld)	4536	MD kVA	1.544

Meter Test Result			
No Load Test	-	% Error (I Result)	0.25% for 100 Imp
% Error (II Result)	0.13% for 200 Imp	Dial Test	

Remarks :

Name and Signature of MUPL Representative

Name and Signature of Consumer Representative

Form : OP-01-0001 F4	Rev : 0	Last Issue/Revision Date : 11-02-2014

adani

SOP : On-site Testing of Energy Meters at LT Consumer Installations
TITLE : Meter Test Report

Date and Time	15/01/2021
Name of consumer	APSEZL – Central Kitchen
Service Number	200026
Contracted Load	95 KVA

Details of Connected Load			
Electrical Appliance	**Wattage**	**Quantity**	**Total Wattage**

Details of Metering Equipment			
Meter		**Current Transformer**	
Make	Secure	Make	Ashmore
Serial Number	MU132010	Serial Number	PE- 142095
Current Rating	-/5 A	Current Ratio	200/5A
Meter Constant	8000 imp/unit	Accuracy Class	0.5
Accuracy Class	0.5s	Rated Burden	1.875 VA

Meter Reading			
C_kWh	13658	C_MD kW	-
C_kVAh	13667	MD kW	-
C_kVArh (Lg)	154	C_MD kVA	42.16
C_kVArh (Ld)	4040	MD kVA	0.32

Meter Test Result			
No Load Test	-	% Error (I Result)	-0.35% for 200 imp
% Error (II Result)	-0.39 for 100 imp	Dial Test	-0.46% for 10 Min

Remarks : —

Name and Signature of MUPL Representative

Name and Signature of Consumer Representative

Form : OP-01-0001 F4	Rev : 0	Last Issue/Revision Date : 11-02-2014

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SOP : On-site Testing of Energy Meters at HT Consumer Installations

TITLE : Meter Test Report

Date and Time	27/01/2021
Name of consumer	AICTPL
Service Number	200039
Contracted Load	2300 KVA

Details of Connected Load			
Electrical Appliance	**Wattage**	**Quantity**	**Total Wattage**

Details of Metering Equipment			
Meter		**Current Transformer**	
Make	Secure	Make	Hyplon
Serial Number	MU122026	Serial Number	1703527, 28, 29
Current Rating	-/5 A	Current Ratio	150/5 A
Meter Constant	160 Imp/unit	Accuracy Class	0.2s
Accuracy Class	0.5s	Rated Burden	5VA

Meter Reading			
C_kWh	1079427	C_MD kW	-
C_kVAh	1114365	MD kW	-
C_kVArh (Lg)	187831	C_MD kVA	3099.9
C_kVArh (Ld)	13954	MD kVA	83.6

Meter Test Result			
No Load Test	-	% Error (I Result)	0.35% for 160 Imp
% Error (II Result)	0.03% for 320 Imp	Dial Test	0.25% for 10 min

Remarks : -

Name and Signature of MUPL Representative

Name and Signature of Consumer Representative

adani™

SOP : On-site Testing of Energy Meters at HT Consumer Installations
TITLE : Meter Test Report

Date and Time	23/03/2021
Name of consumer	AICTPL
Service Number	200639
Contracted Load	2300 1<VA

Details of Connected Load			
Electrical Appliance	**Wattage**	**Quantity**	**Total Wattage**

Details of Metering Equipment			
Meter		**Current Transformer**	
Make	Secure	Make	Huphen
Serial Number	MU122027	Serial Number	10703533,34,35
Current Rating	-/5 A	Current Ratio	150/5 A
Meter Constant	160 Imp/unit	Accuracy Class	0.2s
Accuracy Class	0.5s	Rated Burden	5VA

Meter Reading			
C_kWh	249638	C_MD kW	-
C_kVAh	255227	MD kW	-
C_kVArh (Lg)	32881	C_MD kVA	1101.4
C_kVArh (Ld)	4637	MD kVA	80.6

Meter Test Result			
No Load Test	-	% Error (I Result)	0.22 % for 160 imp
% Error (II Result)	0.13 % for 320 imp	Dial Test	0.44 % for 10 min

Remarks : —

Name and Signature of MUPL Representative

Indravadan Patel
Name and Signature of Consumer Representative

UGVCL
UTTAR GUJARAT VIJ COMPANY LIMITED

(TC-5914) HI-TECH METER LABORATORY
(Accredited by National Accreditation Board for Testing and Calibration Laboratories, Govt. of India)
SABARMATI, AHMEDABAD-380 005
PHONE: (079) 27506435 FAX: (079) 27506491 E-MAIL: hitechlab@ugvcl.com

TEST REPORT

NAME & ADDRESS OF CUSTOMER	REPORT NO.: HML/18-04/3570/01[T] DATE : 30-05-2018	
M/S MPSEZ Utilities Pvt. Ltd., 2nd Floor, Adani House, Navinal Island, Mundra - 370421.	CUSTOMER REF. NO.: Nil	
	DATE OF RECEIPT	DATE OF TESTING
	24-04-2018	28 to 30-05-2018

SAMPLE DESCRIPTION

15 nos. of 3 ph, 4 wire, Electronics Energy Meter
Type: E3M054 Freq.: 50 Hz
Voltage: 11KV/√3/110V√3
Current: -/5A, Ib=5A, Imax=10A
PULSE/KWh : 160 Imp/Unit
Class: 0.5S
Make: Secure Meters Limited
Year: 1-3,) 04/2016 , 4-15) 02/2018
CONDITION OF SAMPLE:GOOD

SAMPLE IDENTIFICATION

Meter No.	Job No.
MU122008	HML/3570/18-04-01[T]
MU122009	HML/3570/18-04-02[T]
MU122019	HML/3570/18-04-03[T]
MU122038	HML/3570/18-04-04[T]
MU122039	HML/3570/18-04-05[T]
MU122040	HML/3570/18-04-06[T]
MU122041	HML/3570/18-04-07[T]
MU122042	HML/3570/18-04-08[T]
MU122043	HML/3570/18-04-09[T]
MU122044	HML/3570/18-04-10[T]
MU122045	HML/3570/18-04-11[T]
MU122046	HML/3570/18-04-12[T]
MU122047	HML/3570/18-04-13[T]
MU122048	HML/3570/18-04-14[T]
MU122049	HML/3570/18-04-15[T]

Test Details: As per sheet no. 2
Test Specification: Test Procedures as per IS 14697:1999.
Results: As per enclosed sheets
Test Witnessed By : Not Applicable

NOTE: 1) All the tests within the scope of Hi-Tech Meter Laboratory are carried out.
2) This report relates only to the particular sample received in good condition for testing at Hi-Tech Meter Laboratory, UGVCL, Sabarmati.
3) This report cannot be reproduced in part under any circumstances.
4) Publication of this report requires prior permission in writing.
5) Any Anomaly/discrepancy in this report should be brought to our notice within 45days from issue of this report.
6) Uncertainty is taken into account before giving compliance statement.

S P AMIN
PREPARED BY

A N KHALPADA
CHECKED & APPROVED BY

UGVCL
UTTAR GUJARAT VIJ COMPANY LIMITED
(TC-5914) HI-TECH METER LABORATORY
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SABARMATI, AHMEDABAD-380 005
PHONE: (079) 27506435 FAX: (079) 27506491 E-MAIL: hitechlab@ugvcl.com

Sr. No.	Test	Clause No.
1	Test of starting condition	12.13 of IS 14697 : 1999
2	Test of no load condition	12.12 of IS 14697 : 1999
3	Test of meter constant	12.14 of IS 14697 : 1999
4	Test on limits of error	11.1 of IS 14697 : 1999

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1) Test of starting condition (As per Cl. No. 12.13 of IS 14697: 1999)

Requirement → / Meter No. ↓	The meter shall start and continue to register at 3*63.5V-0.1% of I_b – UPF-50HZ at reference voltage for Import Energy (P+)	Remark
MU122008	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122009	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122019	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122038	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122039	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122040	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122041	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122042	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122043	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122044	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122045	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122046	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122047	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122048	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122049	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm

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1) Test of starting condition (As per Cl. No. 12.13 of IS 14697: 1999)

Requirement → / Meter No. ↓	The meter shall start and continue to register at 3*63.5V-0.1% of I_b – UPF-50HZ at reference voltage for Export Energy (P-)	Remark
MU122008	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122009	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122019	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122038	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122039	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122040	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122041	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122042	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122043	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122044	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122045	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122046	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122047	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122048	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm
MU122049	Meter has taken 03Min. & 55 Sec. for exact one pulse output.	Confirm

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2) Test of no load condition (As per Cl. No. 12.12 of IS 14697: 1999)

115% of reference voltage shall be applied to the voltage circuits with no current in the current circuits for a minimum test period equivalent to twenty times the actual test period of starting current but for the period not more than 200 Minutes.

Requirement → / Meter No. ↓	The test output of the meter shall not produce more than one pulse output pulse/count for Import Energy (P+)	Remark
MU122008	No output pulse has found during the test duration of 80 Min	Confirm
MU122009	No output pulse has found during the test duration of 80 Min	Confirm
MU122019	No output pulse has found during the test duration of 80 Min	Confirm
MU122038	No output pulse has found during the test duration of 80 Min	Confirm
MU122039	No output pulse has found during the test duration of 80 Min	Confirm
MU122040	No output pulse has found during the test duration of 80 Min	Confirm
MU122041	No output pulse has found during the test duration of 80 Min.	Confirm
MU122042	No output pulse has found during the test duration of 80 Min.	Confirm
MU122043	No output pulse has found during the test duration of 80 Min.	Confirm
MU122044	No output pulse has found during the test duration of 80 Min.	Confirm
MU122045	No output pulse has found during the test duration of 80 Min.	Confirm
MU122046	No output pulse has found during the test duration of 80 Min.	Confirm
MU122047	No output pulse has found during the test duration of 80 Min.	Confirm
MU122048	No output pulse has found during the test duration of 80 Min.	Confirm
MU122049	No output pulse has found during the test duration of 80 Min.	Confirm

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3) Test of meter constant (As per Cl. No. 12.14 of IS 14697: 1999)

Requirement →	The meter shall record one unit for given meter constant at 3*63.5V-Imax–UPF-50HZ.			Remarks
Meter No.	Limit of % Error	%Error		
		Import(+P)	Export(-P)	
MU122008	±0.5	+0.1005	+0.0034	Confirm
MU122009	±0.5	+0.0042	+0.0049	Confirm
MU122019	±0.5	-0.0009	+0.0051	Confirm
MU122038	+0.5	+0.0099	+0.0014	Confirm
MU122039	±0.5	+0.0101	+0.0032	Confirm
MU122040	±0.5	+0.0038	-0.0053	Confirm
MU122041	±0.5	+0.0094	-0.0059	Confirm
MU122042	±0.5	+0.0051	-0.0024	Confirm
MU122043	±0.5	-0.0016	-0.0008	Confirm
MU122044	±0.5	-0.0015	+0.0052	Confirm
MU122045	±0.5	+0.0081	-0.0052	Confirm
MU122046	±0.5	+0.0013	-0.0014	Confirm
MU122047	±0.5	-0.0098	-0.0103	Confirm
MU122048	±0.5	-0.0034	+0.0065	Confirm
MU122049	±0.5	-0.0029	-0.0047	Confirm

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Report No.: HML/18-04/3570/01[T] **Dated: 30-05-2018**

4) Test on limits of error (As per Cl. No. 11.1 of IS 14697: 1999)

Load Points as per Requirement of Specification (Active Energy)			Meter Nos. and % Error at balance load,3*63.5V,50HZ Import(P+)							
Current	CosØ	Limit of % Error	**MU122008**	**MU122009**	**MU122019**	**MU122038**	**MU122039**	**MU122040**	**MU122041**	**MU122042**
Imax	UPF	±0.5	-0.1617	-0.1904	-0.1973	-0.0069	+0.0483	+0.0069	-0.0113	-0.0333
	0.5 lag	±0.6	-0.2345	-0.2817	-0.2755	-0.0213	+0.0512	+0.0187	+0.0150	-0.0325
	0.8 lead	±0.6	-0.0760	-0.1222	-0.1144	+0.0439	+0.0855	+0.0384	+0.0337	+0.0078
Ib	UPF	±0.5	-0.0918	-0.1464	-0.1361	+0.0403	+0.0822	+0.0475	+0.0453	+0.0131
	0.5 lag	±0.6	-0.1398	-0.1940	-0.1909	+0.0137	+0.0632	+0.0325	+0.0275	-0.0025
	0.8 lead	±0.6	-0.0749	-0.1293	-0.1195	+0.0463	+0.0844	+0.0482	+0.0455	+0.0157
0.5Ib	UPF	±0.5	-0.0868	-0.1479	-0.1386	+0.0675	+0.1013	+0.0725	+0.0619	+0.0337
	0.5 lag	±0.6	-0.1647	-0.2233	-0.2183	+0.0575	+0.0901	+0.0713	+0.0563	+0.0287
	0.8 lead	±0.6	-0.0619	-0.1199	-0.1120	+0.0667	+0.0981	+0.0675	+0.0588	+0.0290
0.1Ib	UPF	±0.5	-0.1122	-0.1789	-0.1620	+0.0454	+0.0878	+0.0600	+0.0354	-0.0008
	0.5 lag	±0.6	-0.1620	-0.2341	-0.2119	+0.0785	+0.1317	+0.0878	+0.0631	+0.0223
	0.8 lead	±0.6	-0.0908	-0.1570	-0.1489	+0.0154	+0.0582	+0.0373	+0.0127	-0.0173
0.05Ib	UPF	±0.5	-0.0674	-0.1185	-0.1270	+0.0620	+0.0933	+0.0655	+0.0468	+0.0218
0.02Ib	0.8 lead	±1.0	-0.0886	-0.1301	-0.1316	+0.0384	+0.0519	+0.0364	+0.0079	-0.0019
0.01Ib	UPF	±1.0	-0.1133	-0.1658	-0.1553	+0.0153	+0.0362	+0.0113	-0.0158	-0.0436
Remarks			Confirm	Confirm	Confirm	Confirm	Confirm	Confirm	Confirm	Confirm

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4) Test on limits of error (As per Cl. No. 11.1 of IS 14697: 1999)

Load Points as per Requirement of Specification (Active Energy)			Meter Nos. and % Error at balance load,3*63.5V,50HZ Import(P+)						
Current	CosØ	Limit of % Error	**MU122043**	**MU122044**	**MU122045**	**MU122046**	**MU122047**	**MU122048**	**MU122049**
Imax	UPF	±0.5	-0.0013	+0.0514	-0.0094	+0.0201	+0.0050	-0.0395	-0.0370
	0.5 lag	±0.6	+0.0175	+0.0775	+0.0012	+0.0187	-0.0025	-0.0300	-0.0275
	0.8 lead	±0.6	+0.0337	+0.0902	+0.0290	+0.0478	+0.0243	+0.0062	+0.0149
Ib	UPF	±0.5	+0.0444	+0.0963	+0.0381	+0.0606	+0.0316	+0.0103	+0.0244
	0.5 lag	±0.6	+0.0275	+0.0838	+0.0287	+0.0475	+0.0181	+0.0006	+0.0006
	0.8 lead	±0.6	+0.0447	+0.0954	+0.0388	+0.0612	+0.0325	+0.0098	+0.0263
0.5Ib	UPF	±0.5	+0.0625	+0.1114	+0.0600	+0.0794	+0.0463	+0.0362	+0.0481
	0.5 lag	±0.6	+0.0525	+0.1076	+0.0588	+0.0788	+0.0413	+0.0388	+0.0325
	0.8 lead	±0.6	+0.0573	+0.1060	+0.0541	+0.0738	+0.0408	+0.0314	+0.0526
0.1Ib	UPF	±0.5	+0.0377	+0.0908	+0.0331	+0.0616	+0.0231	+0.0138	+0.0223
	0.5 lag	±0.6	+0.0731	+0.1286	+0.0708	+0.1101	+0.0523	+0.0585	+0.0415
	0.8 lead	±0.6	+0.0182	+0.0746	+0.0082	+0.0327	+0.0082	-0.0127	+0.0127
0.05Ib	UPF	±0.5	+0.0570	+0.1071	+0.0549	+0.0740	+0.0399	+0.0332	+0.0422
0.02Ib	0.8 lead	±1.0	+0.0305	+0.0596	+0.0120	+0.0513	+0.0097	-0.0075	+0.0111
0.01Ib	UPF	±1.0	+0.0053	+0.0542	+0.0076	+0.0292	-0.0106	-0.0226	+0.0146
Remarks			Confirm	Confirm	Confirm	Confirm	Confirm	Confirm	Confirm

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Report No.: HML/18-04/3570/01[T] **Dated: 30-05-2018**

4) Test on limits of error (As per Cl. No. 11.1 of IS 14697: 1999)

Load Points as per Requirement of Specification (Active Energy)			Meter Nos. and % Error at balance load,3*63.5V,50HZ Export(P-)							
Current	CosØ	Limit of % Error	**MU122008**	**MU122009**	**MU122019**	**MU122038**	**MU122039**	**MU122040**	**MU122041**	**MU122042**
Imax	UPF	±0.5	-0.0806	-0.1221	-0.1120	+0.0630	+0.1110	+0.0636	+0.0706	+0.0277
	0.5 lag	±0.6	-0.1585	-0.1987	-0.1886	+0.0516	+0.1135	+0.0706	+0.0870	+0.0239
	0.8 lead	±0.6	-0.0330	-0.0737	-0.0635	+0.0824	+0.1240	+0.0714	+0.0761	+0.0416
Ib	UPF	±0.5	-0.0603	-0.1127	-0.0955	+0.0660	+0.1013	+0.0594	+0.0685	+0.0284
	0.5 lag	±0.6	-0.0818	-0.1292	-0.1199	+0.0669	+0.1057	+0.0632	+0.0738	+0.0281
	0.8 lead	±0.6	-0.0435	-0.0976	-0.0772	+0.0730	+0.1068	+0.0651	+0.0742	+0.0353
0.5Ib	UPF	±0.5	-0.0550	-0.1136	-0.0955	+0.0944	+0.1214	+0.0863	+0.0851	+0.0506
	0.5 lag	±0.6	-0.1024	-0.1585	-0.1423	+0.1151	+0.1402	+0.1038	+0.1013	+0.0613
	0.8 lead	±0.6	-0.0220	-0.0831	-0.0674	+0.0942	+0.1217	+0.0848	+0.0863	+0.0526
0.1Ib	UPF	±0.5	-0.0830	-0.1498	-0.1229	+0.0646	+0.1055	+0.0731	+0.0492	+0.0123
	0.5 lag	±0.6	-0.1145	-0.1812	-0.1490	+0.1356	+0.1788	+0.1240	+0.1063	+0.0593
	0.8 lead	±0.6	-0.0663	-0.1326	-0.1035	+0.0400	+0.0800	+0.0509	+0.0400	+0.0073
0.05Ib	UPF	±0.5	-0.0515	-0.1050	-0.0869	+0.0679	+0.1079	+0.0596	+0.0612	+0.0265
0.02Ib	0.8 lead	±1.0	-0.0563	-0.1224	-0.1031	+0.0426	+0.0918	+0.0390	+0.0253	-0.0035
0.01Ib	UPF	±1.0	-0.1054	-0.1773	-0.1724	+0.0027	+0.0407	+0.0038	-0.0168	-0.0356
Remarks			Confirm	Confirm	Confirm	Confirm	Confirm	Confirm	Confirm	Confirm

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4) Test on limits of error (As per Cl. No. 11.1 of IS 14697: 1999)

Load Points as per Requirement of Specification (Active Energy)			Meter Nos. and % Error at balance load,3*63.5V,50HZ Export(P-)						
Current	CosØ	Limit of % Error	**MU122043**	**MU122044**	**MU122045**	**MU122046**	**MU122047**	**MU122048**	**MU122049**
Imax	UPF	±0.5	+0.0535	+0.1154	+0.0554	+0.0813	+0.0523	+0.0321	+0.0535
	0.5 lag	±0.6	+0.0605	+0.1286	+0.0554	+0.0819	+0.0554	+0.0340	+0.0605
	0.8 lead	±0.6	+0.0596	+0.1193	+0.0643	+0.0910	+0.0580	+0.0439	+0.0635
Ib	UPF	±0.5	+0.0544	+0.1089	+0.0575	+0.0854	+0.0472	+0.0287	+0.0575
	0.5 lag	±0.6	+0.0544	+0.1195	+0.0581	+0.0838	+0.0544	+0.0413	+0.0625
	0.8 lead	±0.6	+0.0608	+0.1150	+0.0628	+0.0907	+0.0514	+0.0310	+0.0671
0.5Ib	UPF	±0.5	+0.0769	+0.1295	+0.0800	+0.1082	+0.0669	+0.0563	+0.0869
	0.5 lag	±0.6	+0.0901	+0.1490	+0.1001	+0.1251	+0.0813	+0.0863	+0.0963
	0.8 lead	±0.6	+0.0777	+0.1248	+0.0777	+0.1076	+0.0643	+0.0486	+0.0887
0.1Ib	UPF	±0.5	+0.0539	+0.1055	+0.0500	+0.0785	+0.0346	+0.0269	+0.0477
	0.5 lag	±0.6	+0.1009	+0.1641	+0.1124	+0.1494	+0.0777	+0.0970	+0.0970
	0.8 lead	±0.6	+0.0418	+0.0864	+0.0291	+0.0573	+0.0218	+0.0000	+0.0400
0.05Ib	UPF	±0.5	+0.0582	+0.0955	+0.0519	+0.0862	+0.0417	+0.0369	+0.0669
0.02Ib	0.8 lead	±1.0	+0.0312	+0.0744	+0.0147	+0.0599	+0.0090	+0.0030	+0.0239
0.01Ib	UPF	±1.0	-0.0116	+0.0185	-0.0177	+0.0167	-0.0188	-0.0340	-0.0168
Remarks			Confirm	Confirm	Confirm	Confirm	Confirm	Confirm	Confirm

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Report No.: HML/18-04/3570/01[T] **Dated: 30-05-2018**

4) Test on limits of error (As per Cl. No. 11.1 of IS 14697: 1999)

Load Points as per Requirement of Specification (Reactive Energy)			Meter Nos. and % Error at balance load,3*63.5V,50HZ Import(Q+)							
Current	SinØ	Limit of % Error	**MU122008**	**MU122009**	**MU122019**	**MU122038**	**MU122039**	**MU122040**	**MU122041**	**MU122042**
Imax	0.5 lag	±0.6	-0.0450	-0.0900	-0.0737	+0.0237	+0.0663	+0.0100	+0.0100	-0.0088
	0.8 lead	±0.6	-0.1754	-0.2098	-0.2090	-0.0024	+0.0541	+0.0109	+0.0109	-0.0314
Ib	0.5 lag	±0.6	-0.0743	-0.1230	-0.1068	+0.0256	+0.0707	+0.0287	+0.0256	+0.0025
	0.8 lead	±0.6	-0.1054	-0.1539	-0.1422	+0.0329	+0.0698	+0.0345	+0.0361	-0.0032
0.5Ib	0.5 lag	±0.6	-0.0313	-0.0849	-0.0687	+0.0525	+0.0863	+0.0500	+0.0488	+0.0237
	0.8 lead	±0.6	-0.1042	-0.1605	-0.1465	+0.0722	+0.0981	+0.0683	+0.0620	+0.0282
0.1Ib	0.5 lag	±0.6	-0.0776	-0.1321	-0.1229	-0.0131	+0.0161	+0.0061	-0.0108	-0.0377
	0.8 lead	±0.6	-0.1262	-0.1887	-0.1625	+0.0673	+0.1092	+0.0700	+0.0436	+0.0109
Remarks			Confirm	Confirm	Confirm	Confirm	Confirm	Confirm	Confirm	Confirm

Prepared By **Checked & Approved By**

UGVCL
UTTAR GUJARAT VIJ COMPANY LIMITED
(TC-5914) HI-TECH METER LABORATORY
(Accredited by National Accreditation Board for Testing and Calibration Laboratories, Govt. of India)
SABARMATI, AHMEDABAD-380 005
PHONE: (079) 27506435 FAX: (079) 27506491 E-MAIL: hitechlab@ugvcl.com

Report No.: HML/18-04/3570/01[T] **Dated: 30-05-2018**

4) Test on limits of error (As per Cl. No. 11.1 of IS 14697: 1999)

Load Points as per Requirement of Specification (Reactive Energy)			Meter Nos. and % Error at balance load,3*63.5V,50HZ Import(Q+)						
Current	SinØ	Limit of % Error	**MU122043**	**MU122044**	**MU122045**	**MU122046**	**MU122047**	**MU122048**	**MU122049**
Imax	0.5 lag	±0.6	+0.0000	+0.0575	+0.0150	+0.0412	+0.0012	-0.0100	+0.0125
	0.8 lead	±0.6	+0.0070	+0.0667	-0.0032	+0.0298	+0.0039	-0.0236	-0.0134
Ib	0.5 lag	±0.6	+0.0294	+0.0700	+0.0237	+0.0550	+0.0112	-0.0119	+0.0225
	0.8 lead	±0.6	+0.0294	+0.0836	+0.0294	+0.0584	+0.0251	+0.0043	+0.0235
0.5Ib	0.5 lag	±0.6	+0.0475	+0.0863	+0.0450	+0.0700	+0.0300	+0.0087	+0.0538
	0.8 lead	±0.6	+0.0573	+0.1107	+0.0612	+0.0871	+0.0471	+0.0400	+0.0557
0.1Ib	0.5 lag	±0.6	-0.0085	+0.0285	-0.0185	-0.0023	-0.0192	-0.0577	-0.0131
	0.8 lead	±0.6	+0.0546	+0.1074	+0.0455	+0.0846	+0.0318	+0.0364	+0.0409
Remarks			Confirm	Confirm	Confirm	Confirm	Confirm	Confirm	Confirm

Prepared By **Checked & Approved By**

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Report No.: HML/18-04/3570/01[T] **Dated: 30-05-2018**

4) Test on limits of error (As per Cl. No. 11.1 of IS 14697: 1999)

Load Points as per Requirement of Specification (Reactive Energy)			Meter Nos. and % Error at balance load,3*63.5V,50HZ Export(Q-)							
Current	SinØ	Limit of % Error	**MU122008**	**MU122009**	**MU122019**	**MU122038**	**MU122039**	**MU122040**	**MU122041**	**MU122042**
Imax	0.5 lag	±0.6	+0.0588	+0.0162	+0.0287	+0.1264	+0.1602	+0.1088	+0.1088	+0.0850
	0.8 lead	±0.6	-0.0948	-0.1394	-0.1285	+0.0730	+0.1193	+0.0800	+0.0918	+0.0361
Ib	0.5 lag	±0.6	-0.0050	-0.0612	-0.0419	+0.0869	+0.1264	+0.0888	+0.0963	+0.0606
	0.8 lead	±0.6	-0.0647	-0.1152	-0.1015	+0.0706	+0.1024	+0.0671	+0.0769	+0.0294
0.5Ib	0.5 lag	±0.6	+0.0187	-0.0425	-0.0213	+0.0976	+0.1251	+0.0926	+0.0988	+0.0638
	0.8 lead	±0.6	-0.0713	-0.1308	-0.1120	+0.1028	+0.1288	+0.0950	+0.0950	+0.0557
0.1Ib	0.5 lag	±0.6	-0.0354	-0.1168	-0.0846	+0.0077	+0.0439	+0.0231	+0.0154	-0.0185
	0.8 lead	±0.6	-0.1045	-0.1679	-0.1398	+0.0828	+0.1283	+0.0855	+0.0628	+0.0254
Remarks			Confirm	Confirm	Confirm	Confirm	Confirm	Confirm	Confirm	Confirm

Prepared By **Checked & Approved By**

UGVCL
UTTAR GUJARAT VIJ COMPANY LIMITED
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Report No.: HML/18-04/3570/01[T] **Dated: 30-05-2018**

4) Test on limits of error (As per Cl. No. 11.1 of IS 14697: 1999)

Load Points as per Requirement of Specification (Reactive Energy)			Meter Nos. and % Error at balance load,3*63.5V,50HZ Export(Q-)						
Current	SinØ	Limit of % Error	**MU122043**	**MU122044**	**MU122045**	**MU122046**	**MU122047**	**MU122048**	**MU122049**
Imax	0.5 lag	±0.6	+0.1013	+0.1489	+0.1051	+0.1314	+0.0850	+0.0775	+0.1063
	0.8 lead	±0.6	+0.0730	+0.1366	+0.0706	+0.0950	+0.0620	+0.0400	+0.0698
Ib	0.5 lag	±0.6	+0.0800	+0.1283	+0.0826	+0.1076	+0.0650	+0.0456	+0.0876
	0.8 lead	±0.6	+0.0600	+0.1190	+0.0639	+0.0895	+0.0530	+0.0369	+0.0663
0.5Ib	0.5 lag	±0.6	+0.0876	+0.1327	+0.0863	+0.1089	+0.0663	+0.0488	+0.1001
	0.8 lead	±0.6	+0.0855	+0.1374	+0.0910	+0.1146	+0.0730	+0.0683	+0.0934
0.1Ib	0.5 lag	±0.6	+0.0177	+0.0600	+0.0000	+0.0123	-0.0008	-0.0331	+0.0161
	0.8 lead	±0.6	+0.0691	+0.1201	+0.0673	+0.0983	+0.0464	+0.0527	+0.0646
Remarks			Confirm	Confirm	Confirm	Confirm	Confirm	Confirm	Confirm

Prepared By **Checked & Approved By**

(TC-5914)

HI-TECH METER LABORATORY

Near Torrent Power railway crossing, Sabarmati, Ahmedabad-380 005
PHONE: (079) 27506435, E-MAIL: hitechlab@ugvcl.com

(Accredited by National Accreditation Board for Testing and Calibration Laboratories)
(NABL is a constituent board of Quality Council of India)

TEST REPORT

Test Report No: HML/T/20-12/5603/03 Issue Date: 02/01/2021

ULR – TC591421000000018F

Discipline: Electrical Testing Group: AC Energy Meters

NAME & CONTACT INFORMATION OF CUSTOMER:

To,
M/s. MPSEZ Utilities Ltd.,
2nd Floor, Adani House,
Navinal Island,
Mundra - 370421.

Reference SRF No: 5603/2020[T]	Date of receipt: 30/12/2020	Date of testing: 02/01/2021

Consumer Reference:

TEST ITEM DESCRIPTION & IDENTIFICATION: 3P4W Electronics ENERGY METER (KWh Meter)

Voltage	3X240V	**Current**	20-100A, Ib:20A, Imax:100A
Applicable Standard	IS 13779	**Condition of sample**	GOOD

Sr.	Meter Sr.No:	Job No:	Make	Type	Mfg. Year:	Imp/Kwh	Class:	Current
1	MU134015	HML/T/5603/20-12-08	Secure	E3D109	02/2018	800	1.0	20-100A,Ib:20A,Imax:100A

Test Details: As mentioned in page no 2, Results: As per enclosed pages,
Temperature: 27°C±2°C,**Relative Humidity**: between 45 % to 75%
Test methods used: As Per IS 13779
Addition or deviation from method used: No, Results from external provider: Not applicable.
Test witnessed by:

Major Equipments used for testing:

Sr. No.	Description	Make/ Model	Sr. no.	Range of Measurement	Measurement Uncertainty
1	Reference Standard Meter	EMH	28226	Voltage –3x40 to 300VAC(P-N) Current 3x10mA..120A (cl.0.05)	±0.066%

NOTE:

1. This report relates only to the particular sample received in good condition for testing at Hi-Tech Meter Laboratory, UGVCL, Sabarmati.
2. The results mentioned are in % error with respect to unit of measurement.
3. This report cannot be reproduced in part under any circumstances.
4. Publication of this report requires prior permission in writing from at Hi-Tech Meter Laboratory, Sabarmati.
5. All the tests within the scope of Hi-Tech Meter Laboratory are carried out.
6. The decision rule applied as per contract with customer.
7. The test item details are provided by the customer and on the name plate of test item.
8. Sample provided by customer, no sampling done at Hi-Tech Meter Laboratory, Sabarmati
9. Any Anomaly/discrepancy in this report should be brought to our notice within 45days from issue of this report.

PREPARED BY
M R KOTADIYA
DEPUTY QUALITY MANAGER

REVIEWED, APPROVED & AUTHORIZED BY
A N DIWAN
TECHNICAL MANAGER

TEST DETAILS MENTIONED AS PER SEQUENCE OF TESTING

Sr. No.	Test	Clause No.
1	Test of starting condition	12.14 of IS 13779
2	Test of no load condition	12.13 of IS 13779
3	Test of meter constant	12.15 of IS 13779
4	Test on limits of error	11.1 of IS 13779

PREPARED BY
J J DAVE
TESTING PERSONNEL

CHECKED BY
A N DIWAN
TECHNICAL MANAGER

1) Test of starting condition (As per Cl. No. 12.14 of IS 13779)

Requirement → / Meter No. ↓	The meter shall start and continue to register at 3*240V-0.4% of I_b – UPF-50HZ at reference voltage.	Remark
MU134015	Meter has taken 01 Min. & 18 Sec. for exact one pulse output.	Conform

3) Test of no load condition (As per Cl. No. 12.13 of IS 13779)

115% of reference voltage shall be applied to the voltage circuits with no current in the current circuits for a minimum test period equivalent to twenty times the actual test period of starting current but for the period not more than 200 Minutes.

Requirement → / Meter No. ↓	The test output of the meter shall not produce more than one pulse output pulse/count.	Remark
MU134015	No output pulse has found during the test duration of 30 Min.	Conform

4) Test of meter constant (As per Cl. No. 12.15 of IS 13779)

Requirement →	The meter shall record one unit for given meter constant at 3*240V-Imax– UPF-50HZ. The error Should be within Limit as Mentioned		Remarks
Meter No.	Limit of % Error	%Error	
		Import(+P)	
MU134015	±1.0	-0.0040	Conform

PREPARED BY
J J DAVE
TESTING PERSONNEL

CHECKED BY
A N DIWAN
TECHNICAL MANAGER

5) Test on limits of error (As per Cl. No. 11.1 of IS 13779)

Load Points as per Requirement of Specification (Active Energy)			Meter Nos. and Valued of % Error at balance load,3*240V,50HZ
Current	CosØ	Limit of % Error	**MU132029**
Imax	UPF	±1.0	-0.1246
	0.5 lag	±1.0	+0.2124
	0.8 lead	±1.0	-0.2649
Ib	UPF	±1.0	+0.0121
	0.5 lag	±1.0	+0.4401
	0.8 lead	±1.0	-0.1776
0.5Ib	UPF	±1.0	+0.0189
	0.5 lag	±1.0	+0.4409
	0.8 lead	±1.0	-0.1623
0.1Ib	UPF	±1.0	-0.0272
	0.5 lag	±1.5	+0.3613
	0.8 lead	±1.5	-0.2146
0.05Ib	UPF	±1.5	-0.0316
Remarks			Conform

----END OF REPORT----

PREPARED BY
J J DAVE
TESTING PERSONNEL

CHECKED BY
A N DIWAN
TECHNICAL MANAGER

HI-TECH METER LABORATORY
Near **Torrent Power railway crossing, Sabarmati, Ahmedabad-380 005**
PHONE: (079) 27506435, E-MAIL: hitechlab@ugvcl.com

TEST REPORT

Test Report No: HML/T/20-12/5603/04 **Issue Date: 02/01/2021**

NAME & CONTACT INFORMATION OF CUSTOMER:

To,
M/s. MPSEZ Utilities Ltd.,
2nd Floor, Adani House,
Navinal Island,
Mundra - 370421.

Reference SRF No:5603/2020[T]	**Date of receipt: 30/12/2020**	**Date of testing: 02/01/2021**

Consumer Reference: ---

TEST ITEM DESCRIPTION & IDENTIFICATION: 3P4W STATIC AC ENERGY METER(KWh)

Voltage	3X240V	**Current**	20-100A, Ib:20A, Imax:100A
Applicable Standard	IS 13779	**Condition of sample**	GOOD

Sr.	Meter Sr.No:	Job No:	Make	Type	Mfg. Year:	Pulse/Unit	Class:	Current
1	MU134015	HML/T/5603/20-12-08	Secure	E3D109	02/2018	800	1.0	20-100A,Ib:20A,Imax:100A

Test Details: As mentioned in page no 2, Results: As per enclosed pages,
Temperature: 27°C±2°C,**Relative Humidity**: between 45 % to 75%
Test methods used: As Per Customer Requirement
Addition or deviation from method used: No, **Results from external provider:** Not applicable.
Test witnessed by: ---

Major Equipments used for testing:

Sr. No.	Description	Make/ Model	Sr. no.	Range of Measurement	Measurement Uncertainty
1	Reference Standard Meter	EMH	28226	Voltage –3x40 to 300VAC(P-N) Current 3x10mA..120A (cl.0.05)	±0.066%

NOTE:
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5. All the tests within the scope of Hi-Tech Meter Laboratory are carried out.
6. The decision rule applied as per contract with customer.
7. The test item details are provided by the customer and on the name plate of test item.
8. Sample provided by customer, no sampling done at Hi-Tech Meter Laboratory, Sabarmati
9. Any Anomaly/discrepancy in this report should be brought to our notice within 45days from issue of this report.

PREPARED BY
M R KOTADIYA
DEPUTY QUALITY MANAGER

REVIEWED, APPROVED & AUTHORIZED BY
A N DIWAN
TECHNICAL MANAGER

TEST DETAILS MENTIONED AS PER SEQUENCE OF TESTING

Sr. No.	Test	Clause No.
1	Test on limits of error	As per Customer Requirement

1) Test on limits of error (As per Customer Requirement)

Load Points as per Requirement of Specification (Active Energy)		Meter Nos. and Valued of % Error at balance load,3*240V,50HZ	
Current	CosØ	Limit of % Error	MU132029
0.02 Ib	0.5 lag	----	+0.3109
	0.8 lead	----	-0.2257
0.01 Ib	UPF	----	-0.0967

Load Points as per Requirement of Specification (Reactive Energy)		Meter Nos. and Valued of % Error at balance load,3*240V,50HZ	
Current	CosØ	Limit of % Error	MU132029
Imax	0.5 lag	±1.0	-0.2347
	0.8 lead	±1.0	-0.0249
Ib	0.5 lag	±1.0	-0.2677
	0.8 lead	±1.0	+0.0964
0.5Ib	0.5 lag	±1.0	-0.2949
	0.8 lead	±1.0	+0.1191
0.1Ib	0.5 lag	±1.5	-0.3865
	0.8 lead	±1.5	+0.0860
Remarks			Conform

------END OF TEST REPORT------

PREPARED BY
J J DAVE
TESTING PERSONNEL

CHECKED BY
A N DIWAN
TECHNICAL MANAGER

GETCO
GUJARAT ENERGY TRANSMISSION CORPORATION LIMITED
OFFICE OF THE JUNIOR ENGINEER (TELECOM)
66KV Sub Station, GETCO- BHUJ - 370001 GUJARAT.
PHONE: (02832)-252901 E-mail : jetelbhuj.getco@gebmail.com

220KV MUPL – FGD Line - 2 **Date of testing : 28.02.2019**

Routine test for ABT Meter

1. Starting conditions (Clause No.12.13 & 11.5 of IS 14697:1999)

Requirement	The meter shall start and continue to register at current 0.1 % Ib, UPF	Remarks
Meter No.	Obtained Values	
GJ-1055-A	Satisfactory	Confirm

2. Start up test. (Clause No.11.4.1 of IS 14697:1999)

Requirement	The meter shall be fully functional within 5 seconds after rated voltage is applied to the meter terminals	Remarks
Meter No.	Obtained Values (seconds)	
GJ-1055-A	Satisfactory	Confirm

3. Running with no-load (Clause No.11.4.2 & 12.12 of IS 14697:1999)

Requirement	With current circuit open, a voltage at 115% of ref. voltage applied to the voltage circuits. The minimum test period shall be 20 times of the actual test period of starting current. The Max. Test period shall be limited to 200 Min. The test output of the meter shall not produce more than 1 out pulse.	Remarks
Meter No.	Obtained Values	
GJ-1055-A	Satisfactory (Checked for 10 minutes, no pulse observed)	Confirm

4. Limits of Error. (Clause No.11.1 of IS 14697:1999)

(A) Test sequence RBK 12 Active -- Export Mode Active energy.

Sr. No.	% Load of Ib	Phase Angle CosØ	% Error limits.	Obtained % Error	Remarks
1	10	1.0	± 0.2	+ 0.027	
2	50	1.0	± 0.2	+ 0.078	
3	100	1.0	± 0.2	+ 0.118	
4	120	1.0	± 0.2	+ 0.103	
5	10	0.5 Lag	± 0.3	+ 0.026	
6	50	0.5 Lag	± 0.3	+ 0.085	
7	100	0.5 Lag	± 0.3	+ 0.132	
8	120	0.5 Lag	± 0.3	+ 0.117	
9	10	0.8 Lead	± 0.3	+ 0.027	
10	50	0.8 Lead	± 0.3	+ 0.065	
11	100	0.8 Lead	± 0.3	+ 0.110	
12	120	0.8 Lead	± 0.3	+ 0.098	

J.E. (Telecom)
GETCO BHUJ

5. Verification of Reactive Energy Registration in low & High Registers: (As per ABT Specification)

The reactive energy was measured at below 97% (for Low Varh Register) & at above 103% (For High Varh Register) of Rated Voltage at Ib & 0.5 Lag for 10 minutes.

Meter Sr.No.	% Voltage	Register	Final Reading	Initial Reading	Difference	Remarks
GJ-1055-A	97 %	Low	9.5	8.5	1.0	
		High	1757.4	1757.4	0.0	
	103 %	Low	9.5	9.5	0.0	
		1099.6	1758.4	1758.4	1.0	

Observation: Both the Registers **Varh low** and **Varh high** increases normally in low voltage (less than 97%) and in high voltage (More than 103 %) condition respectively.

6. Meter Constant Test. (Clause No.11.6 of IS 14697:1999)

The relation between the test out put and the indication in the display shall comply with the marking on the name plate.

Meter sr. no.: - GJ-1055-A

Sr. No.	Type of Energy	Load point	% Error limits.	Obtained % Error	Remarks
1	Active	V ref, 100 % Ib, UPF	± 0.2	+ 0.109	
2	Re-Active	103 % V ref, 100 % Ib, 0.5 Lag	± 0.5	+ 0.089	
3	Re-Active	97 % V ref, 100 % Ib, 0.5 Lag	± 0.5	+ 0.094	

J.E. (Telecom)
GETCO BHUJ

GETCO

GUJARAT ENERGY TRANSMISSION CORPORATION LIMITED

OFFICE OF THE JUNIOR ENGINEER (TELECOM)
66KV Sub Station, GETCO- BHUJ - 370001 GUJARAT.
PHONE: (02832)-252901 E-mail : jetelbhuj.getco@gebmail.com

220KV MUPL – FGD Line - 1 **Date of testing : 28.02.2019**

Routine test for ABT Meter

1. Starting conditions (Clause No.12.13 & 11.5 of IS 14697:1999)

Requirement	**The meter shall start and continue to register at current 0.1 % Ib, UPF**	**Remarks**
Meter No.	Obtained Values	
GJ-1056-A	Satisfactory	Confirm

2. Start up test. (Clause No.11.4.1 of IS 14697:1999)

Requirement	**The meter shall be fully functional within 5 seconds after rated voltage is applied to the meter terminals**	**Remarks**
Meter No.	Obtained Values (seconds)	
GJ-1056-A	Satisfactory	Confirm

3. Running with no-load (Clause No.11.4.2 & 12.12 of IS 14697:1999)

Requirement	**With current circuit open, a voltage at 115% of ref. voltage applied to the voltage circuits. The minimum test period shall be 20 times of the actual test period of starting current. The Max. Test period shall be limited to 200 Min. The test output of the meter shall not produce more than 1 out pulse.**	**Remarks**
Meter No.	Obtained Values	
GJ-1056-A	Satisfactory (Checked for 10 minutes, no pulse observed)	Confirm

4. Limits of Error. (Clause No.11.1 of IS 14697:1999)

(A) Test sequence RBK 12 Active -- Export Mode Active energy.

Sr. No.	% Load of Ib	Phase Angle CosØ	% Error limits.	Obtained % Error	Remarks
1	10	1.0	± 0.2	+ 0.004	
2	50	1.0	± 0.2	+ 0.053	
3	100	1.0	± 0.2	+ 0.079	
4	120	1.0	± 0.2	+ 0.076	
5	10	0.5 Lag	± 0.3	- 0.010	
6	50	0.5 Lag	± 0.3	+ 0.062	
7	100	0.5 Lag	± 0.3	+ 0.071	
8	120	0.5 Lag	± 0.3	+ 0.049	
9	10	0.8 Lead	± 0.3	+ 0.012	
10	50	0.8 Lead	± 0.3	+ 0.054	
11	100	0.8 Lead	± 0.3	+ 0.092	
12	120	0.8 Lead	± 0.3	+ 0.097	

J.E. (Telecom)
GETCO BHUJ

5. Verification of Reactive Energy Registration in low & High Registers: (As per ABT Specification)

The reactive energy was measured at below 97% (for Low Varh Register) & at above 103% (For High Varh Register) of Rated Voltage at Ib & 0.5 Lag for 10 minutes.

Meter Sr.No.	% Voltage	Register	Final Reading	Initial Reading	Difference	Remarks
GJ-1056-A	97 %	Low	9.5	8.4	1.1	
	103 %	High	2023.1	2023.1	0.0	
		Low	9.5	9.5	0.0	
		1099.6	2024.2	2023.1	1.1	

Observation: Both the Registers **Varh low** and **Varh high** increases normally in low voltage (less than 97%) and in high voltage (More than 103 %) condition respectively.

6. Meter Constant Test. (Clause No.11.6 of IS 14697:1999)

The relation between the test out put and the indication in the display shall comply with the marking on the name plate.

Meter sr. no.: - GJ-1056-A

Sr. No.	Type of Energy	Load point	% Error limits.	Obtained % Error	Remarks
1	Active	V ref, 100 % Ib, UPF	± 0.2	+ 0.078	
2	Re-Active	103 % V ref, 100 % Ib, 0.5 Lag	± 0.5	+ 0.095	
3	Re-Active	97 % V ref, 100 % Ib, 0.5 Lag	± 0.5	+ 0.082	

J.E. (Telecom)
GETCO BHUJ

Annexure- X Infrastructure & Energy details

Detail of Consumer with connected Load

SN	Ser No	Consumer Name	Category	Voltage	Sub Category	Contract Demand (KVA)	Connected Load (KW)
1	100001	MITAP Admin Building	LT	433	COMMERCIAL (DEMAND)	12	11
2	100002	MITAP Common Facility Building	LT	433	COMMERCIAL (DEMAND)	40	22
3	100003	MUPL-CETP	LT	433	COMMERCIAL (DEMAND)	95	341
4	100005	APSEZL-MDPT Station	LT	433	COMMERCIAL (DEMAND)	95	147
5	100006	Director of Light House and Lightship	LT	433	COMMERCIAL (DEMAND)	14	35
6	100008	APSEZL-SEZ GATE COMPLEX	HT	11000	HTMD-1 (COMMERCIAL)	150	169
7	100009	APSEZL- Streetlight	LT	433	STREETLIGHT	12	10
8	100010	Calorx Education Co. Pvt. Ltd	LT	433	COMMERCIAL (DEMAND)	50	90
9	100011	RCD Mundra Port Terminal	LT	433	COMMERCIAL (DEMAND)	15	18
10	100012	Oil Field Warehouse & Services	LT	433	COMMERCIAL (DEMAND)	28	24
11	100013	MITAP Streetlight	LT	433	STREETLIGHT	10	9
12	100014	APSEZL-Dhrub Raliway Building	LT	433	COMMERCIAL (DEMAND)	10	19
13	100015	Empezar Logistics Private Limited	LT	433	COMMERCIAL (DEMAND)	60	16
14	100016	The Principle,ITI Mundra	LT	433	COMMERCIAL (DEMAND)	40	90
15	100017	APSEZL-4MLD	HT	11000	HTMD-IV (HT WW)	160	220
16	100018	APSEZL-Dry Cargo Area	LT	433	COMMERCIAL (DEMAND)	20	40
17	100019	APSEZL-Sector12N Streetlight	LT	433	STREETLIGHT	12	12
18	100020	APSEZL-CFS CIRCLE HIGH MAST	LT	433	STREETLIGHT	29	40
19	100022	Saurashtra Freight Private Limited	LT	433	COMMERCIAL (DEMAND)	75	75
20	100023	APSEZL-TTPL	LT	433	COMMERCIAL (DEMAND)	95	95
21	100025	APSEZL FTWZ Streetlight	LT	433	STREETLIGHT	19	26
22	100026	Kerry IndevLogistics Pvt Ltd	LT	433	COMMERCIAL (DEMAND)	95	104
23	100027	APSEZL Streetlight (ROB)	LT	433	STREETLIGHT	66	34
24	100028	APSEZL FTWZ GATE	LT	433	COMMERCIAL (DEMAND)	17	26
25	100029	APSEZL EAST GATE	LT	433	COMMERCIAL (DEMAND)	19	33
26	100030	Fast Track CFS Private Limited	HT	11000	HTMD-1 (COMMERCIAL)	200	105
27	100031	The Office of the pricipal commissioner of Customs	LT	433	COMMERCIAL (DEMAND)	95	95
28	100032	APSEL-Street light HM New CFS Area	LT	433	STREETLIGHT	16	15
29	100033	M.D. Equipment Private Limited	LT	433	INDUSTRIAL	65	94
30	100034	Hindustan Petroleum Corporation Limited	LT	433	COMMERCIAL (DEMAND)	50	8
31	100035	Rudraksh Terminal LLP	LT	433	COMMERCIAL (DEMAND)	20	20
32	100036	Adani Logistics Limited	LT	433	COMMERCIAL (DEMAND)	95	112
33	100037	APSEZL- New CFS Street Light	LT	433	STREETLIGHT	10	13
34	100038	SEA SHORE LOGISTICS	LT	433	COMMERCIAL (DEMAND)	6	6
35	100040	Shivansh Terminal llp	LT	433	COMMERCIAL (DEMAND)	20	14
36	100041	APSEZL_SV Station	LT	433	COMMERCIAL (DEMAND)	27	40
37	200001	Terram Geosynthetics Pvt.Ltd	HT	11000	HTMD-1 (INDUSTRIAL) > 500	1700	3104
38	200002	APSEZL-WTP	HT	11000	HTMD-IV (HT WW)	175	231
39	200003	Maruti Suzuki Ltd	HT	11000	HTMD-1 (COMMERCIAL)	300	790
40	200004	APSEZL-West Basin	EHT	66000	HTMD-1 (COMMERCIAL) > 500	10125	54374
41	200005	Adani Hospitals Mundra Pvt Ltd	HT	11000	HTMD-1 (COMMERCIAL)	175	617
42	200006	Ahlstrom fibercomposites India Pvt. Ltd	EHT	33000	HTMD-1 (INDUSTRIAL) > 500	4850	10233
43	200007	APSEZL- PMC Stores	HT	11000	HTMD-1 (COMMERCIAL)	150	500
44	200008	APSEZL- PUB	HT	11000	HTMD-1 (COMMERCIAL)	300	502
45	200009	APSEZL- Samudra Township	HT	11000	HTMD-III (HT RESIDENTIAL)	900	9800
46	200011	Mundra Oil Pvt Ltd	HT	11000	HTMD-1 (INDUSTRIAL)	175	225
47	200012	SKAPS Industries India Pvt Ltd	HT	11000	HTMD-1 (INDUSTRIAL) > 500	1250	2781
48	200013	Dorf Ketal Speciality Catalyst (P) Ltd	HT	11000	HTMD-1 (INDUSTRIAL) > 500	2500	3859
49	200014	APSEZL SS 5	HT	11000	HTMD-1 (COMMERCIAL) > 500	2000	3400
50	200016	APSEZL-Covered Storage Area	LT	433	COMMERCIAL (DEMAND)	95	309
51	200017	Thermax Babcock & wilcox Energy Solution Pvt Ltd.	HT	11000	HTMD-1 (INDUSTRIAL)	200	1533
52	200018	Oriental Carbon & Chemicals Ltd	HT	11000	HTMD-1 (INDUSTRIAL) > 500	3330	4178
53	200019	Adani Port	EHT	66000	HTMD-1 (COMMERCIAL) > 500	6000	63635
54	200021	APSEZL-Container Terminal	HT	11000	HTMD-1 (COMMERCIAL) > 500	3000	46060
55	200022	SKAPS Industries India Pvt Ltd (Mundra SEZ Unit II)	HT	11000	HTMD-1 (INDUSTRIAL) > 500	2600	3829
56	200025	APSEZL-Exim Yard	HT	11000	HTMD-1 (COMMERCIAL)	110	283
57	200026	APSEZL-Central Kitchen	LT	433	COMMERCIAL (DEMAND)	95	61
58	200027	Mundra Solar Technopark Private Limited	HT	11000	HTMD-1 (COMMERCIAL) > 500	750	2450
59	200028	ACMTPL	HT	11000	HTMD-1 (COMMERCIAL) > 500	2000	28451
60	200029	Anjani Udyog Pvt Ltd	HT	11000	HTMD-1 (INDUSTRIAL) > 500	2600	5392
61	200030	Hlrise Hospitality Pvt Ltd	HT	11000	HTMD-1 (COMMERCIAL)	105	150
62	200031	Garg Tube Export LLP	HT	11000	HTMD-1 (INDUSTRIAL) > 500	700	1000
63	200032	MUNDRA SOLAR PV LIMITED_VAM	HT	11000	HTMD-1 (INDUSTRIAL) > 500	650	1662
64	200033	APSEZL- Adani House	HT	11000	HTMD-1 (COMMERCIAL)	450	670
65	200034	Steinweg Sharaf	LT	433	COMMERCIAL (DEMAND)	50	96
66	200035	Mundra Solar PV Limited	EHT	66000	HTMD-1 (INDUSTRIAL) > 500	9000	58700
67	200036	VISHAKHA RENEWABLES PRIVATE LIMITED	HT	11000	HTMD-1 (INDUSTRIAL) > 500	650	596
68	200037	VISHAKHA SOLAR FILMS PRIVATE LIMITED	HT	11000	HTMD-1 (INDUSTRIAL)	260	171
69	200038	MICT	EHT	66000	HTMD-1 (COMMERCIAL) > 500	2500	11508
70	200039	ADANI INTERNATIONAL CONTAINER TERMINALS PVT LTD	HT	11000	HTMD-1 (COMMERCIAL) > 500	2500	30557
71	200040	Britannia Industries Limited	HT	11000	HTMD-1 (INDUSTRIAL) > 500	1500	2878
72	200041	Gujarat Credo Alumina Chemicals Pvt Ltd	HT	11000	HTMD-1 (INDUSTRIAL) > 500	2200	5772
73	200042	MICT_CFS	HT	11000	HTMD-1 (COMMERCIAL)	350	725
74	200043	Mundra LPG terminal Private Limited	EHT	66000	HTMD-1 (COMMERCIAL) > 500	2500	9006
75	200044	GSPC LNG Terminal	EHT	66000	HTMD-1 (COMMERCIAL) > 500	6500	35370
76	200045	Aanya Composite Pvt Ltd.	HT	11000	HTMD-1 (INDUSTRIAL)	150	318
77	200046	Vishkakha Metal Private Limited	HT	11000	HTMD-1 (INDUSTRIAL) > 500	2650	4409
78	200047	Jesons techno Polymers LLP	HT	11000	HTMD-1 (INDUSTRIAL)	650	1362
79	200048	HEHONG PAPER INDIA TECHNOLOGY PVT. LTD	HT	11000	HTMD-1 (INDUSTRIAL)	500	4575
80	900023	JNK INDIA PRIVATE LIMITED	LT	433	TEMPORARY	100	98
81	900024	Shoolin Trade Link LLP	LT	433	TEMPORARY	10	10

Total No. of Consumer	**81**
Total Connected Load in KW	**418458**

MPSEZ UTILITIES LIMITED

Category wise billed energy (in KWH)

Category	EHT	HT	LT	Grand Total
COMMERCIAL (DEMAND)			2695243.00	2695243.00
HTMD-1 (COMMERCIAL)		7311909.00		7311909.00
HTMD-1 (COMMERCIAL) > 500	101069877.26	45088931.79		146158809.05
HTMD-1 (INDUSTRIAL)		4219030.00		4219030.00
HTMD-1 (INDUSTRIAL) > 500	88861200.00	115295675.00		204156875.00
HTMD-III (HT RESIDENTIAL)		4633950.00		4633950.00
HTMD-IV (HT WW)		1384410.00		1384410.00
INDUSTRIAL			62420.00	62420.00
STREETLIGHT			389135.00	389135.00
TEMPORARY			134703.00	134703.00
Grand Total	**189931077.26**	**177933905.79**	**3281501.00**	**371146484.05**

Transmission & Distribution losses

Description	MU
Input Energy (MUL Bus)	383.449
Sold Energy	371.15
Diff	12.302
T & D Losses in %	**3.208%**

No. of feeders & Length

Voltage Levels	Nos. of Feeder	Length (Ckt. Km)
66 kV	11	62.9
33 kV	1	0.4
11 kV	29	65.4
0.433 KV	23	10.4

Metering Status of Consumer

Category	Smart Meter	AMR
LT	38	2
HT	36	17
EHT	7	4
Total	**81**	**23**

Nos. of Power transformers with Capacity

Voltage Level	Nos. of X'mer	Capacity in MVA	Total Capacity in MVA
220/66	2	100	200
66/33	1	25	25
66/11	4	25	100
66/11	2	16	32
Total	**9**	**166**	**357**

Nos. of Distribution transformers with Capacity

Voltage Level	Nos. of X'mer	Capacity in KVA	Total Capacity in KVA
11/0.433	2	990	1980
11/0.433	5	315	1575
11/0.433	2	250	500
11/0.433	1	125	125
Total	**10**	**1680**	**4180**

THANK YOU