Annual Energy Audit Report (FY 2022-23)

Designated Consumer (DIS0009KR)

M/s Bangalore Electricity Supply Company Limited (BESCOM)

BESCOM, Corporate Office, K.R. Circle
Bangalore– 560001

Conducted By

M/s EAST COAST SUSTAINABLE (P) LTD

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ANDHRA PRADESH – 530028
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Bureau of Energy Efficiency
Ministry of Power, Govt. of India
4th Floor, Sewa Bhawan
R. K. Puram,
New Delhi - 110066

Subject: Energy Audit Report of Bangalore Electricity Supply Company Ltd (Designated Consumer Number: DIS0009KR)

Dear Sir

Please find herewith the Energy Audit Report of Bangalore Electricity Supply Company Ltd (Designated Consumer Number: DIS0009KR) prepared as per the Bureau of Energy Efficiency regulations for Manner and Intervals for Conduct of Energy Audit in electricity distribution companies (vide Bureau of Energy Efficiency notification dated 6th October 2021).

The Energy Audit Report is for the financial year 2022-2023.

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ACKNOWLEDGEMENT

East Coast Sustainable Pvt Limited (ECSPL) places on records its deep gratitude to the progressive management of **Bangalore Electricity Supply Company Limited (BESCOM), Bangalore** for entrusting the work of Annual Energy Audit for FY 2022-2023 as per BEE regulations.

ECSPL wishes to thank the following officials for their kind support extended during Annual Energy Audit.

1. Mr. M.L. Nagaraja, CGM (Operations)
2. Mr. Yogesh B.K., General Manager (El) (M&C)
3. Mr. H.B. Basavaraju, DGM, Energy Audit (Energy Auditor)
4. Mrs. Liji Joy, AGM, Energy Audit
5. Ms. Anupama, AGM, Energy Audit (IT Manager)

ECSPL also wishes to thank all other executives and staff of BESCOM for their excellent cooperation and support for successful completion of Energy Audit.

ENERGY AUDIT TEAM
EAST COAST SUSTAINABLE PRIVATE LIMITED
VISAKHAPATNAM

STUDY TEAM

Team 1 (Energy Cell, BESCOM)

Sr. No	Name	Designation	Department	Email ID	Contact Number
Head of Energy Cell					
1	Mr. M L Nagaraja	C.G.M	Operations		080-223522487
2	Mr. Yogesh B.K.	General Manager (El) (M&C)	Meters and Commercial	eabescom17@gmail.com	8277893903
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3	Mr. H.B. Basavaraju	DGM, CEA-6827	Energy Audit	eabescom17@gmail.com, gmmcom123@gmail.com	9449844860
Other Member of Energy Cell					
4	Ms Anupama	AGM(IT Manager)	Energy Audit		
5	Mrs. Liji Joy	AGM	Energy Audit		

Team 2 (EmAEA Firm)

Sr. No	Name	Qualification	EmAEA/AEA/EA/EM Registration No.	Experience in years	Sector
Team Leader					
1	Mr. G. Srinivasa Rao	B. Tech Mechanical, PGD Energy Management, MS (Environmental Management and Policy)	AEA-0251	22	All
Team Head/Sector Expert					
2	Mr. S. Janardhana Rao	MBA, Finance, AU, PGDM, Energy Management, B. Tech (EEE)	EM-8801	34	DISCOM
Certified Energy Auditor					
3	Mr. P.V. Ramprasad	B. Tech Mechanical, PGD Energy Management, M.B.A	CEA-1573	23	All
4	Mr. Jishnu Sanath	B. Tech - Electrical and Electronics	CEA-32889	9	DISCOM
Team Member					
5	Mr. K. Lokeshwara Rao	M. Tech (Mechanical)	-	2	All

1. EXECUTIVE SUMMARY

1.1 BACKGROUND

East Coast Sustainable Private Limited was entrusted the job of carrying out an annual energy audit for the financial year 2022-2023 and preparation of the annual energy audit report of **Bangalore Electricity Supply Company Limited (BESCOM)**. BESCOM subsequently submits the annual energy audit report to the Bureau of Energy Efficiency and respective State Designated Agency as per the provisions and mandate of Gazette on Energy Accounting and Audit of Distribution Company of Bureau of Energy Efficiency (BEE), Ministry of Power, Government of India.

The approach for adopted for energy audit is summarised as follows:

- Desk review of the Proforma and other supporting documents;
- Visit to the DC, review of the evidence presented by the DC on the Proforma, preparation of the minutes of meeting by interacting with various personal of the DC so as to understand and document the process followed by the DC in filling the Proforma, field visit to the DC's various departments, divisions, substations, feeders, transformers, etc to check on the ground level procedures and processes, etc.
- Post visit review of the data collected and preparation of the energy audit report.

The period of the energy audit is summarised as follows:

- Desk review was carried between 22nd – 31st May 2023;
- Field visit was carried between 22nd – 23rd June 2023;
- Post visit review and report preparation between 24th – 30th June 2023.

BESCOM is responsible for power distribution in eight districts of Karnataka (Bangalore Urban, Bangalore Rural, Chikkaballapura, Kolar, Davanagere, Tumkur, Chitradurga and Ramanagara). BESCOM covers an area of 41,092 Sq. Kms. with a population of over 207 lakhs. The company has 4 operating Zones – Bangalore Metropolitan Area Zone (North), Bangalore Metropolitan Area Zone (South), Bangalore Rural Area Zone and Chitradurga Zone covering 9 Circles, 32 Divisions, 147 Sub-divisions and 534 Section Offices.

In the year 1999, Karnataka embarked on a major reform of the power sector. As a first step, Karnataka Electricity Board (KEB) was dissolved and in its place, the Karnataka Power Transmission Corporation Limited (KPTCL) was incorporated. This was followed by the constitution of Karnataka Electricity Regulatory Commission (KERC) in November 1999. In the next phase of the reform process, the transmission and distribution business managed by KPTCL were unbundled in June 2002. Five new distribution companies were formed to distribute power in Karnataka and BESCOM has taken over the responsibility from KPTCL for the distribution of electricity in 8 districts and commenced its operations from 1st June 2002.

1.2 ENERGY ACCOUNTS AND PERFORMANCE OF FY 2022-23

1.2.1 DISCOM WIDE ENERGY ACCOUNTING

Form-Input energy (Details of Input Energy & Infrastructure)		
Sl. No.	**Parameters**	**Value**
A.1	Input Energy purchased (Million Units (MU))	33831.14
A.2	Transmission loss (%)	4.423%
A.3	Transmission loss (MU)	1496.491
A.4	Energy sold outside the periphery (MU)	11.18
A.5	Open access sale (MU)	20.13
A.6	EHT sale	3017.14
A.7	Net input energy (received at DISCOM periphery or at distribution point, after adjustment)-(MU)	32334.65

The technical losses and aggregate technical & commercial (AT&C) losses for FY 2022-23 are estimated and presented in the following table.

Losses	**T&D Losses**		**AT&C loss (%)**
	T&D loss (MU)	**T&D loss (%)**	
	3001.05	9.28%	13.4%

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

Sl No.	**Type of Consumers**	**Category of Consumers (EHT/HT/LT/Others)**	**Voltage Level (In Voltage)**	**No of Consumers**	**Total Consumption (In MU)**
1	Domestic	LT	LT	10171408	8234.512024
2	Commercial	LT	LT	1278877	2281.446636
3	IP Sets	LT		1013019	6279.578868
4	Hor. & Nur. & Coffee/Tea & Rubber (Metered)	LT	LT	2092	6.29802861
5	Hor. & Nur. & Coffee/Tea & Rubber (Flat)				
6	Heating and Motive Power				
7	Water Supply	LT	LT	92918	1449.456103
8	Public Lighting	LT	LT	83994	628.2518401
9	HT Water Supply	HT	11kV	301	857.4850819
10	HT Industrial	HT	11kV	8311	5035.983246
11	Industrial (Small)	LT	LT	242326	1350.9824
12	Industrial (Medium)				
13	HT Commercial	HT	11kV	8799	2237.950557

Sl No.	Type of Consumers	Category of Consumers (EHT/HT/LT/Others)	Voltage Level (In Voltage)	No of Consumers	Total Consumption (In MU)
14	Applicable to Government Hospitals & Hospitals	HT	11kV	1068	357.4090296
15	Lift Irrigation Schemes/Lift Irrigation Societies	HT	11kV	88	75.91620594
16	HT Res. Apartments Applicable to all areas	HT	11kV	535	96.32650026
17	Mixed Load				
18	Government offices and department				
19	Others-1 (HT5)	HT	11kV	2198	184.6933395
20	Others-2 (LT7)	LT	LT	995097	257.3024066
	Total			**13901031**	**29333.592**

1.3 STATUS OF METERING INFRASTRUCTURE FOR ENERGY ACCOUNTING AND AUDITING

Clause No	Clause Details	Sub Clause Number	Subclause Details	Present Status
5	Pre-requisites for annual energy audit and periodic energy accounting	a	Identification and mapping of all of the electrical network assets	Under RAPDRP Areas GIS Mapping of 25 towns has been completed. Under IPDS (Integrated Power Distribution Scheme) survey has been completed, Go Live is yet to be done.
		b	Identification and mapping of high tension and low-tension consumers	All the HT and LT consumers have been mapped.
		c	Development and implementation of information technology enabled energy accounting and audit system, including associated software	DC has energy accounting and audit system including associated software. DC uses MS Infinite computer solutions (for RAPDRP) and Nsoft Software (For Non RAPDRP).
		d	Electricity distribution company ensures the installation of functional meters for all consumers, transformers and feeders. Meter installation is done in a phased manner within a period of three financial years from the date of the commencement of these regulations in accordance with the trajectory set out in the First Schedule	All feeders up to 11kV have been metered. All consumers have been metered except consumers under agriculture category. As of 31st March 2023 of the total 4,78,361 distribution transformers, 115487 distribution transformers have been metered. 3,49,514 distribution transformers are unmetered. 13360 nos. of the IP feeding DTCs are metered though the same is exempted from metering as per directions from the Energy department. (Out of 3,49,514 nos. of unmetered DTs, 1,13,037 nos. of DTs are to be metered, as the balance DTs are on the exclusive IP feeder (segregated Agriculture feeders under NJY project) and single installations with exclusive DTCs, which are exempted from metering.)

Clause No	Clause Details	Sub Clause Number	Subclause Details	Present Status
			d.1. 100% Communicable Feeder Metering integrated with AMI, by 31st December 2022 along with replacement of existing non-communicable feeder meters.	d.1. 100% of the feeders are having DLMS (Device Language Message Specification - Communicable Meters). No. of DCU's installed is 97 and No. of Station DCU's installed is 96 and No. of feeders covered under RFMS is 862 as on 31st May 2023.
			d.2. All Distribution Transformers (other than HVDS DT up to 25kVA and other DTs below 25 kVA) shall be metered with communicable meters. Communicable DT Metering for the following areas/ consumers to be completed by December 2023 and in balance areas by December 2025: d.2.1. All Electricity Divisions of 500 AMRUT cities, with AT&C Losses > 15% d.2.2. All Union Territories (for areas with technical difficulty, non-communicable meters may be installed) d.2.3. All Industrial and Commercial consumers d.2.4. All Government offices at Block level and above d.2.5. Other high loss areas i.e. rural areas with losses more than 25% and urban areas with losses more than 15%	d.2.1. Obtaining approval from Regulatory commission is under process for AMI of DTC's in BESCOM Area. d.2.2. Not Relevant for DC. d.2.3. AMR works taken up under RAPDRP, IPDS and DDUGJY schemes for industrial HT-9688 nos. & LT industrial & commercial (above 40HP installations) for 12078 nos. Further, action is in progress for replacement of existing non-DLMS meters by DLMS meters of HT & LT Industrial and Commercial installations. 2.4 Proposal for AMI implementation to All Government offices at Block level and above is under process and yet to be taken up. d.2.5. DC intends to install communicable meters with AMI for other high loss areas i.e. rural areas with losses more than 25% and urban areas with losses more than 15% under Revamped Distribution Sector Scheme (RDSS) of REC. BESCOM has enabled AMR for 95872 nos. of DTC meters under various projects, however no meters are enabled with AMI. The contract period of AMR agencies expired in RAPDRP & Non-RAPDRP area on March-2019. Due to the expiry of the existing contracts, to maintain the existing metering system works carried

Clause No	Clause Details	Sub Clause Number	Subclause Details	Present Status
				out before 2013 and to ensure proper operation of meters, metering system and modems, it was proposed to float tender under OPEX model. Due to the introduction of MoP-RDSS scheme wherein one of the major component is metering which includes DTCs, as per the direction of Management the OPEX proposal is shelved. The installation of the smart meters has not yet commenced as the tender work is under process.
			d.3. **Prepaid Smart Consumer Metering** to be completed for all directly connected meters and AMR in case of other meters, by December 2023 in the following areas: d.3.1. All Electricity Divisions of 500 AMRUT cities, with AT&C Losses > 15%; d.3.2. All Union Territories (for areas with technical difficulty, prepaid meters to be installed); d.3.3. All Industrial and Commercial consumers; d.3.4. All Government offices at Block level and above; d.3.5. Other high loss areas i.e. rural areas with losses more than 25% and urban areas with losses more than 15%.	d.3.1. Installation of the smart meters has not yet commenced as the tender work is under process. d.3.2. Not Relevant for DC. d.3.3. AMR works taken up under RAPDRP, IPDS and DDUGJY schemes for industrial HT-9688 nos. & LT industrial & commercial (above 40HP installations) for 12078 nos. Further, action is in progress for replacement of existing non-DLMS meters by DLMS meters of HT & LT Industrial and Commercial installations. d.3.4. Proposal for AMI implementation to All Government offices at Block level and above is under process and yet to be taken up. d.3.5. DC does not have such magnitude of losses in rural (25%) and urban (15%).
			d.4. Consumer Metering: 98% by FY 2022-23 99% by FY 2023-24	92.65% Consumer metering has been completed as on 31st March 23.All installations are metered except IP set installations below 10HP.

Clause No	Clause Details	Sub Clause Number	Subclause Details	Present Status
			d.5. Targets for functional meters— Meter FY 22-23 FY 23-24 FY24-25 Feeder metering 98.5% 99.5% 99.5% DT metering 90% 95% 98% Consumer metering 93% 96% 98%	1)Purchase orders for supply of meters for replacement of consumers non-functional meters are being placed on vendors as per requirement received from Divisions and sufficient stock is available at divisional stores for replacement. 2. For DTCs, as per the directives, no new DTC meters and non-functional meters replacement has been taken up by BESCOM. 3. However, as a case study, 75 nos. in Malleshwaram and 40 nos. in Vidhana Soudha division, LT CT meters are provided for replacement of existing DTCs MNR and replacement is in progress. 4. Also 2492 nos. of LT CT operated meters are provided to 17 Divisions of BESCOM for DTC MNR metering and replacement is in progress.
		e	e.1. All distribution transformers (other than high voltage distribution system up to 25kVA and other distribution system below 25 kVA) is metered with communicable meters. e.2. And existing non communicable distribution transformer meters is replaced with communicable meters and integrated with advanced metering infrastructure.	Obtaining approval from Regulatory commission is under process for AMI of DTC's in BESCOM Area.

Clause No	Clause Details	Sub Clause Number	Subclause Details	Present Status
		f	Electricity distribution company has established an information technology enabled system to create energy accounting reports without any manual interference and such systems may be within a period of three years from the date of the commencement of these regulations in case of urban and priority area consumers; and within five years from the date of the commencement of these regulations in case of rural consumers	DC has energy accounting and audit system including associated software. DC uses MS Infinite computer solutions (for RAPDRP) and Nsoft Software (For Non RAPDRP).
		g	Electricity distribution company has a centralized energy accounting and audit cell comprising of— (i) a nodal officer, an energy manager and an information technology manager, having professional experience of not less than five years; and (ii) a financial manager having professional experience of not less than five years	The DC has energy audit department with the following staff 1. A nodal officer- CGM-Operations 2. Designated energy manager who is a qualified energy auditor- DGM/EA 3. A qualified information technology manager- AGM/IT 4. A qualified financial manager- AO Finance
6	Reporting requirements for annual energy audit and periodic energy accounting	a	Electricity distribution company has a nodal officer, who is a full time employee of the electricity distribution company in the rank of the Chief Engineer or above, for the purpose of reporting of the annual energy audit and periodic energy accounting and communicate the same to the Bureau.	The DC is complying with this requirement

Clause No	Clause Details	Sub Clause Number	Subclause Details	Present Status
		b	Electricity distribution company ensures that the energy accounting data is generated from a metering system or till such time the metering system is not in place, by an agreed method of assumption as may be prescribed by the State Commission	DC has energy accounting and audit system including associated software. DC uses MS Infinite computer solutions(for RAPDRP) and Nsoft Software (For Non RAPDRP). The agricultural unmetered energy is accounted based on KERC guidelines.
		c	Metering of distribution transformers at High Voltage Distribution System up to 25KVA is done on cluster meter installed by the electricity distribution company	All HVDS installations are dedicated EIP feeders and meter is provided at Sub-station level.
		d	The energy accounting and audit system and software is developed to create monthly, quarterly and yearly energy accounting reports.	The DC has software's for energy accounting and audit and the software's are having the capability to create monthly, quarterly and yearly energy accounting reports.
		e	Electricity distribution company has provided the details of the information technology system in place as specified in clause (f) of regulation 5 that ensures minimal manual intervention in creating the energy accounting reports and any manual intervention of any nature, in respect of the period specified therein, shall be clearly indicated in the periodic energy accounting report.	The DC has software's for energy accounting and audit and the software's are having the capability to create monthly, quarterly and yearly energy accounting reports.

1.4 ENERGY CONSERVATION MEASURES ALREADY TAKEN AND PROPOSED FOR FUTURE

Few of the ongoing Energy Conservation measures being implemented by the DC are summarised below:

- **Distribution of Energy Efficient fans:** BESCOM through EESL have distributed BEE star rated ceiling fans under PAVAN scheme. The total ceiling fans distributed is 41,757 from April-2017 to March-2023. There is no investment from BESCOM. The Annual Energy savings achieved is 1.89 MU/Year.
- **Distribution of LED tube lights:** BESCOM through EESL have distributed LED tube lights under UJALA scheme. The total LED tube lights distributed is 2,75,188 from January-2017 to March-2023. There is no investment from BESCOM. The Annual Energy savings achieved is 7.03 MU/Year.
- **Distribution of LED bulbs:** BESCOM distributed 9-watt LED bulbs through EESL under UJALA scheme and the total LED bulbs distributed is 1,13,83,900 from December-2015 to March-2023. BESCOM distributed 7 watts & 12-watt LED bulbs through CESL under Gram Ujala scheme and the total LED bulbs distributed is 1,22,857 & 3,14,993 from December-2021 to April-2022. The programme is a Carbon finance-based program, implemented through M/s Convergence Efficiency Services Limited (CESL), a 100% subsidiary of M/s EESL, a PSU under Ministry of Power at no cost to BESCOM. There is No investment from BESCOM for the above projects. The Annual Energy savings achieved is 741.7 MU/Year, 5.7 MU/Year and 17.9 MU/Year for 9W, 7W and 12 W LED bulbs.
- **Implementation of Solar Rooftop system in BESCOM:**
  - The Government of Karnataka has announced the Solar Policy 2014-21 for grid connected Solar rooftop system under net-metering basis on 22.05.2014 with revised target of 2400MW to be achieved by 2022.
  - KERC is issuing the tariff order and other operational clarification from time to time, related to SRTPV on multiple SRTPV installations/ Government buildings etc.
  - The commissioned SRTPV installations during FY 23 is summarized below**:**

Period	Commissioned nos.	Commissioned Capacity in MW
2022-23	1674	42.586

- **Surya Raitha Scheme:**
  - The Govt. of Karnataka has announced "Surya Raitha" scheme vide order dtd: 20.09.2014, for the welfare of farmers. The scheme proposes to provide net metered, grid connected solar water pump systems.
  - Total of grid connected solar water pumps installed from the commencement of the program for FY 23 and their benefits is summarised below:

Year	Total No. of solar IP sets commissioned	Cumulative Solar Generation in MUs	Cumulative Energy exported in MUs	Cumulative Energy imported in MUs	Solar Energy - Pump Consumption	Total Pump Consumption (Generated-Exported + Imported)	Net energy in MUs
2022-23	310	2.20	1.46	0.30	0.74	1.04	1.16

- **Implementation of Mandatory use of Solar Water Heaters:**
  - As a Demand Side Management program, BESCOM has made mandatory use of Solar Water Heaters for buildings which are measuring 600 square feet of floor area or site area of 1200 square feet. Total no. of Solar Water Heaters installed during 2022-23 in BESCOM is 40,517.

Energy savings*	MUs
Annual Energy savings for 40,517 nos. of SWH	40.11
Per day Energy savings for 40,517 nos. of SWH	0.12
* By considering avg. 2kW for 1½ hrs per day per SWH system, for 330 days	

- **Providing timer switches to the street light installations:**
  BESCOM has requested BBMP and other local municipal bodies to install timer switches to street lights resulting in energy savings and reduces evening peak hour load on grid.

- **Energy Awareness Program:**
  BESCOM also carries out energy conservation awareness programs.

- **Earth Hour:**
  Earth Hour-2023 was observed on 25th March 2023 between 8.30pm to 9.30pm by BESCOM Officers/Employees and the consumers, by switching 'OFF' unnecessary lights.

The DC has carried out Mandatory Energy Audit in FY 2018-19, the details on the Energy Conservation measures (implemented and planned) along with their techno-economic benefits are summarized below.

Mandatory Energy Audit under PAT Cycle II in BESCOM

Form 2

Details of energy saving measures recommended in the energy audit report (2018-19)

[See regulation 5(2)]

SL. No.	Energy saving measures – (Suggested categories of area of improvement and modifications for obtaining details of energy savings)	Investment Rs	Reason for not implementing the measure/Status	Date of completion of measure/ likely completion	Electrical energy savings
	Overall BESCOM level				
1	Deen Dayal Upadyay Grameen Jyothi Yojane	282.16 Cr	Implemented	2016-2020	
2	UJALA Programme	EESL	Implemented	2015-2019	355.33 MU
3	Integrated Power Development Scheme	502.23 Cr	Implemented	2016-2019	
4	Niranthara Jyothi Yojana Phase I, II & III	1831.52 Cr	Implemented	2010- 2019	
5	Surya Raitha Scheme	24.35 Cr	Implemented	2016-2019	
6	High Voltage Distribution System	1108.64 Cr	Implemented	2016-2019	
	66/11 Jigani substation level	Approximate cost			
1	Distribution Loss Reduction by installing capacitor banks at load ends of IP Feeders :	25.55 Lakhs	To be implemented	2020-21	22.470 MU
2	Energy efficient Agricultural Pumps(1382 Nos)	8.29 Cr	To be implemented	2020-21	6300 KWH/1 IP set/Year
3	Feeder Reconductoring for three 11kV feeder	35.79 Lakhs	To be implemented	2020-21	19.25 % Technical loss reduction
4	Network Reconfiguration for two 11kV feeder	127.48 Lakhs	To be implemented	2020-21	Peak Load and Power outage reduced
5	DTC Energy Metering (855 Nos)	1.5 Cr	To be implemented	2020-21	

Signature:

ENERGY AUDITOR BESCOM

Name of the Energy Manager – **Sri. H.B.Basavaraj**

Name of the company – **Bangalore Electricity Supply Company Ltd**
Full address – **Corporate Office BESCOM, K.R.Circle, Bangalore-560001**
E-mail Address – **energyauditor@bescom.co.in**
Mobile No. - **9449841597**

Signature:

Name of the Accredited Energy Auditor – **Shri I Thanumoorthi**
Accreditation Details: AEA 175
Seal

EAST COAST GLOBAL SOLUTIONS PRIVATE LIMITED BENGALURU

1.5 COMPLIANCE TO RENEWABLE PURCHASE OBLIGATIONS

The RPO compliance regulations have been revised by the KERC. According to KERC (Procurement of Energy from Renewable Sources) (Eight Amendment) Regulation 2022, every Distribution Licensee shall purchase a minimum quantity of electricity from renewable sources of energy, irrespective of Solar or Non-Solar, expressed as a percentage of its total procurement, excluding the procurement from hydro power during a financial year.

BESCOM has complied with the renewable purchase obligation target's (solar and non-solar) and the details are summarized below:

RPO Compliance 2022-23

(1)	**Total energy**	33866.42 MU
(2)	less: KPCL hydro	2954.3 MU
(3)	less: Other Hydro	83.56 MU
(4)	Add: Hydel Energy underdrawn from Energy Balancing	307.99 MU
(5)	**Net energy for RPO compliance (5 = (1-2-3+4))**	**31136.54 MU**

Details	RPO - Solar & Non Solar
Target RPO %	23.75 %
Total energy consumption after deducting hydel energy and energy balancing hydel	31136.54 MU
Target	7394.929 MU
Actual purchased	8153.23 MU
Actual RPO Achieved	26.18 %
Excess	758.30 MU

1.6 PEAK LOAD

BESCOM peak demand of a day was observed on the 29th of March 2023 at 11:26 IST (7,740 Mega Watts) and the maximum consumption of a day was observed on the 29th of March 2023 (144.97 million units). BESCOM has implemented the following projects to strengthen the existing network to withstand the upcoming peak load.

a) In urban areas, OH HT Line converted to UG Cable
b) New sub-station works are under progress.
c) Reconductoring of age-old conductors to higher-size conductors.
d) Bifurcation of overloaded feeders by providing new feeders.

1.7 BEFORE AND AFTER STATUS OF LOSSES IN TOWNS - RAPDRP/ IPDS

Details of before and after losses status in all the towns which were covered under RAPDRP is tabulated below:

Details Showing Town-wise T&D Loss for the FY-18 to FY-23							
Sl. No.	Name of the Town	% T&D Loss					
		FY-18	FY-19	FY-20	FY-21	FY-22	FY23
1	ANEKAL	9.73	8.3	8.12	13.02	9.33	8
2	BANGALORE	7.1	6.98	6.94	7.2	6.07	5.48
3	BANGARAPETE	6.97	11.99	13.02	6.84	8.18	6.66
4	CHALLAKERE	13.95	12.06	11.57	0.18	9.79	7.71
5	CHANNAPATNA	7.19	7.61	9.36	11.42	8.02	7.01
6	CHIKKABALLAPURA	16.73	12.33	10.31	3.67	8.33	8.21
7	CHINTHAMANI	25.01	15.06	13.37	13.04	11.07	9.26
8	CHITRADURGA	10.33	9.94	8.95	9.58	7.97	6.97
9	DAVANAGERE	12.83	10.49	9.29	6.42	7.66	7.9
10	DODDABALLAPURA	21.69	16.91	13.8	9.22	12.4	8.79
11	GOWRIBIDANUR	17.62	17.6	14.91	7.02	9.55	9.07
12	HARAPPANAHALLI	10.49	9.01	14.87	10.31	6.96	6.85
13	HARIHARA	10.12	11.31	10.19	10.69	7.93	7.81
14	HIRIYUR	16.56	10.95	12.73	11.19	10.78	8.56
15	HOSAKOTE	14.35	12.26	11.34	5.04	6.18	6.21
16	KANAKAPUR	11.54	8.5	8.35	8.59	7.44	7.79
17	KGF	24.32	12.76	12.93	8.66	9.04	6.56
18	KOLAR	11.01	11.07	11.69	11.91	8.95	7.81
19	KUNIGAL	12.09	12.52	19.09	5.45	10.42	7.05
20	MULABAGILU	12.57	12	11.23	4.71	8.18	7.28
21	RAMANAGARA	12.57	4.63	4.72	1.46	7.35	5.81
22	SHIDLAGATTA	30.78	20.97	12.38	13	9.74	9.29
23	SIRA	17.86	15.04	11.05	1.55	11.37	8.58
24	TIPTUR	17.3	11.82	10.28	6.56	9.66	8.38
25	TUMKUR	17.12	16.55	17.04	17.36	9.55	6.53

Sl. No.	Name of R-APDRP Part-B towns	2009-10- AT&C Loss	2010-11- AT&C Loss	2022-23- AT&C Loss
1	ANEKAL	22.86	12.63	12.59
2	BANGARPETE	39.13	21.43	6.66
3	CHALLAKERE	27.5	19.49	16.97
4	CHANNAPATNA	27.15	22.97	17.99
5	CHIKKABALLAPURA	28.07	21.51	14.9
6	CHINTAMANI	28.75	23.57	9.26
7	CHITRADURGA	24.15	16.01	23.12
8	DAVANAGERE	16.87	11.25	12.98
9	DODDABALLAPURA	15.81	9.75	10.74
10	GOWRIBIDANUR	31.95	24.82	9.07
11	HARPANAHALLI	18.17	9.10%	10.47
12	HARIHARA	17.74	10.66	12.97
13	HIRIYUR	34.64	21.65	16.02
14	HOSKOTE	28.83	20.76	6.21
15	KANAKAPURA	19.88	12.13%	21.71
16	KGF	24.73	14.01	18.08
17	KOLAR	23.99	15.22	30.56
18	KUNIGAL	22.52	15.55	31.77
19	MULBAGILU	39.92	29.72	36.36
20	RAMANAGARA	19.9	15.24	13.23
21	SIDDALAGHATTA	21.62	11.53	11.16
22	SIRA	25.85	18.9	24.02

2. SUMMARY OF CRITICAL ANALYSIS OF ENERGY AUDITOR AND MANAGEMENT ANALYSIS

2.1 Summary of Critical Analysis by Energy Auditor and Management analysis

2.1.1 Compliance to BEE regulations - The DISCOM has been submitting quarterly energy accounts as per BEE regulations and the DISCOM has posted them on their website as per BEE regulations. The DISCOM also formed Energy Audit Cell as per the regulations. The DISCOM has segregated the 11 kV feeders under Niranthara Jyothi Yojana into rural feeders and agricultural feeders and all the 11 kV feeders are metered. The rural feeders are provided power 24/7 whereas, the agricultural feeders are provided power for 7 hours per day. The un-metered agricultural consumption is estimated by the formulae (Input energy - Metered Sales - Allowable Loss (10% of the input energy)).

Management Analysis: The metering is not done for Distribution transformers provided for agriculture load, hence the KVA-KM/3I^2R method of computing technical loss is not possible. However, this KVA-KM/3I^2R method is used for Non-EIP feeders where DTC metering is done.

2.1.2 High loss feeders – Feeder level energy audit is carried out on a regular basis (Monthly, quarterly, Annually) and feeders are segregated into high loss, medium loss and low loss feeders. Primary focus on maintenance is given to reduce the losses of high loss feeders. It is recommended to conduct DTC energy audit regularly for distribution transformers in high loss feeders to improve overall efficiency.

Management Analysis: Energy Audit of distribution transformers (which are metered) is being carried out in all sub-divisions and detailed analysis are carried out on the DTC's connected on high loss feeders.

Feeder Management Systems – The DC has a feeder maintenance department under which feeder maintenance is carried out through a scheme called Feeder Maintenance Abhyaana. The Feeder Maintenance Division undertakes maintenance of 11k feeders and thereby ensures reliability of feeders by reducing the interruption time. Under Feeder Maintenance Abhyaana, a google spreadsheet is maintained to report the maintenance cases. The respective Sub-Division officers update the spreadsheet after every maintenance operation on a day to day basis. The access to the spreadsheet is denied after a period of 24 hours from the office of the DGM, Maintenance Division BESCOM to ensure the maintenance activity is logged in a timely manner. Details including sub-station, feeder, category of feeder, type of interruption, etc. are logged for each maintenance activity, and hence the feeders left unattended are sorted out easily and are directed for maintenance from the BESCOM head-office. This has resulted in an overall improvement in total hours of supply given to the consumers. It is

recommended to include a loss monitoring and arresting system to reduce losses by thefts, hooking, etc. This maybe included in the existing spreadsheet which can improve the overall collection efficiency and other commercial parameters.

Management Analysis: The management has taken bold step to conduct Feeder Maintenance Abhyaana under which all DTC's centers refurbishment works were carried out, which has reduced the failure of DTC's and interruption level which in-turn has improved the overall efficiency and other commercial parameters.

2.1.3 Category wise subsidy - The DISCOM receives subsidy from Government of Karnataka for energy supplied to Irrigation Pump sets (up-to 10HP) and small households (Kutirjyothi and Bhagyajyothi up to 40 units/month). In the year 2022-23, the DISCOM subsidy receipt vis-à-vis demand is presented below:

Subsidy received from GOK in FY 2022-23 towards power supply for IP Sets (up to 10 HP) & BJ/KJ (up to 40 units)						
Sl. No.	**Particulars**	**No. of installations**	**Consumption (in MUs)**	**Demand (in Crs.)**	**Subsidy released for 2022-23 (Rs. In Crs.)**	**Remarks** Balance subsidy to be received (Rs in Crs.)
1	IP sets up to 10 HP	1012530	6278.30	3188.52	3146.49	1032.85
2	BJ/KJ up to 40 units	796937	182.75	170.06	170.06	0.00
	Total	**1809467**	**6461.05**	**3358.57**	**3316.55**	1032.85

Management Analysis: Balance subsidy to be received is carried forward and shall be received from Government of Karnataka in due course.

2.1.4 Analysis on T&D Losses and AT&C Losses.

- **% Losses – Aggerate**- The overall Technical Loss (T&D Loss) is 9.28% and overall AT&C Loss is 13.4% for FY 2022-2023. This reflects an overall collection efficiency of 95.46%.

- **% Losses – Voltage Wise**- DISCOM has distribution only of 11kV/415V and is carrying out loss assessment only at 11 kV. The losses of which is 9.28% and overall AT&C Loss is 13.4% for FY 2022-2023. DISCOM shall carry out energy accounting at all the voltage levels.

- **Division wise % Losses summary** - The range of T&D losses, collection efficiency and AT&C losses among the divisions is presented below:

T & D loss (MU)	3001.05
T & D loss (%)	9.28%
T & D loss Range	4.64% -14.98%
Division with highest T & D loss	Tumkur
Division with lowest T & D loss	Kengeri
Collection Efficiency	95.46%
Collection Efficiency Range	78.02% - 100.12%
AT & C loss (%)	13.40%
AT & C loss Range	6.34% - 31.71%
Division with lowest AT&C loss	Whitefield
Division with highest AT&C loss	Chinthamani

- **Division wise % Losses – T&D losses:** The following divisions of the DISCOM are having T&D losses more than the average value of 9.28% and requires attention.

Sl. No.	Division	T&D loss (MU)	T&D loss (%)
1	NELAMANGALA	137.29	10.90%
2	HOSKOTE	189.71	12.79%
3	MAGADI	49.49	10.05%
4	KOLAR	106.58	12.86%
5	KGF	131.17	10.82%
6	CHIKKABALLAPURA	94.67	10.72%
7	CHINTHAMANI	78.44	12.48%
8	DAVANAGERE	136.61	12.41%
9	CHITRADURGA	123.65	14.84%
10	HARIHARA	84.12	11.69%
11	HIRIYURU	131.57	14.94%
12	TUMKUR	213.05	14.98%
13	TIPTUR	97.17	14.94%
14	MADHUGIRI	161.46	14.95%
15	KUNIGAL	37.78	12.29%

- **Division wise collection efficiency:** The following divisions of the DISCOM are having collection efficiency less than the average value 95.46% and requires special attention.

Sl. No.	Name of Division	Commercial Parameter		Collection Efficiency
		Billed Amount in Rs. Crore	Collected Amount in Rs. Crore	
1	HOSKOTE	1127.68	1048.30	92.96%
2	KANAKAPUR	562.19	533.03	94.81%
3	KOLAR	527.86	432.80	81.99%
4	KGF	797.65	644.72	80.83%
5	CHIKKABALLAPURA	560.65	476.69	85.02%
6	CHINTHAMANI	356.62	278.24	78.02%
7	DAVANAGERE	663.15	623.49	94.02%
8	CHITRADURGA	448.45	421.38	93.96%
9	HARIHARA	421.08	390.37	92.71%
10	HIRIYURU	483.14	413.58	85.60%
11	TUMKUR	867.26	825.39	95.17%
12	TIPTUR	336.42	312.29	92.83%
13	MADHUGIRI	560.03	476.88	85.15%
14	KUNIGAL	185.94	163.13	87.73%

2.1.5 Category wise collection efficiency: Category wise input energy cannot be estimated on account of mixed feeders. Accordingly, T&D Losses and AT&C Losses for consumer categories could not be provided. However, collection efficiencies of various consumer categories are tabulated below. It is recommended to focus on the collection from the Category "Others".

Sr. No.	Category	Collection Efficiency
1	Residential	99.42%
2	Agricultural	100.38%
3	Commercial/Industrial-LT	100.09%
4	Commercial/Industrial-HT	100.03%
5	Others	68.48%
	Average	**95.46%**

Management Analysis: Continuous efforts are being made to investigate and act on loss reduction (T&D and AT&C).

3. BACKGROUND

3.1 EXTENT REGULATIONS AND ROLE OF BEE

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

Owing to the impact of energy auditing on the entire distribution and retail supply business and absence of an existing framework with dedicated focus on the same, it was imperative to develop a set of comprehensive guidelines that all Distribution utilities across India can follow and adhere to.

These Regulations for Energy audit in Electricity Distribution Companies provides broad framework for conduct of Annual Energy Audit though and Quarterly Periodic Energy Accounting with necessary Pre-requisites and reporting requirements to be met.

The extant regulations relevant or reproduced as under:

"**5. Pre-requisites for annual energy audit and periodic energy accounting** — Save as otherwise provided, every electricity distribution company shall undertake all actions as may be required for the annual energy audit and periodic energy accounting before the start of the relevant financial year, including the following actions, namely: —

(a) the identification and mapping of all of the electrical network assets;

(b) the identification and mapping of high tension and low-tension consumers;

(c) the development and implementation of information technology enabled energy accounting and audit system, including associated software;

(d) the electricity distribution company shall ensure the installation of functional meters for all consumers, transformers and feeders:

Provided that meter installation may be done in a phased manner within a period of three financial years from the date of the commencement of these regulations in accordance with the trajectory set out in the First Schedule;

(e) all distribution transformers (other than high voltage distribution system up to 25 kVA and other distribution system below 25 kVA) shall be metered with communicable meters. And existing noncommunicable distribution transformer meters shall be replaced with communicable meters and integrated with advanced metering infrastructure;

(f) the electricity distribution company shall establish an information technology enabled system to create energy accounting reports without any manual interference:

Provided that such system may be established—

(i) within a period of three years from the date of the commencement of these regulations in case of urban and priority area consumers; and

(ii) within five years from the date of the commencement of these regulations in case of rural consumers;

(g) the electricity distribution company shall create a centralized energy accounting and audit cell comprising of—

(i) a nodal officer, an energy manager and an information technology manager, having professional experience of not less than five years; and

(ii) a financial manager having professional experience of not less than five years;

(h) any other requisite that Bureau may direct for energy audit and accounting purpose.

6. Reporting requirements for annual energy audit and periodic energy accounting–

(1) Every electricity distribution company shall designate a nodal officer, who shall be a full time employee of the electricity distribution company in the rank of the Chief Engineer or above, for the purpose of reporting of the annual energy audit and periodic energy accounting and communicate the same to the Bureau.
(2) Every electricity distribution company shall ensure that the energy accounting data is generated from a metering system or till such time the metering system is not in place, by an agreed method of assumption as may be prescribed by the State Commission.
(3) Metering of distribution transformers at High Voltage Distribution System up to 25KVA can be done on cluster meter installed by each electricity distribution company.
(4) The energy accounting and audit system and software shall be developed to create monthly, quarterly and yearly energy accounting reports.
(5) Every electricity distribution company shall provide the details of the information technology system in place as specified in clause (f) of regulation 5 that ensures minimal manual intervention in creating the energy accounting reports and any manual intervention of any nature, in respect of the period specified therein, shall be clearly indicated in the periodic energy accounting report.

7. Manner of annual energy audit and periodic energy accounting. –

(1) Every annual energy audit and periodic energy accounting under these regulations shall be conducted in the following manner, namely: —
(a) verification of existing pattern of energy distribution across periphery of electricity distribution company; and
(b) verification of accounted energy flow submitted by electricity distribution company at all applicable voltage levels of the distribution network,—

(i) energy flow between transmission and 66kV/33kV/11kV incoming distribution feeders;
(ii) energy flow between 66kV/33kV outgoing and 11kV/6.6kV incoming feeders;
(iii) energy flow between 11 kV/6.6kV feeders and distribution transformers, or high voltage distribution system;
(iv) energy flow between distribution transformer, or high voltage distribution system to end consumer, including ring main system;
(v) energy flow between Feeder to end-consumer; and
(vi) energy flow between 66/33/11 kV directly to consumer.

(2) The accredited energy auditor, in consultation with the nodal officer of the electricity distribution company shall, —

(a) develop a scope of work for the conduct of energy audit required under these regulations;
(b) agree on best practice procedures on accounting of energy distributed across the network; and
(c) collect data on energy received, and distributed, covered within the scope of energy audit.

(3) The accredited energy auditor shall—

(a) verify the accuracy of the data collected in consultation with the nodal officer of the electricity distribution companies as per standard practice to assess the validity of the data collected; and
(b) analyse and process the data with respect to—

(i) consistency of data monitoring compared to the collected data;
(ii) recommendations to facilitate energy accounting and improve energy efficiency; and

(iii) with respect to the purpose of energy accounting in reducing losses for the electricity distribution company.

8. Prioritization and preparation of action plan. - (1) The annual energy audit report submitted by accredited energy auditor in consultation with the nodal officer and periodic energy accounting report submitted by energy manager of the electricity distribution company shall include following activities, namely: —

(I) data collection and verification of energy distribution—

(a) monthly energy consumption data of consumers and system metering from electricity distribution company at following voltage levels —

(i) 33/66/132 kV levels, including 33/66/132kV feeder and Sub-station;

(ii) 11/22 kV levels, including 11/22 kV feeder and Distribution Sub-station;

(iii) 440 V level, including Distribution Transformer and low-tension consumer;

(b) input energy details for all metered input points;

(c) boundary meter details;

(d) source of energy supply (e.g. electricity from grid or self-generation), including generation from renewables.

(e) review of the current consumption practices in order to identify the energy loss in the system;

(II) data verification, validation and correction—

(a) 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;

(b) verification and correction of input energy, taking into account the following—

(i) recorded system meter reading by metering agency;

(ii) all the input points of transmission system;

(iii) details provided by the transmission unit;

(iv) relevant records at each electricity test division for each month;

(v) recorded meter reading at all export points (where energy sent outside the State is from the
distribution system); and

(vi) system loading and corresponding infrastructure;

(c) energy supplied to Open Access Consumers which is directly purchased by Open Access Consumers from any supplier other than electricity distribution company; and

(d) verify and validate the system metering data provided by metering agency through random field visit (particularly for data irregularity)."

3.2 PURPOSE OF AUDIT AND ACCOUNTING REPORT

Energy Accounting means accounting of all energy inflows at various voltage levels in the distribution periphery of the network, including renewable energy generation and open access consumers, and energy consumption by the end consumers. Energy accounting and a consequent annual energy audit would help to identify areas of high loss and pilferage, and thereafter focus efforts to take corrective action.

3.3 PERIOD OF ENERGY AUDITING AND ACCOUNTING

The present Annual Energy Audit and accounting is for the period FY 2022-23.

4. INTRODUCTION OF DISCOM

4.1 NAME AND ADDRESS OF DESIGNATED CONSUMER

Bangalore Electricity Supply Company Limited
BESCOM
Corporate office, K R Circle,
Karnataka- 560 001

4.2 NAME AND DETAILS OF ENERGY MANAGER AND AUTHORISED SIGNATORY OF DC

Details of Energy Auditor	Details of Authorized Signatory
Mr. H.B. Basavaraju, DGM, Energy Audit (Energy Auditor), BESCOM Corporate office, K R Circle, Bangalore-560 001 Phone No: 94498 44860	Mr. M. L. Nagaraja, Chief General Manager (Operations), BESCOM Corporate office, K R Circle, Bangalore-560 001 Phone No: 080-223522487

4.3 SUMMARY PROFILE OF DC

4.3.1 ELECTRICAL INFRASTRUCTURE & ASSETS

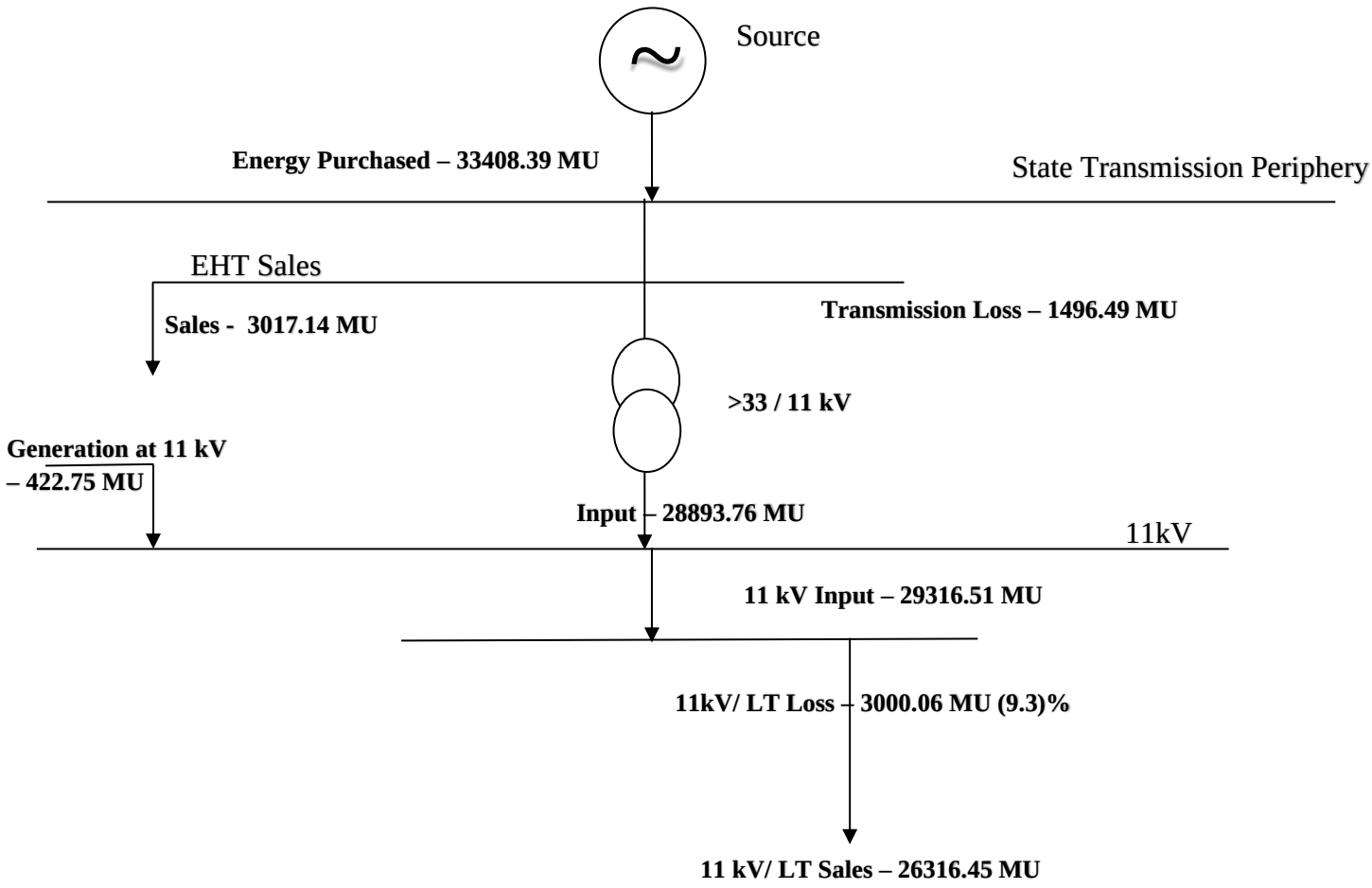
Sl. No.	Particulars	Value in FY 2020-21	Value in FY 2021-22	Value in FY 2022-23
1	No of 11 kV Substations	495	507	519
2	Length of 11 kV line (km)	1,19,982.46	1,24,784.66	1,32,279.27
3	Length of Low-tension line (km)	1,76,950.29	1,79,340.58	1,86,633.86
4	Number of Distribution Transformers	4,25,897	4,55,604	4,78,361
5	Number of circles	9	9	9
6	Number of divisions	32	32	32
7	Number of sub-divisions	147	147	147
8	Number of feeders	5653	5918	6172
9	Number of consumers	1,28,21,422	1,33,28,295	1,39,01,031

4.3.2 ENERGY FLOW

Sl. No.	Energy Flow Details	Unit	2020-21	2021-22	2022-23
1	Input Energy Purchase (From Generation Source)	Million Unit	29963.42	31452.35	33831.14
2	Net input energy (received at DISCOM periphery or at	Million Unit	28373.39	30061.01	32334.65

Sl. No.	Energy Flow Details	Unit	2020-21	2021-22	2022-23
	distribution point, after adjustment)				
3	Total Energy billed (is the Net energy billed, adjusted for energy traded))	Million Unit	25234.21	26684.73	29333.59
4	Transmission and Distribution (T&D) loss Details	Million Unit	3129.18	3376.28	3001.05
		%	11.06%	11.23%	9.28%
5	Collection Efficiency	%	99%	100%	95.46%
6	Aggregate Technical & Commercial Loss	%	12.17%	11.2%	13.4%

The Energy flow diagram is as below:



BESCOM Sales- 29333.59MUs

4.3.3 CONSUMER BASE

BESCOM is supplying power to 1,39,01,031 number of consumers as on 31st March 2023. The details of category wise consumers are presented in the following table:

Consumer Category	FY 2021-22	FY 2022-23
Residential	97,85,718	1,01,71,943
Agricultural	22,11,094	10,15,199
Commercial/Industrial-LT	2,34,002	15,15,980
Commercial/Industrial-HT	16,069	24,360
Others	10,81,412	11,73,549
Total	**1,33,28,295**	**1,39,01,031**

The metering status at different voltage levels of BESCOM consumers is presented below:

Sl. No.	Parameters	66kV and above	33kV	11/22kV	LT
1	Number of conventional metered consumers	0	0	11612	12767831
2	Number of consumers with 'smart' meters	0	0	0	70
3	Number of consumers with 'smart prepaid' meters	0	0	0	0
4	Number of consumers with 'AMR' meters	100(EHT)	0	9588	12078
5	Number of consumers with 'non-smart prepaid' meters	0	0	0	77870
6	Number of unmetered consumers	0	0	0	1021882
	Number of total consumers	**100**	**0**	**21200**	**13879731**

4.3.4 SALIENT FEATURES

Power supply position: BESCOM has been providing 24x7 power supply to all category of consumers. The highlights of performance of the Company for the financial year 2022-23 is given below:

Sr. No.	Particulars	Unit	Value in FY 2022-2023
1	Peak demand of a day (29th March 2023)	Mega Watts	7740
2	Maximum consumption of a day (29th March 2023)	Million Units	144.97
3	Annual Energy Input during the year	Million Units	32334.65
4	Metered sales during the year	Million Units	23055.29
5	Agriculture consumption during the year (Metered -83.494 Million Units, Unmetered-6278.297 Million Units)	Million Units	6361.791
6	Energy losses during the year (Incl. EHT Sales)	Million Units	3001.05
7	Percentage of Energy losses (Incl. EHT Sales)	%	9.28
8	EHT Sales	Million Units	3017.14
9	Percentage of Energy losses (Excl. EHT Sales)	%	10.236

BESCOM peak demand of a day was observed on the 29th of March 2023 at 11:26 IST (7,740 Mega Watts) and the maximum consumption of a day was observed on the 29th of March 2023 (144.97 million units). BESCOM peak load and BESCOM have implemented the following projects to strengthen the existing network to withstand the upcoming peak load.
a) In urban areas, OH HT Line converted to UG Cable
b) New sub-station works are under progress.
c) Reconductoring of age-old conductors to higher-size conductors.
d) Bifurcation of overloaded feeders by providing new feeders.

4.3.5 KEY PROJECTS

NIRANTHARA JYOTHI SCHEME:

Niranthara Jyothi Scheme is a prestigious scheme of Government of Karnataka intends to achieve 24 hours 3 phase power supply to non-agricultural loads like domestic, water supply, street light, rural industries, milk dairies etc., in rural areas by segregating the rural loads into agricultural and non-agricultural loads. The objectives of NJY scheme:

- 24/7 power supply to non-agricultural loads in rural areas.
- Better quality and reliable power.
- Reduction in transformer failure.
- Reduction in technical losses.
- Increase in consumption of metered category.
- Assessment of agricultural energy consumption.
- Improvement in rural economy.

Project features:

- Project implemented in three phases.
- Number of feeders completed 966.
- Year of completion FY2019-2020.
- Project cost 2004.91 Crores.

INTEGRATED POWER DEVELOPMENT SCHEME (IPDS):

Government of India, Ministry of Power has sanctioned the IDPS for implementation of the scheme for strengthening of Distribution Network in Urban areas in the interest of supplying good quality power to consumers of urban area. The objectives are:

- Providing reliable and quality power supply in an efficient manner in urban areas.
- Efficient management of distribution sector with adequate metering arrangements in urban areas.
- AT&C loss reduction as per trajectory finalized by MoP.

Project features:

The project was executed with an estimated cost of Rs 457.16 Crores in 45 towns and was completed in the FY 2020-2021. The key achievements are summarized in the table below:

Physical Progress of IPDS

Sl. No.	Milestone Name/Item Name	Unit	Sanction Quantity as per DPR	Earlier Reconciled Quantity	Awarded Quantity	Final Executed Quantity
1	11 KV New Feeders	Km	401.73	200.58	189.91	189.91
2	11 KV Feeder Reconductoring	Km	321.15	267.61	235.10	235.10
3	Aerial Bunched Cable	Km	887.86	570.44	577.05	577.05
4	UG Cables	Km	577.62	759.50	954.09	954.09
5	Installation of New DT	No	2808	1090	1100	1100
6	Capacity Enhancement of DT	No	1260	207	423	423
7	LT Line Reconductoring	Km	1683.52	1449.38	1349.82	1349.82
8	Smart Meter	No	12760	0.00	0.00	0.00
9	Pre Paid Meter	No	5453	0.00	0.00	0.00
10	Boundary Meter	No	21.00	21.00	21.00	21.00
11	Feeder Meters	No	1275	0.00	0.00	0.00
12	DT Meters	No	400	0.00	0.00	0.00
13	Consumer Meter	No	33990.00	16566.00	16566.0	16566.0
14	Solar Panels	KWp	410.00	1122.30	673.56	673.56
15	RMU etc	Lot	0.00	417.00	455.00	455.00
16	Others	Rs.Lac	0.00	0.00	0.00	0.00

5. DISCUSSION AND ANALYSIS

5.1 ENERGY ACCOUNTS FOR PREVIOUS YEARS

T&D losses as approved by KERC and its achievement by BESCOM for the years FY 2020-2021 and FY 2022-2023 are presented in the following table.

Sl. No	Year	T&D losses approved by KERC	T&D losses achieved by BESCOM
1	FY 2020-2021	12.25%	11.06%
2	FY 2021-2022	11.25%	11.23%

Sl. No	Year	Collection Efficiency	AT&C losses
1	FY 2020-2021	99%	12.17%
2	FY 2021-2022	100%	11.2%

5.2 ENERGY ACCOUNTS AND PERFORMANCE

The net energy input to the DISCOM for FY 2022-2023 is estimated and presented in the following table.

Form-Input energy (Details of Input Energy & Infrastructure)		
Sl. No.	**Parameters**	**Value**
A.1	Input Energy purchased (Million Units (MU))	33831.14
A.2	Transmission loss (%)	4.423%
A.3	Transmission loss (MU)	1496.491
A.4	Energy sold outside the periphery (MU)	11.18
A.5	Open access sale (MU)	20.13
A.6	EHT sale	3017.14
A.7	Net input energy (received at DISCOM periphery or at distribution point, after adjustment) (MU)	32334.65

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

Sl. No.	Type of Consumers	Category of Consumers (EHT/HT/LT/Others)	Voltage Level (In Voltage)	No of Consumers	Total Consumption (In MU)
1	Domestic	LT	LT	10171408	8234.512024
2	Commercial	LT	LT	1278877	2281.446636
3	IP Sets	LT		1013019	6279.578868
4	Hor. & Nur. & Coffee/Tea & Rubber (Metered)	LT	LT	2092	6.29802861
5	Hor. & Nur. & Coffee/Tea & Rubber (Flat)				
6	Heating and Motive Power				
7	Water Supply	LT	LT	92918	1449.456103
8	Public Lighting	LT	LT	83994	628.2518401
9	HT Water Supply	HT	11kV	301	857.4850819
10	HT Industrial	HT	11kV	8311	5035.983246
11	Industrial (Small)	LT	LT	242326	1350.9824
12	Industrial (Medium)				
13	HT Commercial	HT	11kV	8799	2237.950557
14	Applicable to Government Hospitals & Hospitals	HT	11kV	1068	357.4090296
15	Lift Irrigation Schemes/Lift Irrigation Societies	HT	11kV	88	75.91620594
16	HT Res. Apartments Applicable to all areas	HT	11kV	535	96.32650026
17	Mixed Load				
18	Government offices and department				
19	Others-1 (HT5)	HT	11kV	2198	184.6933395
20	Others-2 (LT7)	LT	LT	995097	257.3024066
	Total			**13901031**	**29333.592**

The technical losses and AT & C losses for FY 2022-2023 are estimated and presented in the following table.

Losses	T&D Losses		AT&C loss (%)
	T&D loss (MU)	T&D loss (%)	
	3001.05	9.28%	13.4%

5.2.1 DIVISION-WISE PERFORMANCE

Sl. No.	Name of Division	Energy parameters				Losses		Commercial Parameter			AT&C loss (%)
		Input energy (MU)	Billed energy (MU)			T&D loss (MU)	T&D loss (%)	Billed Amount in Rs. Crore	Collected Amount in Rs. Crore	Collection Efficiency	
			Metered energy	Unmetered/ assessment energy	Total energy						
1	JAYANAGAR	1594.3400	1499.0388	0.0013	1499.0401	95.30	5.98%	1502.4890	1485.0315	98.84%	7.07%
2	KORAMANGALA	1666.7600	1550.7709	0.9580	1551.7290	115.03	6.90%	1760.4297	1762.6287	100.12%	6.79%
3	HSR LAYOUT	2004.2000	1851.5512	3.4229	1854.9741	149.23	7.45%	1933.2077	1927.3205	99.70%	7.73%
4	PEENNYA	1056.9900	1006.7773	0.1935	1006.9708	50.02	4.73%	962.8886	942.5362	97.89%	6.75%
5	MALLESHWARAM	514.9500	487.9413	0.0000	487.9413	27.01	5.24%	480.8948	474.1867	98.61%	6.57%
6	HEBBALA	1060.3100	931.7757	45.5570	977.3327	82.98	7.83%	949.3600	921.6149	97.08%	10.52%
7	JALAHALLI	557.2300	496.4277	23.1437	519.5714	37.66	6.76%	489.9864	473.4381	96.62%	9.91%
8	VIDHANA SAUDHA	486.7700	450.5356	0.0000	450.5356	36.23	7.44%	470.4327	465.0999	98.87%	8.49%
9	INDIRANAGAR	965.4000	911.1088	0.4036	911.5124	53.89	5.58%	937.4933	929.2360	99.12%	6.41%
10	SHIVAJINAGAR	1392.2000	1286.8518	0.4271	1287.2789	104.92	7.54%	1313.9637	1279.5891	97.38%	9.96%
11	WHITEFIELD	1045.2800	979.9368	6.9278	986.8646	58.42	5.59%	1120.2219	1111.3455	99.21%	6.34%
12	RAJAJINAGAR	897.8700	846.8934	0.1216	847.0150	50.85	5.66%	815.0481	799.8391	98.13%	7.42%
13	RAJARAJESHWARINAGAR	668.5900	628.3817	0.0662	628.4479	40.14	6.00%	598.7074	591.4649	98.79%	7.14%
14	KENGERI	1164.0300	1064.0142	46.0280	1110.0422	53.99	4.64%	965.7648	926.9231	95.98%	8.47%
15	NELAMAGALA	1259.1800	904.8808	217.0123	1121.8931	137.29	10.90%	989.7442	961.6211	97.16%	13.43%
16	HOSKOTE	1483.3600	979.3790	314.2661	1293.6451	189.71	12.79%	1127.6870	1048.3059	92.96%	18.93%
17	RAMANAGAR	708.9800	430.5773	220.8617	651.4390	57.54	8.12%	527.7369	504.7183	95.64%	12.12%
18	CHANDAPURA	1909.3800	1655.2868	98.4490	1753.7358	155.64	8.15%	1648.0890	1612.9368	97.87%	10.11%
19	KANAKAPUR	858.6300	604.3250	194.8678	799.1928	59.44	6.92%	562.1976	533.0364	94.81%	11.75%
20	MAGADI	492.3000	303.0179	139.7935	442.8114	49.49	10.05%	357.4200	343.7096	96.16%	13.50%

Sl. No.	Name of Division	Energy parameters				Losses		Commercial Parameter			AT&C loss (%)
		Input energy (MU)	Billed energy (MU)			T&D loss (MU)	T&D loss (%)	Billed Amount in Rs. Crore	Collected Amount in Rs. Crore	Collection Efficiency	
			Metered energy	Unmetered/ assessment energy	Total energy						
21	KOLAR	828.5700	431.1571	290.8286	721.9857	106.58	12.86%	527.8629	432.8075	81.99%	28.55%
22	KGF	1212.5100	680.5627	400.7784	1081.3411	131.17	10.82%	797.6567	644.7277	80.83%	27.92%
24	CHIKKABALLAPURA	883.0600	393.1011	395.2841	788.3852	94.67	10.72%	560.6500	476.6910	85.02%	24.09%
24	CHINTHAMANI	628.6100	216.9202	333.2452	550.1654	78.44	12.48%	356.6237	278.2478	78.02%	31.71%
25	DAVANAGERE	1101.1600	449.5119	515.0368	964.5486	136.61	12.41%	663.1583	623.4977	94.02%	17.64%
26	CHITRADURGA	832.9900	250.4044	458.9357	709.3401	123.65	14.84%	448.4539	421.3818	93.96%	19.98%
27	HARIHARA	719.8400	252.4404	383.2793	635.7197	84.12	11.69%	421.0832	390.3719	92.71%	18.13%
28	HIRIYURU	880.5700	319.8303	429.1736	749.0039	131.57	14.94%	483.1486	413.5804	85.60%	27.19%
29	TUMKURU	1422.5900	636.0341	573.5106	1209.5447	213.05	14.98%	867.2654	825.3911	95.17%	19.08%
30	TIPTUR	650.4200	161.5195	391.7329	553.2525	97.17	14.94%	336.4221	312.2993	92.83%	21.04%
31	MADHUGIRI	1080.1000	284.3876	634.2568	918.6444	161.46	14.95%	560.0374	476.8896	85.15%	27.58%
32	KUNIGAL	307.4700	109.9535	159.7343	269.6878	37.78	12.29%	185.9459	163.1391	87.73%	23.05%

BESCOM has identified high loss feeders of high loss divisions, the following works were proposed under capex to bring down the losses:

a) New Lines
b) Bifurcation of feeders by providing Link Lines
c) Reconductoring of old conductors by higher capacity conductors
d) Providing additional transformers

Further to bring down the losses in high loss Divisions and capacity additions of overloaded segments of the network, similar works are proposed under RDSS.

5.2.2 VOLTAGE WISE INPUT AND LOSSES

DC has provided energy input and sales/ consumption for various voltages of supply and the estimated losses are presented in the following table:

Voltage wise Input, Sale and Loss

Sl. No.	Voltage	Input			Output			Loss (MU)	Loss (%)
		Input from higher voltage	Injection at voltage level	Total Input	Sales	Input to lower voltage	Total Output		
1	>33 kV	0	31910.90	31910.90	3017.14	28893.76	31910.90	0	0 %
2	11 kV & LT	28893.76	422.75	29316.51	26316.45	0	26316.45	3000.06	10.23%

The loss excluding EHT is 10.23%

5.3 ENERGY CONSERVATION MEASURES ALREADY TAKEN AND PROPOSED FOR FUTURE

Few of the ongoing Energy Conservation measures being implemented by the DC are summarised below:

- **Distribution of Energy Efficient fans:** BESCOM through EESL have distributed BEE star rated ceiling fans under PAVAN scheme. The total ceiling fans distributed is 41,757 from April-2017 to March-2023. There is no investment from BESCOM.

S.No	Parameter	UoM	Values
1	Nos of fans replaced	Nos.	41,757.00
2	Wattage of Existing Fan	Watt	75
3	Wattage of Super-Efficient Fan	Watt	50
4	Baseline load	MW	3.13
5	Projected load after DSM	MW	2.09
6	Reduction in Demand due to Super-Efficient Fan Program	MW	1.04
7	Operating hours/day	hrs/day	5.5
8	Annual Operating days	days	330
9	Annual Operating hours	Hrs/Yr	1,815.00
10	Annual Energy Savings	MWh/Yr	1,894.72
		MU/Yr	1.89
11	Investment	Rs. Cr.	Nil

- **Distribution of LED tube lights:** BESCOM through EESL have distributed LED tube lights under UJALA scheme. The total LED tube lights distributed is 2,75,188 from January-2017 to March-2023. There is no investment from BESCOM.

S.No	Parameter	UoM	Values
1	Nos of Tube lights replaced	Nos.	2,75,188
2	Wattage of Existing Tube lights	Watt	40
3	Wattage of LED Tube lights	Watt	20
4	Baseline load	MW	11
5	Projected load after DSM	MW	5.50
6	Reduction in Demand due to LED Tube light Program	MW	5.50
7	Operating hours/day	hrs/day	3.5
8	Annual Operating days	days	365
9	Annual Operating hours	Hrs/Yr	1,277.50

S.No	Parameter	UoM	Values
10	Annual Energy Savings	MWh/Yr	7,031.05
		MU/Yr	7.03
11	Investment	Rs. Cr.	Nil

- **Distribution of LED bulbs:** BESCOM distributed 9-watt LED bulbs through EESL under UJALA scheme and the total LED bulbs distributed is 1,13,83,900 from December-2015 to March-2023. BESCOM distributed 7 watts & 12-watt LED bulbs through CESL under Gram Ujala scheme and the total LED bulbs distributed is 1,22,857 & 3,14,993 from December-2021 to April-2022. The programme is a Carbon finance-based program, implemented through M/s Convergence Efficiency Services Limited (CESL), a 100% subsidiary of M/s EESL, a PSU under Ministry of Power at no cost to BESCOM. There is No investment from BESCOM for the above projects.

S. No.	Parameter	UoM	LED Bulbs 9 W	LED Bulbs 7 W	LED Bulbs 12 W
1	Nos of Lights replaced	Nos.	1,13,83,900	84,089	1,59,349
2	Wattage of Existing incandescent bulbs	Watt	60	60	100
3	Wattage of LED bulbs	Watt	9	7	12
4	Baseline load	MW	683.03	5.05	15.93
5	Projected load after DSM	MW	102.46	0.59	1.91
6	Reduction in Demand due to LED Bulbs Program	MW	580.58	4.46	14.02
7	Operating hours/day	hrs/day	3.5	3.5	3.5
8	Annual Operating days	days	365	365	365
9	Annual Operating hours	Hrs/Yr	1277.5	1277.5	1277.5
10	Annual Energy Savings	MWh/Yr	741689.5	5693.5	17914.0
		MU/Yr	741.7	5.7	17.9
11	Investment	Rs. Cr.	Nil	Nil	Nil

- **Implementation of Solar Rooftop system in BESCOM:**
  - The Government of Karnataka has announced the Solar Policy 2014-21 for grid connected Solar rooftop system under net-metering basis on 22.05.2014 with revised target of 2400MW to be achieved by 2022.
  - KERC is issuing the tariff order and other operational clarification from time to time, related to SRTPV on multiple SRTPV installations/ Government buildings etc.
  - The commissioned SRTPV installations from 07.11.2014 to 31.03.2023 is summarised below**.**

Period	Commissioned nos.	Commissioned Capacity in MW
2014-15	29	0.38
2015-16	368	7.75
2016-17	550	45.03
2017-18	284	40.14
2018-19	402	21.67
2019-20	700	21.426
2020-21	717	16.564
2021-22	1352	33.684
2022-23	1674	42.586
Total	**4402**	**186.639**

- **Surya Raitha Scheme:**

  - The Govt. of Karnataka has announced "Surya Raitha" scheme vide order dtd: 20.09.2014, for the welfare of farmers. The scheme proposes to provide net metered, grid connected solar water pump systems.
  - Total of grid connected solar water pumps installed from the commencement of the program upto 2023 and their benefits is summarised below:

Year	Total No. of solar IP sets commissioned	Cumulative Solar Generation in MUs	Cumulative Energy exported in MUs	Cumulative Energy imported in MUs	Solar Energy - Pump Consumption	Total Pump Consumption (Generated-Exported + Imported)	Net energy in MUs
2015-16	6	0.00	0.00	0.00	0.00	0.00	0.00
2016-17	113	0.25	0.10	0.09	0.14	0.24	0.01
2017-18	250	1.63	0.82	0.49	0.81	1.30	0.33
2018-19	310	2.61	1.55	0.41	1.07	1.48	1.14
2019-20	310	2.84	1.71	0.33	1.13	1.45	1.39
2020-21	310	2.42	1.48	0.31	0.95	1.26	1.16
2021-22	310	2.20	1.41	0.31	0.80	1.11	1.10
2022-23	310	2.20	1.46	0.30	0.74	1.04	1.16
Total	**310**	**14.16**	**8.53**	**2.24**	**5.63**	**7.88**	**6.28**

- **Implementation of Mandatory use of Solar Water Heaters:**

  - As a Demand Side Management program, BESCOM has made mandatory use of Solar Water Heaters for buildings which are measuring 600 square feet of floor area or site area of 1200 square feet.
  - Total no. of Solar Water Heaters installed during 2022-23 in BESCOM is 40,517.

Energy savings*	MUs
Annual Energy savings for 40,517 nos. of SWH	40.11
Per day Energy savings for 40,517 nos. of SWH	0.12
* By considering avg. 2kW for 1½ hrs per day per SWH system, for 330 days	

- **Providing timer switches to the street light installations:**

  BESCOM has requested BBMP and other local municipal bodies to install timer switches to street lights resulting in energy savings and reduces evening peak hour load on grid.

- **Energy Awareness Program:**

  BESCOM also carries out energy conservation awareness programs and has tried to create awareness through:
  - Advertisements in Newspapers, Magazines, Souvenir etc.
  - Through stalls
  - On Hoardings
  - Jingles in Doordarshan, AIR, Big FM etc.
  - Posters, Pamphlets, Brochures, etc.
  - Through Customer Interaction Meetings by Sub Division officers/Section Officers with Grama Panchayath and Zilla Parishat offices
  - Vidhyuth Adalat on every 3rd Saturday at Village level by BESCOM officers
  - Through Interaction meetings at Taluk development/District development meetings

- **Earth Hour:**

  Earth Hour-2023 was observed on 25th March 2023 between 8.30pm to 9.30pm by BESCOM Officers/Employees and the consumers, by switching 'OFF' unnecessary lights.

The DC has carried out Mandatory Energy Audit in FY 2018-19 the details on the Energy Conservation measures (implemented and planned) along with their techno-economic benefits are summarized below:

Mandatory Energy Audit under PAT Cycle II in BESCOM

Form 2

Details of energy saving measures recommended in the energy audit report (2018-19)

[See regulation 5(2)]

SL. No.	Energy saving measures – (Suggested categories of area of improvement and modifications for obtaining details of energy savings)	Investment Rs	Reason for not implementing the measure/Status	Date of completion of measure/ likely completion	Electrical energy savings
	Overall BESCOM level				
1	Deen Dayal Upadyay Grameen Jyothi Yojane	282.16 Cr	Implemented	2016-2020	
2	UJALA Programme	EESL	Implemented	2015-2019	355.33 MU
3	Integrated Power Development Scheme	502.23 Cr	Implemented	2016-2019	
4	Niranthara Jyothi Yojana Phase I, II & III	1831.52 Cr	Implemented	2010- 2019	
5	Surya Raitha Scheme	24.35 Cr	Implemented	2016-2019	
6	High Voltage Distribution System	1108.64 Cr	Implemented	2016-2019	
	66/11 Jigani substation level	Approximate cost			
1	Distribution Loss Reduction by installing capacitor banks at load ends of IP Feeders :	25.55 Lakhs	To be implemented	2020-21	22.470 MU
2	Energy efficient Agricultural Pumps(1382 Nos)	8.29 Cr	To be implemented	2020-21	6300 KV/H/1 IP set/Year
3	Feeder Reconductoring for three 11kV feeder	35.79 Lakhs	To be implemented	2020-21	19.25 % Technical loss reduction
4	Network Reconfiguration for two 11kV feeder	127.48 Lakhs	To be implemented	2020-21	Peak Load and Power outage reduced
5	DTC Energy Metering (855 Nos)	1.5 Cr	To be implemented	2020-21	

Signature:

ENERGY AUDITOR BESCOM

Name of the Energy Manager – **Sri. H.B.Basavaraj**

Name of the company – **Bangalore Electricity Supply Company Ltd**
Full address – **Corporate Office BESCOM, K.R.Circle, Bangalore-560001**
E-mail Address – **energyauditor@bescom.co.in**
Mobile No. - **9449841597**

Signature:

Name of the Accredited Energy Auditor – **Shri I Thanumoorthi**
Accreditation Details: AEA 175
Seal

EMEX GLOBAL SOLUTIONS PRIVATE LIMITED BENGALURU

5.4 CRITICAL ANALYSIS BY ENERGY AUDITOR

5.4.1 COMPLIANCE TO BEE REGULATIONS

The compliance status of DISCOM to various provisions of BEE Regulations 2021 is analysed and presented below:

Clause No	Clause Details	Sub Clause Number	Sub-clause Details	Present Status
3	Intervals of time for conduct of annual energy audit	a	Conducted an annual energy audit for every financial year and submitted the annual energy audit report to the Bureau and respective State Designated Agency and also made available on the website of the electricity distribution company within a period of four months from the expiry of the relevant financial year	Annual energy audit for FY 2022-2023 being conducted. Report will be submitted to BEE and SDA. Report has been uploaded onto BESCOM website.
4	Intervals of time for conduct of periodic energy accounting.	1(a)	All feeder wise, circle wise and division wise periodic energy accounting is conducted by the energy manager of the electricity distribution company for each quarter of the financial year.	Periodic energy accounting for FY22-23 has been done for all quarters
		1(b)	Submitted the periodic energy accounting report to the Bureau and respective State Designated Agency and also made available on the website of electricity distribution company within forty-five days from the date of the periodic energy accounting.	Periodic energy accounting for FY22-23 has been done for all quarters by the DC and submitted to BEE, SDA . DC has uploaded the energy accounting reports onto the website of DC.

Clause No	Clause Details	Sub Clause Number	Sub-clause Details	Present Status
		2(a)	Electricity distribution company conducted its first periodic energy accounting, for the last quarter of the financial year immediately preceding the date of such commencement (i.e. 6th October 2021).	Not applicable. This was already verified in the previous audit of FY 21.
		2(b)	Electricity distribution company conducted its subsequent periodic energy accounting for each quarter of the financial year for a period of two financial years from the date of such commencement, and submit the periodic energy accounting report within sixty days from the date of periodic energy accounting.	The DC has submitted the periodic energy auditing reports as per the Energy Audit regulations for all quarters for the 2 subsequent financial years.
5	Pre-requisites for annual energy audit and periodic energy accounting	a	Identification and mapping of all of the electrical network assets	Under RAPDRP Areas GIS Mapping of 25 towns has been completed. Under IPDS (Integrated Power Distribution Scheme) survey has been completed, Go Live is yet to be done.
		b	Identification and mapping of high tension and low-tension consumers	All the HT and LT consumers have been mapped.
		c	Development and implementation of information technology enabled energy accounting and audit system, including associated software	DC has energy accounting and audit system including associated software. DC uses MS Infinite computer solutions (for RAPDRP) and Nsoft Software (For Non RAPDRP).
		d	Electricity distribution company ensures the installation of functional meters for all consumers, transformers and feeders. Meter installation is done in a phased manner within a period of three	All feeders up to 11kV have been metered. All consumers have been metered except consumers under agriculture category.

Clause No	Clause Details	Sub Clause Number	Sub-clause Details	Present Status
			financial years from the date of the commencement of these regulations in accordance with the trajectory set out in the First Schedule	As of 31st March 2023 of the total 4,78,361 distribution transformers, 115487 distribution transformers have been metered. 3,49,514 distribution transformers are unmetered. 13360 nos. of the IP feeding DTCs are metered though the same is exempted from metering as per directions from the Energy department. (Out of 3,49,514 nos. of unmetered DTs, 1,13,037 nos. of DTs are to be metered, as the balance DTs are on the exclusive IP feeder (segregated Agriculture feeders under NJY project) and single installations with exclusive DTCs, which are exempted from metering.)
			d.1. 100% Communicable Feeder Metering integrated with AMI, by 31st December 2022 along with replacement of existing non-communicable feeder meters.	d.1. 100% of the feeders are having DLMS (Device Language Message Specification - Communicable Meters). No. of DCU's installed is 97 and No. of Station DCU's installed is 96 and No. of feeders covered under RFMS is 862 as on 31st May 2023.

Clause No	Clause Details	Sub Clause Number	Sub-clause Details	Present Status
			d.2. **All Distribution Transformers** (other than HVDS DT up to 25kVA and other DTs below 25 kVA) shall be metered with communicable meters. Communicable DT Metering for the following areas/ consumers to be completed by December 2023 and in balance areas by December 2025: d.2.1. All Electricity Divisions of 500 AMRUT cities, with AT&C Losses > 15% d.2.2. All Union Territories (for areas with technical difficulty, non-communicable meters may be installed) d.2.3. All Industrial and Commercial consumers d.2.4. All Government offices at Block level and above d.2.5. Other high loss areas i.e. rural areas with losses more than 25% and urban areas with losses more than 15%	d.2.1. Obtaining approval from Regulatory commission is under process for AMI of DTC's in BESCOM Area. d.2.2. Not Relevant for DC. d.2.3. AMR works taken up under RAPDRP, IPDS and DDUGJY schemes for industrial HT-9688 nos. & LT industrial & commercial (above 40HP installations) for 12078 nos. Further, action is in progress for replacement of existing non-DLMS meters by DLMS meters of HT & LT Industrial and Commercial installations. 2.4 Proposal for AMI implementation to All Government offices at Block level and above is under process and yet to be taken up. d.2.5. DC intends to install communicable meters with AMI for other high loss areas i.e. rural areas with losses more than 25% and urban areas with losses more than 15% under Revamped Distribution Sector Scheme (RDSS) of REC. BESCOM has enabled AMR for 95872 nos. of DTC meters under various projects, however no meters are enabled with AMI. The contract period of AMR agencies expired in RAPDRP & Non-RAPDRP area on March-2019. Due to the expiry of the existing contracts, to maintain the existing metering system works carried out before 2013 and to ensure proper operation of meters, metering system and modems, it was proposed to float tender under OPEX model. Due to the introduction of MoP-RDSS scheme

Clause No	Clause Details	Sub Clause Number	Sub-clause Details	Present Status
				wherein one of the major component is metering which includes DTCs, as per the direction of Management the OPEX proposal is shelved. The installation of the smart meters has not yet commenced as the tender work is under process.
			d.3. **Prepaid Smart Consumer Metering** to be completed for all directly connected meters and AMR in case of other meters, by December 2023 in the following areas: d.3.1. All Electricity Divisions of 500 AMRUT cities, with AT&C Losses > 15%; d.3.2. All Union Territories (for areas with technical difficulty, prepaid meters to be installed); d.3.3. All Industrial and Commercial consumers; d.3.4. All Government offices at Block level and above; d.3.5. Other high loss areas i.e. rural areas with losses more than 25% and urban areas with losses more than 15%.	d.3.1. Installation of the smart meters has not yet commenced as the tender work is under process. d.3.2. Not Relevant for DC. d.3.3. AMR works taken up under RAPDRP, IPDS and DDUGJY schemes for industrial HT-9688 nos. & LT industrial & commercial (above 40HP installations) for 12078 nos. Further, action is in progress for replacement of existing non-DLMS meters by DLMS meters of HT & LT Industrial and Commercial installations. d.3.4. Proposal for AMI implementation to All Government offices at Block level and above is under process and yet to be taken up. d.3.5. DC does not have such magnitude of losses in rural (25%) and urban (15%).

Clause No	Clause Details	Sub Clause Number	Sub-clause Details	Present Status
			d.4. Consumer Metering: 98% by FY 2022-23 99% by FY 2023-24	92.65% Consumer metering has been completed as on 31st March 23.All installations are metered except IP set installations below 10HP.
			d.5. Targets for functional meters— Meter FY 22-23 FY 23-24 FY24-25 Feeder metering 98.5% 99.5% 99.5% DT metering 90% 95% 98% Consumer metering 93% 96% 98%	1. Purchase orders for supply of meters for replacement of consumers non-functional meters are being placed on vendors as per requirement received from Divisions and sufficient stock is available at divisional stores for replacement. 2. For DTCs, as per the directives, no new DTC meters and non-functional meters replacement has been taken up by BESCOM. 3. However, as a case study, 75 nos. in Malleshwaram and 40 nos. in Vidhana Soudha division, LT CT meters are provided for replacment of existing DTCs MNR and replacement is in progress. 4. Also 2492 nos. of LT CT operated meters are provided to 17 Divisions of BESCOM for DTC MNR metering and replacement is in progress.
		e	e.1. All distribution transformers (other than high voltage distribution system up to 25kVA and other distribution system below 25 kVA) is metered with communicable meters. e.2. And existing non communicable distribution transformer meters is replaced with communicable meters and integrated with advanced metering infrastructure.	Obtaining approval from Regulatory commission is under process for AMI of DTC's in BESCOM Area.

Clause No	Clause Details	Sub Clause Number	Sub-clause Details	Present Status
		f	Electricity distribution company has established an information technology enabled system to create energy accounting reports without any manual interference and such systems may be within a period of three years from the date of the commencement of these regulations in case of urban and priority area consumers; and within five years from the date of the commencement of these regulations in case of rural consumers	DC has energy accounting and audit system including associated software. DC uses MS Infinite computer solutions (for RAPDRP) and Nsoft Software (For Non RAPDRP).
		g	Electricity distribution company has a centralized energy accounting and audit cell comprising of— (i) a nodal officer, an energy manager and an information technology manager, having professional experience of not less than five years; and (ii) a financial manager having professional experience of not less than five years	The DC has energy audit department with the following staff 1. A nodal officer- CGM-Operations 2. Designated energy manager who is a qualified energy auditor- DGM/EA 3. A qualified information technology manager- AGM/IT 4. A qualified financial manager- AO Finance
6	Reporting requirements for annual energy audit and periodic energy accounting	a	Electricity distribution company has a nodal officer, who is a full time employee of the electricity distribution company in the rank of the Chief Engineer or above, for the purpose of reporting of the annual energy audit and periodic energy accounting and communicate the same to the Bureau.	The DC is complying with this requirement

Clause No	Clause Details	Sub Clause Number	Sub-clause Details	Present Status
		b	Electricity distribution company ensures that the energy accounting data is generated from a metering system or till such time the metering system is not in place, by an agreed method of assumption as may be prescribed by the State Commission	DC has energy accounting and audit system including associated software. DC uses MS Infinite computer solutions(for RAPDRP) and Nsoft Software (For Non RAPDRP). The agricultural unmetered energy is accounted based on KERC guidelines.
		c	Metering of distribution transformers at High Voltage Distribution System up to 25KVA is done on cluster meter installed by the electricity distribution company	All HVDS installations are dedicated EIP feeders and meter is provided at Sub-station level.
		d	The energy accounting and audit system and software is developed to create monthly, quarterly and yearly energy accounting reports.	The DC has software's for energy accounting and audit and the software's are having the capability to create monthly, quarterly and yearly energy accounting reports.
		e	Electricity distribution company has provided the details of the information technology system in place as specified in clause (f) of regulation 5 that ensures minimal manual intervention in creating the energy accounting reports and any manual intervention of any nature, in respect of the period specified therein, shall be clearly indicated in the periodic energy accounting report	The DC has software's for energy accounting and audit and the software's are having the capability to create monthly, quarterly and yearly energy accounting reports.

5.4.2 AGRICULTURAL CONSUMPTION

The DISCOM has segregated the 11 kV feeders under Niranthara Jyothi Yojana into rural feeders and agricultural feeders and all the 11 kV feeders are metered. The rural feeders are provided power 24/7 whereas, the agricultural feeders are provided power for 7 hours per day. The un-metered agricultural consumption is estimated by the formulae (Input energy - Metered Sales - Allowable Loss (10% of the input energy)). There are a total of 10,15,199 agricultural connections of which 2,669 are metered and the rest 10,12,530 are unmetered connections. The energy consumption in metered connections is 83.49 MUs, while that in unmetered connections is 6278.29 MUs of unmetered/assessment energy. Thus, the overall agricultural consumption totals to 6361.79 MUs which accounts for 22% of the total energy consumption in BESCOM.

5.4.3 11KV FEEDER METERING AND ENERGY AUDIT

The DISCOM has 100% metering for all the 11 kV feeders and has provided energy input and consumption/ sale data of all the 11 KV feeders (6172, 11 kV feeders). DC has provided back up documents for 650 numbers of 11kV feeders (minimum 10%) for which input and sales have been verified with those entered in the proforma. The process of checking the functioning and calibration of the 11 KV feeder meters is an on-going process and is monitored by KPTCL. Also, monthly, quarterly and annual energy audit is done for all the 11 kV feeders under BESCOM.

5.4.4 CATEGORY WISE SUBSIDY

The DISCOM receives subsidy from Government of Karnataka for energy supplied to Irrigation Pump sets (up-to 10HP) and small households (Kutirjyothi and Bhagyajyothi up to 40 units/month).

The subsidy calculation methodology for:

- The BJ/KJ (Bhagyajyothi Kutirjyothi) Subsidy = Consumption x CDT (Commission Determined Tariff) as per the Tariff Order 2022(pg. 389) and
- Agricultural IP sets category less than 10 hp as per Tariff order 2022 (pg. 395) issued by KERC.

The per unit rates for IP and BJ/KJ categories is as per the Tariff Order 2022.

The subsidy claim is raised by the DISCOM on a quarterly basis. The subsidy amount to be paid by the Government to BESCOM is adjusted with the electricity duty collected by BESCOM. The reconciliation of the quarterly subsidy demand and received from the Government is summarized below:

Quarterly Consumer Category-wise Subsidy Billed/Received/Due					
Sl. No.	**Particulars**	**Consumption (in MUs)**	**Demand (Rs in Crs.)**	**Subsidy released for 2022-23 (Rs. In Crs.)**	**Remarks Balance subsidy to be received (Rs in Crs.)**
Quarter 1 – Period from 01.04.2022 to 30.06.2022					
1	IP sets up to 10 HP	2087.99	926.95	706.64	1211.13
2	BJ/KJ up to 40 units	45.15	42.47	42.47	0.00
	Q1 Total	**2133.14**	**969.42**	**749.11**	**1211.13**
Quarter 2 - Period from 01.07.2022 to 31.09.2022					
1	IP sets up to 10 HP	902.97	440.29	660.54	990.87
2	BJ/KJ up to 40 units	45.48	45.15	45.15	0.00
	Q2 Total	**948.46**	**485.43**	**705.69**	**990.87**
Quarter 3 - Period from 01.10.2022 to 31.12.2022					
1	IP sets up to 10 HP	914.95	485.61	490.96	985.52
2	BJ/KJ up to 40 units	45.88	47.26	47.26	0.00
	Q3 Total	**960.83**	**532.87**	**538.22**	**985.52**
Quarter 4 - Period from 01.01.2023 to 31.03.2023					
1	IP sets up to 10 HP	2372.37	1335.68	1288.35	1032.85
2	BJ/KJ up to 40 units	46.22	35.17	35.17	0.00
	Q4 Total	**2418.59**	**1370.85**	**1323.53**	**1032.85**

The subsidy receipt vis-à-vis demand of BESCOM for the FY 2022-23 is presented below:

Subsidy received from GOK in FY 2022-23 towards power supply for IP Sets (up to 10 HP) & BJ/KJ (up to 40 units)						
Sl. No.	**Particulars**	**No. of installations**	**Consumption (in MUs)**	**Demand (Rs in Crs.)**	**Subsidy released for 2022-23 (Rs. In Crs.)**	**Remarks** *****Balance subsidy to be received (Rs in Crs.)
1	IP sets up to 10 HP	1012530	6278.30	3188.52	3146.49	1032.85
2	BJ/KJ up to 40 units	796937	182.75	170.06	170.06	0.00
	Total	**1809467**	**6461.05**	**3358.57**	**3316.55**	**1032.85**

**Balance Subsidy yet to be received from State Govt. " includes Opening Balance of Rs.990.82 Crs. as on 1st April, 2022.*

5.4.5 ANALYSIS ON T&D LOSSES AND AT&C LOSSES

- **% Losses – Aggregate**- The overall Technical Loss (T&D Loss) is 9.28% and overall AT&C Loss is 13.4% for FY 2022-2023. This reflects an overall collection efficiency of 95.46%.

- **% Losses – Voltage wise**- DISCOM has distribution only of 11 kV and 415V and is carrying out loss assessment only at 11 kV. The losses of which is 9.28% and overall AT&C Loss is 13.4% for FY 2022-2023. DISCOM shall carry out energy accounting at all the voltage levels.

- **Division wise% Losses summary** - The range of T&D losses, collection efficiency and AT&C losses among the divisions is tabulated below:

T & D loss (MU)	3001.05
T & D loss (%)	9.28%
T & D loss Range	4.64% -14.98%
Division With highest T & D loss	Tumkur
Division With lowest T & D loss	Kengeri
Collection Efficiency	95.46%
Collection Efficiency Range	78.02% - 100.12%
AT & C loss (%)	13.40%
AT & C loss Range	6.34% - 31.71%
Division With lowest AT&C loss	Whitefield
Division With highest AT&C loss	Chinthamani

- **Division wise % Losses summary** - The following divisions of the DISCOM are having T&D losses more than the average value 9.28% and requires special attention.

Sl. No.	Division	T&D loss (MU)	T&D loss (%)
1	NELAMANGALA	137.29	10.90%
2	HOSKOTE	189.71	12.79%
3	MAGADI	49.49	10.05%
4	KOLAR	106.58	12.86%
5	KGF	131.17	10.82%
6	CHIKKABALLAPURA	94.67	10.72%
7	CHINTHAMANI	78.44	12.48%
8	DAVANAGERE	136.61	12.41%
9	CHITRADURGA	123.65	14.84%
10	HARIHARA	84.12	11.69%
11	HIRIYURU	131.57	14.94%
12	TUMKURU	213.05	14.98%

Sl. No.	Division	T&D loss (MU)	T&D loss (%)
13	TIPTUR	97.17	14.94%
14	MADHUGIRI	161.46	14.95%
15	KUNIGAL	37.78	12.29%

- **Division wise collection efficiency:** The following divisions of the DISCOM are having collection efficiency less than the average value 95.46% and requires special attention.

Sl. No.	Name of Division	Commercial Parameter		Collection Efficiency
		Billed Amount in Rs. Crore	Collected Amount in Rs. Crore	
1	HOSKOTE	1127.68	1048.30	92.96%
2	KANAKAPUR	562.19	533.03	94.81%
3	KOLAR	527.86	432.80	81.99%
4	KGF	797.65	644.72	80.83%
5	CHIKKABALLAPURA	560.65	476.69	85.02%
6	CHINTHAMANI	356.62	278.24	78.02%
7	DAVANAGERE	663.15	623.49	94.02%
8	CHITRADURGA	448.45	421.38	93.96%
9	HARIHARA	421.08	390.37	92.71%
10	HIRIYURU	483.14	413.58	85.60%
11	TUMKUR	867.26	825.39	95.17%
12	TIPTUR	336.42	312.29	92.83%
13	MADHUGIRI	560.03	476.88	85.15%
14	KUNIGAL	185.94	163.13	87.73%

- **Category wise collection efficiency:** Category wise input energy cannot be estimated on account of mixed feeders. Accordingly, T&D Losses and AT&C Losses for consumer categories could not be provided. However, collection efficiencies of various consumer categories are tabulated below.

Sr. No.	Category	Collection Efficiency
1	Residential	99.42%
2	Agricultural	100.38%
3	Commercial/Industrial-LT	100.09%
4	Commercial/Industrial-HT	100.03%
5	Others	68.48%
	Average	**95.46%**

5.5 INCLUSION AND EXCLUSIONS

- EHT sales and Open Access sales are included in the estimation of losses.
- Subsidy received from the government has been considered for estimation of Collection Efficiency and AT&C losses.

6. DATA REQUIRED DURING ENERGY AUDIT AS PER SOP ISSUED BY MINISTRY OF POWER

Data required during Energy Audit as per SOP issued by Ministry of Power				
Sl-No	**Clause Details**	**Sub Clause Number**	**Sub-clause Details**	**Present Status**
1	Validation through sample data checks and field visits	a	Validation of feeder data: Based on data available in 11 kV Feeder meter at substation for a sample size of 10% for which documentary evidence to be captured in the audit report.	Validation of feeder data for 650 feeders has been done as per report generated from DCB software.
		b	**Validation of energy flow data and losses:** Based on field survey as per the following sample size: - Min. 10 or 1% (whichever is higher) of DISCOM's input energy metering points between Transmission and 66kV/33kV/11kV distribution feeders by checking functional and communication status of meters etc. - **For all Divisions with AT&C losses greater than 25% or at-least 1/3 of the total Divisions of DISCOM, verify:** - Total of min. 10 or 1% of metering points (whichever is higher) between 220-132-110- 66 /33 kV outgoing and 22kV-11kV-6.6kV-3kV incoming feeders/ direct end-consumer by checking functional and communication status of meters. - In an Urban High Loss Division, check 5 or 1% of Metering points (whichever is higher) at DTs	Based on field survey, The following data has been verified: - Functional and communication status of 70 number of input energy metering points between Transmission and 11kV distribution feeders has been provided and verified. The meter test reports provided has been verified. BESCOM has **5 Divisions with AT&C losses greater than 25% - Madhugiri, Hiriyuru, Chintamani, KGF and Kolar**- The following data has been verified: - Functional and communication status of and number of metering points (whichever is higher) between 220-132-110- 66 /33 kV outgoing and 22kV-11kV-6.6kV-3kV incoming feeders/ direct end-consumer is monitored by the transmission company KPTCL. - In an Urban Division, where communicable meters were already installed under other schemes such as R-

Data required during Energy Audit as per SOP issued by Ministry of Power				
Sl-No	**Clause Details**	**Sub Clause Number**	**Sub-clause Details**	**Present Status**
			where communicable meters were already installed under other schemes such as R-APDRP and IPDS. - Total of min. of 10 or 1% of metering points (whichever is higher) between 11kV/6.6kV feeders and DTs by checking functional and communication status of meters, foot survey of feeder to check for thefts/ hooking etc. - Verify metering and connection status of min. of 10 or 2% consumers of the Division (whichever is higher) of the following category of consumers – Agriculture (Metered and Un-metered), Govt. category connection (ULB, RLB etc.), and LT Industrial	APDRP and IPDS. the functional and communication status of meters of 32 DTs of Urban Divisions was checked. The meter test reports provided has been verified. -For Metering points between 11kV feeders and DTs , functional and communication status of meters and foot survey of feeder for checking for thefts/ hooking etc has been carried out for 20 number of feeders. - Functional and communication status of meters of 25 consumers of Agriculture category (Metered and Un-metered) was checked and verified. - Functional and communication status of meters of 14 Govt. category connection (ULB, RLB etc.) was checked and verified. - Functional and communication status of meters of 16 consumers of LT Industrial category was checked and verified.

7. NOTES OF THE EA/EM ALONG WITH QUERIES AND REPLIES TO DATA GAPS

Query by EA, response by EM and Notes by EA is given below:

<table>
<tr><th>Sl. No</th><th>Query by EA</th><th>Response by EA of DISCOM</th><th>Notes by EA</th></tr>
<tr><td>1</td><td>Why there has been a considerable reduction of T&D losses for 2022-23 compared to 2021-22? (Reduced to 9.28% from 11.23%)</td><td>• The metered sales have increased from 76 to 79 %.
• In BMAZ limits the mechanical meters were replaced by electro-static meters. As on March 2023 around 10,39,914 meters were replaced.
• Vigilance activity has been increased.
<table><tr><th rowspan="2">Year</th><th rowspan="2">No of Cases (Cognizable)</th><th>Amount Booked (BBC)</th></tr><tr><th>(Rs. in Lakhs)</th></tr><tr><td>2021-22</td><td>4730</td><td>1626.73</td></tr><tr><td>2022-23</td><td>4878</td><td>2268.5</td></tr></table></td><td>Noted</td></tr>
<tr><td>2</td><td>Why there is no net energy input and energy sales calculated at LT voltage level?</td><td>DTs are not metered 100%, hence LT input energy is not accounted completely. Further, LT sales are recorded in the meters provided for LT installations and HT sales are recorded in HT meters provided for HT installations. 11kv sales has both LT and HT consumers.</td><td>Noted</td></tr>
<tr><td>3</td><td>Why energy accounting and losses at different voltage levels are not provided?</td><td>The 11kV Technical loss is computed for all 11kv feeders.
No 33kV lines exist in BESCOM.
LT line losses are computed for DTs for which meter is provided.</td><td>Noted</td></tr>
<tr><td>4</td><td>Why the collection efficiency has reduced from 100% to 95.46%?</td><td>For FY 2022-23 in all Tariff segments achievement, the Collection Efficiency is 95.64%, whereas in Soft Category Tariff such as HTE,HT2A,HT2B,HT2C,HT5A,LT2A,2B,3A,5A,5B,7A,7B the Collection efficiency achieved is more than 100%. The Overall Collection Efficiency in Soft Category achieved 100.11%
• But in Other Category the Major dip in Collection Efficiency pertains to LT6a [Water Supply] for FY 2022-23 is 24.91%.
• The Collection Efficiency of LT6b [Street Light] for FY 2022-23 is 68.57%

Note: LT6a [Water Supply] & LT6b [Street Light] includes Government Department arrears such as BWSSB, BBMP, Rural Local Body, Urban Local Body. This is being taken up with the government.</td><td>Noted</td></tr>
</table>

8. ANNEXURES

A. INTRODUCTION OF VERIFICATION FIRM.

East Coast Sustainable Pvt Limited is registered as an Empanelled Accredited Energy Auditing Firm with Bureau of Energy Efficiency (BEE) bearing Registration No. EmAEA –067

East Coast Sustainable Private Limited (East Coast) was founded by highly qualified and experienced technocrats, who have a deep understanding of energy efficiency, renewable energy, environment conservation and climate change. The team has experience of conducting more than 700 projects in these areas for various sectors of the economy. Complete range of services being undertaken by East Coast Sustainable includes the following.

- Energy Efficiency
- Perform, Achieve and Trade (PAT) Scheme
- Renewable Energy
- Environmental Management
- Development of International Standards Organization (ISO) Management System
- Safety Audits
- Water Audit and Water Balance
- Project Management
- Demand Side Management (DSM)
- Sustainability Reporting.

B. MINUTES OF MEETING WITH THE DISCOM TEAM

The energy audit team from East Coast Sustainable Private Limited, Visakhapatnam visited BESCOM, on 22nd and 23rd June 2023 to carry out the Annual Energy Audit. The team checked supporting documents, primary and secondary data that were used to fill up the data in the pro-forma provided by Bureau of Energy Efficiency. The Annual Energy Audit was completed on 30th June 2023 and the Audit Proceedings were signed by both parties (DISCOM and EmAEA). Signed copy of Audit Proceedings presented as Annexure- 10.

C. CHECK LIST PREPARED BY AUDITING FIRM

The check list prepared for Annual Energy Audit is presented in the following table:

Sl. No.	Reference	Name	Available Monitoring System
FY 2020-21 Data Verification			
Input Energy			
1	A1 to A22	Input Energy (MU)	
Division Losses			
2	Column A to W	No of connection metered (Nos)	
		No of connection Un-metered (Nos)	
		Connected Load Metered (MW)	
		Connected Load Un-metered (MW)	
		Input Energy (MU)	
		Metered energy (MU)	
		Unmetered energy/Assessment Energy (MU)	
		T&D Losses (MU)	
		Billed Amount	
		Collected Amount	
		AT&C Loss	
Details of Input Energy Sources			
3	A	Generation at Transmission Periphery (Details)	

	B	Embedded Generation in DISCOM Area	
Details of Feeder wise Losses			
4		Feeder-wise Energy Accounting	
Details of Feeder wise Losses			
5		Feeder-wise Energy Accounting	
Details of Consumers and consumption			
6		Consumers and Consumption	
Details of DT Wise metering and DT losses			
7		DT Wise Metering	
		DT Losses	
Details of Subsidy			
8		Subsidy	

Further, field visits were also carried out primarily, to physically observe the DISCOM assets and do random checks as necessary.

Apart from this, the audit team also reviewed the status of the DISCOM vis-à-vis the Clauses and Schedules of the Bureau of Energy Efficiency (Manner and Intervals for Conduct of Energy Audit in electricity distribution companies) Regulations, 2021.

Clauses of BEE Regulations			
Clause No	Clause Details	Sub Clause Number	Subclause Details
3	Intervals of time for conduct of annual energy audit	a	Conducted an annual energy audit for every financial year and submitted the annual energy audit report to the Bureau and respective State Designated Agency and also made available on the website of the electricity distribution company within a period of four months from the expiry of the relevant financial year
4	Intervals of time for conduct of periodic energy accounting.	a	All feeder wise, circle wise and division wise periodic energy accounting is conducted by the energy manager of the electricity distribution company for each quarter of the financial year.
		b	Submitted the periodic energy accounting report to the Bureau and respective State Designated Agency and also made available on the website of electricity distribution company within forty-five days from the date of the periodic energy accounting.
		c	Electricity distribution company conducted its first periodic energy accounting, for the last quarter of the financial year immediately preceding the date of such commencement (i.e. 6th October 2021).
		d	Electricity distribution company conducted its subsequent periodic energy accounting for each quarter of the financial year for a period of two financial years from the date of such commencement, and submit the periodic energy accounting report within sixty days from the date of periodic energy accounting.
5		a	Identification and mapping of all of the electrical network assets

Clauses of BEE Regulations			
Clause No	Clause Details	Sub Clause Number	Subclause Details
	Pre-requisites for annual energy audit and periodic energy accounting	b	Identification and mapping of high tension and low-tension consumers
		c	Development and implementation of information technology enabled energy accounting and audit system, including associated software
		d	Electricity distribution company ensures the installation of functional meters for all consumers, transformers and feeders. Meter installation is done in a phased manner within a period of three financial years from the date of the commencement of these regulations in accordance with the trajectory set out in the First Schedule
			d.1. 100% Communicable Feeder Metering integrated with AMI, by 31st December 2022 along with replacement of existing non-communicable feeder meters. d.2. All **Distribution Transformers** (other than HVDS DT up to 25kVA and other DTs below 25 kVA) shall be metered with communicable meters. Communicable DT Metering for the following areas/ consumers to be completed by December 2023 and in balance areas by December 2025: d.2.1. All Electricity Divisions of 500 AMRUT cities, with AT&C Losses > 15% d.2.2. All Union Territories (for areas with technical difficulty, non-communicable meters may be installed) d.2.3. All Industrial and Commercial consumers d.2.4. All Government offices at Block level and above d.2.5. Other high loss areas i.e. rural areas with losses more than 25% and urban areas with losses more than 15%

Clauses of BEE Regulations			
Clause No	Clause Details	Sub Clause Number	Subclause Details
			d.3. **Prepaid Smart Consumer Metering** to be completed for all directly connected meters and AMR in case of other meters, by December 2023 in the following areas: d.3.1. All Electricity Divisions of 500 AMRUT cities, with AT&C Losses > 15%; d.3.2. All Union Territories (for areas with technical difficulty, prepaid meters to be installed); d.3.3. All Industrial and Commercial consumers; d.3.4. All Government offices at Block level and above; d.3.5. Other high loss areas i.e. rural areas with losses more than 25% and urban areas with losses more than 15%.
			d.4. Consumer Metering: 98% by FY 2022-23 99% by FY 2023-24
			d.5. Targets for functional meters— Meter FY 22-23 FY 23-24 FY24-25 Feeder metering 98.5% 99.5% 99.5% DT metering 90% 95% 98% Consumer metering 93% 96% 98%
		e	e.1. All distribution transformers (other than high voltage distribution system up to 25kVA and other distribution system below 25 kVA) is metered with communicable meters. e.2. And existing non communicable distribution transformer meters is replaced with communicable meters and integrated with advanced metering infrastructure.

Clauses of BEE Regulations			
Clause No	Clause Details	Sub Clause Number	Subclause Details
		f	Electricity distribution company has established an information technology enabled system to create energy accounting reports without any manual interference and such systems may be within a period of three years from the date of the commencement of these regulations in case of urban and priority area consumers; and within five years from the date of the commencement of these regulations in case of rural consumers
		g	Electricity distribution company has a centralized energy accounting and audit cell comprising of— (i) a nodal officer, an energy manager and an information technology manager, having professional experience of not less than five years; and (ii) a financial manager having professional experience of not less than five years
6	Reporting requirements for annual energy audit and periodic energy accounting	a	Electricity distribution company has a nodal officer, who is a full time employee of the electricity distribution company in the rank of the Chief Engineer or above, for the purpose of reporting of the annual energy audit and periodic energy accounting and communicate the same to the Bureau.
		b	Electricity distribution company ensures that the energy accounting data is generated from a metering system or till such time the metering system is not in place, by an agreed method of assumption as may be prescribed by the State Commission

Clauses of BEE Regulations			
Clause No	Clause Details	Sub Clause Number	Subclause Details
		c	Metering of distribution transformers at High Voltage Distribution System up to 25KVA is done on cluster meter installed by the electricity distribution company
		d	The energy accounting and audit system and software is developed to create monthly, quarterly and yearly energy accounting reports.
		e	Electricity distribution company has provided the details of the information technology system in place as specified in clause (f) of regulation 5 that ensures minimal manual intervention in creating the energy accounting reports and any manual intervention of any nature, in respect of the period specified therein, shall be clearly indicated in the periodic energy accounting report
Additional data required during Energy Audit as per SOP issued by Ministry of Power			
1	Validation through sample data checks and field visits	a	**Validation of feeder data:** Based on data available in 11 kV Feeder meter at substation for a sample size of 10% for which documentary evidence to be captured in the audit report.
		b	**Validation of energy flow data and losses:** Based on field survey as per the following sample size: - Min. 10 or 1% (whichever is higher) of DISCOM's input energy metering points between Transmission and 66kV/33kV/11kV distribution feeders by checking functional and communication status of meters etc. - **For all Divisions with AT&C losses** greater than 25% or at-least 1/3 of the total Divisions of DISCOM, verify:

Clauses of BEE Regulations			
Clause No	Clause Details	Sub Clause Number	Subclause Details
			- Total of min. 10 or 1% of metering points (whichever is higher) between 220-132-110- 66 /33 kV outgoing and 22kV-11kV-6.6kV-3kV incoming feeders/ direct end-consumer by checking functional and communication status of meters. - In an Urban High Loss Division, check 5 or 1% of Metering points (whichever is higher) at DTs where communicable meters were already installed under other schemes such as R-APDRP and IPDS. - Total of min. of 10 or 1% of metering points (whichever is higher) between 11kV/6.6kV feeders and DTs by checking functional and communication status of meters, foot survey of feeder to check for thefts/ hooking etc. - Verify metering and connection status of min. of 10 or 2% consumers of the Division (whichever is higher) of the following category of consumers – Agriculture (Metered and Un-metered), Govt. category connection (ULB, RLB etc.), and LT Industrial

D. BRIEF APPROACH, SCOPE & METHODOLOGY FOR AUDIT

The methodology adopted for conducting the Annual Energy Audit is as follows

- Verification of existing pattern of energy distribution across periphery of electricity distribution company
- Verification of accounted energy flow submitted by electricity distribution company at all applicable voltage levels of the distribution network
- Collection of data on energy received, and distributed, covered within the scope of energy audit
- Analyse the consistency of data monitoring compared to the collected data
- Recommendations to facilitate energy accounting and improve energy efficiency
- Analyse the data with respect to the purpose of energy accounting in reducing losses for the electricity distribution company
- Field studies and measurements on sample feeder.

E. INFRASTRUCTURE DETAILS

BESCOM has a vast infrastructure facility in its operating area and the details are summarized below:

Sl. No.	Particulars	Value in FY 2022-2023
1	No of 11 KV reference Substations (only 11kV secondary side substations have been considered)	519 (Data Provided in the table below)
2	Length of 11 KV line (KM)	HT=132279.27
3	Length of Low-tension line (KM)	LT=186633.86
4	Number of Distribution Transformers	478361
5	Number of circles	9
6	Number of divisions	32
7	Number of sub-divisions	147
8	Number of feeders	6172

Zone Wise Sub-Stations in BESCOM Jurisdiction (as on 31.03.2023)

ZONEWISE SUB-STATIONS IN BESCOM AS ON 31.03.2023						
VOLTAGE CLASS	**BMNZ**	**BMSZ**	**BMAZ TOTAL**	**BRAZ**	**CTAZ**	**TOTAL**
220/66/11 kV	9	13	22	17	11	50
220/110/11 kV	0	0	0	0	2	2
220/66KV	3	1	4	4	4	12
110/11kV	0	0	0	0	30	30
66/11 kV	42	53	95	174	168	437
TOTAL	54	67	121	195	215	531

F. ELECTRICAL DISTRIBUTION SYSTEM

The BESCOM is distributing power supply in 8 District of the state of Karnataka. The KPTCL is the transmission utility in the state. In BESCOM Jurisdiction it consists of the following Substations/Receiving stations at the end of March 2023.

VOLTAGE CLASS	BMNZ (Bangalore Metropolitan North Zone)	BMSZ (Bangalore Metropolitan South Zone)	BRAZ (Bangalore Rural Area Zone)	CTAZ (Chitradurga Area Zone)	TOTAL
220/66/11kV	9	13	17	11	50
220/110/11kV	0	0	0	2	2
220/66kV	3	1	4	4	12
110/11kV	0	0	0	30	30
66/11kV	42	53	174	168	437
TOTAL	**54**	**67**	**195**	**215**	**531**

The key features of the BESCOM's distribution are summarised below:

a) In BESCOM there are neither 33kV distribution lines nor stations, power is distributed with only 11kV distribution lines in network.
b) The distribution network in RAPDRP area is mapped under GIS.
c) The power supply to all LT/HT consumers is provided by suitable capacity distribution transformers powered by 11kV lines.
d) The EHT consumers are connected with suitable capacity EHT lines like 66kV, 110kV and 220kV class.
e) There are 6172 no's of 11kV feeders feeding to different category of consumers as on March 2023.

BESCOM Distribution Company:

In the year 1999, Karnataka embarked on a major reform of the power sector. As a first step, Karnataka Electricity Board was dissolved and, in its place, the Karnataka Power Transmission Corporation Limited (KPTCL) was incorporated. This was followed by the constitution of Karnataka Electricity Regulatory Commission (KERC) in November 1999. In the next phase of the reform process, the transmission and distribution businesses managed by KPTCL were unbundled in June 2002. The distribution sector was further divided into 5 companies viz. Bangalore Electricity Supply Company Limited – BESCOM is formed along with other ESCOMS in the Karnataka state.

BESCOM has taken over responsibility from KPTCL for the distribution of electricity in eight districts of Karnataka (Bangalore Urban, Bangalore Rural, Chikkaballapura, Kolar, Davanagere, Tumkur, Chitradurga and Ramanagara). BESCOM covers an area of 41,092 km^2 with a population of over 20.7 million.

Vision: The Vision of BESCOM is to become number one in customer satisfaction in South Asia in Power distribution.

Mission: The Mission of BESCOM is to ensure absolute consumer satisfaction and continuous profit in business.

1. By ensuring total employee satisfaction.
2. By developing infrastructure commensurate with growth, thus ensuring reliable and quality power supply.
3. By using best technology in communication and best practices in power sector.

Duties and Responsibilities:

BESCOM as Company is vested with the duty of distribution of power to consumers at the rates approved by KERC Tariff Regulations. In this process, the following supplemental duties are incidental to its main function:

- Supply at specified voltage and frequency.
- Maintenance of 11 kV lines, distribution transformers, cables, and equipment to ensure reliable and quality power supply.
- Augmentation of infrastructure to meet the demand.
- Ensuring safety of human and animal life by taking suitable actions to minimize risk of accidents.
- Perspective planning of activities in relation to demand and supply of power.

Overview of BESCOM Operations:

- BESCOM has four operating zones – Bangalore Metropolitan Area Zone-South (BMASZ), Bangalore Metropolitan Area Zone-North (BMANZ), Bangalore Rural Area Zone (BRAZ) and Chitradurga Area Zone (CTAZ), 9 circles, 32 divisions, 147 subdivisions and 534 section offices/operation and maintenance units.
    - ✓ Zonal office is headed by an officer of the rank of a Chief Engineer (CE).
    - ✓ Circle office is headed by an officer of the rank of a Superintending Engineer (SE). Division is headed by an officer of the rank of an Executive Engineer (EE).
    - ✓ Subdivision is headed by an officer of the rank of an Assistant Executive Engineer (AEE).
    - ✓ Section offices/operation and maintenance units are headed by an Assistant engineer/Junior engineer (AE/JE).

- BESCOM has over 1,32,000 circuit kilometres (ckm) of 11 kV high voltage lines and 1,86,633.86 ckm of low voltage lines. There are around 4.7 Lakhs distribution transformers, over 531 substations, plus stores and workshops.
- In addition to operation and maintenance of its distribution network, and provision of customer connections BESCOM's power distribution services business involves various capital projects, the main ones being:

- ✓ model subdivision and system improvement works: upgradation of its distribution network.
- ✓ high voltage distribution system (HVDS): Conversion of LT line to 11kV HT overhead (OH)/aerial bundled (AB) cable and extension of new 11kV line.
- ✓ Conversion of 11kV (OH) lines into underground (UG) cable system and LT OH line into UG/AB cable system in the jurisdiction of BMAZ: conversion of HT OH lines by UG cable and providing ring main units.
- ✓ Restructured accelerated power development and reforms programme (R-APDRP): distribution strengthening projects for reduction of aggregate technical and commercial (AT&C) losses less than 15%.
- ✓ Unauthorized irrigation pump (IP) sets: providing electrical infrastructure to regularized unauthorized IP sets by extending 11kV HT lines, erection of 25KVA 4 star rated distribution transformers (DTs) and extension of LT line 3 phase 4 wire.

Safety Manual:

BESCOM has published its Safety Manual which is a collection of safety guidelines. These guidelines are a product of different experiences with incidents that have caused fatal injuries, service interruptions, property damage and economic loss. These guidelines are formulated to counter previous shortcomings and to accomplish the highest standards of safety. The observation of all the guidelines in the safety manual will enable and empower employees to build a safe work environment for all BESCOM employees. BESCOM Safety Manual was formulated with an aim to create safe working environment for the employees, create awareness among the public on electrical safety to avoid electrical accidents and thereby save the lives and property and make BESCOM an accident-free organization.

Further BESCOM is having:

- HRD wing for training of its employees,
- Technical Innovation Centre TIC for implementation of innovative ideas.
- DAS (Distribution Automation System) for implementation of Automation in Distribution.
- IT wing for development of online processes.
- DSM wing for conservation energy projects.
- Quality wing for fixing the standard in materials used.
- Customer Care Centre to address the complaints.
- Project wing to implement new projects.
- Smart grid and Electric Vehicles (SG &EV) to promote smart grid activity in BESCOM and to promote Electric vehicles by providing charging stations etc.

G. POWER PURCHASE DETAILS

i. Power Allocation:

The State Government of Karnataka allocates the energy available from various sources among the state DISCOM's to ensure balanced financial viability and fairly uniform tariff for various categories of consumers in different parts of the state. The allocation is also to ensure payment of power purchase cost including transmission and other related expenses. The point of connection charges shall be paid by DISCOM proportionate to energy allocation of each source. The firm capacity (of 11473.11 MW) available from various sources for FY2022-23 is as below:

Sl. No.	Source	Capacity in MW @ 100%	BESCOM Share allocation %	BESCOM Share in MW	Actuals (April 2022 to March 2023)
					Energy (in MU)
Allocation based on GoK					
A	**KPCL**				
1	Sharavathi Valley Project	1090	27.08	295.23	1472.40
2	Bhadra Project	39.2	47.98	18.81	29.16
3	Kalinadi(Nagajari)	955	8.24	78.72	263.76
4	Varahi Hydro Project	469	29.43	138.04	362.48
	Varahi 3 & 4			0.00	
5	Ghataprabha(GDPH)	32	29.43	9.42	25.37
6	Mallapur & Others	10.4	29.43	3.06	
7	Kadra Dam	150	29.43	44.15	100.96
8	Kodasalli Dam	120	29.43	35.32	97.96
9	Gerusoppa/STRP	240	29.43	70.64	162.48
10	Almatti	290	29.43	85.35	181.19
11	Genekal	0.35	29.43	0.10	
12	Shiva	42	29.43	12.36	79.57
13	Shimsa	17.2	29.43	5.06	2.42
14	Munirabad	28	29.43	8.24	33.12
15	MGHE-Jog	139.2	29.43	40.97	158.66
	KPCL Hydel	**3622.35**		**845.48**	**2969.53**
II	Thermal				
1	RTPS -1 to 7	1470	63.28	930.26	3052.02
2	RTPS-VIII	250	63.28	158.21	641.83
3	BTPS Unit I	500	63.28	316.42	1253.62
4	BTPS Unit II	500	63.28	316.42	1174.60
5	BTPS Unit III	700	63.28	442.98	1728.37

Sl. No.	Source	Capacity in MW @ 100%	BESCOM Share allocation %	BESCOM Share in MW	Actuals (April 2022 to March 2023)
					Energy (in MU)
	Deisel Generation				0.00
6	Yearamurus TPS	1600	63.28	1012.53	2764.01
	KPCL-Thermal	**5020**		**3176.81**	**10614.45**
	Total KPCL purchase	**8642.35**		**4022.29**	**13583.98**
B	**Central Projects**				
1	N.T.P.C-Ramagundam	364	51.43	187.22	1320.81
2	NTPC-III	92.47	51.43	47.56	346.88
3	NTPC-Talcher	343.33	51.43	176.58	1424.27
4	NTPC-Simhadri	181.33	51.43	93.26	644.38
5	NLC TPS2-Stage 1	106.31	51.43	54.68	320.10
6	NLC TPS2-Stage 2	143.49	51.43	73.80	483.38
7	NLC TPS1-Expn 1	97.08	51.43	49.93	365.12
8	NLC TPS1-Expn 1I	97.08	51.43	49.93	221.62
			51.43	0.00	
9	MAPS	33.62	51.43	17.29	56.62
10	Kaiga 1&2, 3&4	259.325	51.43	133.38	1042.42
10	Kaiga Unit 3		51.43		
11	NTPL	182.8	51.43	94.02	646.78
12	Vallur TPS stage 1	151.43	51.43	77.88	480.12
13	Kudankulam	419.35	51.43	215.68	1536.74
14	PGCIL(Tran Charges)				
15	NTPC VVNL Coal Bundled power	70	46.64	32.65	177.29
	Southwestern Railway				-13.29
16	DVC	450	51.43	231.45	1572.33
	Kudgi	1194	51.43	614.11	2570.11
	NNTPS	74.27	51.43	38.20	257.05
	Total B	**4259.89**		**2187.62**	**13452.76**
C	**IPPs-Major**				
1	UPCL	1200	42.76	513.18	544.96
	Total C	**1200**		**513.1752**	**544.96**
D	**NCE Projects:-**				
1	Co-generation (34)	638.23	46.14	294.00	67.59
2	Biomass (5)	59.5		59.50	64.59
3	Mini Hydel (13)	181.5		181.50	565.17
4	Wind mill (301)	1400		1400.00	2464.13

Sl. No.	Source	Capacity in MW @ 100%	BESCOM Share allocation %	BESCOM Share in MW	Actuals (April 2022 to March 2023)
					Energy (in MU)
	KPCL Wind		100	7.25	5.82
5	KPCL Solar	3		3.00	2.39
6	Solar (other than KPC) (124)	1769		2450.00	4606.31
7	Solar Bundled power			347.98	638.62
8	Solar rooftop (DSM)				120.00
9	Sec 11 NCE				0.00
10	Short term NCE				0.00
	Total D (NCE)	**4051.23**		**4743.23**	**8534.62**
E	Jurala	14.4		6.80	76.61
	TBHE				11.73
	Total				
F	**Grand Total**	**18167.9**		**11473.11**	**36204.66**

ii. Source-wise cost:

A review of the energy purchase budgeted vis-à-vis actual during the year 2022-23 is summarized below.

NAME OF THE GENERATING STATION	Power Purchase For FY 2022-23		
	% share of allocation	Approved by KERC (Budgeted)	Actuals
	%	Avg cost/unit Rs	Avg cost/unit Rs
KPCL THERMAL STATIONS			
RAICHUR Thermal Power Station_RTPS 1-7 (7x210)	63.283	5.23	6.410
RAICHUR Thermal Power Station_RTPS 8 (1x250)	63.283	5.09	6.530
BELLARY Thermal Power Stations_BTPS-1 (1x500)	63.283	6.05	6.023
BELLARY Thermal Power Stations_BTPS-2 (1x500)	63.283	6.82	6.207
BELLARY Thermal Power Stations_BTPS-3 (1x700)	63.283	5.74	6.611
YTPS Unit- 1	63.283	6.77	6.543
TOTAL KPCL THERMAL		**5.99**	**6.417**
CGS SOURCES			
N.T.P.C-RSTP-I&II (3X200MW+3X500MW)	51.4327	3.45	4.889
N.T.P.C-RSTP-III (1X500MW)	51.4327	3.37	4.685

NAME OF THE GENERATING STATION	Power Purchase For FY 2022-23		
	% share of allocation	Approved by KERC (Budgeted)	Actuals
	%	Avg cost/unit Rs	Avg cost/unit Rs
NTPC-Talcher (4X500MW)	51.4327	2.51	2.932
Simhadri Unit -1 &2 (2X500MW)	51.4327	4.65	6.719
NTPC Tamilnadu Energy Company Ltd (NTECL)_Vallur TPS Stage I &2 &3 (3X500MW)	51.4327	8.90	5.619
Neyveli Lignite Corporation_NLC TPS-II STAGE I (3X210MW)	51.4327	3.44	3.478
Neyveli Lignite Corporation_NLC TPS-II STAGE 2 (4X210MW)	51.4327	3.45	3.479
Neyveli Lignite Corporation_NLC TPS I EXP (2X210MW)	51.4327	3.41	3.436
Neyveli Lignite Corporation_NLC TPS2 EXP (2X250MW)	51.4327	5.75	4.850
NLC TAMINADU POWER LIMITED (NTPL) (TUTICORIN) (2X500MW)	51.4327	10.67	5.904
MAPS (2X220MW)	51.4327	2.57	2.616
Kaiga Unit 1&2 (2X220MW) & 3 & 4	51.4327	3.46	3.525
NPCIL-KudanKulam Atomic Power Generating Station (KKNPP U1 (1X1000MW) & Unit 2	51.4327	4.09	4.363
NPCIL-KudanKulam Atomic Power Generating Station (KKNPP) U2(1X1000MW)	51.4327	4.09	
DVC-Unit-1 &2 Meja TPS (2x500MW)	51.4327	7.95	5.880
DVC-Unit-1 &2 koderma	51.4327	4.74	4.451
Kudgi	51.4327	10.09	7.618
NNTPS	51.4327	4.21	4.040
TOTAL CGS Energy @ KPTCl periphery		**4.70**	**5.071**
TOTAL MAJOR IPPS			
UDUPI POWER CORPORATION LIMITED_UPCL (2x600)	42.7646	10.11	19.495
KPCL HYDEL STATIONS			
TOTAL KPCL HYDRO		**1.20**	**1.08**
OTHER HYDRO			
Priyadarshini Jurala Hydro Eslectric Station (6x39)	33.4327	3.10	2.717
RENEWABLE SOURCES OF ENERGY SOURCES			
Wind-IPPS		3.96	3.897
KPCL-wind (9x0.225+10x0.230)		3.91	3.940
Mini Hydel-IPPS		3.35	2.968
Biomass		5.39	5.608

NAME OF THE GENERATING STATION	Power Purchase For FY 2022-23		
	% share of allocation	Approved by KERC (Budgeted)	Actuals
	%	Avg cost/unit Rs	Avg cost/unit Rs
Mega Solar scheme		4.29	7.297
Bundled power (NVVN)	46.6473	10.52	11.766
Bundled power (NSM)	46.3898	4.80	4.915
Solar-KPCL (Yelesandra)		6.00	6.000
TOTAL NCE		**4.22**	**4.427**
NTPC bundled power coal old (nvvn)	46.643	2.73	5.942
TOTAL INCLUDING TRANSMISSION & LDC CHARGES		**5.97**	**6.480**

iii. Annual abstract on Energy Billing from SLDC:

The annual abstract on Energy Billing from SLDC is summarized below:

Energy Balance from April 2022 to March 2023[Govt orderENERGY161 PSR 2022, Bangalore, Dated 29.03.2022]

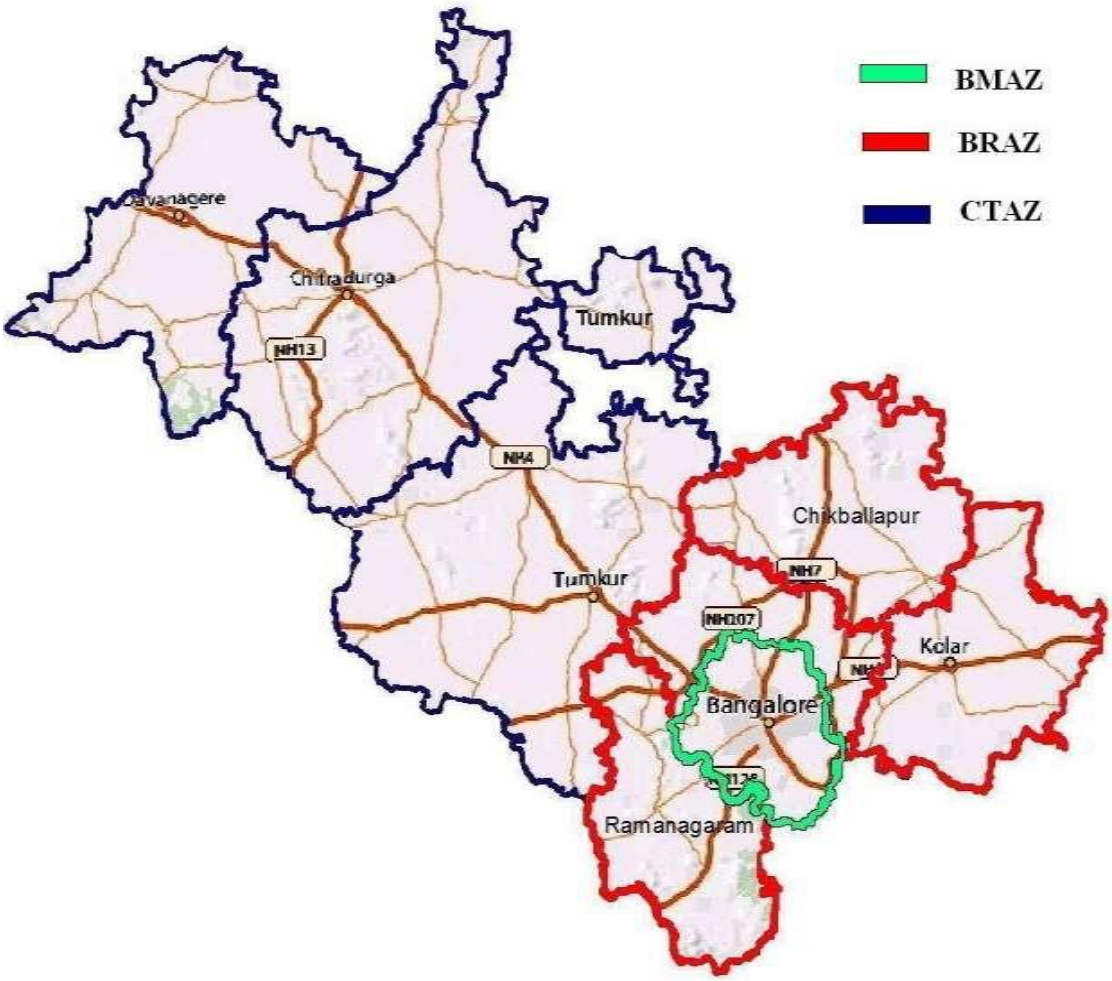
1	2	3	4	5	6	7	8	9	10	11
ESCOMs	Energy as per exclusive purchases & Uneven allocation	As per GOK	Total Energy Purchased in MU (2+3)	IEX SALES	Net Energy purchased in MU(4-5)	Actuals	Net consumption (2+7-5)	Energy Balance		
		Energy as per GOK allocationin in MU from pooled sources				Actual consumption in MU from pooled sources		Net Energy Overdrawn	Net Energy Underdrawn	Energy difference in MU (8-6)
BESCOM	7795.956	28877.966	**36673.921**	1892.749	34781.172	28226.452	34129.658	990.178	-1641.692	-651.514
GESCOM	2730.400	7150.241	**9880.640**	629.766	9250.874	7785.548	9886.182	675.795	-40.488	635.308
HESCOM	4454.027	11229.338	**15683.365**	1022.544	14660.821	11958.767	15390.250	1110.008	-380.578	729.430
MESCOM	1425.413	5399.257	**6824.670**	379.360	6445.310	5374.713	6420.765	457.456	-482.000	-24.544
CESC	1516.806	7159.051	**8675.858**	461.149	8214.709	6470.372	7526.030	77.901	-766.580	-688.679
Total	**17922.602**	**59815.853**	**77738.455**	**4385.569**	**73352.886**	**59815.853**	**73352.886**	**3311.338**	**-3311.338**	**0.000**

Note: 1. Exclusive Purchases includes Generators like NCEs, KPC Wind/ solar, Banked Energy, IEX RE Purchase.
2. Energy balance is as per power purchase details furnished by ESCOMs and IF point consumption of all ESCOMs

ESCOM wise Power Purchase after considering Solar Roof Top Energy for RPO Purpose

ESCOMs	Total Power Purchase in MU (1)	IEX sales in MU (2)	Solar Roof Top Energy in MU (3)	Net power Purchase of ESCOM in MU (1-2+3)
BESCOM	36673.92	1892.75	120.00	34901.17
GESCOM	9880.64	629.77	10.16	9261.03
HESCOM	15683.36	1022.54	13.64	14674.46
MESCOM	6824.67	379.36	9.38	6454.69
CESC	8675.86	461.15	11.24	8225.95
TOTAL	**77738.45**	**4385.57**	**164.42**	**73517.30**

H. SINGLE LINE DIAGRAM (SLD)



BESCOM has 8 Districts further categorized into 4 zones, 9 Circles, 32 divisions and 147 Sub-divisions. The 8 Districts are shown below:

I. CATEGORY OF SERVICE DETAILS (WITH CONSUMER AND VOLTAGE-WISE)

BESCOM is supplying power to 13901031 number of consumers as on 31st March 2023. The details of category wise consumers are presented in the following table:

Sl. No.	Type of Consumers	Category of Consumers (EHT/HT/LT/Others)	Voltage Level (In Voltage)	No of Consumers	Total Consumption (In MU)
1	Domestic	LT	LT	10171408	8234.512024
2	Commercial	LT	LT	1278877	2281.446636
3	IP Sets	LT		1013019	6279.578868
4	Hor. & Nur. & Coffee/Tea & Rubber (Metered)	LT	LT	2092	6.29802861
5	Hor. & Nur. & Coffee/Tea & Rubber (Flat)				
6	Heating and Motive Power				
7	Water Supply	LT	LT	92918	1449.456103
8	Public Lighting	LT	LT	83994	628.2518401
9	HT Water Supply	HT	11kV	301	857.4850819
10	HT Industrial	HT	11kV	8311	5035.983246
11	Industrial (Small)	LT	LT	242326	1350.9824
12	Industrial (Medium)				
13	HT Commercial	HT	11kV	8799	2237.950557
14	Applicable to Government Hospitals & Hospitals	HT	11kV	1068	357.4090296
15	Lift Irrigation Schemes/Lift Irrigation Societies	HT	11kV	88	75.91620594
16	HT Res. Apartments Applicable to all areas	HT	11kV	535	96.32650026
17	Mixed Load				
18	Government offices and department				
19	Others-1 (HT5)	HT	11kV	2198	184.6933395
20	Others-2 (LT7)	LT	LT	995097	257.3024066
	Total			**13901031**	**29333.592**

9. FIELD VERIFICATION DATA AND REPORTS

The energy audit team from East Coast Sustainable Private Limited, Visakhapatnam visited BESCOM, on 22nd and 23rd June 2023 to carry out the Annual Energy Audit. The team visited the following departments as part of field verification for the audit purpose.

9.1 Feeders

- The Feeder Maintenance Division undertakes maintenance of 11k feeders and thereby ensures reliability of feeders by reducing the interruption time. The Feeder Maintenance Abhyaana is a program carried out by the Division to achieve reliability of feeders. Under Feeder Maintenance Abhyaana, a google spreadsheet is maintained to report the maintenance cases. The respective Sub-Division officers update the spreadsheet after every maintenance operation on a day-to-day basis. The spreadsheet is logged after a period of 24 hours from the office of DGM, Maintenance Division BESCOM. Details including sub-station, feeder, category of feeder, type of interruption, etc. are logged for each maintenance activity, and hence the feeders left unattended are sorted out easily and are directed for maintenance from the BESCOM head-office. This has resulted in an overall improvement in total hours of supply given to the consumers.
- There is a total of 6172 number of 11 kV feeders under BESCOM. As part of field verification conducted at Feeder Maintenance Division, feeder data for a sample size of 10% of the total number of feeders was taken for validation purpose. Thus, 650 number of 11 kV feeders were selected and the report generated from DCB software was collected from the Division and the data was verified. The validated sample data has been provided as Annexures for documentary evidence.
- For Metering points between 11kV feeders and DTs, functional and communication status of meters and foot survey of feeder for checking for thefts/ hooking etc was carried out for 20 number of feeders. (1% of the total 1928 metering points at 5 divisions with AT&C losses greater than 25%).

9.2 Operations Division

- The division handles the DT maintenance to reduce the DT wise losses. There are a total of 478361 numbers of DTCs existing as at the end of March 2023.
- The following checks are carried out during the maintenance of transformers under Operations division, and any defects noticed is rectified immediately;
  - Physical inspection for removal of vegetation
  - Checking proper supporting and level of transformer oil
  - Checking of oil leakage
  - Checking the tightness of the connection
  - Physical checking of transformer Earthing
  - Any damages in lighting Arrestors/ LTP kit is checked
  - Checking of DP structures slant standing,

- Checking of HT fuse units, GOS, LT/HT bushings and terminals, LT wiring & LT distribution box

9.3 Distribution Transformer Energy Audit

The methodology for energy audit of DTs was checked based on the sample energy audit report.

- Metering status of DTs were verified based on the documents provided from the Operations Division, which are Annexed in the audit report.
- The functional and communication status of meters of 32 DTs of urban divisions was checked (1% of the total 3110 urban DT's for which functional and communication status have been provided).

9.4 Renewable Energy Management Centre (Bengaluru)

The Renewable Energy Management Centre (REMC) is co-located with the State Load Dispatch Centre (SLDCs) in Karnataka. The REMC is equipped with Artificial Intelligence based renewable energy forecasting and scheduling tools and provide greater visualization and enhanced situational awareness to the grid operators.

9.5 State Load Despatch Centre

The State Load Despatch Centre (SLDC) under KPTCL is an Apex body to ensure integrated operation of the power system in Karnataka. SLDC is responsible for the real time Load Despatch functions, Operation and Maintenance of the SCADA System and Energy Accounting. All power supply stations in Karnataka are centrally controlled by the SLDC. The main responsibilities of SLDC are;

- To monitor the system parameters and security.
- To ensure the integrated operation of the power system grid in the region and
- To daily schedule, operate planning and balancing the load.

BESCOM have both renewable energy and non- renewable energy generation sources with non-renewable being the thermal stations, and renewable generation being hydroelectric, wind energy, biomass and nuclear energy. BESCOM gives the demand for 24 hours in advance to SLDC. SLDC allocates the required load demand for 24 hours in 96 blocks of 15 minutes block each, and matches this with the generators. All generators are given a Day Ahead Schedule (including renewable sources like wind and solar even though their forecast and actual generation varies) based on their generation capacity.

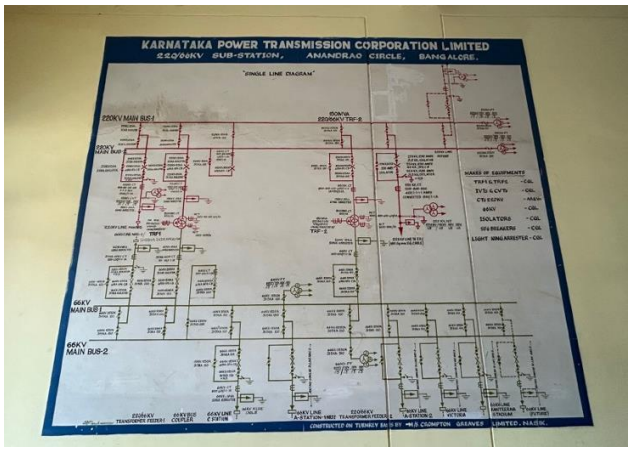
9.6 220/66 kV KPTCL Substation - Anand Rao circle

The 220/66 kV - A station - Anand Rao circle sub-station located near Anand Rao circle provides electricity to the core areas of the city including Vidhana Soudha, Raj Bhavan and MS Building. There are two transformers – 150 MVA each with 2 incoming feeders

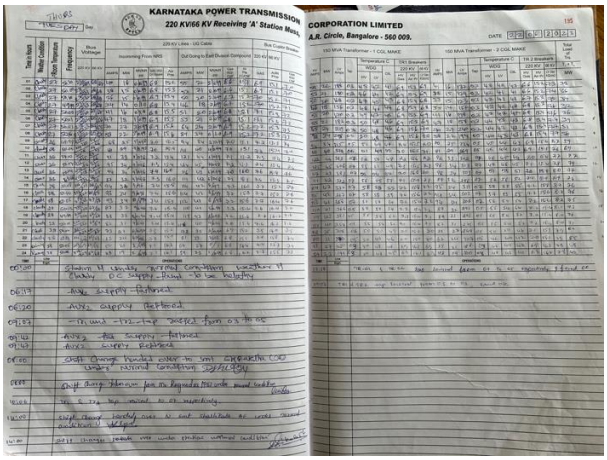
(220/66 kV). Six numbers of outgoing 66 kV lines are distributed to various substations of 66/11 kV.

KPTCL 220 kV Substation Yard

KPTCL 220 kV Substation Control Room



KPTCL 220 kV Substation SLD

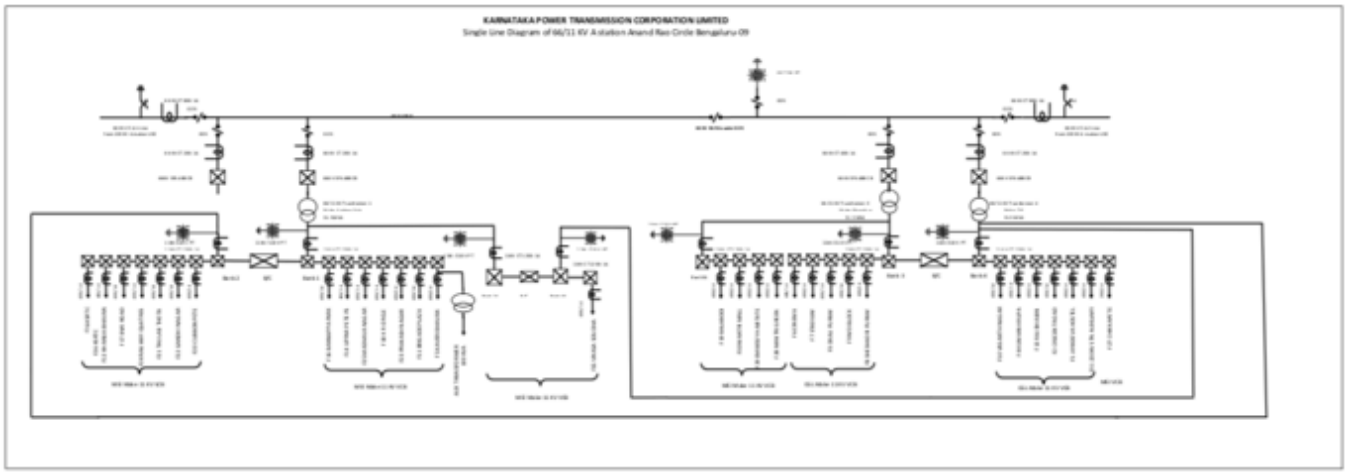


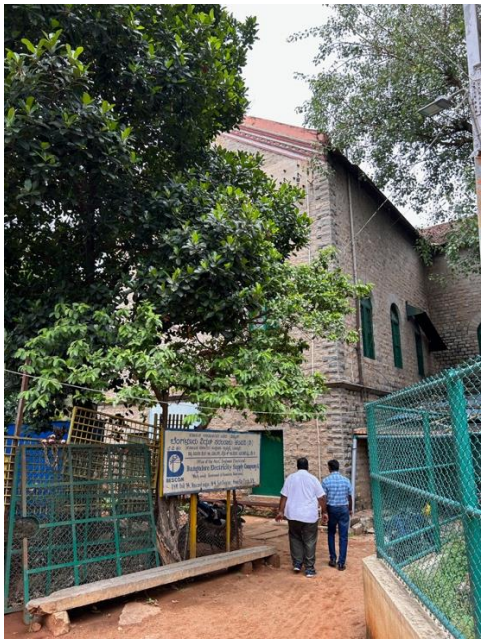
Log book

9.7 66/11 kV A Station Anand Rao circle

66/11 kV A Station Anand Rao circle is one of the city's oldest substation with three 66/11 kV, 3*31.5 MVA capacity. The 11 kV metering banks at the sub-station were inspected and also, the logged data for the FY 2022-23 was collected and checked for thirty 11 kV feeders.

SLD of 66/11 kV substation





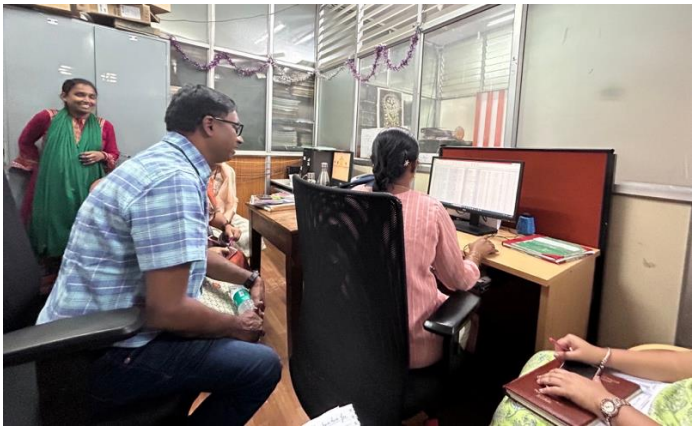
66 kV Anand Rao Sub Station

66 kV Substation Control Room

11kV Metering Bank

9.8 Vidhan Soudha Division

The details of the minutes of meeting for Division level operations and maintenance were checked at the Vidhan Soudha Division.



Data collection at Vidhan Soudha Division

9.9 11 kV Distribution network of w4 Sub Division Anand Rao circle

The document with categorization of feeders based on the percentage of losses and subsequent maintenance operation based on priority basis carried out at the sub division was checked at the sub division.

Meeting at Anand Rao Sub-Division

9.10 BESCOM Vigilance Department

BESCOM vigilance department has 11 police stations in Karnataka - 4 are in Bengaluru (Rajajinagar, Malleshwaram, Indiranagar and Jayanagar), and 7 outside. BESCOM has around 150 people in its vigilance team.

All cases related to theft, misuse of electricity and tampering of equipment are registered under section 135 of Electricity Act. Over 4800 cases were registered under the act in the last FY alone. The cases are registered and sent to session's court. The government public prosecutor appears for BESCOM's case. If the accused agrees to pay the penalty, the case is compounded. Up to 3 years' time is allowed to pay back the complete penalty amount.

95% of the cases are compounded by paying the due amount. On an average annually 7-8 crore rupees is collected by the vigilance to BESCOM. This shows that the presence of vigilance creates more awareness and helps to reduce commercial losses.

They have 3 mechanisms for gathering information of theft/misuse or tampering of electricity:

- Feeder losses are obtained from BESCOM which helps in better identification of high loss-making areas.
- Information is sourced from Local Operation & Maintenance staff
- Cases identified by the Vigilance themselves

The number of cases and total amount booked in FY 2022-23 is tabulated below:

FY 2022-23							
Sl. No.		No. of Cases			Amount Booked (BBC) (Rs. in Lakhs)		
		Cognizable	Non-Cognizable	Total	Cognizable	Non-Cognizable	Total
1	BESCOM VIGILANCE	4878	0	4878	2268.5	0	2268.5

Meeting at BESCOM Vigilance

9.11 Accounts &Retail Tariff Section.

The A&RT Division of BESCOM is responsible for the evaluation of BESCOM's subsidy claims to the Government of Karnataka.

The subsidy calculation methodology is summarised below:

- For the BJ/KJ (Bhagyajyothi Kutirjyothi) BJSubsidy = Consumption x CDT (Commission Determined Tariff) as per the Tariff Order 2022 (pg. 389) and

- for Agricultural IP sets category less than 10 hp as per Tariff order 2022 (pg. 395) issued by KERC.

The per unit rates for IP and BJ/KJ categories has been verified from the 2022 Tariff Order.

The subsidy claim is raised by the DISCOM on a quarterly basis. The subsidy amount to be paid by the Government to BESCOM is adjusted with the electricity duty collected by BESCOM. Subsidy received from the Government has been verified from the Govt release orders.

9.12 Meters and Commercial Section

Meter Test Reports for various voltage category of meters were collected and verified.

The data for checking the functional and communication status of 70 number of input energy metering points between Transmission and 11kV distribution feeders was collected and checked. The meter test reports were provided for meters of different voltage categories . The sample data for 70 feeders, meter test reports were verified and the same has been Annexed in the report.

- Functional and communication status of meters of 25 consumers of Agriculture category (Metered and Un-metered) was checked and verified.
- Functional and communication status of meters of 14 Govt. category connection (ULB, RLB etc.) was checked and verified.
- Functional and communication status of meters of 16 consumers of LT Industrial category was checked and verified.

10. LIST OF DOCUMENTS VERIFIED WITH EACH PARAMETER

The following are the documents verified during Annual Energy Audit:

Sl. No	Name	Supporting Document
FY 2022-23 Data Verification		
Input Energy		
1	Input Energy (MU)	The Input energy purchased and net input energy (received at DISCOM periphery or at distribution point, after adjustment) has been verified from the month-wise document from the power purchase department.
Division Losses		
2	No of connection metered (Nos)	Report produced from Demand Collection and Billing (DCB) software. Report provided by Power Purchase Department, BESCOM
	No of connection Un-metered (Nos)	
	Connected Load Metered (MW)	
	Connected Load Un-metered (MW)	
	Input Energy (MU)	
	Metered energy (MU)	
	Unmetered energy/Assessment Energy (MU)	Report produced from DCB software and Nsoft software. Procedure of unmetered agricultural consumption of IP sets obtained from Nsoft portal.
	T&D Losses (MU)	Report produced from DCB software
	Billed Amount	Report produced from DCB software
	Collected Amount	
	AT&C Loss	
Details of Input Energy Sources		
3	Generation at Transmission Periphery (Details)	Government of Karnataka Order (File No Energy/161/PSR/2022-Bangalore dated 29-03-2022) Excel document - Energy balancing abstract 2022-23
	Embedded Generation in DISCOM Area	
Details of Feeder wise Losses		
4	Feeder wise Energy Accounting	DC has provided the report generated from Nsoft. BESCOM's sample report for energy audit of feeders.

Sl. No	Name	Supporting Document
		BESCOM's sample report of centralised feeder management team.

Additional data required during Energy Audit as per SOP issued by Ministry of Power

1(a) Validation of feeder data

Validation of feeder data is done as per report generated from DCB software.

1(b) Validation of energy flow data and losses, and for Divisions with AT&C losses greater than 25%

The validation is done from the meter test reports obtained from BESCOM

a. BRIEF DESCRIPTION OF UNIT/ DISCOM

BESCOM is responsible for Power distribution in Eight districts of Karnataka (Bangalore Urban, Bangalore Rural, Chikkaballapura, Kolar, Davanagere, Tumkur, Chitradurga and Ramanagara). BESCOM covers an area of 41,092 Sq. Kms. with a population of over 207 lakhs.

The company has 4 operating Zones – Bangalore Metropolitan Area Zone (North), Bangalore Metropolitan Area Zone(South), Bangalore Rural Area Zone and Chitradurga Zone, 9 Circles, 32 Divisions, 147 Sub-divisions and 534 Section Offices.

In the year 1999, Karnataka embarked on a major Reform of the power sector. As a first step, Karnataka Electricity Board (KEB) was dissolved and in its place, the Karnataka Power Transmission Corporation Limited (KPTCL) was incorporated.

This was followed by the constitution of Karnataka Electricity Regulatory Commission (KERC) in November 1999.

In the next phase of the Reform Process, the transmission and distribution business managed by KPTCL were unbundled in June 2002. Five new distribution companies were formed to distribute power in Karnataka.

BESCOM has taken over the responsibility from KPTCL for the distribution of electricity in 8 districts and commenced its operations from 1st June 2002.

b. LIST OF PARAMETERS ARRIVED THROUGH CALCULATION OR FORMULAE WITH LIST OF DOCUMENTS AS SOURCE OF DATA

(i) Agricultural Consumption:

The DISCOM has segregated the 11 kV feeders under Niranthara Jyothi Yojana into rural feeders and agricultural feeders and all the 11 kV feeders are metered. The rural feeders are provided power 24/7 whereas, the agricultural feeders are provided power for 7 hours per day.

Methodology and Data Verified

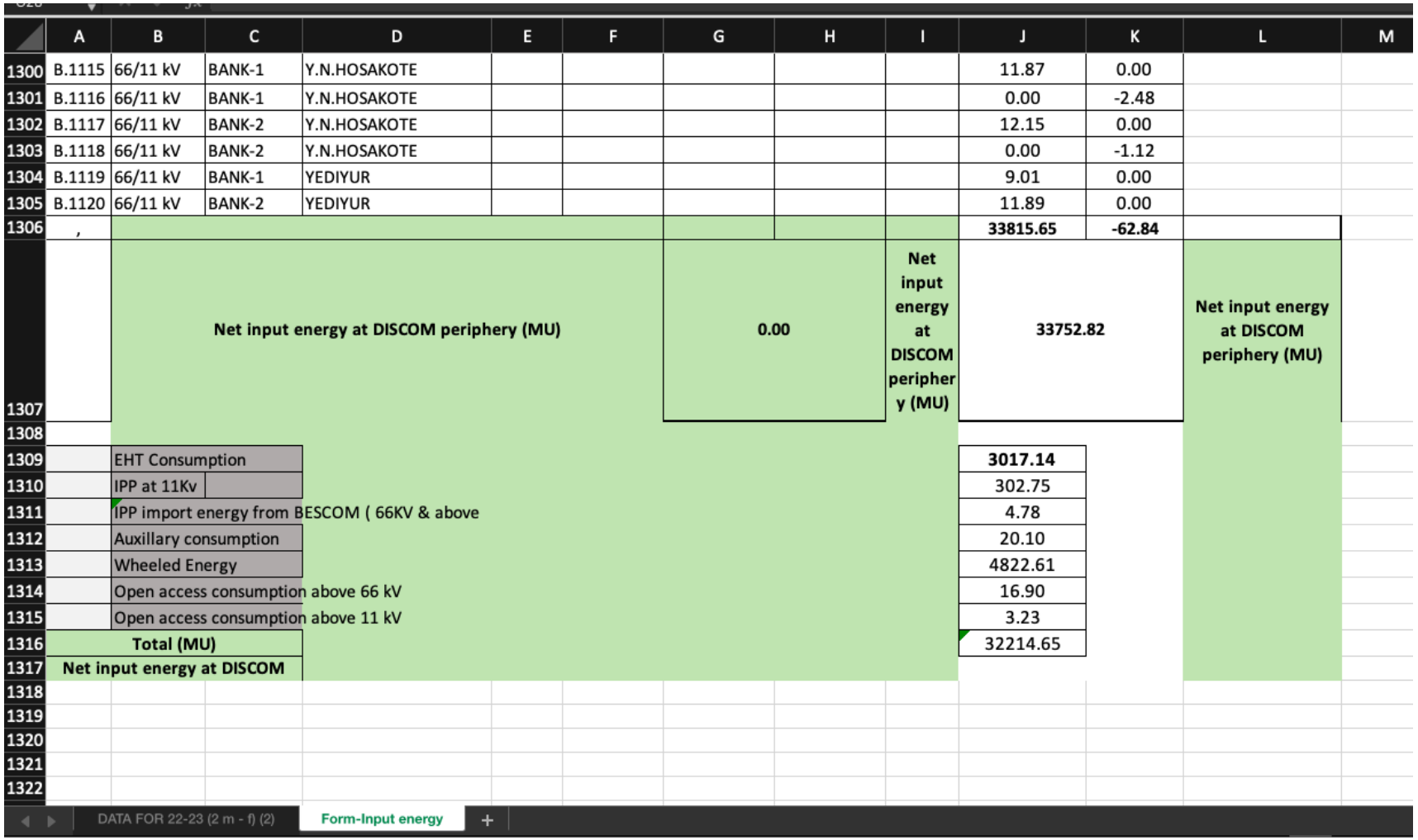
- Methodology of agricultural consumption: The un-metered agricultural consumption is estimated by the formulae (Input energy - Metered Sales - Allowable Loss (10% of the input energy)). The DISCOM methodology in this regard was verified and checked.
- The DISCOM's agricultural subsidy demand from the Government of Karnataka is based on the agricultural consumption that has been provided in the Proforma.

11.ANNEXURES

ANNEXURE 1:	Input Energy Data for The FY 2022-23 Obtained from The Power Purchase Department
ANNEXURE 2:	Procedure of assessment of unmetered agricultural consumption of IP sets obtained from Nsoft portal.
ANNEXURE 3:	KERC Tariff Order 2022 (pages 389, 395) indicating the per unit tariff of BJ/KJ category consumers and Agricultural IP sets for subsidy calculations.
ANNEXURE 4:	Statement showing the IP & BJ/KJ subsidy released to BESCOM from GoK for FY 2022-23
ANNEXURE 5:	Screenshot of Annual and Quarterly Energy Audit Reports uploaded in BESCOM's website.
ANNEXURE 6:	Meter Test Reports for various category of meters.
ANNEXURE 7:	Renewable Purchase Obligation Order 2022 issued by KERC
ANNEXURE 8:	Sample DTC Energy Audit Report by Meter Reader
ANNEXURE 9:	Details of existing DTC Metering Data obtained from the centralized transformer's maintenance department and meter section
ANNEXURE 10:	Additional data required during Energy Audit as per SOP issued by Ministry of Power
ANNEXURE 11:	Signed MoM

ANNEXURE 1: Input Energy Data for The FY 2022-23 Obtained from The Power Purchase Department

Form-Input energy(Details of Input energy & Infrastructure)				
Sector-Electricity Distribution Companies				
A. Summary of energy input & Infrastructure				
S.No	**Parameters**	**Previous Year (2021-22)**	**Current Year (2022-23) (Provisional)**	**Remarks (Source of data)**
A.1	Input Energy purchased (MU)			PP data
A.2	Transmission loss (%)			-
A.3	Transmission loss (MU)			
A.4	Energy sold outside the periphery(MU)			PP data
A.5	Open access sale (MU)			
A.6	EHT sale			
A.7	Net input energy (received at DISCOM periphery or at distribution point,after adjustment)-(MU)			-
A.8	Is 100% metering available at 66/33 kV (Select yes or no from list)			-
A.9	Is 100% metering available at 11 kV (Select yes or no from list)			-
A.10	% of metering available at DT			M&C data
A.11	% of metering available at consumer end			DCB data
A.12	No of feeders at 66kV voltage level			-
A.13	No of feeders at 33kV voltage level			-
A.14	No of feeders at 11kV voltage level			ALDC data
A.15	No of LT feeders level			-
A.16	Line length (ckt. km) at 66kV voltage level			-
A.17	Line length (ckt. km) at 33kV voltage level			-
A.18	Line length (ckt. km) at 11kV voltage level			Operation section data
A.19	Line length (km) at LT level			Operation section data
A.20	HT/LT ratio			-



	A	B	C	D	E	F	G	H	I	J	K	L	M
1300	B.1115	66/11 kV	BANK-1	Y.N.HOSAKOTE						11.87	0.00		
1301	B.1116	66/11 kV	BANK-1	Y.N.HOSAKOTE						0.00	-2.48		
1302	B.1117	66/11 kV	BANK-2	Y.N.HOSAKOTE						12.15	0.00		
1303	B.1118	66/11 kV	BANK-2	Y.N.HOSAKOTE						0.00	-1.12		
1304	B.1119	66/11 kV	BANK-1	YEDIYUR						9.01	0.00		
1305	B.1120	66/11 kV	BANK-2	YEDIYUR						11.89	0.00		
1306	,									**33815.65**	**-62.84**		
1307		**Net input energy at DISCOM periphery (MU)**					**0.00**		**Net input energy at DISCOM periphery (MU)**	**33752.82**		**Net input energy at DISCOM periphery (MU)**	
1308													
1309		EHT Consumption								**3017.14**			
1310		IPP at 11Kv								302.75			
1311		IPP import energy from BESCOM (66KV & above								4.78			
1312		Auxillary consumption								20.10			
1313		Wheeled Energy								4822.61			
1314		Open access consumption above 66 kV								16.90			
1315		Open access consumption above 11 kV								3.23			
1316		**Total (MU)**								32214.65			
1317		**Net input energy at DISCOM**											
1318													
1319													
1320													
1321													
1322													

DATA FOR 22-23 (2 m - f) (2) | Form-Input energy | +

The above screenshot shows the Net Input energy (ie, 32214.65 MU) at BESCOM periphery, obtained from the document provided by the Power Purchase Department.
Adding the 120 MUs of energy generated from SRTPV to this value, the Net input energy at the DISCOM is verified to be 32334.65 MUs.

ANNEXURE 2: Procedure of assessment of unmetered agricultural consumption of IP sets obtained from Nsoft portal.

Procedure of IP assessment in Nsoft Portal.

- Feeder consumption is calculated by taking the initial reading and final reading multiplying with meter constant, then import or export energy are added or deducted to the feeder consumption if any.
- Further, for agriculture feeders 10%* of the loss is deducted and also metered sales if any are also deducted and the net consumption arrived is divided by total sanctioned load of IP sets on that feeders to arrive per HP of that particular feeder.
- For non-agricultural feeders the average of all the agri feeders of particular subdivision is considered to arrive at subdivision average per HP.
- This per HP value is multiplied with total sanctioned load of IP sets on that feeder to arrive the Unmetered sales.
- * As per the KERC directions vide letter 91, dt: 20.04.2015, the permissible technical allowable loss in Rural /agriculture feeders shall be less than 12% and in Urban feeders shall be less than 10%. Hence an average of 10% loss has been considered for agriculture feeders.
- However the IP sale depends on the rain, water table and type of crops grown etc.

2

Example:

- Agriculture feeder F08-Gopasandra of Devanahally subdivision, emanating from Channarayapatna_66 station:
- Details – 237 Active installations out of which 230 are IP sets with sanction load of 2295 HP.
- Input Energy at station – 359100 Units
- Allowable loss of 10% - 35910 Units
- Metered sales for 7 Installations(Non IP) – 3308 Units
- Net Consumption of the feeder – Input energy – Allowable loss – Metered sales

  = 359100 – 35910 – 3308 = 319882 Units .

  Per HP Average of Agri feeder - Net consumption of the feeder / Sanction load

  = 319882 / 2295 = 139.38 Units per HP

. - Unmetered IP Sales of the feeder= Per HP Average of Agri feeder * sanction load of IP sets in HP= 139.38* 2295=319877 units

16/07/23 3

ANNEXURE 3: KERC Tariff Order 2022 (pages 389, 395) indicating the per unit tariff of BJ/KJ category consumers and Agricultural IP sets for subsidy calculations.

26. Seasonal Industries.

a) The industries which intend to utilize seasonal industry benefit, shall comply with the conditionality specified under Para no. 24 of the General terms and conditions of tariff (applicable to both HT & LT).

b) The industries that intend to avail this benefit shall have Electronic Tri-Vector Meter fitted to their installation.

c) **Monthly charges during the seasonal months shall be fixed charges and energy charges. The monthly charges during the off seasonal months shall be the energy charges plus 25% of the applicable fixed charges.**

TARIFF SCHEDULE LT-1

LT-1: Applicable to installations serviced under Bhagya Jyothi and Kutira Jyothi (BJ/KJ) schemes.

RATE SCHEDULE

Energy charges (including recovery towards service main charges)	Nil* Fully subsidized by the GOK

Commission Determined Tariff (CDT) for the above category i.e., LT-1 is **Rs.8.70 per unit.**

*Since GOK is meeting the full cost of supply to BJ / KJ, the Tariff payable by these Consumers is shown as Nil. However, if the GOK does not release the subsidy in advance, CDT of **Rs.8.70 per unit** subject to monthly minimum of **Rs.70** per installation per month shall be demanded and collected from these consumers.

Note: If the consumption exceeds **40** units per month or any BJ/KJ installation is found to have more than one out let, it shall be billed as per Tariff Schedule LT 2(a).

TARIFF SCHEDULE LT-2(a)

Applicable to **lighting/combined lighting, heating and motive Power** installations of residential houses and also to such houses where a portion is used by the occupant for (a) Handloom weaving (b) Silk rearing and reeling

4. A rebate of 20% on fixed charges and energy charges shall be allowed in the monthly bill in respect of telephone Booths having STD / ISD/FAX facility run **by handicapped people.**

5. **Demand based Tariff** at the option of the consumer can be adopted as per Para 1 of the conditions applicable to LT installations.

TARIFF SCHEDULE LT-4 (a), LT-4 (b) & LT-4(c)

Applicable to (a) Agricultural Pump Sets including Sprinklers (b) Pump sets used in: (i) Nurseries of forest and Horticultural Departments; (ii) Grass Farms and Gardens; (iii) Plantations other than Coffee, Tea, Rubber and Private Horticulture Nurseries.

TARIFF SCHEDULE LT-4 (a)

Applicable to I.P. Sets up to and inclusive of 10 HP

RATE SCHEDULE

Fixed charges	Free
Energy charges	

Commission Determined Tariff (CDT) for LT4 (a) category is 455 paise per unit.

In case the GOK does not release the subsidy in advance in the manner specified by the Commission in K.E.R.C. (Manner of Payment of subsidy) Regulations, 2008, CDT of **455 paise per unit** shall be demanded and collected from these consumers.

Note: This Tariff is applicable for Coconut and Arecanut plantations also.

TARIFF SCHEDULE LT-4 (b):

Applicable to IP sets above 10 HP

RATE SCHEDULE

Fixed charges	Rs.110 per HP per month.
Energy charges	390 paise per unit

TARIFF SCHEDULE LT-4 (c):

Applicable to Private Horticultural Nurseries, Coffee, Tea and Rubber plantations

RATE SCHEDULE

Fixed charges	Rs.100 per HP per month.
Energy charges	390 paise per unit

ANNEXURE 4: Statement showing the IP & BJ/KJ subsidy released to BESCOM from GoK for FY 2022-23

Amount in Crores

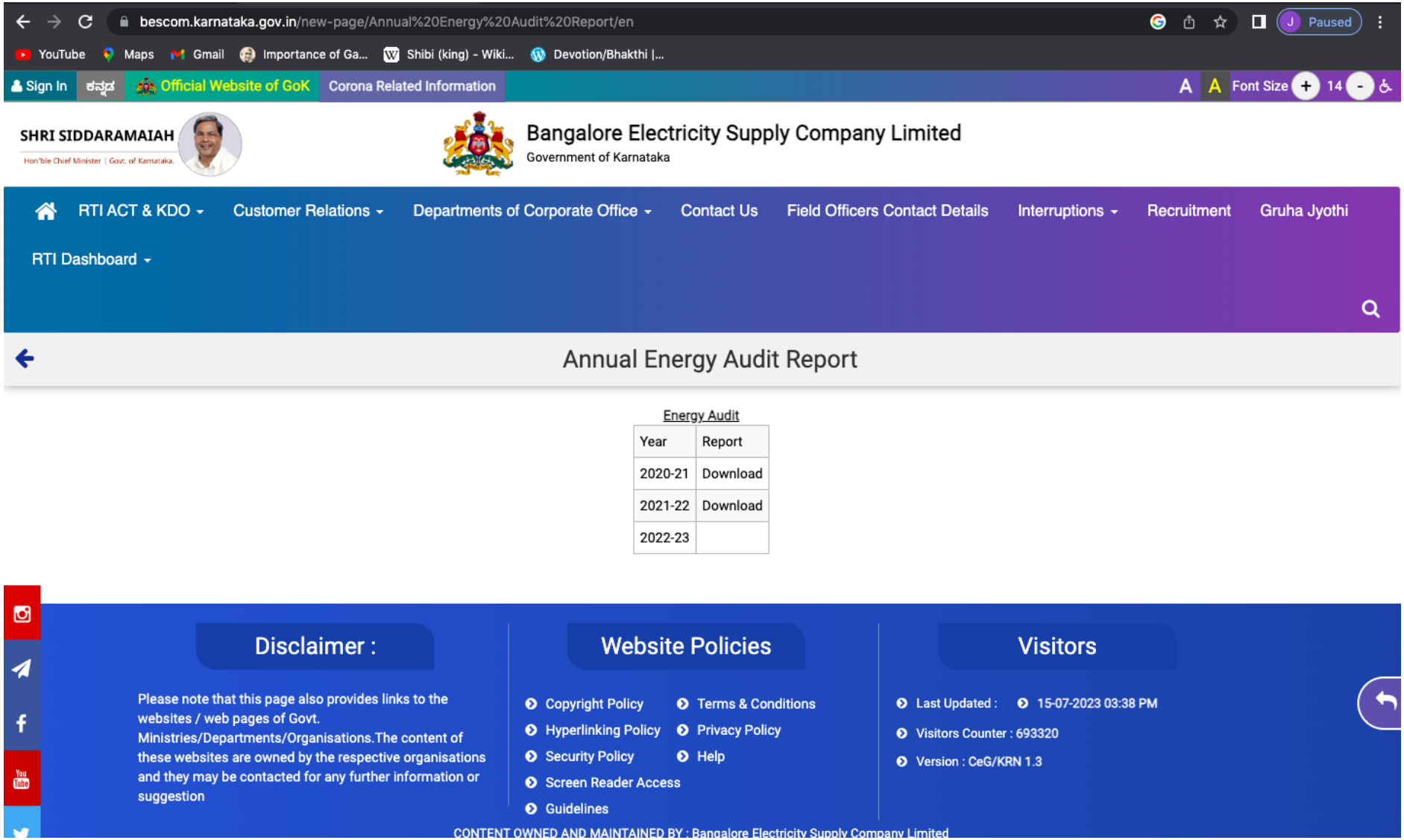
SL NO	G.O.K Order No & Date	Month	Amount of Reimbursment								Total	Through			Adjustment to Tax	Royalty Others(Loan)	UPCL	Total	Progresive Total	Quarterly	
			IP				B.J.K.J														
			General	ST	Girijana	Total	General	ST	Girijana	Total		RPCL	K.P.C	KPTCL							
1	EN 191 PSR 2022 DT 13.04.2022	Apr-22	140.8400			140.8400				0.0000	140.8400			0.0000	140.8400	0.0000		140.8400	140.8400		
2	EN 189 PSR 2022 DT 13.04.2022	Apr-22	45.1678			45.1678	9.9885			9.9885	55.1563	15.1563		40.0000				55.1563	195.9963		
3	EN 190 PSR 2022 DT 13.04.2022	Apr-22		37.8326	13.1338	50.9664		2.0323	0.7050	2.7373	53.7037		53.7037					53.7037	249.7000		
4	EN 189 PSR 2022 DT 04.05.2022	May-22	53.3078			53.3078	9.9885			9.9885	63.2963	63.2963						63.2963	312.9963		
5	EN 190 PSR 2022 DT 04.05.2022	May-22		37.8326	13.1338	50.9664		2.0323	0.7050	2.7373	53.7037		53.7037					53.7037	366.7000	**749.1000**	Ist
6	EN 191 PSR 2022 DT 04.05.2022	May-22	132.7000			132.7000				0.0000	132.7000				132.7000			132.7000	499.4000		
7	EN 190/PSR 2022 DT 01.06.2022	Jun-22		37.8326	13.1338	50.9664		2.0323	0.7050	2.7373	53.7037		53.7037					53.7037	553.1037		
8	EN 189 PSR 2022 DT 01.06.2022	Jun-22	71.4178			71.4178	9.9885			9.9885	81.4063		81.4063					81.4063	634.5100		
9	EN 191 PSR 2022 DT 01.06.2022	Jun-22	114.5900			114.5900				0.0000	114.5900				114.5900			114.5900	749.1000		

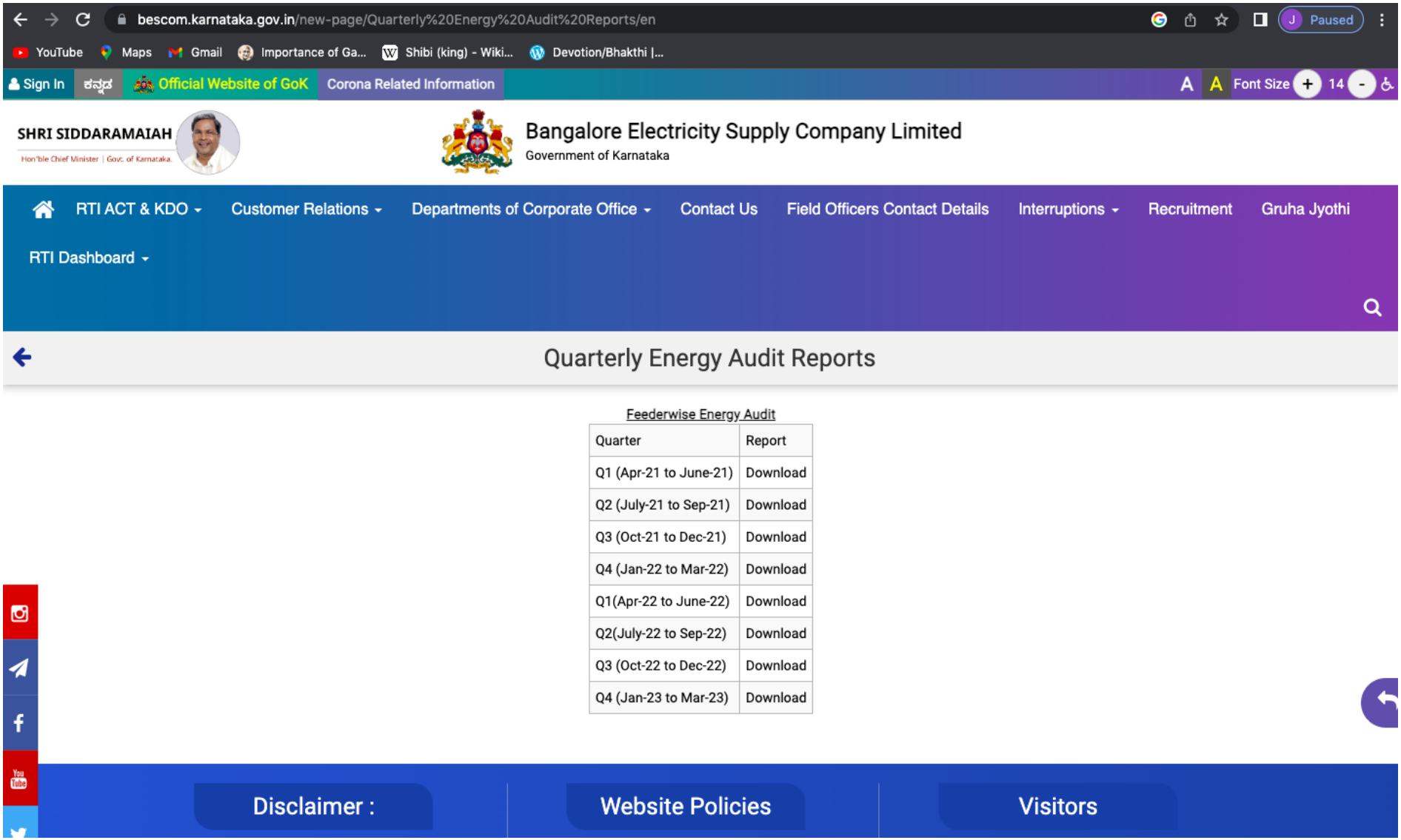
10	EN 190 PSR DT 04.07.2022	Jul-22		37.8326	13.1338	50.9664		2.0323	0.7050	2.7373	53.7037		53.7037					53.7037	802.8037		
11	EN 191 PSR 2022 DT 04.07.2022	Jul-22	150.8100			150.8100				0.0000	150.8100				150.8100			150.8100	953.6137		
12	EN 189 PSR 2022 DT 04.07.2022	Jul-22	35.1978			35.1978	9.9885			9.9885	45.1863		45.1863					45.1863	998.8000		
13	EN 190 PSR DT 02.08.2022	Aug-22		37.8326	13.1338	50.9664		2.0323	0.7050	2.7373	53.7037		53.7037					53.7037	1052.5037		
14	EN 191 PSR 2022 DT 02.08.2022	Aug-22	164.7523			164.7523				0.0000	164.7523				160.5600	4.1924		164.7524	1217.2561	**705.6968**	IInd
15	EN 189 PSR 2022 DT 02.08.2022	Aug-22	21.2554			21.2554	9.9885			9.9885	31.2439	31.2439						31.2439	1248.5000		
16	EN 189 PSR 2022 DT 03.09.2022	Sep-22				0.0000	9.2750			9.2750	9.2750	9.2750						9.2750	1257.7750		
17	EN 190 PSR DT 03.09.2022	Sep-22		37.8326	13.1338	50.9664		2.0323	0.7050	2.7373	53.7037		53.7037					53.7037	1311.4787		
18	EN 191 PSR DT 03.09.2022	Sep-22	143.3181			143.3181				0.0000	143.3181				143.3181			143.3181	1454.7968		
19	EN 189 PSR 2022 DT 12.10.2022	Oct-22				0.0000	9.9885			9.9885	9.9885	9.9885						9.9885	1464.7853		
20	EN 190 PSR DT 12.10.2022	Oct-22		20.6607	13.1337	33.7944		2.0323	0.7050	2.7373	36.5317		36.5317					36.5317	1501.3170	**538.2119**	IIIrd
21	EN 191 PSR DT 12.10.2022	Oct-22	155.7301			155.7301				0.0000	155.7301				155.7301			155.7301	1657.0471		

22	EN 189 PSR 2022 DT 2.11.2022	Nov-22				0.0000	9.9885			9.9885	9.9885	9.9885					9.9885	1667.0356		
23	EN 190 PSR DT 2.11.2022	Nov-02				0.0000		2.0323	0.7050	2.7373	2.7373		2.7373					2.7373	1669.7729		
24	EN 191 PSR DT 02.11.2022	Nov-02	112.7000			112.7000				0.0000	112.7000				112.7000			112.7000	1782.4729		
25	EN 189 PSR 2022 DT 03.12.2022	Dec-22					9.9885			9.9885	9.9885		9.9885					9.9885	1792.4614		
26	EN 190 PSR DT 03.12.2022	Dec-22		1.4563	13.1337	14.5900		2.0323	0.7050	2.7373	17.3273		17.3273					17.3273	1809.7887		
27	EN 191 PSR 2022 DT 03.12.2022	Dec-22	146.7400			146.7400				0.0000	146.7400				146.7400			146.7400	1956.5287		
28	EN 457 PSR 2022 DT 15.12.2022	Aug-Sep-22	35.1200			35.1200	1.3600			1.3600	36.4800		36.4800					36.4800	1993.0087		
29	EN 189 PSR 2022 DT 04.01.2022	c	54.9511			54.9511	9.9885			9.9885	64.9396	30.0000	34.9396					64.9396	2057.9483		
30	EN 190 PSR DT 04.01.2023	Jan-23		37.8327	13.1337	50.9664		2.0323	0.7050	2.7373	53.7037		53.7037					53.7037	2111.6520		
31	EN 191 PSR 2022 DT 31.01.2023	Jan-23	146.9633			146.9633				0.0000	146.9633				138.0000	8.9633		146.9633	2258.6153	**1323.5365**	Ivth
32	EN 189 PSR 2022 DT 06.02.2022	Feb-23	88.9732			88.9732	9.9885			9.9885	98.9617	50.0000	28.9617	20.0000				98.9617	2357.5770		
33	EN 190 PSR DT 06.02.2023	Feb-23		37.8327	13.1334	50.9661		2.0323	0.7050	2.7373	53.7034		53.7034					53.7034	2411.2804		

34	EN 457 PSR 2022 DT 06.02.2023	Oct-Mar 23	29.4100			29.4100	2.2500			2.2500	31.6600		31.6600					31.6600	2442.9404		
35	EN 191 PSR 2022 DT 23.02.2023	Feb-23	220.3733			220.3733				0.0000	220.3733				211.4100	8.9633		220.3733	2663.3137		
36	EN 189 PSR 2022 DT 04.03.2023	Mar-23	260.1905			260.1905	10.7021			10.7021	270.8926	90.0000	120.8926	60.0000				270.8926	2934.2063		
37	EN 190 PSR2022 DT 04.03.2023	Mar-23		37.8328	13.1338	50.9666		2.0325	0.7051	2.7376	53.7042		53.7042					53.7042	2987.9105		
38	EN 191 PSR 2022 DT 15.03.2023	Mar-23	73.6347			73.6347				0.0000	73.6347				64.6715	8.9632		73.6347	3061.5452		
39	EN 189 PSR 2022 DT 16.03.2022	Mar-23	255.0000			255.0000				0.0000	255.0000		200.0000				55.0000	255.0000	3316.5452		
TOTAL			**2653.1432**	**362.6108**	**144.4711**	**3160.2251**	**123.4721**	**24.3878**	**8.4601**	**156.3200**	**3316.5451**	**308.9485**	**1129.4448**	**120.0000**	**1672.0697**	**31.0822**	**55.0000**	**3316.5452**		**3316.5452**	

ANNEXURE 5: Screenshot of Annual and Quarterly Energy Audit Reports uploaded in BESCOM's website.




bescom.karnataka.gov.in/new-page/Quarterly%20Energy%20Audit%20Reports/en
Paused
YouTube
Maps
Gmail
Importance of Ga...
Shibi (king) - Wiki...
Devotion/Bhakthi |...
Sign In
ಕನ್ನಡ
Official Website of GoK
Corona Related Information
Font Size
14
SHRI SIDDARAMAIAH
Hon'ble Chief Minister | Govt. of Karnataka.
Bangalore Electricity Supply Company Limited
Government of Karnataka
RTI ACT & KDO
Customer Relations
Departments of Corporate Office
Contact Us
Field Officers Contact Details
Interruptions
Recruitment
Gruha Jyothi
RTI Dashboard
Quarterly Energy Audit Reports
Feederwise Energy Audit
Quarter
Report
Q1 (Apr-21 to June-21)
Download
Q2 (July-21 to Sep-21)
Download
Q3 (Oct-21 to Dec-21)
Download
Q4 (Jan-22 to Mar-22)
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Q1(Apr-22 to June-22)
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Q2(July-22 to Sep-22)
Download
Q3 (Oct-22 to Dec-22)
Download
Q4 (Jan-23 to Mar-23)
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ANNEXURE 6: Meter Test Reports for various category of meters.

1. Meter test report for LT Meter

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BESCOM

Bangalore Electricity Supply Company Limited

(Wholly Owned Government of Karnataka Undertaking)
O/o the Executive Engineer (Elec.), MT Dvn., BMAZ, Bhawani Nagar, Bangalore
An ISO 9001: 2015 certified Organisation
Tel:080 26605066 Fax:080 26605067 E-mail:eemtdivision@rediffmail.com

METER ACCURACY TEST REPORT

7128

02-06-2023

Customer Information
Karthik P Gupta
#32/10,6th C Main Road, 4th Blk,
Jayanagar ,B'lore

Reason for test: **Fixing for SRTPV installation**
Test Duration:01-06-2023 15:13:1To01-06-2023 16:20:

Seal Details

Manufacturing Seal No **23775157-23775158**
MT Lab Seal No **BMH84908**

Ref. standard details

Model	PRS400.3
Sl No.	# 28471
Class	0.02S

Meter Data

Make: **SECURE**
Configuration 3 phases, 4 wires
Class of P/Q: 0.5 / 0.5
Sl No./ Year **X2139487** / 2023

Pulse Rate: 8,000 Imp./kWh
Direct/Trans.: Sec. transf. CT/VT II
Ibasic / Imax: 5A / 10.0A
Voltage: 240.0V

Limits of Error

I1 (%of Ib)	I2(%of Ib)	I3(%of Ib)	PF1	Mode	% ERROR	RESULT
200	200	200	1.00	+ P	+0.01 %	OK
100	100	100	1.00	+ P	+0.21 %	OK
50	50	50	1.00	+ P	-0.11 %	OK
10	10	10	1.00	+ P	+0.15 %	OK
5	5	5	1.00	+ P	-0.07 %	OK
2	2	2	1.00	+ P	-0.06 %	OK
1	1	1	1.00	+ P	+0.15 %	OK
200	200	200	0.50	+ P	-0.14 %	OK
100	100	100	0.50	+ P	+0.11 %	OK
50	50	50	0.50	+ P	-0.10 %	OK
10	10	10	0.50	+ P	+0.13 %	OK
5	5	5	0.50	+ P	+0.07 %	OK
5	5	5	0.50	+ P	+0.09 %	OK
200	200	200	0.80	+ P	+0.07 %	OK
100	100	100	0.80	+ P	+0.19 %	OK

Page No:1
Total Pages:3

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50	50	50	0.80	+ P	-0.31 %	OK
10	10	10	0.80	+ P	-0.13 %	OK
5	5	5	0.80	+ P	+0.15 %	OK
2	2	2	0.80	+ P	-0.19 %	OK
0	100	0	1.00	+ P	+0.20 %	OK
100	0	0	0.50	+ P	-0.30 %	OK
200	200	200	0.00	+ Q	-0.04 %	OK
100	100	100	0.00	+ Q	-0.05 %	OK
50	50	50	0.00	+ Q	+0.05 %	OK
10	10	10	0.00	+ Q	+0.05 %	OK
5	5	5	0.00	+ Q	+0.03 %	OK
2	2	2	0.00	+ Q	-0.04 %	OK
1	1	1	0.00	+ Q	+0.26 %	OK
200	200	200	0.86	+ Q	+0.02 %	OK
100	100	100	0.86	+ Q	+0.05 %	OK
50	50	50	0.86	+ Q	-0.04 %	OK
10	10	10	0.86	+ Q	-0.01 %	OK
5	5	5	0.86	+ Q	+0.00 %	OK
2	2	2	0.86	+ Q	+0.06 %	OK
200	200	200	0.60	+ Q	+0.04 %	OK
100	100	100	0.60	+ Q	+0.12 %	OK
50	50	50	0.60	+ Q	-0.22 %	OK
10	10	10	0.60	+ Q	+0.05 %	OK
5	5	5	0.60	+ Q	-0.01 %	OK
2	2	2	0.60	+ Q	-0.23 %	OK

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An ISO 9001: 2015 certified Organisation
Tel:080 26605066 Fax:080 26605067 E-mail:eemtdivision@rediffmail.com

Testing fees of Rs. 2124/- has been collected vide receipt no **84723554322/1.6.23**

TEST RESULTS: The meter bearing Sl No. **X2139487** is tested for its accuracy and found all the errors are within the permissible limits as per IS 14697 standard.

Tested By:

Assistant Engineer (Ele.)
MT Lab., BMAZ, Bangalore

Verified By

Asst. Executive Engineer (Ele.)
MT Lab., BMAZ, Bangalore

Page No:3
Total Pages:3

2. Meter test report for HT Meter

ಬೆಸ್ಕಂ **Bangalore Electricity Supply Company Limited**

BESCOM

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O/o the Executive Engineer (Elec.), MT Dvn., BMAZ, Bhawani Nagar, Bangalore.
An ISO 9001: 2015 certified Organisation
Tel:080 26605066 Fax:080 26605067 E-mail.eemtdivision@rediffmail.com

METER ACCURACY TEST REPORT

EEE/AEE/AE/LAB/20-21/ 817 **07-06-2023**

Customer Information
M Ramesh
S/o. M Basavayya
Beeravara, Chitradurga

Reason for test: **Fixing for installation**
Test Duration:05-06-2023 15:46:2 To 05-06-2023 16:55:

Seal Details
Manufacturing Seal No **SAC39101**
MT Lab Seal No **BMH84993**

Ref. standard details

Model	PRS400.3
Sl No.	# 28471
Class	0.02S

Meter Data

Make:	**Schneider Electric In**
Configuration	3 phases, 4 wires \
Class	0.2
Sl No./ Year	**23007223** / 2023

Pulse Rate: 50,000 Imp./kWh
Direct/Trans.: Sec. transf. CT/VT II
Ibasic / Imax: 1A / 2.0A
Voltage: 63.5V

Limits of Error

I1 (%of Ib)	I2(%of Ib)	I3(%of Ib)	PF1	Mode	% ERROR	RESULT
200	200	200	1.00	+ P	+0.00 %	OK
100	100	100	1.00	+ P	+0.01 %	OK
50	50	50	1.00	+ P	+0.01 %	OK
10	10	10	1.00	+ P	+0.05 %	OK
5	5	5	1.00	+ P	+0.07 %	OK
2	2	2	1.00	+ P	+0.08 %	OK
1	1	1	1.00	+ P	+0.11 %	OK
200	200	200	0.50	+ P	-0.15 %	OK
100	100	100	0.50	+ P	-0.01 %	OK
50	50	50	0.50	+ P	-0.14 %	OK
10	10	10	0.50	+ P	-0.11 %	OK
5	5	5	0.50	+ P	-0.19 %	OK
2	2	2	0.50	+ P	-0.11 %	OK
200	200	200	0.80	+ P	+0.05 %	OK
100	100	100	0.80	+ P	-0.01 %	OK

Page No:1
Total Pages 3

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An ISO 9001: 2015 certified Organisation
Tel:080 26605066 Fax:080 26605067 E-mail:eemtdivision@rediffmail.com

50	50	50	0.80	+ P	+0.06 %	OK
10	10	10	0.80	+ P	+0.08 %	OK
5	5	5	0.80	+ P	+0.15 %	OK
2	2	2	0.80	+ P	+0.14 %	OK
100	0	0	1.00	+ P	-0.01 %	OK
200	200	200	0.00	+ Q	-0.06 %	OK
100	100	100	0.00	+ Q	-0.07 %	OK
50	50	50	0.00	+ Q	-0.07 %	OK
10	10	10	0.00	+ Q	-0.02 %	OK
5	5	5	0.00	+ Q	+0.00 %	OK
2	2	2	0.00	+ Q	+0.02 %	OK
1	1	1	0.00	+ Q	+0.05 %	OK
200	200	200	0.50	+ Q	-0.04 %	OK
100	100	100	0.50	+ Q	-0.09 %	OK
50	50	50	0.50	+ Q	-0.03 %	OK
10	10	10	0.50	+ Q	+0.00 %	OK
5	5	5	0.50	+ Q	+0.04 %	OK
2	2	2	0.50	+ Q	+0.05 %	OK
200	200	200	0.80	+ Q	-0.16 %	OK
100	100	100	0.80	+ Q	-0.04 %	OK
50	50	50	0.80	+ Q	-0.13 %	OK
10	10	10	0.80	+ Q	-0.09 %	OK
5	5	5	0.80	+ Q	-0.16 %	OK
2	2	2	0.80	+ Q	-0.09 %	OK

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O/o the Executive Engineer (Elec.), MT Dvn., BMAZ, Bhawani Nagar, Bangalore.
An ISO 9001: 2015 certified Organisation
Tel:080 26605066 Fax:080 26605067 E-mail:eemtdivision@rediffmail.com

Testing Fees of Rs2832 has been collected Vide Receipt No.**84723521607/3.6.23**

TEST RESULTS: The meter bearing Sl No.**23007223** is tested for its accuracy and found all the errors are within the permissible limits as per IS 14697 standard.

Note: The test report confirms only the accuracy of the meter. All the necessary approvals/ field conditions are to be verifi before commissioning.

Tested By:

Assistant Engineer (Ele.)
MT Lab., BMAZ, Bangalore

Verified By

Asst. Executive Engineer (Ele.)
MT Lab., BMAZ, Bangalore

Page No:3
Total Pages 3

ANNEXURE 7: Renewable Purchase Obligation Order 2022 issued by KERC

KARNATAKA ELECTRICITY REGULATORY COMMISSION

No. 16 C-1, Miller Tank Bed Area, Vasanthanagara, Bengaluru-560 052

Notification No. Y/01/22/462, dated 12.07.2022

KERC (Procurement of Energy from Renewable Sources) (Eighth Amendment) Regulations, 2022

Preamble

1. In exercise of the powers conferred under clause (e) of sub-section (1) of Section 86 read with Section 181 of the Electricity Act, 2003 (Central Act 36 of 2003) and all the other powers enabling it in this behalf, the Commission has notified the Karnataka Electricity Regulatory Commission (Procurement of Energy from Renewable Sources), Regulations, 2011, as amended from time to time. The Commission in the sixth amendment to the above Regulations has specified Renewable Purchase Obligation (RPO) trajectory till the year 2021-22. As there was a need to specify the RPO trajectory for compliance by the distribution licensees and other obligated entities in the State for the period beyond 2021-22, the Commission, had issued draft amendment to the Regulations referred above, to modify and specify the RPO trajectory for the obligated entities in the State. The draft of the proposed amendments was notified for information of all the persons likely to be affected and Notice was published in Deccan Herald, Times of India, Samyuktha Karnataka and Vijay Karnataka Newspapers on 23.04.2022, inviting from the stakeholders and interested persons, objections / suggestions / views on the proposed draft, within twenty-one days from the date of publication of Notice and was also hosted on the Commission's website. Subsequently, the Commission held the public hearing in the matter on 20.05.2022, duly publishing the notices in The Hindu, Times of India, Prajavani and Vijay Karnataka newspapers. The Public hearing notice was also hosted on the Commission's website.

2. After considering the objections / suggestions / views of the stakeholders and interested persons, the Commission has decided as follows:

   a. Keeping in view the availability and tariff of Non-Solar RE sources vis.a.vis the Solar, it is decided not to have separate solar and Non-solar RPO;

   b. To specify for captive/ Open Access Consumers the RPO same as that of the area distribution licensee, in which the captive/ Open Access Consumers are located;

   c. To drop HPO, keeping in view that no new hydro projects are coming up in the State in the near future; and

d. To fix the control period for three years and RPO for further period thereon to be taken up after the GoI notifies the RPO trajectory at the National level.

3. In the light of the above, the Commission hereby notifies the following Regulations:

Regulations

1. Short Title, Application and Commencement, –

(i) These Regulations shall be called the Karnataka Electricity Regulatory Commission (Procurement of Energy from Renewable Sources) (Eighth Amendment) Regulations, 2022.

(ii) These Regulations shall extend to the whole of the State of Karnataka.

(iii) These Regulations shall come into force from 01.04.2022

2. In the Karnataka Electricity Regulatory Commission (Procurement of Energy from Renewable Sources), 2011, in Regulation 4, Clauses 4(i), 4(ii) and 4(iii) as at column (1) of the Table below, shall be substituted as indicated in column (2,) namely, -

<table>
<tr><th>1
Existing Regulations</th><th>2
Amended Regulations</th></tr>
<tr><td>4(i) Every Distribution Licensee shall purchase a minimum quantity of electricity from renewable sources of energy, expressed as a percentage of its total procurement, excluding the procurement from hydro power during a financial year, as specified below:
(a) Non-Solar RPO
<table>
<tr><th>Non-Solar RPO</th><th colspan="4">Year wise</th></tr>
<tr><td>DISTRIBUTION LICENSEE</td><td>2015-16</td><td>2016-17</td><td>2017-18</td><td>2018-19</td></tr>
<tr><td>BESCOM</td><td>10%</td><td>11%</td><td>12.00%</td><td>12.00%</td></tr>
<tr><td>MESCOM</td><td>10%</td><td>11%</td><td>12.00%</td><td>13.00%</td></tr>
<tr><td>CESC</td><td>10%</td><td>11%</td><td>11.00%</td><td>12.00%</td></tr>
<tr><td>HESCOM</td><td>7%</td><td>7.5%</td><td>8.50%</td><td>9.50%</td></tr>
<tr><td>GESCOM</td><td>5.0%</td><td>5.50%</td><td>6.00%</td><td>7.00%</td></tr>
<tr><td>HRECS</td><td>7%</td><td>7.5%</td><td>8.50%</td><td>9.50%</td></tr>
<tr><td>DEEMED LICENSEE(s)</td><td colspan="4">RPO target shall be same as that of the ESCOM where the deemed Licensee(s) is situated.</td></tr>
</table>
<table>
<tr><th>DISTRIBUTION LICENSEE</th><th>2019-20</th><th>2020-21</th><th>2021-22</th><th>2022-23 and onwards</th></tr>
<tr><td>BESCOM</td><td>12.00%</td><td>12.00%</td><td>12.00%</td><td rowspan="5">To be determined</td></tr>
<tr><td>MESCOM</td><td>13.00%</td><td>13.00%</td><td>13.00%</td></tr>
<tr><td>CESC</td><td>12.00%</td><td>12.00%</td><td>12.00%</td></tr>
<tr><td>HESCOM</td><td>11.00%</td><td>11.00%</td><td>11.00%</td></tr>
<tr><td>GESCOM</td><td>8.00%</td><td>8.00%</td><td>8.00%</td></tr>
<tr><td>HRECS</td><td>11.00%</td><td>11.00%</td><td>11.00%</td><td></td></tr>
<tr><td>DEEMED LICENSEE(s)</td><td colspan="4">RPO target shall be same as that of the ESCOM where the deemed Licensee(s) is situated.</td></tr>
</table></td><td>4(i) Every Distribution Licensee shall purchase a minimum quantity of electricity from renewable sources of energy, irrespective of Solar or Non-Solar, expressed as a percentage of its total procurement, excluding the procurement from hydro power during a financial year, as specified below from FY2022-23 onwards:
<table>
<tr><th>ESCOMs</th><th>BESCOM</th><th>MESCOM</th><th>CESC</th><th>HESCOM</th><th>GESCOM</th></tr>
<tr><td>2022-23</td><td>23.75%</td><td>25.00%</td><td>22.50%</td><td>22.50%</td><td>20.50%</td></tr>
<tr><td>2023-24</td><td>25.25%</td><td>26.50%</td><td>24.00%</td><td>24.00%</td><td>22.00%</td></tr>
<tr><td>2024-25</td><td>26.75%</td><td>28.00%</td><td>25.50%</td><td>25.50%</td><td>23.50%</td></tr>
<tr><td>HRECS and DEEMED LICENSEE(s)</td><td colspan="5">RPO target shall be same as that of the ESCOM where the HRECS / deemed Licensee(s) is situated.</td></tr>
</table>
Provided that the RPO targets and the conditions specified in KERC (Power Procurement from Renewable Sources by Distribution Licensee and Renewable Energy Certificate Framework) Regulations, 2011, as amended from time to time, shall apply for the period prior to Year 2022-23.</td></tr>
</table>

(b) Solar RPO

DISTRIBUTION LICENSEE	Year wise			
	[illegible]	[illegible]	2017-18	2018-19
BESCOM	0.25%	0.75%	2.75%	6.00%
MESCOM	0.25%	0.75%	2.75%	6.00%
CESC	0.25%	0.75%	2.75%	6.00%
HESCOM	0.25%	0.75%	2.75%	6.00%
GESCOM	0.25%	0.75%	2.75%	6.00%
HRECS	0.25%	0.75%	2.75%	6.00%
DEEMED LICENSEES	6%	4.75%	2.75%	6.00%

DISTRIBUTION LICENSEES	2019-20	2020-21	2021-22	2022-23 and onwards
BESCOM	7.25%	8.50%	10.50%	To be determined
MESCOM	7.25%	8.50%	10.50%	
CESC	7.25%	8.50%	10.50%	
HESCOM	7.25%	8.50%	10.50%	
GESCOM	7.25%	8.50%	10.50%	
HRECS	7.25%	8.50%	10.50%	
DEEMED LICENSEE(s)	RPO target shall be same as that of the ESCOM where the deemed Licensee(s) is situated.			

Provided that, the HRECS and deemed Licensee(s), procuring bulk power, partly or wholly, from the ESCOM(s), shall be deemed to have complied with the RPO to the extent of such procurement from the ESCOM(s) if, such ESCOM(s) has/have complied with the RPO. In such cases, the concerned ESCOM(s) shall submit a copy of the quarterly RPO compliance report to the HRECS or such deemed licensee(s), as the case may be.

Provided further that, the HRECS and the deemed Licensee(s), procuring bulk power, partly or wholly, from the ESCOM(s) shall be deemed to have not complied with the RPO to the extent of such procurement from the ESCOM(s) if, such ESCOM(s) have not complied with the RPO. In such cases, the onus of meeting the RPO shall be that of the HRECS or such deemed licensee(s), as the case may be.

Provided also that, any distribution licensee failing to achieve the specified Non-Solar RPO or any part thereof, for the relevant year, within the time specified but, having achieved compliance of such Non-solar RPO to the extent of 85%, shall be permitted to meet the shortfall by excess Solar

Provided that, the HRECS and deemed Licensee(s), procuring bulk power, partly or wholly, from the ESCOM(s), shall be deemed to have complied with the RPO to the extent of such procurement from the ESCOM(s) if, such ESCOM(s) has/have complied with the RPO. In such cases, the concerned ESCOM(s) shall submit a copy of the quarterly RPO compliance report to the HRECS or such deemed licensee(s), as the case may be.

Provided further that, the HRECS and the deemed Licensee(s), procuring bulk power, partly or wholly, from the ESCOM(s) shall be deemed to have not complied with the RPO to the extent of such procurement from the ESCOM(s) if, such ESCOM(s) have not complied with the RPO. In such cases, the onus of meeting the RPO shall be that of the HRECS or such deemed licensee(s), as the case may be.

Proviso deleted consequent to specifying single RPO, irrespective of solar or Non-solar.

energy or Solar RECs purchased beyond the specified Solar RPO for that relevant year.

Provided also that, any distribution licensee failing to achieve the specified Solar RPO or any part thereof, for the relevant year, within the time specified but, having achieved compliance of such solar RPO to the extent of 85%, shall be permitted to meet the shortfall by excess Non-Solar energy or Non-Solar RECs purchased beyond the specified Non-Solar RPO for that relevant year.

Explanation:

The exclusion of hydro power from the total procurement of energy shall be applicable from the year 2017-18 and onwards and such hydro power, shall not include energy procured from Mini-Hydel sources.

4(ii) Every Grid Connected Captive consumer, specified in clause 3(ii) above, shall purchase/procure a minimum quantity of its consumption of energy from captive sources, during a financial year, from renewable sources of energy, as specified below:

Source	2015-16	2016-17	2017-18	2018-19
NON-SOLAR	5.0%	5.5%	6%	7.0%
	0%	0.75%	2.75%	6.00%

Source	2019-20	2020-21	2021-22	2022-23 and onwards
NON-SOLAR	10.25%	10.25%	10.50%	To be decided
SOLAR	7.25%	8.50%	10.50%	

Proviso deleted consequent to specifying single RPO, irrespective of solar or Non-solar.

Explanation:

The exclusion of hydro power from the total procurement of energy shall be applicable from the year 2017-18 and onwards and such hydro power, shall not include energy procured from Mini-Hydel sources.

4(ii) Every Grid Connected Captive consumer, specified in clause 3(ii) above, shall purchase/procure a minimum quantity of its consumption of energy from captive sources, during a financial year, from renewable sources of energy, irrespective of Solar or Non-Solar, from FY2022-23 onwards as specified below:

ESCOMs	BESCOM Area	MESCOM Area	CESC Area	HESCOM Area	GESCOM Area
2022-23	23.25%	23.00%	22.50%	22.50%	20.50%
2023-24	25.25%	26.50%	24.00%	24.00%	22.00%
2024-25	29.75%	28.00%	26.50%	25.50%	23.50%
HRECS and DEEMED LICENSEES	RPO target shall be same as that of the ESCOMs area where the HRECs & deemed Licensee(s) is located.				

Provided that the RPO targets and the conditions specified in KERC (Power Procurement from Renewable Sources by Distribution Licensee and Renewable Energy certificate Framework) Regulations, 2011, as amended from time to time, shall apply for the period prior to Year 2022-23.

Provided that, in the case of consumers being units of a single legal entity but, located in more than one place within Karnataka State, the combined RPO of all such units within the Karnataka State, shall be reckoned for the purpose of meeting the RPO, specified above.	Provided that, in the case of consumers being units of a single legal entity but, located in more than one place within Karnataka State, the combined RPO of all such units within the Karnataka State, shall be reckoned for the purpose of meeting the RPO, specified above.
Provided further that, any Grid Connected Captive consumer, failing to achieve the specified Non-Solar RPO or any part thereof, for the relevant year, within the time specified but, having achieved compliance of such Non- Solar RPO to the extent of 85%, shall be permitted to meet the shortfall by excess Solar energy or Solar RECs purchased/procured beyond the specified Solar RPO for that relevant year.	Proviso deleted consequent to specifying single RPO, irrespective of solar or Non-solar.
Provided also that, any Grid Connected Captive consumer, failing to achieve the specified Solar RPO or any part thereof, for the relevant year, within the time specified but, having achieved compliance of such Solar RPO to the extent of 85%, shall be permitted to meet the shortfall by excess Non-Solar energy or Non-Solar RECs purchased/procured beyond the specified Non-Solar RPO for that relevant year.	Proviso deleted consequent to specifying single RPO, irrespective of solar or Non-solar
4(iii) Every Open Access Consumer, specified in Clause 3(iii) above, shall purchase a minimum quantity of its consumption through Open Access sources, during a financial year, from renewable sources of energy, as specified below:	4(iii) Every Open Access Consumer, specified in Clause 3(iii) above, shall purchase a minimum quantity of its consumption through Open Access sources, during a financial year, from renewable sources of energy, irrespective of Solar or Non-Solar, from FY2022-23 onwards as specified below:

Source	2015-16	2016-17	2017-18	2018-19
NON-SOLAR	5.0%	5.5%	6%	7.0%
SOLAR	0%	0.75%	2.75%	6.00%

Source	2019-20	2020-21	2021-22	2022-23 and onwards
NON-SOLAR	10.25%	10.25%	10.50%	To be determined
SOLAR	7.25%	8.50%	10.50%	

ESCOMs	BESCOM Area	MESCOM Area	CESC Area	HESCOM Area	GESCOM Area
2022-23	20.75%	25.00%	17.50%	[illegible]	20.50%
2023-24	23.25%	26.50%	19.00%	[illegible]	[illegible]
2024-25	[illegible]	28.00%	25.50%	25.50%	[illegible]
HRECS and DEEMED LICENSEE(s)	RPO target shall be same as that of the ESCOM area where the HRECS / deemed Licensee(s) is situated.				

Provided that the RPO targets and the conditions specified in KERC (Power Procurement from

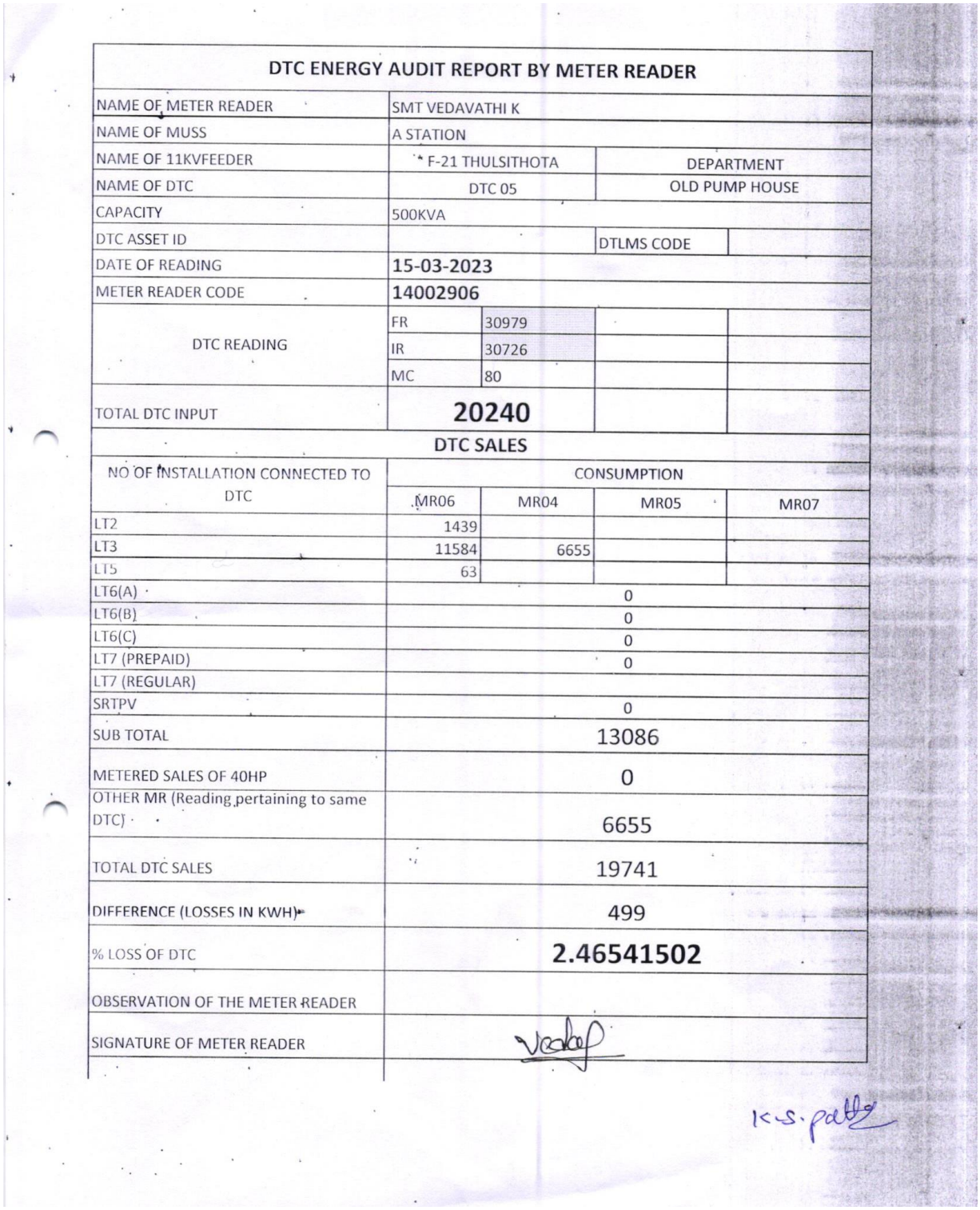
	Renewable Sources by Distribution Licensee and Renewable Energy Certificate Framework) Regulations, 2013, as amended from time to time, shall apply for the period prior to Year 2022-23.
Provided that, in the case of consumers being units of a single legal entity but, located in more than one place within the State of Karnataka, the combined RPO of all such units, within the State of Karnataka, shall be reckoned for the purpose of meeting the RPO specified above.	Provided that, in the case of consumers being units of a single legal entity but, located in more than one place within the State of Karnataka, the combined RPO of all such units, within the State of Karnataka, shall be reckoned for the purpose of meeting the RPO specified above.
Provided further that, any Open Access Consumer, failing to achieve the specified Non-Solar RPO or any part thereof, for the relevant year, within the time specified but, having achieved compliance of such Non-Solar RPO to the extent of 85%, shall be permitted to meet the shortfall by excess Solar energy or Solar RECs purchased beyond the specified Solar RPO for that relevant year.	Proviso deleted consequent to specifying single RPO, irrespective of solar or Non-solar.
Provided also that, any Open Access Consumer, failing to achieve the specified Solar RPO or any part thereof, for the relevant year, within the time specified but, having achieved compliance of such Solar RPO to the extent of 85%, shall be permitted to meet the shortfall by excess Non-Solar energy or Non-Solar RECs purchased beyond the specified Non-Solar RPO for that relevant year.	Proviso deleted consequent to specifying single RPO, irrespective of solar or Non-solar.
First Proviso to Regulation (5) Provided that the Solar RPO of the obligated entity shall be fulfilled by purchase of Solar RECs or consumption of electricity from its own Solar Power Plant.	Proviso deleted consequent to specifying single RPO, irrespective of solar or Non-solar.

By Approval of the Commission

Secretary
Karnataka Electricity Regulatory Commission

PD-88

ANNEXURE 8: Sample DTC Energy Audit Report by Meter Reader



DTC ENERGY AUDIT REPORT BY METER READER				
NAME OF METER READER	SMT VEDAVATHI K			
NAME OF MUSS	A STATION			
NAME OF 11KVFEEDER	F-21 THULSITHOTA		DEPARTMENT	
NAME OF DTC	DTC 05		OLD PUMP HOUSE	
CAPACITY	500KVA			
DTC ASSET ID			DTLMS CODE	
DATE OF READING	15-03-2023			
METER READER CODE	14002906			
DTC READING	FR	30979		
	IR	30726		
	MC	80		
TOTAL DTC INPUT	20240			

DTC SALES				
NO OF INSTALLATION CONNECTED TO DTC	CONSUMPTION			
	MR06	MR04	MR05	MR07
LT2	1439			
LT3	11584	6655		
LT5	63			
LT6(A)	0			
LT6(B)	0			
LT6(C)	0			
LT7 (PREPAID)	0			
LT7 (REGULAR)				
SRTPV	0			
SUB TOTAL	13086			
METERED SALES OF 40HP	0			
OTHER MR (Reading pertaining to same DTC)	6655			
TOTAL DTC SALES	19741			
DIFFERENCE (LOSSES IN KWH)	499			
% LOSS OF DTC	2.46541502			
OBSERVATION OF THE METER READER				
SIGNATURE OF METER READER	Vedav			

K.S. patil

ANNEXURE 9: Details of existing DTC Metering Data obtained from the centralized transformer's maintenance department and meter section

DETAILS OF METERING OF DTC

Month **Mar-23**

Data on DTC metering							
Sl.No	**Name of the division**	**Total no. of DT**	**No of DTC's which do not require metering (DTC's feeding on exclusive IP sets (EIP) & DTC feeding single installations)**	**No. of DTCs metered as at the beginning of the month**	**DTCs metered during the month**	**Total no. of DTCs metered**	**Balance DTCs to be metered**
1	Indiaranagar	3536	0	3475	25	3500	36
2	Whitefield	3636	0	3274	48	3322	314
3	Shivajinagar	6247	0	5946	4	5950	297
4	Vidhanasoudha	1148	0	1141	7	1148	0
	East Circle	**14567**	**0**	**13836**	**84**	**13920**	**647**
5	Peenya	2724	0	2721	3	2724	0
6	Malleshwaram	2021	0	2005	16	2021	0
7	Hebbal	5572	0	5026	39	5065	507
8	Jalahalli	2841	0	2549	16	2565	276
	North Circle	**13158**	**0**	**12301**	**74**	**12375**	**783**
	BMAZ North	**27725**	**0**	**26137**	**158**	**26295**	**1430**
9	Jayanagar	7669	0	7382	0	7382	287
10	Koramanagala	5594	0	5352	42	5394	200
11	HSR	10219	0	9515	0	9515	704
	South Circle	**23482**	**0**	**22249**	**42**	**22291**	**1191**
12	R.R.Nagar	3158	0	3101	0	3101	57
13	Rajajinagar	3792	0	3547	19	3566	226
14	Kengeri	5523	415	4313	15	4328	780

	West Circle	**12473**	**415**	**10961**	**34**	**10995**	**1063**
	BMAZ South	**35955**	**415**	**33210**	**76**	**33286**	**2254**
15	Nelmangala	16647	8318	3248	0	3248	5081
16	Hosakote	18398	6564	4346	62	4408	7426
	BRC Circle	**35045**	**14882**	**7594**	**62**	**7656**	**12507**
17	Ramanagara	23527	20146	1124	0	1124	2257
18	Magadi	16345	11183	2182	0	2182	2980
19	Kanakpura	20154	17849	716	0	716	1589
20	Chandapura	11678	2295	2575	0	2575	6808
	Ramanagara Circle	**71704**	**51473**	**6597**	**0**	**6597**	**13634**
21	Kolar	15791	6636	1048	0	1048	8107
22	KGF	23533	16345	3266	0	3266	3922
23	Chintamani	16232	13750	746	0	746	1736
24	C.B.Pura	25989	16241	1808	0	1808	7940
	Kolar Circle	**81545**	**52972**	**6868**	**0**	**6868**	**21705**
	BRAZ	**188294**	**119327**	**21059**	**62**	**21121**	**47846**
25	Tumkur	39608	14758	9712	0	9712	15138
26	Kunigal	16338	6796	1374	0	1374	8168
27	Tiptur	26298	9091	3264	0	3264	13943
28	Madhugiri	31077	9336	6942	0	6942	14799
	Tumkur Circle	**113321**	**39981**	**21292**	**0**	**21292**	**52048**
29	Davanagere	36700	28852	4868	3	4871	2977
30	Harihara	20571	17107	2928	1	2929	535
31	*Chitradurga	32360	27074	2885	0	2885	2401
32	Hiriyur	23435	17081	2808	0	2808	3546
	Davanagere Circle	**113066**	**90114**	**13489**	**4**	**13493**	**9459**
	CTAZ	**226387**	**130095**	**34781**	**4**	**34785**	**61507**

	BESCOM	**478361**	**249837**	**115187**	**300**	**115487**	**113037**

DISTRIBUTION TRANSFORMERS EXISTING (March-23)																
KVA	**10**	**15**	**25**	**50**	**63**	**100**	**160**	**200**	**250**	**300**	**400**	**500**	**750**	**990**	**1000**	**CSS**	**TOTAL**
BMAZS	0	678	976	1	7643	10377	18	150	12934	101	1	2801	5	9	2	259	35955
BRAZN	0	84	632	1	5140	8696	22	131	9837	82	10	2719	9	0	4	358	27725
BRAZ	0	296	127333	28	32761	23144	2	193	3693	29	0	780	6	14	5	10	188294
CTAZ	0	1286	171529	8	28741	22812	25	103	1651	15	0	215	2	0	0	0	226387
TOTAL	**0**	**2344**	**300470**	**38**	**74285**	**65029**	**67**	**577**	**28115**	**227**	**11**	**6515**	**22**	**23**	**11**	**627**	**478361**

ANNEXURE 10: Additional data required during Energy Audit as per SOP issued by Ministry of Power

1(a) - Validation of feeder data: Based on data available in 11 kV Feeder meter at substation fora sample size of 10% for which documentary evidence to be captured in the audit report.

-Validation of feeder data for 650 feeders has been done as per report generated from DCB software. The validated data is tabulated below;

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
1	INDIRANAGAR	E10	NGEF_66	F01-BN-PURA	642912.7281	586447	5971779	6732236.66
2	INDIRANAGAR	E10	NGEF_66	F02-DRDO	1218516.233	1159683	10991173.1	12295174.84
3	INDIRANAGAR	E6	NGEF_66	F03-RMU	826435.4329	804247.35	9050524.57	8755297.02
4	INDIRANAGAR	E6	NGEF_66	F04-RMU	652384.4605	631258.05	7256221.43	7911774.28
5	INDIRANAGAR	E10	NGEF_66	F05-OM-ROAD	541809.8343	497772	5181077.37	5516835.26
6	INDIRANAGAR	E3	NGEF_66	F06-CANARA BANK	617987.184	595089	6470526.66	6453246.66
7	INDIRANAGAR	E6	NGEF_66	F07-FB'-STATION	624399.4391	606504.25	7392571.22	8215679.12
8	INDIRANAGAR	E10	NGEF_66	F08-UDAYANAGAR	1413063.369	1304570.49	13431637.59	14811999.42
9	INDIRANAGAR	E10	NGEF_66	F10-NGEF-FEEDER	1627533.845	1521770.75	16304201.26	17442940.09
10	INDIRANAGAR	E10	NGEF_66	F11-BYRASANDRA	443520.8771	413484	3837240	4249385.7
11	INDIRANAGAR	E6	NGEF_66	F12-CMH-ROAD	1594134.245	1550524.34	19827097.07	20905288.71
12	INDIRANAGAR	E3	NGEF_66	F13-PHILIPS-RMU	454004.2747	438725	5581095	5581095
13	INDIRANAGAR	E3	NGEF_66	F14-HEALTH-OFFICE--RMU	638510.6472	605212.3	6603447.42	7057357.07
14	INDIRANAGAR	E10	NGEF_66	F15-RMZ	1282217.802	1287450	12051184.61	12049461
15	INDIRANAGAR	E10	NGEF_66	F16-SALARPURIA-NOVA	987900.7488	948725.5	10320678.96	11150611.74
16	INDIRANAGAR	E10	NGEF_66	F17-AFNHBI	1183341.815	1085404	4779484.72	5444010.42
17	INDIRANAGAR	E10	NGEF_66	F18-AFNHBII	102697.0551	97445	942216.85	1041058.92
18	SHIVAJINAGAR	E5	NGEF_66	F19-SMVB RAILWAY STATION	197919.288	197582.5	2949888	2941566
19	INDIRANAGAR	E3	B_STATION_66	F01-ING-VYSYA-BANK	983716.176	973600	4945534	4945534
20	INDIRANAGAR	E3	B_STATION_66	F02-MURPHY-ROAD	252674.0094	244758.6	2966652.21	2917946.22
21	SHIVAJINAGAR	E1	C_STATION_66	F04-JAYAMAHAL	862823.7107	776926.9	7653729.17	8852841
22	SHIVAJINAGAR	E2	C_STATION_66	F05-MK-STREET	1064507.736	1015875.1	10768195	12681531

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
23	SHIVAJINAGAR	E2	C_STATION_66	F06-F-CUNNINGHAM-ROAD	1219810.718	1136612.5	12921502	13056111
24	SHIVAJINAGAR	E1	C_STATION_66	F07-F-KEMPROAD	1008090.95	907338.05	9888014.82	10383228.42
25	SHIVAJINAGAR	E1	C_STATION_66	F08-BENSON-TOWN	293610.1132	264397	2671531.87	3160424.49
26	SHIVAJINAGAR	E1	C_STATION_66	F09-SPENCER-ROAD	724364.7182	652030	7044241.88	7641097.77
27	SHIVAJINAGAR	E2	C_STATION_66	F10-SULTANJIGUNTA-ROAD	1090780.454	1014548	10204822	11637481
28	INDIRANAGAR	E3	C_STATION_66	F11-RMZ-MILLENIA	716802.6574	690709	5102831.65	5267863.83
29	SHIVAJINAGAR	E2	C_STATION_66	F12-BOWRING-HOSPITAL-&-STNAUX	138467.3507	138280	1566273	1565125
30	VIDANSOUDHA	W4	C_STATION_66	F13-VASANTHNAGAR	1416520.332	1341730.15	15100697	15556069
31	SHIVAJINAGAR	E2	C_STATION_66	F14-CHIKKA-BAZAAR	531827.041	506851.25	5673936	6526652
32	SHIVAJINAGAR	E2	C_STATION_66	F16-THIMMAIAH-ROAD	706952.6837	675993.5	6751474	6869166
33	SHIVAJINAGAR	E2	C_STATION_66	F17-TASKER-TOWN	604032.968	574625.25	7204697	7945672
34	SHIVAJINAGAR	E2	C_STATION_66	F19-HAINS-ROAD	945181.2197	901630.3	8659545	9788769
35	VIDANSOUDHA	W4	C_STATION_66	F20-EXPRESS VIDHANASOUDHA	7200	7067	189745	189745
36	SHIVAJINAGAR	E5	POTTERYROAD_66	F01-ITI-COOKTOWN	764693.472	711412	6282575.15	6756500.74
37	SHIVAJINAGAR	E2	POTTERYROAD_66	F02-BSTATION	613587.8577	584970.3	6434741	6749270
38	SHIVAJINAGAR	E1	POTTERYROAD_66	F04-RMU-PC	1303184.731	1173092.5	10717683.56	12761288.93
39	SHIVAJINAGAR	E5	POTTERYROAD_66	F05-CHANDRA-SHEKHAR-SPEECH-&-HEARING	681730.9616	635756	8339344.74	10032252.7
40	SHIVAJINAGAR	E1	POTTERYROAD_66	F06-F-FRAZER-TOWN	654533.9782	589161.5	6214181.69	6995157.9
41	VIDANSOUDHA	W3	TELECOMLAYOUT_66	F09-RAILWAY-PARALLEL-(RAILWAY-COLONY)	816786.2813	745869	7531536.33	9295153.29
42	VIDANSOUDHA	W3	TELECOMLAYOUT_66	F11-MYSORE-ROAD	476074.0502	456926	3886149.12	3889785.41
43	VIDANSOUDHA	W3	TELECOMLAYOUT_66	F12-ABB-RMU-JJR-NAGAR-POLICE-STATION	1792776.928	1658953	16460938.87	19241143.01

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
44	VIDANSOUDHA	W3	TELECOMLAYOUT_66	F15-PARK WEST	221696.0733	213846	2310965.71	2461659.1
45	VIDANSOUDHA	W3	TELECOMLAYOUT_66	F16-PRESTIGE WOODS	176523.5133	173021	1714817.81	1807630.79
46	VIDANSOUDHA	W4	ASTATION_66	F02-CRESCENT ROAD	683544.326	654131	9548565.13	12548145
47	VIDANSOUDHA	W5	ASTATION_66	F05-KAVERI-BHAVAN-AND-AUX	530565.0318	509565.54	6435375.87	8412847.8
48	MALLESHWARAM	C2	ASTATION_66	F08-SHESHADRIPURAM	473101.6124	465255.25	5254818.8	5451540.9
49	MALLESHWARAM	C2	ASTATION_66	F09-MD-BLOCK	1010384.421	989546.65	10693093.96	14916273
50	VIDANSOUDHA	W4	ASTATION_66	F01-JAYADEVA-HOSTEL	201676.682	192187	1876918.43	2114532.1
51	VIDANSOUDHA	W4	ASTATION_66	F10-VASANTHNAGAR	1145932.053	1086960.3	5884961.09	6810260.9
52	VIDANSOUDHA	W4	ASTATION_66	F11-BRIGADE-PLAZA	373833.6532	356724	1777767.05	2758127
53	VIDANSOUDHA	W4	ASTATION_66	F12-KHANIJA-BHAVANA	460562.5245	440150.25	2200415.42	2172264
54	VIDANSOUDHA	W4	ASTATION_66	F13-RAJ-BHAVAN	734097.5634	700764	6402977.93	6386593
55	VIDANSOUDHA	W4	ASTATION_66	F14-UPPERPET-POLICE-STATION	522508.2148	497303.15	10419640.25	10371472.06
56	VIDANSOUDHA	W4	ASTATION_66	F15-VIKASA-SOUDHA	248600	238270	1121681	1120570
57	VIDANSOUDHA	W5	ASTATION_66	F16-BANNAPPA-PARK	336841.9856	323842	4344183.65	4485298.38
58	VIDANSOUDHA	W4	ASTATION_66	F17-BVK IYAENGAR-ROAD	522557.2362	499301	3088619.25	3688589.8
59	VIDANSOUDHA	W4	ASTATION_66	F18-KR-CIRCLE	426620.9617	404941.1	1930497.09	1929911
60	VIDANSOUDHA	W4	ASTATION_66	F19-BALABROOIE	719063.939	680953.95	8402726.59	8407136.4
61	WHITEFIELD	E12	BAGMANEWTP_66	F04-W.T.C.	468019.5919	461850	4834769.99	4835413.37
62	WHITEFIELD	E12	BAGMANEWTP_66	F05-WTC	1225700.17	1213100	11599871.98	11598582.98
63	WHITEFIELD	E12	BAGMANEWTP_66	F08-IDLE3	567240.4793	564240	3599525	3599929.17
64	WHITEFIELD	E12	BAGMANEWTP_66	F09-IDLE4	814222.2441	744221.85	8313527.13	12787169.6
65	WHITEFIELD	E12	BAGMANEWTP_66	F10-VIRGO	894279.967	832200	9324630	9322768
66	WHITEFIELD	E12	BAGMANEWTP_66	F11-TOTAL MALL	1191195.689	1099667	9206395.15	9464604.74

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
67	WHITEFIELD	E12	BAGMANEWTP_66	F12-GARNET	2419399.935	2389400	15412910	13870724
68	WHITEFIELD	E12	BAGMANEWTP_66	F13-CARINA-EAST	532000.2909	524000	5821191.63	3727232.63
69	WHITEFIELD	E12	BAGMANEWTP_66	F14-CARINA-WEST	672300.2118	665000	4110754	2787948
70	WHITEFIELD	E12	BAGMANEWTP_66	F15-TAURUS-EAST	473200.0745	466200	3426555	2104150
71	WHITEFIELD	E12	BAGMANEWTP_66	F16-ROME NORTH	319550.1083	315550	4374074	4369700
72	WHITEFIELD	E12	BRIGADEMP_66	F01-BRGABC	370679.8669	369840	3059367	3059367
73	WHITEFIELD	E12	BRIGADEMP_66	F02-TR.-YARD--DEF-BLOCK	177349.252	172749	1696715.18	1878474.08
74	WHITEFIELD	E12	BRIGADEMP_66	F03-TR.-YARD-GHI-BLOCK.	84073.41787	77713	766091.35	809015.53
75	WHITEFIELD	E12	BRIGADEMP_66	F04-SIPANI-FIBER	1339499.512	1232500.01	12751817.8	12844848.79
76	WHITEFIELD	E12	BRIGADEMP_66	F05-TR.-YARD-SUMMIT.	403028.3542	401080	3771906	8942583
77	WHITEFIELD	E12	BRIGADEMP_66	F06-F--TR.YARD-SUMMIT.	218392.5234	218000	2774382	2774383
78	WHITEFIELD	E12	BRIGADEMP_66	F07-F--TR.-YARD-ABC-BLOCK.	128505.3135	124325	1228995.91	1303920.93
79	WHITEFIELD	E12	BRIGADEMP_66	F08-DODDANEKUNDI-INDUSTRIAL-AREA	1291010.188	1243010.25	12965724.86	13016511
80	WHITEFIELD	E12	BRIGADEMP_66	F09-TR.-YARD-GHI-BLOCK.	23866.74133	23853	288269	288850
81	HEBBAL	C4	HEBBAL_220	F11-SANJAY-NAGAR	750193.1048	680380.25	7104465.65	8421943.29
82	HEBBAL	C4	HEBBAL_220	F12-BHOOPASANDRA	549408.1381	503562.75	5381594.22	6181633.25
83	HEBBAL	C4	HEBBAL_220	F13-VSNL	385280.7788	382275	462007	461472
84	HEBBAL	C4	HEBBAL_220	F14-WHITE-HOUSE	445591.5329	406483.5	4538670.04	6815271.55
85	HEBBAL	C4	HEBBAL_220	F15-CHOLANAGAR	703616.4021	661676	6227616.99	6998418.2
86	HEBBAL	C5	HEBBAL_220	F16-BABU-REDDY-LAYOUT	1293555.448	1177058	10511859.96	11552540.15
87	HEBBAL	C5	HEBBAL_220	F17-P&T QUARTERS	998043.7563	901609	8605529.9	8931897.21
88	HEBBAL	C4	HEBBAL_220	F18-PRESTIGE SOUTH CITY	175178.9566	164677.2	1748871.86	1884633
89	MALLESHWARAM	C2	HEBBAL_220	F19-C V RAMAN ROAD	490102.5043	474608.35	5335762.16	5605816.1

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
90	HEBBAL	C5	HEBBAL_220	F20-PATEL MUNIYAPPA LAYOUT	1017243.094	923498	8328349.57	8799150.22
91	HEBBAL	C4	HEBBAL_220	F21-MUNESHWAR BLOCK	761203.5231	700423	6548239.2	7395490.32
92	HEBBAL	C4	HEBBAL_220	F22-EMMBASSY ONE DEVLOPERS	804098.6981	797200	3121554	3121554
93	HEBBAL	C4	HEBBAL_220	F23-EMBASSY LAKE TERRACES	213526.8782	199963	2189197	2517807
94	HEBBAL	C5	LRBANDE_66	F01-KB-SANDRA	488111.9353	446616.6	4334088.92	4881925.22
95	HEBBAL	C5	LRBANDE_66	F02-CAUVERY-NAGAR	364285.8725	332530.75	3237919.49	3616465.59
96	SHIVAJINAGAR	E9	LRBANDE_66	F04-BEL	1195142.119	1110048	10516089.93	11114957.45
97	HEBBAL	C5	LRBANDE_66	F05-AMBEDKAR-COLLEGE	1438577.93	1299187.5	11509763.66	13166459.77
98	HEBBAL	C5	LRBANDE_66	F06-FD-J-HALLI	1766466.85	1606627.6	14664521.92	16685705.64
99	SHIVAJINAGAR	E1	LRBANDE_66	F07 A-K-ASHRAM	1044501.53	940267.5	8788785.69	10854263.41
100	HEBBAL	C5	LRBANDE_66	F08-GANESHA-BLOCK	1005387.195	913949.2	8748764.51	9704934.57
101	JALAHALLI	C3	ABBIGERE_66	F02-RAGAVENDRA-LAYOUT	675649.432	617622	5979058.41	7262380.96
102	JALAHALLI	C3	ABBIGERE_66	F03-LAKSHMIPURA	523189.2327	497383	5055582.48	4961905.04
103	JALAHALLI	C3	ABBIGERE_66	F04-ABBIGERE-INDL-AREA	990131.9893	942362.25	8918050.7	9420490.71
104	JALAHALLI	C3	ABBIGERE_66	F05-SINGAPURA	1381662.405	1356931.65	13442305.47	16365694.97
105	JALAHALLI	N9	ABBIGERE_66	F06-ICTS KALENAHALLY	170844.7202	169577.5	1518471	1621243.47
106	JALAHALLI	C3	ABBIGERE_66	F08-KALANAGAR	807288.5929	746337	8109766.04	9363929.86
107	JALAHALLI	C3	ABBIGERE_66	F09-KUVEMPUNAGAR	521856.9509	488532.5	5149663.25	6822158.02
108	JALAHALLI	C3	ABBIGERE_66	F10-KANSHIRAMANAGAR	833173.3736	766847.8	7914892.27	8136330.5
109	JALAHALLI	C9	ABBIGERE_66	F11-VARADRAJNAGR	1119764.062	1018094.67	9969737.29	11736355.38
110	JALAHALLI	C3	GOKULA_66	F01-K-G-HALLI	603155.4218	544739.05	5269984.81	6522126.09
111	JALAHALLI	C3	GOKULA_66	F02-D-B-SANDRA	711867.6997	704095.4	7069989.31	8415304.38
112	JALAHALLI	C3	GOKULA_66	F03-BEL-COLONY	204019.6674	202565.2	2332082.26	2898713.52
113	JALAHALLI	C3	GOKULA_66	F04-RAMACHANDRAPURA	867938.2589	840926.1	8436347.35	9468175.14
114	JALAHALLI	C3	GOKULA_66	F05-MES-ROAD	969331.0655	933585.35	9559507.89	9700530.09

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115	JALAHALLI	C3	GOKULA_66	F06-HMT-INDL-AREA	480211.345	436091.3	5198060.33	5128461.93
116	JALAHALLI	C3	GOKULA_66	F07-MK-NAGAR	313518.1831	290734	2841769.14	3064223.65
117	PEENYA	N5	GOKULA_66	F08-ISRO-LAYOUT	85860	85860	1026263.13	1053798.29
118	JALAHALLI	C3	GOKULA_66	F10-CHAMUNDESHWARI-LAYOUT	683548.8363	643096	6476995.27	7102880.89
119	JALAHALLI	C3	GOKULA_66	F11-GOKULA	297558.6374	281606	957433.68	960244.46
120	JALAHALLI	C9	GOKULA_66	F12-PRESTIGE-APPARTMENTS	625344.9224	569607.85	6287274.41	9294069.82
121	MALLESHWARAM	C1	BRIGADEGTW_66	F01-CLUB-HOUSE	33429.85651	32294	406655	507435
122	MALLESHWARAM	C1	BRIGADEGTW_66	F03-PHOENIX & PEGUSUS	503753.358	479147.25	4778910.78	5225545.27
123	MALLESHWARAM	C2	BRIGADEGTW_66	F04-GEMINI-&-LEO	895426.062	890552.7	9039330.51	9930506.55
124	MALLESHWARAM	C1	BRIGADEGTW_66	F05-VEGA-ANDROMEDA-LYNX	68667.81824	61989	672857.35	653610.55
125	MALLESHWARAM	C1	BRIGADEGTW_66	F09-WTC CHANGR-OVER	630383.9696	629875	3565237	3565237
126	MALLESHWARAM	C1	BRIGADEGTW_66	F10-HERCULAS-DOLARIS CYGRUS	105921.5508	95684	964682.3	1010211.75
127	MALLESHWARAM	C1	BRIGADEGTW_66	F11-SIRIUS-CORONA	129952.9865	120485	1294832.08	1361518.14
128	MALLESHWARAM	C1	BRIGADEGTW_66	F12GEMINI & LEO CHANGE-OVER	28942.66614	26868	284337.08	297709.48
129	MALLESHWARAM	C1	BRIGADEGTW_66	F13-ORION-MALL CHANGE OVER	1310171.198	1302600	4736919	4736919
130	MALLESHWARAM	C1	BRIGADEGTW_66	F14-MULTI-LEVEL-CAR-PARKING	388593.4086	389625	1136349	1136349
131	MALLESHWARAM	C2	IISC_66	F01-SADASHIVANAGAR	611781.0617	601266.15	6910293.98	7476779.4
132	MALLESHWARAM	C2	IISC_66	F02-DHOBHIGHAT	594649.3696	580154.45	6147884.85	6484488.13
133	MALLESHWARAM	C2	IISC_66	F03-SSLC-BOARD	632517.2136	628473	7771870.1	8148164.1
134	MALLESHWARAM	C2	IISC_66	F04-MALLESHWARAM	594302.4138	577390.7	6897844.5	7013664.2

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135	MALLESHWARAM	C6	IISC_66	F06-MATHIKERE	759086.3815	747081.5	7366550.84	7493799.7
136	MALLESHWARAM	C2	IISC_66	F08-WATER-SUPPLY	1247573.508	1247172.2	12467798.24	12687277.3
137	MALLESHWARAM	C6	IISC_66	F09-YESHWANTHPUR	1115126.898	1057285.5	11117507.56	11042137.4
138	MALLESHWARAM	C2	IISC_66	F10-BHEL	241427.3575	240750	2598309	2595406
139	MALLESHWARAM	C2	IISC_66	F11-BRAIN CENTRE	158318.0145	156532.5	1638642	1638642
140	MALLESHWARAM	C6	MATHIKERE_66	F02-LG-HALLI	542141.4191	524827.6	5178769.87	4900100
141	PEENYA	N4	BRINDAVANA_66	F01-PEENYA I/A 3RD STAGE	1041434.827	1022157.5	10379005.8	10251393
142	PEENYA	N4	BRINDAVANA_66	F02-RD-STG.PIA	1480913.242	1421790.4	13342204.13	14061613
143	PEENYA	N4	BRINDAVANA_66	F04-PENNYA-GYMKHANNA	820975.9394	808057.5	7774457.72	8270370
144	PEENYA	N4	BRINDAVANA_66	F07-FGKW-LAYOUT	1376977.678	1364677	13469054.56	14182362.94
145	PEENYA	N4	BRINDAVANA_66	F08-REMIDEX	837139.1047	828214.15	8630343.54	8484536
146	PEENYA	N4	BRINDAVANA_66	F09-SLV-INDL.-EST.	1379566	1362588.65	13534508.49	14268330
147	PEENYA	N4	BRINDAVANA_66	F10-IBH-PRAKASHANA	740337.4304	711777.45	7422664.84	7816508
148	PEENYA	N4	BRINDAVANA_66	F11-BAJAJ-PACKAGE	1159923.66	1113515.9	11794102.39	12136024.9
149	PEENYA	N4	BRINDAVANA_66	F13-KHDC	1040668.538	1027807.5	10075537.43	12078687
150	PEENYA	N4	BRINDAVANA_66	F14-ND-STG.PEENYA	486406.0168	479777.55	5192787	5587537
151	PEENYA	N4	BRINDAVANA_66	F15-SHIVAPURA	761925.0829	745496.25	7711265.61	8140392
152	PEENYA	N5	BRINDAVANA_66	F16-NTTF,-RAJARAM	1171295.706	1161511	7294318.9	8025043.43
153	PEENYA	N4	BRINDAVANA_66	F17-R.G.NAGAR	1473132.826	1420384.05	13750798.67	14208822
154	PEENYA	N4	BRINDAVANA_66	F18-BATA	1386110.122	1324505.25	12663935.1	11819443
155	PEENYA	N4	BRINDAVANA_66	F19-KIADB-I	128974.9407	124372	1458809.16	1427987
156	PEENYA	N5	BRINDAVANA_66	F20-ICT-WISTRON	700827.255	695953.5	7927493.78	7990297.88
157	PEENYA	N4	BRINDAVANA_66	F21-SYNTHETIC-PACKERS	563501.4864	563175	3137664	3397077
158	PEENYA	N4	BRINDAVANA_66	F22-REXAM	971211.8583	974500	1114097	2112426
159	PEENYA	N4	NELAKEDIRENA HALLI_66	F02-SHOBHA-RUBY	1076476.223	1050023	11099023.06	12004196.15

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160	PEENYA	N5	NELAKEDIRENA HALLI_66	F03-N.G.HALLY	1424319.791	1407845	14634236.17	11469684.38
161	HSR	S8	BTMIVPHASE_66	F01-CAUVERY-NAGAR	840071.7532	767714	7883397.82	8223135.31
162	HSR	S19	BTMIVPHASE_66	F02-HULIMAVU	914833.2763	846225.5	8537926.25	9362637.33
163	HSR	S19	BTMIVPHASE_66	F03-AKSHAYA-NAGAR	713214.7388	670154.5	6475523.04	7657202.74
164	HSR	S8	BTMIVPHASE_66	F04-HONGASANDRA	1095084.019	1008239.4	9579789.42	10903597.57
165	HSR	S19	BTMIVPHASE_66	F05-B T S LAYOUT	565921.2877	534321.25	5423421.96	6300917.62
166	HSR	S8	BTMIVPHASE_66	F06-VIRATNAGARA	1306202.634	1211105	11304709.8	12395867.67
167	HSR	S8	BTMIVPHASE_66	F07-KALENA-AGRAHARA	1752413.505	1730982.05	19468840.08	17167613.55
168	HSR	S19	BTMIVPHASE_66	F08-ARAKERE	803619.4375	744326.5	7446387.48	8488568.38
169	HSR	S10	BTMIVPHASE_66	F09-NYANAPPANAHALLI	1408735.575	1314226.62	12771394.18	14431070.89
170	HSR	S19	BTMIVPHASE_66	F10-SATHYA-SAI-BDA	717669.0449	652610	6497037.97	7411788.04
171	HSR	S19	BTMIVPHASE_66	F11-KODI-CHIKKANAHALLI	575886.4164	535656	5229747.27	5859580.79
172	HSR	S19	BTMIVPHASE_66	F12-VIJAYA-BANK-LAYOUT	633698.882	589313.5	5934381.17	7072841.17
173	HSR	S19	BTMIVPHASE_66	F16-MUNESHWARA BADAVANE	697745.7425	640560	6105679.6	7064665.22
174	HSR	S19	BTMIVPHASE_66	F17-ROTARY NAGARA	576708.7666	567044	5460209.62	6079599.85
175	HSR	S19	BTMIVPHASE_66	F18-MUTURAYA SWAMY LAYOUT	44088.06506	40600	395352.17	408295.57
176	HSR	S10	DLF_66	F01-CLUB HOUSE	147354.2812	136181.7	1357986	1393435
177	HSR	S10	DLF_66	F02-D BLOCK TC SUB STN 01	34171.22578	32447	303730	318721
178	HSR	S10	DLF_66	F07-B BLOCK SUB STN 07	199462.9228	185480.2	1889183	2423332
179	HSR	S10	DLF_66	F10-NAGALINGESHWARA TEMPLE	237869.0772	219246.6	2150882.05	2387789.9
180	HSR	S10	SOUDELA_HIRANANDANI_66	F01-VISHWA PRIYA LAYOUT	1026326.384	939188	9057426.53	9706596.3
181	CHANDAPURA	VEERASANDRA	ELECTRONIC_CITYPH2SEC2_66	F09-VIA	1897200	1803270.95	17338827	17319334

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182	CHANDAPURA	VEERASANDRA	ELECTRONIC_CITYPH2SEC2_66	F10-VEERASANDRA	1062000	1015612.5	10420341.6	10284509.6
183	CHANDAPURA	VEERASANDRA	ELECTRONIC_CITYPH2SEC2_66	F11-ITTINA	1072600	988876.75	10282622.34	10995993.34
184	CHANDAPURA	VEERASANDRA	ELECTRONIC_CITYPH2SEC2_66	F12-ANATH-NAGAR-PHASE	224200	202456.1	2103305	2025375
185	HSR	S13	ELECTRONIC_CITYPH2SEC2_66	F13-GOLBAL-TECH-PARK	349729.2611	353100	858161	858161
186	HSR	S13	ELECTRONIC_CITYPH2SEC2_66	F14-GOLD-HILL-SQUARE	944445.1135	932000	2272059	2272059
187	HSR	S13	ELECTRONIC_CITYPH2SEC2_66	F15-EQUINOX INFOSYS	565690.2081	516900	2100074	2100074
188	CHANDAPURA	VEERASANDRA	ELECTRONIC_CITYPH2SEC2_66	F16-BBMP	26300	26478	447714	447349
189	HSR	S13	ELECTRONIC_CITYPH2SEC2_66	F17-SNN APARTMENT	1477412.41	1348866	10306587.34	10696118.63
190	CHANDAPURA	VEERASANDRA	ELECTRONIC_CITYPH2SEC2_66	F18-MICROLABS	997200	999937	6089270	6088885
191	CHANDAPURA	VEERASANDRA	ELECTRONIC_CITYPH2SEC2_66	F19-ANANTHANAGARA	712400	657745.45	6332774.84	6368111.84
192	CHANDAPURA	VEERASANDRA	ELECTRONIC_CITYPH2SEC2_66	F21-GLASS FACTORY LAYOUT	852800	791575.94	8046818	8246274
193	CHANDAPURA	VEERASANDRA	ELECTRONIC_CITYPH2SEC2_66	F22-DADDY'S GARDEN	621600	566396.75	5594377.24	5428222.24
194	CHANDAPURA	VEERASANDRA	ELECTRONIC_CITYPH2SEC2_66	F23-SHANTHIPURA	674900	628839.2	5988547.56	6279880.56
195	CHANDAPURA	VEERASANDRA	ELECTRONIC_CITYPH2SEC2_66	F26-MINDCOMP	593400	593000	5928340	5928340
196	HSR	S13	ELECTRONIC_CITYPH2SEC2_66	F27-VENKATESHWARA-INDUSTRIES	673440.3533	676500	2067334	2067334
197	JAYANAGAR	S14	JAYADEVA_66	F01-BTM-ND-STAGE	1412767.737	1340673.85	13835893.06	16185959.79
198	JAYANAGAR	S1	JAYADEVA_66	F02-BTS-RMU	657217.0285	649350.2	6432436.79	7180560.639
199	JAYANAGAR	S14	JAYADEVA_66	F03-RMU-J.P.N	1440413.562	1310712.75	14209836.68	15817879.38
200	JAYANAGAR	S1	JAYADEVA_66	F04-TAVAREKERE	627203.4607	621748.95	6794569.21	7610139.33
201	JAYANAGAR	S1	NIMHANS_66	F12-IBC-PARK-KNOWLEDGE	213395.8429	211369.5	1907542.51	2379386.98

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202	JAYANAGAR	S2	NIMHANS_66	F13-GARUDA-SWAGATH	698257.4866	664531.65	7194948.43	7890818.3
203	JAYANAGAR	S1	NIMHANS_66	F15-KIDWAI-HOSPITAL	378792.8746	379800	3471637	3471639
204	JAYANAGAR	S1	NIMHANS_66	F16- BMRCL	681772.0293	672680	10811326	10959191
205	JAYANAGAR	S15	AREHALLI_66	F03-ITTUMADU	643436.3393	595864	5419007.168	6186379.1
206	JAYANAGAR	S18	AREHALLI_66	F04-CHIKKALASANDRA	1169569.931	1116422	11098845.12	12380826.38
207	JAYANAGAR	S18	AREHALLI_66	F05-KADIRENAHALLY	804484.8915	726128.75	6838554.64	7551636.97
208	JAYANAGAR	S18	AREHALLI_66	F06-F-KOMARLA-BRIGADE	778152.4463	741976	7432504.52	8612243.99
209	JAYANAGAR	S15	AREHALLI_66	F07-BHUVANESHWARI-NAGAR	333175.944	309226.5	3382497.953	3636928.92
210	JAYANAGAR	S18	AREHALLI_66	F08-KOMRLA	510362.3738	487880	4647594.84	5269245.58
211	JAYANAGAR	S15	AREHALLI_66	F09-HOSAKEREHALLI	569056.5495	528007	5025775.916	5576877.21
212	JAYANAGAR	S18	AREHALLI_66	F10-AGS-LAY-OUT	1329431.129	1265049.3	12365145.06	14484925.43
213	JAYANAGAR	S15	AREHALLI_66	F11-TATA PERMOUNT	146826.6832	136919	1406610.93	1435823
214	JAYANAGAR	S15	AREHALLI_66	F12-T.G LAYOUT	907251.5603	836753	7986851.302	8859618.58
215	KORAMANGALA	S16	ADUGODI_66	F01-BOMMANAHALLI	1074217.159	968208	9296683.16	9703269.3
216	JAYANAGAR	S2	ADUGODI_66	F02-NEW-MICO-ROAD	705611.7549	675905.5	6531682.61	7235746.83
217	KORAMANGALA	S16	ADUGODI_66	F03-GURAPPAN-PALYA	159663.4111	149357	1671367.91	1774154.6
218	JAYANAGAR	S2	ADUGODI_66	F05-WILSON-GARDEN	592705.0776	564966.48	5841475.83	6742813.11
219	KORAMANGALA	S4	ADUGODI_66	F06-FNDRI	1022482.976	928322	8688046.96	9106112.5
220	JAYANAGAR	S2	ADUGODI_66	F07-SALARPURIA-TOWERS	550388.7315	524575.5	3453041	4075482
221	KORAMANGALA	S17	BAGHMANE_TECHPARK_66	F08-G-M-PALAYA	1044254.008	974254.9	9389918.82	11593189.58
222	KORAMANGALA	S17	BAGHMANE_TECHPARK_66	F09-BAGHMANE-LAUREL-BLOCK	1252524.938	1251500	11397704	11434517
223	KORAMANGALA	S17	BAGHMANE_TECHPARK_66	F10-MPHASIS-(TRIDIP)	1661943.199	1664400	12250550	12275424
224	KORAMANGALA	S17	BAGHMANE_TECHPARK_66	F11-VIGNAN_NAGAR	1746247.5	1636247.5	16016381.4	17402223.14

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
225	INDIRANAGAR	E10	BAGHMANE_TECHPARK_66	F12-BHUVANESHWARINAGAR	138537.6402	131381	1278602.19	1338392.67
226	KORAMANGALA	S17	BAGHMANE_TECHPARK_66	F13-AYYAPPA_TEMPLE	1466525.86	1361954.6	9216353.86	10171501.78
227	INDIRANAGAR	E10	BAGHMANE_TECHPARK_66	F14-KAGGADASAPURA	556226.5719	512598	4977934.1	5270577.8
228	INDIRANAGAR	E10	BAGHMANE_TECHPARK_66	F16-TTK PRESTIGE	307254.2678	296846	3771500.08	3798056
229	INDIRANAGAR	E10	BAGHMANE_TECHPARK_66	F17-KG PURA 2	1302484.825	1208984.7	11921517.93	13165581.05
230	INDIRANAGAR	E10	BAGHMANE_TECHPARK_66	F18-PURVA SEASONS	179640.3438	176800	1720201.28	1760889.7
231	INDIRANAGAR	E10	BAGHMANE_TECHPARK_66	F19-FQUAY	538840.7273	540375	5881280	5881280
232	KORAMANGALA	S7	CESSNA_66	F01-EMBASSY	1307802.73	1224314	7114869.06	11427929
233	KORAMANGALA	S7	CESSNA_66	F02-CESSNA ROAD	361446.1994	340648.1	3685378.37	3349757
234	KORAMANGALA	S7	CESSNA_66	F03-KAVERAPPA LAYOUT	1774171.03	1658231.5	15378275.18	17780469.55
235	KORAMANGALA	S7	CESSNA_66	F04-CISCO B8B	1387537.884	1394880	4142677	4142677
236	KORAMANGALA	S7	CESSNA_66	F05-CISCO-B	2996159.459	2986800	8139532	8139532
237	KORAMANGALA	S7	CESSNA_66	F07-F--CISCO-BB	2275266.601	2270800	6680820	6680820
238	KORAMANGALA	S7	CESSNA_66	F09-CISCO B8A	849901.355	840500	2798659	2798659
239	KORAMANGALA	S7	CESSNA_66	F11-PARDHANI	774425.4698	728867	7079557.59	7772824.44
240	KORAMANGALA	S7	CESSNA_66	F12-BOGANAHALLI	651058.273	612692.5	5412975.95	5647898.36
241	KENGERI	K1	KENGERI_SATELLITE_TOWN_66	F03-NEW-KHB	1516556.926	1418358.4	14133126.73	14277788.06
242	KENGERI	K4	KENGERI_SATELLITE_TOWN_66	F04-SUN-CITY	428243.1743	414170	3994705.99	5907202.66

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
243	KENGERI	K1	KENGERI_SATELLITE_TOWN_66	F05-HUNSEMARADAPALYA	765821.6221	715447.9	6723682.98	7933488.87
244	KENGERI	K4	KENGERI_SATELLITE_TOWN_66	F06-FSHIRKE	269464.5285	260879.75	2450847.13	2440419.38
245	KENGERI	K4	KENGERI_SATELLITE_TOWN_66	F07-ROBIN-THEATRE	996416.4627	964002	9823033.25	12057503.26
246	KENGERI	K4	KENGERI_SATELLITE_TOWN_66	F08-HOYSALA-CIRCLE	1263784.361	1225298	11377333.35	9344827.31
247	KENGERI	K4	KENGERI_SATELLITE_TOWN_66	F09-SATELLITE-CLUB	300043.3487	289240.5	3555294.27	3247592.83
248	KENGERI	K1	KENGERI_SATELLITE_TOWN_66	F10-KOMMAGATTA	392932.4318	366231.3	3179838.52	3683612.85
249	KENGERI	K4	KENGERI_SATELLITE_TOWN_66	F11-APOORVA-LAYOUT	433403.5982	419974.5	3945820.82	4486473.32
250	KENGERI	K1	KUMBALOGODU_66	F02-KENGERI-TOWN	940316.1671	875558.25	12899430.04	13384836.77
251	KENGERI	K1	KUMBALOGODU_66	F03-WONDER	1062760.673	1049967.75	8728395.59	8928932.97
252	KENGERI	K1	KUMBALOGODU_66	F04-RAMOHALLI	926090.3898	870569	8206001.89	9514491.06
253	KENGERI	K1	KUMBALOGODU_66	F05-GONIPURA	437474.9345	407032	2742179.39	3702739.03
254	KENGERI	K1	KUMBALOGODU_66	F06-BYROHALLI	1447834.934	1361491.25	14242794.39	16334116.78
255	KENGERI	K1	KUMBALOGODU_66	F07-FDEVIKIRAN	829194.1915	789588.5	7665216.65	9541916.4
256	KENGERI	K1	KUMBALOGODU_66	F08-DECCAN-HERALD	128157.3197	120660	1210209	1210209
257	KENGERI	K1	KUMBALOGODU_66	F09-BGS-INTERNATIONAL	770737.5348	744399.08	5957158.83	6754589.75
258	KENGERI	K1	KUMBALOGODU_66	F10-KAMBIPURA-/-KENGERI	1520283.175	1450643.05	14631820.51	14570766.86
259	KENGERI	K1	KUMBALOGODU_66	F11-KIADB-ST-PHASE	1053542.232	996993.06	8741857.42	9775877.46
260	KENGERI	K1	KUMBALOGODU_66	F12-KIADB-ND-PHASE	1637157.735	1549679.8	14714909.62	15909662.6
261	RAJAJINAGAR	N2	CHANDRA LAYOUT_66	F15-VIDHYAGERI LAY OUT	456472.6207	430038	4245655.75	5092896.27

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
262	RAJAJINAGAR	N2	VIJAYNAGAR_66	F01-VIJAYANAGAR,-HOSAHALLI	729893.9096	686803.25	7299776.67	8274446.84
263	RAJAJINAGAR	N2	VIJAYNAGAR_66	F02-GOVINDARAJANAGAR	614517.0069	580043.5	6151095.65	6242359.53
264	RAJAJINAGAR	N8	VIJAYNAGAR_66	F03-FNAGARBHAVI	1007529.004	947883.5	9575768.78	12352436.38
265	RAJAJINAGAR	N6	VIJAYNAGAR_66	F04-SHIVA-FARM-INDUSTRIAL-AREA	1518543.018	1436317.5	13851025.61	16118877.58
266	RAJAJINAGAR	N3	VIJAYNAGAR_66	F05-BASAVESHWARA-NAGAR	1028607.451	990217	10100213.11	12244633.22
267	RAJAJINAGAR	N3	VIJAYNAGAR_66	F06-F--BEML-LAYOUT-KAMALANAGAR	814330.5714	782768.3	7902061.08	9703274.92
268	RAJAJINAGAR	N6	VIJAYNAGAR_66	F07-FKAMAKSHIPALYA-FEEDER	803514.158	755431.5	7287998.65	8986987.97
269	RAJAJINAGAR	N3	VIJAYNAGAR_66	F09-A-D-HALLI	1084824.005	1049063.25	10248446.41	11185595.47
270	RAJAJINAGAR	N10	VIJAYNAGAR_66	F10-KAMAKSHIPALYA-INDUSTRIAL-ESTATE	1124343.144	1075893.5	10538559.83	11846123.64
271	RAJAJINAGAR	N10	VIJAYNAGAR_66	F11-SELVEM-INDUSTRIAL-ESTATE	1023639.478	1009705.25	9740164.75	11380634.81
272	RAJAJINAGAR	N2	VIJAYNAGAR_66	F12-VIJAYANAGAR-ND-STAGE	649309.0475	607449	6004986.72	6702624.39
273	RAJAJINAGAR	N3	VIJAYNAGAR_66	F13-NGOS-COLONY-KAMALANAGAR	1077823.421	1037723	9374585.18	10451726.69
274	RAJAJINAGAR	N8	VIJAYNAGAR_66	F14-BINNY-LAYOUT	1025984.923	964733.5	10238585.39	14340741.95
275	RAJAJINAGAR	N10	VIJAYNAGAR_66	F15-PETECHANNAPPA-IND.ESTATE	1250921.802	1195195.81	11662883.58	12584969.27
276	RAJAJINAGAR	N10	VIJAYNAGAR_66	F16-KAVERIPURA	1144671.668	1122690.7	10321384.96	11487860.6
277	RAJAJINAGAR	N6	VIJAYNAGAR_66	F17-PREMNAGAR	1082105.59	1017562.35	10283124.62	12758115.86
278	RAJAJINAGAR	N8	SHRIGANDHADKAVAL_66	F02-SUNKADAKATTE_INDL_AREA	855074.4965	804881.5	8380772.6	9205444.92
279	RAJAJINAGAR	N6	SHRIGANDHADKAVAL_66	F03-SHIVA FARM	440873.856	418960	4010578.61	4291993.16
280	RAJAJINAGAR	N8	SHRIGANDHADKAVAL_66	F04-MALLATHALLI_NGEF_LAYOUT	699911.886	659037.25	6939343.52	8915628.05

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
281	NELAMANGALA	DABASPETE	AVVERAHALLI_66	F01-RATHNAM	32900	31925	394522	442382
282	NELAMANGALA	DABASPETE	AVVERAHALLI_66	F02-KIADB-1SVS CONTROL	27600	26578.7	349339	291567
283	NELAMANGALA	DABASPETE	AVVERAHALLI_66	F03-SANGAVI	720800	695964.1	6024089	6036819
284	NELAMANGALA	DABASPETE	AVVERAHALLI_66	F04-TRIVENI	2436400	2235013.5	21560733.14	21777418.14
285	NELAMANGALA	DABASPETE	AVVERAHALLI_66	F08-ASHA	615600	608092	6001195	6061608
286	NELAMANGALA	DABASPETE	AVVERAHALLI_66	F09-AVERAHALLI WATER TANK	66500	64610.5	782014	709508
287	NELAMANGALA	DABASPETE	AVVERAHALLI_66	F10-KASSIA	32400	30938.2	345919	351389
288	NELAMANGALA	DABASPETE	AVVERAHALLI_66	F11-SPOORTHI	1741000	1597306	14905685.68	17390761.68
289	NELAMANGALA	DABASPETE	DABUSPET_220	F04-KAIDB	910079	910078.6	9047706.93	8755394.94
290	NELAMANGALA	DABASPETE	DABUSPET_220	F05-LM-WIND-POWER	1510040	1478508	2891453	2895596
291	NELAMANGALA	DABASPETE	DABUSPET_220	F11-EMMVE-SOLOAR	1025768	982854.25	9893856.65	10133540.66
292	NELAMANGALA	DABASPETE	DABUSPET_220	F12-TDPS	364880	354128.5	3348489.06	3336186.06
293	NELAMANGALA	DABASPETE	DABUSPET_220	F13-S.K-STEELS	714320	652115.22	6531498.86	6580317.86
294	NELAMANGALA	DABASPETE	DABUSPET_220	F14-BIOGEN	1181960	1070773	10067520.25	9497462.25
295	NELAMANGALA	DABASPETE	DABUSPET_220	F15-KAMATH	1101930	1001980.95	9279999	9373350
296	NELAMANGALA	DABASPETE	DABUSPET_220	F16-OLD-NIJAGAL-NJY	97580	89291.7	914290.25	699096.26
297	NELAMANGALA	DABASPETE	DABUSPET_220	F17-HEGGUNDA--NJY	1368300	1235405.91	11753184.36	10593880.42
298	NELAMANGALA	DABASPETE	DABUSPET_220	F18-TDPS-UNIT	528160	510650	4820512	4820512
299	NELAMANGALA	DABASPETE	DABUSPET_220	F19-DODDERI-NJY	398220	367635.75	3759721.95	3320485.94

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
300	NELAMANGALA	DABASPETE	TYAMAGONDLU_66	F01-BIGBAG	2322200	2094076.5	13340343	22279785
301	HOSAKOTE	AVALAHALLI	AWHO	F01-ARMY	53309	52718	520083	527930
302	HOSAKOTE	AVALAHALLI	AWHO	F03-ARMY F&G BLOCK	139035	134456	1413350	1406119
303	HOSAKOTE	AVALAHALLI	AWHO	F04-ARMY	125346	123254	1280099	1253275
304	HOSAKOTE	AVALAHALLI	AWHO	F05-ARMY	94414	93725	954118	954902
305	HOSAKOTE	AVALAHALLI	AWHO	F08-BDA VINDYAGIRI	167792	164765	1576590	1555009
306	HOSAKOTE	AVALAHALLI	AWHO	F09-BDA CHANDRAGIRI	294553	275565.1	2910419.85	2795053.85
307	HOSAKOTE	AVALAHALLI	AWHO	F10-ASSETZ MARQ	64528	63820	632686	642932
308	WHITEFIELD	E4	AWHO	F11-GANESHA TEMPLE	403089.1328	378346.4	3864712.27	4194312.31
309	WHITEFIELD	E7	AWHO	F12-SADARAMANGALA	662975.9006	638753	6334834.62	7686254.87
310	HOSAKOTE	AVALAHALLI	AWHO	F13-SEEGEHALLI	1549807	1435696.6	14387650.82	13946113.82
311	HOSAKOTE	AVALAHALLI	AWHO	F14-SAI GARDEN	1054930	979098.9	8809296.8	7770276.8
312	HOSAKOTE	AVALAHALLI	AWHO	F15-SUMADHURA INFRACON	231640	222869.1	2289545	2229780
313	HOSAKOTE	AVALAHALLI	KONADASPURA_66	F03-BRIGADE GOLDEN TRAINGALE	680760	673866	7382576	9077031
314	HOSAKOTE	AVALAHALLI	KONADASPURA_66	F04-BRIGADE EXOTIKA	181620	174098	1790662	1825067
315	HOSAKOTE	AVALAHALLI	KONADASPURA_66	F05-NET MAGIC	4011950	4011200	3817234	3817234
316	HOSAKOTE	AVALAHALLI	KONADASPURA_66	F06-KANNAMANGALA	437520	407118.62	3762610.26	3888976.26
317	HOSAKOTE	AVALAHALLI	KONADASPURA_66	F07-CHEEMASANDRA	2061973	1908392.25	17547891.97	17395238.97
318	HOSAKOTE	AVALAHALLI	KONADASPURA_66	F08-ABC	853557	799068.7	7932776.4	8354175.4
319	HOSAKOTE	AVALAHALLI	KONADASPURA_66	F09-SAFAL-MARKET	241506	241297	2284067	2288351
320	HOSAKOTE	AVALAHALLI	KONADASPURA_66	F10-BGRT	537200	536200	1142833	1142833
321	CHIKKABALLAPURA	BAGEPALLI	BAGEPALLI_66	F15-NALLAPAREDDYPALLI NJY	700	614	19678	17942
322	CHIKKABALLAPURA	BAGEPALLI	BAGEPALLI_66	F16-PARAGODU NJY	235000	209070.7	2258523.1	1940628.14

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
323	CHIKKABALLAPURA	BAGEPALLI	BAGEPALLI_66	F19-GADIDHAM	49	49	619	360
324	CHIKKABALLAPURA	BAGEPALLI	CHAKAVELU_66	F03-UGRANAMPALLI	261440	236040	2133317.32	668046.32
325	CHIKKABALLAPURA	BAGEPALLI	CHAKAVELU_66	F05-MANJUNATHAPURA	132320	118459.5	1289806.92	677596.92
326	CHIKKABALLAPURA	BAGEPALLI	CHAKAVELU_66	F07-SHIVAPURA	188700	169448.5	1601512.4	776219.4
327	CHIKKABALLAPURA	BAGEPALLI	CHAKAVELU_66	F09-VENKATESHAPALLI	203410	184390	1825395.4	496879.4
328	CHIKKABALLAPURA	BAGEPALLI	CHELUR_66	F01-CHELUR	413020	370269.17	3298795.43	1735030.43
329	CHIKKABALLAPURA	BAGEPALLI	GULUR_66	F01-CHINNAKAYALAPALLI	193420	173173.2	2027530.01	1183716
330	CHIKKABALLAPURA	BAGEPALLI	JULUPALYA_66	F01-SHETTYKERE	78840	69407	737329.94	421201.95
331	CHIKKABALLAPURA	BAGEPALLI	JULUPALYA_66	F07-VADIGERE	110000	101175	1056217.08	245534.08
332	CHIKKABALLAPURA	BAGEPALLI	JULUPALYA_66	F08-POLANAYAKANAPALLI	182060	162496	1570072.78	337737.78
333	CHIKKABALLAPURA	BAGEPALLI	JULUPALYA_66	F09-SURAPAPALLI	90460	82445	926760.3	770723.3
334	CHIKKABALLAPURA	BAGEPALLI	MITTEMARI_220	F04-GARUDADHRI	258200	230744.35	2617025.63	1261974.63
335	CHIKKABALLAPURA	BAGEPALLI	PATHAPALYA_66	F04-DEVARAJAPALLI	210500	189318.5	1949846.55	671151.56
336	CHIKKABALLAPURA	BAGEPALLI	SOMNATHPURA_66	F10-PEDDUR	272170	240252.5	2366005.64	1087596.64
337	CHIKKABALLAPURA	BAGEPALLI	SOMNATHPURA_66	F11-NAGARLU	223210	200796	2056615.94	594350.94
338	CHIKKABALLAPURA	BAGEPALLI	SOMNATHPURA_66	F12-PALYAKERE	329370	289619	2712225.11	1057843.11
339	CHIKKABALLAPURA	BAGEPALLI	THIMMAMPALLI_66	F05-NAGARLU	143460	129714	1376712.47	839175.4
340	CHIKKABALLAPURA	BAGEPALLI	THIMMAMPALLI_66	F10-PESALAPARTHI	320000	287391.7	2923561.54	1954770.54
341	CHINTHAMANI	CHINTHAMANI URBAN	CHINTAMANI_66	F01-BURAMAKALAHALLI	422370	395775.37	3003159.7	1468968.69

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
342	CHINTHAMANI	CHINTHAMANI URBAN	CHINTAMANI_66	F08-LOCAL 1	1050455	950258.73	7927524.46	10163723.35
343	CHINTHAMANI	CHINTHAMANI URBAN	CHINTAMANI_66	F10-PRABHAKAR LAYOUT	854400	784785.85	6701100.07	8041121.27
344	CHINTHAMANI	CHINTHAMANI URBAN	CHINTAMANI_66	F11-LOCAL 3	525440	451901	2481501.09	6386272.09
345	CHINTHAMANI	CHINTHAMANI URBAN	CHINTAMANI_66	F13-SAPTHAGIRI	541480	502598.99	4050899.21	4830927.7
346	CHINTHAMANI	CHINTHAMANI URBAN	CHINTAMANI_66	F17-RAMAMANDIRA	242980	222695	2031172.02	2738732.16
347	CHINTHAMANI	CHINTHAMANI URBAN	CHINTAMANI_66	F18-KURUTAHALLI-NJY	304400	278790.8	2350348.31	973659.3
348	CHINTHAMANI	CHINTHAMANI URBAN	CHINTAMANI_66	F19-RAMPURA	52128	45702	484382	585585
349	CHINTHAMANI	CHINTHAMANI URBAN	KODIHALLI_BGR_66	F02-DODDAPURA-NJY	218620	188352.5	1708793.09	553999.1
350	CHINTHAMANI	CHINTHAMANI URBAN	KODIHALLI_BGR_66	F04-PANASACHOWDANAHALLI	369660	330955.19	2871162.08	960521.05
351	CHINTHAMANI	CHINTHAMANI URBAN	KODIHALLI_BGR_66	F09-KODADAVADI	133680	118116.93	1239974.67	558117.68
352	CHINTHAMANI	CHINTHAMANI URBAN	NANDIGANAHALLI_66	F01-THUMMALAHALLI NJY	239020	212284.13	1983852.8	528483.76
353	CHINTHAMANI	CHINTHAMANI URBAN	NANDIGANAHALLI_66	F05-MUKTHISHWARA-NJY	208840	185178.34	1987010.57	878227.6
354	CHINTHAMANI	CHINTHAMANI URBAN	NANDIGANAHALLI_66	F08-ADEPALLI-NJY	248400	220619.97	2374108.86	1722513.86
355	CHINTHAMANI	CHINTHAMANI URBAN	NANDIGANAHALLI_66	F09-KAGATHI NJY	306194	277576.14	2639273.2	1057063.22
356	CHINTHAMANI	SHIDLAGATTA RURAL	CHEEMANGALA_66	F01-H-CROSS	794780	695207.91	6900428.04	3614758.1
357	CHINTHAMANI	SHIDLAGATTA RURAL	CHEEMANGALA_66	F04-NJY-CHIKKADASARAHALLI	398760	343793.54	3069839.36	1542736.36
358	CHINTHAMANI	SHIDLAGATTA RURAL	CHEEMANGALA_66	F10-NJY CHINTHADAPI	125160	109608	1057595.43	548305.44
359	CHINTHAMANI	SHIDLAGATTA RURAL	DIBBURAHALLI_66	F09-DYAVARAHALLI	321660	281328	3065318.06	920406.52

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
360	CHINTHAMANI	SHIDLAGATTA RURAL	DIBBURAHALLI_66	F11-RAYAPPANAHALLI	190613	166532	1914236.96	517224.96
361	KGF	BANGARAPETE	BANGARPET_66	F19-SIDDANAHALLI NJY	422820	380000	3418313.31	1943231.32
362	KGF	BANGARAPETE	BANGARPET_66	F20-CHIKKAANKANDAHALLI	215116	196583	1619488.96	896465.94
363	KGF	BANGARAPETE	BANGARPET_66	F21-HUNASANAHALLI NJY	418300	381013.5	3304431.23	1861782.24
364	KGF	BANGARAPETE	BANGARPET_66	F22-GOLF NJY	345500	313901.17	4480470.37	4103788.38
365	KGF	BANGARAPETE	BUDIKOTE_66	F04-BUDIKOTE NJY	341400	311610.5	2557281.34	628863.36
366	KGF	BANGARAPETE	BUDIKOTE_66	F09-UKKUNDA GADI NJY	337000	313020.4	3282382.46	1242014.46
367	KGF	BANGARAPETE	KAMASAMUDRA_66	F11-NJY TALLUR	378360	358795.35	3451095.56	1095220.57
368	KGF	BANGARAPETE	KAMASAMUDRA_66	F13-JANAGUTTA NJY	339440	309817	3128090.18	1887452.2
369	KGF	BANGARAPETE	KAMASAMUDRA_66	F15-DINNUR NJY	183490	169722.1	1697988.21	584173.18
370	KGF	BANGARAPETE	T_GOLLAHALLI_220	F04-BOUNDARY NJY	159500	151109	1306019.11	620316.1
371	KGF	BETHAMANGALA	DODDAKARI_66	F02-BETHAMANGALA TOWN	280640	243942.1	2210803.92	1790493.92
372	KGF	BETHAMANGALA	DODDAKARI_66	F04-BETKURU	206580	179724.8	1380525.93	855956.94
373	KGF	BETHAMANGALA	DODDAKARI_66	F10-HULKUR NJY	495390	427929.2	3817831.22	2220835.82
374	KGF	BETHAMANGALA	KYASAMBALLI_66	F04-J.K.PURA-NJ	644460	560650.17	4757165.53	4958645.53
375	KGF	BETHAMANGALA	KYASAMBALLI_66	F10-KYASAMBALLY NJY	166800	145116.4	1232098.95	505101.94
376	KGF	BETHAMANGALA	KYASAMBALLI_66	F13-NJY KALLIKUPPA	378760	329546.5	3013734.18	2625347.18
377	KGF	BETHAMANGALA	N G HULKUR _66	F02-SUNDRAPALYA NJY	695760	604931.1	5345248.72	2591889.71

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
378	KGF	KGF	ANDERSONPET_66	F03-ANDERSONPET	968800	891440	7440374.33	11057773
379	KGF	KGF	ANDERSONPET_66	F04-INDUSTRIAL-AREA	55780	52290	467076	502301
380	KGF	KGF	ANDERSONPET_66	F07-ROBERTSONPET	910260	856371	7459483.23	10721897
381	KOLAR	KOLAR RURAL	KEMBODI_66	F05-LOTUSFARM	86820	80426.85	997456.18	976305.18
382	KOLAR	KOLAR RURAL	KEMBODI_66	F07-NJY-SEESANDRA	347920	310732.2	2692349.4	953249
383	KOLAR	KOLAR RURAL	KYALANUR_66	F01-INDUSTRIAL-AREA	22840	21403.3	273621	355185
384	KOLAR	KOLAR RURAL	KYALANUR_66	F08-KYALANUR-EXPRESS	239580	215136.05	1678760.44	2039553.45
385	KOLAR	KOLAR RURAL	KYALANUR_66	F09-NJY-A.R.AGRAHARA	318820	282668.9	2964068.46	1557304.45
386	KOLAR	KOLAR RURAL	KYALANUR_66	F10-NJY-KADAHALLI	220620	197673.8	1874273.71	492615.7
387	KOLAR	KOLAR RURAL	KYALANUR_66	F11-CHOLAGATTA	162600	146069	1374919.6	1021204.6
388	KOLAR	KOLAR RURAL	MALLASANDRA_BNG_66	F02-NJY-BELLAMBURI	629760	560051.1	5027758.77	2088641.78
389	KOLAR	KOLAR RURAL	MALLASANDRA_BNG_66	F06-NJY-YADAHALLI	200130	179784	1555301.54	1197512.56
390	KOLAR	KOLAR RURAL	NARSAPUR_66	F01-INDUSTRIAL	722400	653756.3	5997887.79	5474478.8
391	KOLAR	KOLAR RURAL	NARSAPUR_66	F02-ALPIN	226600	206812.2	2199732.35	2209488.35
392	KOLAR	KOLAR RURAL	NARSAPUR_66	F04-LUMAX	429000	391817	1010143	1104499
393	KOLAR	KOLAR RURAL	NARSAPUR_66	F07-MAHENDRA	482400	434709.16	3427915.47	3948629.43
394	KOLAR	KOLAR RURAL	NARSAPUR_66	F09-EXCEDY	977680	982800	3896688	3896688
395	KOLAR	KOLAR RURAL	NARSAPUR_66	F11-NJY K B HOSAHALLI	223100	198060.27	2567239.03	1690757.02
396	KOLAR	KOLAR RURAL	NARSAPUR_66	F12-BADAVE-(IND)	350000	331100	1701871	1701871

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
397	KOLAR	KOLAR RURAL	NARSAPUR_66	F13-INDO	370280	370800	1954166	1954166
398	KOLAR	KOLAR RURAL	NARSAPUR_66	F14-ASIAN	105920	101175	963015	963015
399	KOLAR	KOLAR RURAL	NARSAPUR_66	F15-SIPANI-FIBRES	1812960	1810200	13509505	13509505
400	KOLAR	KOLAR RURAL	NARSAPUR_66	F16-SCANIA	40000	38260	390015	390146
401	CHANDAPURA	ANEKAL	SAMANDURU_66	F06-KODLIPURA	252400	231761.9	2440351.4	2304379.4
402	CHANDAPURA	ATTIBELE	ATTIBELE_66	F02-MEHER-CAPACITORS	2447880	2409922.1	19947524	20249660
403	CHANDAPURA	ATTIBELE	ATTIBELE_66	F03-ADEEP-LOCKS	1744520	1739154.75	13375787	13738209
404	CHANDAPURA	ATTIBELE	ATTIBELE_66	F06-MIKEE-STEEL	918300	896390.55	8528435.72	8876941.72
405	CHANDAPURA	ATTIBELE	ATTIBELE_66	F07-ALPHA-GRANITES	376480	371436	4954553.25	4980189.25
406	CHANDAPURA	ATTIBELE	ATTIBELE_66	F09-LAXMI-FORGE	1453200	1449720.4	7046434	7046039
407	CHANDAPURA	ATTIBELE	ATTIBELE_66	F10-JAIPURIA-SILK-MILLS	335160	326666.5	3236876.68	3285137.68
408	CHANDAPURA	ATTIBELE	ATTIBELE_66	F11-APPLICOM	14.5	14	149	149
409	CHANDAPURA	ATTIBELE	ATTIBELE_66	F12-AASIRWAD-PIPES	481840	471764	4338257	4329253
410	CHANDAPURA	ATTIBELE	ATTIBELE_66	F13-NIRANTHARA-JYOTHI	437100	406932.35	3726028.94	3523910.94
411	CHANDAPURA	ATTIBELE	ATTIBELE_66	F14-BALLURU	1023760	935726.35	8293748.72	8390408.72
412	CHANDAPURA	ATTIBELE	ATTIBELE_66	F15-ATTIBELE-URBAN	1593160	1468835.48	13697653.98	13363921.98
413	CHANDAPURA	ATTIBELE	ATTIBELE_66	F16-SRINIVASA FINANCE	710520	688544	2426651	2413396
414	CHANDAPURA	ATTIBELE	ATTIBELE_66	F17-BALAGARANAHALLI	906480	836889.1	7880914.06	7988827.06
415	CHANDAPURA	ATTIBELE	ATTIBELE_66	F18-COMATO/ALLOYTECH	769760	759913.8	7072083.06	6924485.06
416	CHANDAPURA	ATTIBELE	ATTIBELE_66	F19-JAYABHARATHI SCHOOL	829820	763106.13	6312680.59	9661094.59
417	CHANDAPURA	ATTIBELE	ATTIBELE_66	F20-NJY KAMBLIPURA	68600	62791.7	672192.43	798181.43
418	CHANDAPURA	ATTIBELE	ATTIBELE_66	F21-KHB	45000	42162.3	437581	623494
419	CHANDAPURA	ATTIBELE	ATTIBELE_66	F22-AGS	1126200	1017726.6	8516843.8	8516243.8
420	CHANDAPURA	ATTIBELE	ATTIBELE_66	F23-ASHIRVAD PIPES	1170000	1162975	1804105	1804105

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
421	KANAKAPUR	HAROHALLY	RANGANADODDI _66	F14-DEVARAGOLLAHALLI-NJY-F	279300	257477.3	2702258.22	2206471.04
422	KANAKAPUR	HAROHALLY	RANGANADODDI _66	F15-KIADB-03	1283600	1223669.74	12561602	13438694
423	KANAKAPUR	HAROHALLY	RANGANADODDI _66	F16-ANTHEM	1973480	1962800	2485427	5150400
424	KANAKAPUR	HAROHALLY	RANGANADODDI _66	F17-DAIRY CLASSIC	1450000	1412445	11231891	11231891
425	KANAKAPUR	HAROHALLY	RANGANADODDI _66	F18-KIADB-04	420000	400698.5	4219465	4161947
426	KANAKAPUR	HAROHALLY	RANGANADODDI _66	F19-STOVE KRAFT	1661000	1653212.5	8696007	8696007
427	KANAKAPUR	HAROHALLY	RANGANADODDI _66	F20-PAROSONS NUTRITION	1650060	1635940	9874698	9840589
428	KANAKAPUR	HAROHALLY	RANGANADODDI _66	F21-KIADB-07 PRINTERS PARK ROAD	3180	3128.5	37576	35945
429	KANAKAPUR	HAROHALLY	RANGANADODDI _66	F22-KIADB TOKAI RUBBER ROAD	1261880	1218799	5308692	5323623
430	KANAKAPUR	HAROHALLY	YEDUMADU_66	F02-YADAMADU-NJY-F	95240	87213	881081.28	774111.28
431	KANAKAPUR	HAROHALLY	YEDUMADU_66	F03-SONA-INDUTRIAL-F	478660	435111.2	4831922.67	4394619.66
432	KANAKAPUR	HAROHALLY	YEDUMADU_66	F08-BILIGANAKUPPE	130400	118512	1114380.23	1916091.18
433	KANAKAPUR	HAROHALLY	YEDUMADU_66	F09-GOLLAHALLI NJY	164600	150212.75	1450931.77	813679.79
434	KANAKAPUR	HAROHALLY	YEDUMADU_66	F10-MINDA KYORAKU LIMITED	439160	435750	3906923	3906924
435	KANAKAPUR	KANAKAPUR RURAL	BIJJAHALLY MUSS	F01-BIJJAHALLY NJY	82240	74474.7	736774.76	739877.46
436	KANAKAPUR	KANAKAPUR RURAL	HOOKUNDA_66	F01-AREKOPPA NJY	173240	156481.5	1699194.68	1180991.6
437	KANAKAPUR	KANAKAPUR RURAL	HOOKUNDA_66	F02-HOOKUNDA NJY	78740	71851	757296.9	459376.86
438	KANAKAPUR	KANAKAPUR RURAL	HOOKUNDA_66	F07-KALLIGOWDANADODDI NJY	53700	48432	507549.9	321026.76
439	KANAKAPUR	KANAKAPUR RURAL	HUNSANAHALLI _66	F03-GOLLARADODDI NJY	89460	81566	832788.82	574326.52

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
440	KANAKAPUR	KANAKAPUR RURAL	HUNSANAHALLI _66	F04-KABBALAIAHNADODDYDODDI NJY	65480	59203	614327.33	456169.26
441	MAGADI	MAGADI	VGDODDI_66	F06-ATTIMGERE NJY	21850	19958	191799.72	79207.74
442	MAGADI	TAVAREKERE	CHANDRAPPA_CIRCLE_66	F02-CHIKKANAHALLI	660680	608411.5	3762417	3216174
443	MAGADI	TAVAREKERE	CHANDRAPPA_CIRCLE_66	F03 - LAKKAIANAPALYA	732560	698940.7	4336821.99	3918211
444	MAGADI	TAVAREKERE	CHANDRAPPA_CIRCLE_66	F04-DODDERI	119360	113403.2	788938.76	560260.76
445	MAGADI	TAVAREKERE	CHANDRAPPA_CIRCLE_66	F05-HULUVENAHALLI STONE CRUSHER	1427000	1324689.99	13909620	15534443
446	MAGADI	TAVAREKERE	CHANDRAPPA_CIRCLE_66	F06- C K THANDYA	883800	806094.45	7948171	9002716
447	MAGADI	TAVAREKERE	CHANDRAPPA_CIRCLE_66	F07-LAKSHMIPURA STONE CRUSHER	288080	260877.7	3128526.09	3111126.09
448	MAGADI	TAVAREKERE	CHANDRAPPA_CIRCLE_66	F08-KURUBARAPALYA CRUSHER	1323760	1222523	12555836	13950492
449	MAGADI	TAVAREKERE	CHANDRAPPA_CIRCLE_66	F09-GOLLAHALLI STONE CRUSHER	539320	496889.5	4910251	5263178
450	MAGADI	TAVAREKERE	CHANDRAPPA_CIRCLE_66	F10-CHUNCHANAKUPPE	385520	350657.53	2659874.5	2538015.5
451	MAGADI	TAVAREKERE	CHANDRAPPA_CIRCLE_66	F11-UDDANDAHALLI	848560	785738.5	8496544	8766308
452	MAGADI	TAVAREKERE	CHANDRAPPA_CIRCLE_66	F12-SULIVARA	774520	711237	7671336	8343168
453	MAGADI	TAVAREKERE	TAVAREKERE_66	F01-TAVAREKERE-TOWN	857550	814790	7487591	6897528
454	MAGADI	TAVAREKERE	TAVAREKERE_66	F03-JATTIPALYA	1840710	1727683.96	14098234.5	14357631.5
455	MAGADI	TAVAREKERE	TAVAREKERE_66	F05-DODDALADAMARA	341940	307924	1876756	2213473
456	MAGADI	TAVAREKERE	TAVAREKERE_66	F06-STONE-CRUSHER	578960	554275.38	5631538.76	5629646.76
457	MAGADI	TAVAREKERE	TAVAREKERE_66	F07-CHANNENAHALLI IND	1414480	1281108.55	12382555.45	12794035.45
458	MAGADI	TAVAREKERE	TAVAREKERE_66	F08-KADABAGERE	390500	355818.4	3842378.82	3754383.82
459	MAGADI	TAVAREKERE	TAVAREKERE_66	F09-TAVAREKERE-ISRO	467760	462125	3670623	3670523
460	MAGADI	TAVAREKERE	TAVAREKERE_66	F10-KITTANAHALLI	836560	785685.5	5722336.28	5735347.28

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
461	RAMANAGAR	BEVOORU	BEVOOR_66	F14-BYRANAYKANAHALLY NJY	109480	100217.36	964775.46	863803.68
462	RAMANAGAR	BEVOORU	BEVOOR_66	F15-MUNKUNDA	36120	33170.77	360128.35	125755.4
463	RAMANAGAR	BEVOORU	DASHAVARA_66	F02-HOSAHALLI NJY	91800	83643.66	851062.19	1193565.19
464	RAMANAGAR	BEVOORU	DASHAVARA_66	F04-KMF	579600	576695	5518718	5518718
465	RAMANAGAR	BEVOORU	VANDARAGUPPE _66	F02-KENGAL NJY	69884	65357.28	704488.66	1651845.62
466	RAMANAGAR	CHANNAPAT NA URBAN	VANDARAGUPPE _66	F03-PTS	278600	252482.1	2946579.92	3736412.04
467	RAMANAGAR	BIDADI	BIDADI_220	F05-BANANDUR	571800	523881.7	3375602.83	3475405.83
468	RAMANAGAR	BIDADI	BIDADI_220	F06-BIDADI-URBAN	940600	860740.5	7679576.73	7972437.73
469	RAMANAGAR	BIDADI	BIDADI_220	F07-KIADB-1	2007000	2000477.5	14724532	14659183
470	RAMANAGAR	BIDADI	BIDADI_220	F08-COCA-COLA-GREEN	1212000	1215150	2036521	2036521
471	RAMANAGAR	BIDADI	BIDADI_220	F09-KIADB-3	314400	288667	2847853.11	3065832.11
472	RAMANAGAR	BIDADI	BIDADI_220	F11-TOYOTA-TECHNO-PARK	1874200	1868750	13986317	13986317
473	RAMANAGAR	BIDADI	BIDADI_220	F12-EAGLETON-GOLF-RESORT	1032320	940354.75	9273017.1	9476492.1
474	RAMANAGAR	BIDADI	BIDADI_220	F13-TKAP	835040	839250	3481508	4643924
475	RAMANAGAR	BIDADI	BIDADI_220	F17-MTPL	2165760	2125624.1	13668666	13557711
476	RAMANAGAR	BIDADI	BIDADI_220	F19-NXTEGEN	380280	382550	3582534	0
477	RAMANAGAR	BIDADI	BIDADI_220	F21-MEDANAHALLI	537760	496725.8	5000496	5245453
478	RAMANAGAR	BIDADI	BIDADI_220	F22-KIADB-4	3705800	3701810	3403839	0
479	RAMANAGAR	BIDADI	BIDADI_220	F23-NJY ITTAMADU	73520	67807.2	734298.58	712092.58
480	RAMANAGAR	BIDADI	BIDADI_220	F24-OXYGEN PLANT	716	716	5670	6037
481	CHITRADURGA	CHITRADURG A RURAL	HIREGUNTANUR _66	F13-MALALI	261948	229862.85	2240494.08	1956027.1
482	CHITRADURGA	CHITRADURG A RURAL	PANDARAHALLI_ 66	F02-(A)HULLUR NJY	212369	186796	1609179.99	1477091
483	CHITRADURGA	CHITRADURG A RURAL	PANDARAHALLI_ 66	F08-SOLLAPURA NJY	421426	369344.1	3545692.14	3157668.12
484	CHITRADURGA	CHITRADURG A RURAL	PANDARAHALLI_ 66	F13-KAKKERU NJY	368884	322804.6	2531804.17	1183507.16
485	CHITRADURGA	CHITRADURG A RURAL	SIRIGERE_66	F01-KONANUR	121108	105475	1196804.53	1348529.58

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
486	CHITRADURGA	CHITRADURGA RURAL	SIRIGERE_66	F05-PALAKIHALLY	118679	103718	1085136.19	798615.24
487	CHITRADURGA	CHITRADURGA RURAL	SIRIGERE_66	F08-SIRIGERE	86029	75431	813213.85	741379.84
488	CHITRADURGA	CHITRADURGA RURAL	SIRIGERE_66	F09-MEL(BBH)	132000	129553.5	1244047	1403418
489	CHITRADURGA	CHITRADURGA RURAL	TURUVANUR_66	F05-TURUVANUR	134077	116943	1157658.98	813695.98
490	CHITRADURGA	CHITRADURGA RURAL	TURUVANUR_66	F09-PELARHATTI-NJY	317735	278429.75	2791771.71	1981844.7
491	CHITRADURGA	CHITRADURGA RURAL	VIJAPURA_66	F04-VIJAPURA NJY	48389	42185	417634.38	335462.46
492	CHITRADURGA	CHITRADURGA URBAN	CHITRADURGA_220	F01-COPPERMINES	308709	303468.5	3051264.5	2835695.46
493	CHITRADURGA	CHITRADURGA URBAN	CHITRADURGA_220	F08-INDUSTRIAL AREA	277580	255097	3150488.51	2958188
494	CHITRADURGA	CHITRADURGA URBAN	CHITRADURGA_220	F09-KOTE	679000	614521	5395046.84	3846613
495	CHITRADURGA	CHITRADURGA URBAN	CHITRADURGA_220	F10-ZILLA PANCHAYAT	659500	621185.75	6213503.71	4569449
496	CHITRADURGA	CHITRADURGA URBAN	CHITRADURGA_66	F01-NAGARA	737760	673375	7323201.18	6363459
497	CHITRADURGA	CHITRADURGA URBAN	CHITRADURGA_66	F02-KELAGOTE	401940	363364.8	3699132.74	2924858
498	CHITRADURGA	CHITRADURGA URBAN	CHITRADURGA_66	F03-BANKCLNY	683700	637857.2	5870485.95	6368860.94
499	CHITRADURGA	CHITRADURGA URBAN	CHITRADURGA_66	F08-VIDYANAGAR	831568	732890.55	7470117.36	7693631.96
500	CHITRADURGA	CHITRADURGA URBAN	CHITRADURGA_66	F12- JCR	657300	595851.3	5564581.82	4686508
501	DAVANAGERE	CHANNAGIRI	NALLUR_66	F03-SIDDARAMESHWARA NJY	129000	119568	1152080.41	815110.4
502	DAVANAGERE	CHANNAGIRI	SHIVANI_66	F12-DANDURU NJY	2456	2245	22363.31	31271.32
503	DAVANAGERE	CHANNAGIRI	TAVAREKERE(C)_66	F01-TAVAREKERENJY	104160	95053	876611.08	682209.08
504	DAVANAGERE	CHANNAGIRI	TAVAREKERE(C)_66	F06-MASANIKERENJY	93760	85888	962697.02	1082686.02

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
505	DAVANAGERE	CHANNAGIRI	TAVAREKERE(C)_66	F09-KAGGI NJY	95840	88404.5	765880.99	714495
506	DAVANAGERE	DAVANAGERE RURAL	AVAREGERE_66	F04-INDUSTRIAL	151820	137349.5	1355779.15	1335282.15
507	DAVANAGERE	DAVANAGERE RURAL	AVAREGERE_66	F06-KADAJJI AVG	106200	96719	818855.14	675193.78
508	DAVANAGERE	DAVANAGERE RURAL	AVAREGERE_66	F07-AVAREGERE	439000	397461.9	3171574.82	3206900.83
509	DAVANAGERE	DAVANAGERE RURAL	AVAREGERE_66	F08-ANGODU	261800	237242.3	2533845.84	2120347.85
510	DAVANAGERE	DAVANAGERE URBAN SUBDIVISION -2	AVAREGERE_66	F13-ANEKONDA	381885.9	345535.5529	4073187.826	4251245.922
511	DAVANAGERE	DAVANAGERE URBAN SUBDIVISION -2	AVAREGERE_66	F14-MAHAVEERA	972479.4	855967.608	7769663.483	9013441.869
512	DAVANAGERE	DAVANAGERE URBAN SUBDIVISION -2	AVAREGERE_66	F15-RAVI	636005.9	577765.5129	6628422.024	7593710.715
513	DAVANAGERE	DAVANAGERE URBAN SUBDIVISION -2	AVAREGERE_66	F16-GOSHALE	57806.5	52211.15291	565657.9725	608518.6306
514	DAVANAGERE	DAVANAGERE RURAL	AVAREGERE_66	F17-NJLINGADAHALLI	994	994	16867	13893
515	DAVANAGERE	DAVANAGERE RURAL	AVAREGERE_66	F18-RAMPURA	113200	102304.2	974867.22	1152393.2
516	DAVANAGERE	DAVANAGERE RURAL	AVAREGERE_66	F19-STP AVARAGERE	963800	936455	1015588	1015588
517	DAVANAGERE	DAVANAGERE RURAL	KADAJJI_66	F04-NJ SRI RAM	353400	321117	2919788.67	3202202.59
518	DAVANAGERE	DAVANAGERE RURAL	KUKKAWADA_66	F05-NJKALBANDE	138800	125671.8	1162926.91	732659.88
519	DAVANAGERE	DAVANAGERE RURAL	KUKKAWADA_66	F12-HOOVINAMADU NJY	140300	127331.3	1225843.93	991570.9

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
520	DAVANAGERE	DAVANAGERE RURAL	KUKKAWADA_66	F14-BALLUR NJY	145500	132236.6	1164071.19	1161385.1
521	HARIHARA	HARAPANAHALLI	HARAPPANAHALLI_66	F15-KOTTUR ROAD	181200	165313.45	1669308.42	2043595.7
522	HARIHARA	HARAPANAHALLI	HARAPPANAHALLI_66	F17-KOOLAHALLI NJY	115900	105451	1062562.44	1068696.42
523	HARIHARA	HARAPANAHALLI	HARAPPANAHALLI_66	F18-HULIKATTE NJY	170000	155124	1523811.76	1091383.77
524	HARIHARA	HARIHARA	BANUVALLI_66	F05-NJY-ANJANEYA	651400	595921	5630112.96	5108477.98
525	HARIHARA	HARIHARA	BANUVALLI_66	F06-KASHIVISHAWANATHA	150500	137091	1449832.16	447451.17
526	HARIHARA	HARIHARA	BANUVALLI_66	F10-KAMALAPURA	292200	263977	2445100.84	1359444.83
527	HARIHARA	HARIHARA	DEVARBELAKERE_66	F01-MYLARALINGESHWARA	177000	161927	1496038.34	1558968.34
528	HARIHARA	HARIHARA	DEVARBELAKERE_66	F03-KARIYAMMA	31000	28603	303220.93	349978.92
529	HARIHARA	HARIHARA	DEVARBELAKERE_66	F05-MITLAKATTE INDUSTRIAL	194600	175584	1765948.39	1288388.39
530	HARIHARA	Harihara	GUTTUR_66	F09-INDUSTRIAL	777335	705368	6825546.2	7340235.9
531	HARIHARA	Harihara	GUTTUR_66	F10-HARIHAR	786829	712311.1	6668456.27	6002497.45
532	HARIHARA	HARIHARA	GUTTUR_66	F15-KARLAHALLI	165400	148991	1376729.23	915541.23
533	HARIHARA	HARIHARA	HARIHAR-HOSPET_66	F09-BILASANURU NJY	144140	132001	1227994.08	911925.12
534	HARIHARA	HARIHARA	HARIHAR_66	F01-ANGJANEYA-AGROTECH	11745	10902.2	120684.98	117056.36
535	HARIHARA	HARIHARA	HARIHAR_66	F02-BALAJI	190300	171758	1693619.72	1543510.06
536	HARIHARA	HARIHARA	HARIHAR_66	F03-HARIHARESHWARA	507200	467763.1	4305987.75	4075342.57
537	HARIHARA	HARIHARA	HARIHAR_66	F04-VIDYANAGARA	740050	666379.9	5964974.28	5647128.91
538	HARIHARA	HARIHARA	HARIHAR_66	F08-KIADB-HANAGAVADI	272200	259662	2621977.75	3151192.75
539	HARIHARA	HARIHARA	KURUBARAHALLI_66	F09-KONDAJJI-WATER-WORKS	162500	149062	1558034.04	1191425.11
540	HARIHARA	HARIHARA	KURUBARAHALLI_66	F10-KALPATARU NJY	104900	94578	952451.63	1062330.66
541	HIRIYURU	CHALLAKERE	SANIKERE_66	F09-BHAGAVANTHA NJY	133000	115790	1239878.68	712927.68

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
542	HIRIYURU	CHALLAKERE	SANIKERE_66	F10-KAPARAHALLY NJY	105900	91276	909563.14	524849.14
543	HIRIYURU	CHALLAKERE	SANIKERE_66	F12-UJJANI NJY	258000	223763	2113372.96	1346366.96
544	HIRIYURU	CHALLAKERE	VISHWESHWARA PURA_66	F02-RANGAVANAHALLY NJY	110000	96124	895206.26	493623.26
545	HIRIYURU	HIRIYURU	BHARAMAGIRI_66	F03-NJYMARIKANUVE	145598	132944	1253089.02	799189
546	HIRIYURU	HIRIYURU	BHARAMAGIRI_66	F08-NJYBHARAMAGIRI	83905	77101	803063.44	608431.36
547	HIRIYURU	HIRIYURU	HARIYABBE_66	F09-NJY B.K.HATTY	253800	227359.7	2189333.83	1417280.98
548	HIRIYURU	HIRIYURU	HARIYABBE_66	F11-ESHWARAGERE	253100	235892	2176224.42	1238547.44
549	HIRIYURU	HIRIYURU	HARIYABBE_66	F12-NJY HOSAHALLY	129000	118770	1177225.36	324742.42
550	HIRIYURU	HIRIYURU	HARIYABBE_66	F13-KHANAJANAHALLY NJY	99400	90291	826996.47	457676.46
551	HIRIYURU	HIRIYURU	HINDASGHATTA_66	F09-NJYSOMERAHALLI	94675	89466.75	945089.61	722826.6
552	HIRIYURU	HIRIYURU	HINDASGHATTA_66	F11-NJYMAVINAMADU	170712.5	166791.7	1504264.8	1625584.8
553	HIRIYURU	HIRIYURU	HINDASGHATTA_66	F12-NJYYALLADAKERE	98207	88621.7	902195.96	632097.2
554	HIRIYURU	HIRIYURU	HIRIYUR_220	F10-NJYBEERANAHALLI	216700	210181.45	1928947.56	1045111.56
555	HIRIYURU	HIRIYURU	HIRIYUR_220	F11-NJYHEMADALA	26960	24462.45	281275.56	194246.7
556	HIRIYURU	HIRIYURU	HIRIYUR_220	F12-NJYMALLENU	122840	111488.5	971495.15	501733.14
557	HIRIYURU	HIRIYURU	HIRIYUR_220	F13-NANDIHALLY NJY	274818	246105.45	2399069.21	2332298.26
558	HIRIYURU	HIRIYURU	HIRIYUR_66	F03-NJYDODDAGHATTA	49663	45553.3	460891.52	278323.52
559	HIRIYURU	HIRIYURU	HIRIYUR_66	F05-HIRIYURBYPASS	766702	699947	6734532.28	8753987
560	HIRIYURU	HIRIYURU	HIRIYUR_66	F08-HABIB	336342	306208	3442525.82	2856882.3
561	KUNIGAL	HULIYURDURGA	SANTEMAVATTUR_66	F10-T.HOSAHALLI NJY	660400	571265	5746357.28	5703676.32
562	KUNIGAL	HULIYURDURGA	YADAVANI_66	F02-YADAVANI NJY	182060	165502.9	1696500.22	1093500.2
563	KUNIGAL	KUNIGAL	ANCHEPALYA_66	F11-RASTHEPALYA NJY	72650	68765	712869.86	637400.86

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
564	KUNIGAL	KUNIGAL	ANCHEPALYA_66	F12-KAPANIPALYA	72800	63760.7	689089.73	596415.72
565	KUNIGAL	KUNIGAL	ANCHEPALYA_66	F13-HOSAHALLI	150800	132141	1493075.17	743479.16
566	KUNIGAL	KUNIGAL	ANCHEPALYA_66	F16-UNIVERSAL-GAS	840280	839875	1079104	1077691
567	KUNIGAL	KUNIGAL	ANCHEPALYA_66	F17-ECOVINOL	330240	329680	2850610	2850610
568	KUNIGAL	KUNIGAL	ANCHEPALYA_66	F19-HELTHIUM MEDTECH	183120	183950	568929	568929
569	KUNIGAL	KUNIGAL	ANCHEPALYA_66	F20-JOHNSON	438400	439110	3281223	3281215
570	KUNIGAL	KUNIGAL	ANCHEPALYA_66	F21-WIENER BERGER	684400	684375	1435104	1435104
571	KUNIGAL	KUNIGAL	BHAKTHARAHALLI_66	F05-BANNIMARADAKATTE-NJY	104820	92631.3	1059927.43	954901.44
572	KUNIGAL	KUNIGAL	BHAKTHARAHALLI_66	F06-BHAKTHRAHALLI-NJY	298980	259889.35	2389000.71	1129081.96
573	KUNIGAL	KUNIGAL	BHAKTHARAHALLI_66	F11-NJY BAGENAHALLI	161180	142311.39	1537073.15	1343739.16
574	KUNIGAL	KUNIGAL	KEMPANAHALLI_TMK_66	F05-SHIVAPURA NJY	39460	34999	516194.66	586605.66
575	KUNIGAL	KUNIGAL	KEMPANAHALLI_TMK_66	F11-NJY RAJGERE	62400	54943	543920.46	509568.52
576	KUNIGAL	KUNIGAL	KUNIGAL_66	F03-KUNIGAL AGRAHARA	603600	521141.5	14332	12735
577	KUNIGAL	KUNIGAL	KUNIGAL_66	F04-RAYAPPAMARGA	752335	647093	100461.28	72215.28
578	KUNIGAL	KUNIGAL	KUNIGAL_66	F10-MADDUR-ROAD	392600	352477.3	26922	37325
579	KUNIGAL	YEDIYUR	AMRUTHUR_66	F02-AMRUTHURU	150400	133255	1314770.35	824212.34
580	KUNIGAL	YEDIYUR	AMRUTHUR_66	F04-NJY 2-PADUVAGARE	53740	47115	449680.36	242157.34
581	MADHUGIRI	KODIGENAHALLY	KODIGENAHALLI_66	F16-DODDADALAVATTA	213900	193346	1823801.81	777210.82
582	MADHUGIRI	KODIGENAHALLY	KODIGENAHALLI_66	F17-KASINAYAKANAHALLI NJY	187000	172488	1706188.86	765527.85
583	MADHUGIRI	KODIGENAHALLY	NITRAHALLI_66	F06-BYRENAHALLI	237160	213639.5	4042868.24	1475132.04
584	MADHUGIRI	KODIGENAHALLY	NITRAHALLI_66	F09-SANKAPURA	149700	135665	1382025.91	1011399.92

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
585	MADHUGIRI	KODIGENAHALLY	NITRAHALLI_66	F10-BADACHOWDANAHALLI	68730	62025	694412.48	366840.48
586	MADHUGIRI	KODIGENAHALLY	NITRAHALLI_66	F11-HUNSAVADI NJY	78900	71186	823447.64	331543.64
587	MADHUGIRI	KODIGENAHALLY	PURAVARA_66	F06-HALETHIMMANAHALLI NJY	101200	91402	993293.88	550021.88
588	MADHUGIRI	KODIGENAHALLY	PURAVARA_66	F07-TALAKERE NJY	74200	67141	1097152.34	353641.34
589	MADHUGIRI	KORATAGERE	HOLAVINAHALLY_66	F02-HOLAVANAHALLI	172440	158323.87	1475273.59	1010646.59
590	MADHUGIRI	KORATAGERE	HOLAVINAHALLY_66	F09-SUVARNAMUKHI	120690	109971.75	1146963.1	775610.16
591	MADHUGIRI	KORATAGERE	HOLAVINAHALLY_66	F10-B.D-PURA-NJY	86530	78135.65	864388.13	333934.12
592	MADHUGIRI	KORATAGERE	HOLAVINAHALLY_66	F11-GODDARAHALLY	98000	96146.6	1003346.49	466262.08
593	MADHUGIRI	KORATAGERE	HOLAVINAHALLY_66	F12-KYAMENAHALLY	107000	97134	875373.81	256089.8
594	MADHUGIRI	KORATAGERE	KOLALA_66	F01-KOLALA TOWN	85840	83083.67	733837.68	515883.68
595	MADHUGIRI	KORATAGERE	KOLALA_66	F09-YELACHIGERE	101070	93045.5	808863.04	283951.02
596	MADHUGIRI	KORATAGERE	KOLALA_66	F10-HANUMANTHAGIRI	57850	53802	551719.29	678153.24
597	MADHUGIRI	KORATAGERE	KOLALA_66	F11-VAJJANAKURIKE	64820	59989	596187.59	1099095.36
598	MADHUGIRI	KORATAGERE	KOLALA_66	F12-DODDASAGERE	120070	112654	1086874.23	477762.12
599	MADHUGIRI	KORATAGERE	KOLALA_66	F13-CHINNAHALLI	36200	34299	359534.31	150321.3
600	MADHUGIRI	KORATAGERE	KORATAGERE_66	F05-KORATAGERE-TOWN	504760	468644.3	4295498.53	7722099.53
601	TIPTUR	CN HALLY	HANDANKERE_110	F14-KAIMARA NJY	153700	133604.1	1446727.6	1005447.58
602	TIPTUR	CN HALLY	HULIYAR_110	F02-HULIYAR	378510	327713.95	3451827.49	3814347.48
603	TIPTUR	CN HALLY	HULIYAR_110	F11-BYRAPURA-NJY	159490	146293	1666071.57	1515805.58

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
604	TIPTUR	CN HALLY	HULIYAR_110	F17-OTIKERE NJY	93700	80747	792097.4	668576.4
605	TIPTUR	CN HALLY	KATHRIKEHAL_110	F13-VAJRA NJY	76480	66562	641021.11	232232.12
606	TIPTUR	CN HALLY	SHETYKERE_110	F06-AGASARAHALLI-NJY	71380	62387	867543.71	1248243.74
607	TIPTUR	CN HALLY	SHETYKERE_110	F13-DUGADIHALLI-NJY	48700	43259	453492.8	208026.78
608	TIPTUR	CN HALLY	SHETYKERE_110	F14-GOPALANAHALLI-NJY	114460	104441.5	1022812.34	896066.36
609	TIPTUR	CN HALLY	TIMMANAHALLI_110	F09-INDUSTRIAL	167400	160466.25	1475063	1344580
610	TIPTUR	CN HALLY	TIMMANAHALLI_110	F11-AGRAHARA-NJY	135010	116204	1178423.29	574708.3
611	TIPTUR	TIPTUR	BANDIHALLI_110	F02-DODDAPETE	494160	429160	3698634.8	4234020.62
612	TIPTUR	TIPTUR	BANDIHALLI_110	F12-BANDIHALLI	136600	125720	664185.83	699667.8
613	TIPTUR	TIPTUR	BANDIHALLI_110	F14-ADHINAYAKANAHALLI	41920	36382	391370.38	306013.52
614	TIPTUR	TIPTUR	HONNAVALLI_110	F03-NJY-BIDRAGUDI	186140	161101.4	1590099.31	1441774.5
615	TIPTUR	TIPTUR	HONNAVALLI_110	F05-HULIHALLI	214600	189263.9	1788404.8	1328602.66
616	TIPTUR	TIPTUR	HONNAVALLI_110	F11-GUDIGONDANAHALLI	65055	56582.23	579589.16	257858.16
617	TIPTUR	TIPTUR	KEREKODI_110	F04-HOGAVANAGATTA NJY	69600	64004	600638.32	437737.32
618	TIPTUR	TIPTUR	KEREKODI_110	F08-NAGARAGATTA NJY	79000	70130	723898.96	714986.52
619	TIPTUR	TIPTUR	KEREKODI_110	F09-NARASIKATTE	98600	85341	885605.11	804538.12
620	TIPTUR	TIPTUR	NONAVINAKERE_110	F01-KAIDAALA	826100	741822	3445113.81	3429305.81
621	TUMKUR	GUBBI	KALLUR_110	F13-MADAPATNA-NJY	139180	120373.6	1380103.1	784573.12
622	TUMKUR	GUBBI	KALLUR_110	F15-T.PALYA-NJY	47200	40843	449830.4	1258036.5
623	TUMKUR	GUBBI	KALLUR_110	F17-PADUGUDI NJY	163000	149732	1395110.22	620602.22
624	TUMKUR	GUBBI	KGTEMPLE_110	F06-NAGASANDRA-NJY	256100	222629	1894240.5	671045.44
625	TUMKUR	GUBBI	KGTEMPLE_110	F12-KONANAKERE-NJY	205520	178875.8	1877174.46	1043405.44
626	TUMKUR	GUBBI	UNGRA_110	F05-C S PURA-NJY	463160	402536.6	3382088.14	1296009.92

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
627	TUMKUR	TUMKUR URBAN SUBDIVISION -2	BADDIHALLI_66	F03-SAPTHAGIRI	815222	741011	6824965.34	7747805.61
628	TUMKUR	TUMKUR URBAN SUBDIVISION -2	BADDIHALLI_66	F04-MARUTHI-NAGARA	713560	642129	5848433.3	6263998.19
629	TUMKUR	KYATSANDRA	BADDIHALLI_66	F05-NJY-KITTAGANAHALLY	177560	161997	1594236.06	1321657.06
630	TUMKUR	KYATSANDRA	BADDIHALLI_66	F08-BADDIHALLI	675400	653932.5	5897303.36	6917277.36
631	TUMKUR	KYATSANDRA	BADDIHALLI_66	F09-KESARAMODU-NJY	619020	580969	5897303.36	6917277.36
632	TUMKUR	KYATSANDRA	HIREHALLY_66	F01-CIPSA	454200	456160	4201969	4201969
633	TUMKUR	KYATSANDRA	HIREHALLY_66	F04-INCAP	757580	689551	6660928.2	6519956.2
634	TUMKUR	KYATSANDRA	HIREHALLY_66	F05-INDUSTRIAL	1261320	1201297.5	9986480	10679098
635	TUMKUR	KYATSANDRA	HIREHALLY_66	F07-CARMOBILES	1173420	1072947.4	9810912.2	10187586.18
636	TUMKUR	KYATSANDRA	HIREHALLY_66	F10-SIDDAGANGA-MATA	71820	65326	567466.25	532845.9
637	TUMKUR	KYATSANDRA	HIREHALLY_66	F11-RAITHARAPALYA	371280	338879	3552818.25	4112939.56
638	TUMKUR	KYATSANDRA	HIREHALLY_66	F12-NANDIHALLI-NJY	868520	790338.5	6235368.8	6861661.8
639	TUMKUR	KYATSANDRA	HIREHALLY_66	F14-RANE WALES	434240	436200	3120182	3120182
640	TUMKUR	KYATSANDRA	HONNUDIKE_66	F08-HONNUDIKE-NJY	295420	269419	2668935.95	2246504.76
641	TUMKUR	NITTUR	HOSAKERE_66	F12-BHOGASANDRA	133830	115692.8	1365228.77	621145.76
642	TUMKUR	NITTUR	KADABA_110	F09-BENNUR	186880	161346	1831288.68	1104172.68
643	TUMKUR	NITTUR	KADABA_110	F10-DASARAKALLAHALLI-NJY	245530	211752.42	2314265.34	1634718.36

Sl. No.	Division/ Substation Name	Sub-division	Sub-station	Feeder Name/ No.	Input Energy in units	Sales in units	Billed amount (Demand in Rs)	Collected Amount (in Rs)
644	TUMKUR	NITTUR	KADABA_110	F11-SHIVANANJAPPANAGARA	75010	65439.23	652834.14	352902.13
645	TUMKUR	NITTUR	KADABA_110	F12-HAL WATER SUPPLY	5800	5440	80309	76032
646	TUMKUR	NITTUR	NITTUR_220	F16-SOPANALHALLI	201650	176477.4	2144096.1	1710557.05
647	TUMKUR	NITTUR	NITTUR_220	F18-PURA NJY	38800	33409	317448.98	234722.98
648	TUMKUR	NITTUR	NITTUR_220	F19-BOMMENAHALLY NJY	110700	95627.06	957042.19	687736.16
649	TUMKUR	TUMKUR RURAL SUB DIVISION1	BELADARA_66	F05-BELADHARA	117810	102440	1089303.07	738825.06
650	TUMKUR	TUMKUR RURAL SUB DIVISION1	BELLAVI_66	F05-BUGUDANAHALLY	141400	126871.1	1197071.03	1013022.04

1(b) - Validation of energy flow data and losses:

Min. 10 or 1% (whichever is higher) of DISCOM's input energy metering points between Transmission and 66kV/33kV/11kV distribution feeders by checking functional and communication status of meters etc.

- Functional and communication status of 70 number of input energy metering points between Transmission and 11kV distribution feeders has been verified and tabulated below;

Sl. No.	ZONE	KPTCL Circle	Location and Address of Substation	Name of Town/Village where Sub-station is Located	KPTCL DIVISION	Name of District	Name of Sub-Station	Feeder Name	Feeder Type	Feeder Category	Feeder Code	Make of Meter	Meter No:(Installed at Feeder where Modem is to be Installed	Meter CT/ PT Ratio	Meter MF	Type of Existing Feeder Meter (Electronic/ Static-Static-DLMS / Static - Electronic Non Static-DLMS)	Type of Communication Port Available (OP/RS-232/RS RS-485/ OTHER)					
1	BGR	Ramnagar	Kammasandra Agrahara Gate, Chandapura-Anekal Road, Anekal, Bengaluru-562106.	Kammasandra Agrahara	Yarandanahalli	Bengaluru Urban	ANEKAL_66	F01-BYAGADADENAHALLI	Rural	Agriculture	1220201902010101	Secure	Q0245181	-/1 A 11kV/110V	40000	DLMS	OP, RS232, RS485					
2	BGR	Ramnagar	Kammasandra Agrahara Gate, Chandapura-Anekal Road, Anekal, Bengaluru-562106.	Kammasandra Agrahara	Yarandanahalli	Bengaluru Urban	ANEKAL_66	F03-SAMANDUR	Rural	Agriculture	1220201902010103	Secure	Q0246118	-/1 A 11kV/110V	20000	DLMS	OP, RS232, RS485					
3	BGR	Ramnagar	Kammasandra Agrahara Gate, Chandapura-Anekal Road, Anekal, Bengaluru-562106.	Kammasandra Agrahara	Yarandanahalli	Bengaluru Urban	ANEKAL_66	F04-MUTHAKATTI	Rural	Agriculture	1220201902010104	Secure	Q0245511	-/1 A 11kV/110V	20000	DLMS	OP, RS232, RS485					
4	BGR	Ramnagar	Kammasandra Agrahara Gate, Chandapura-Anekal Road, Anekal, Bengaluru-562106.	Kammasandra Agrahara	Yarandanahalli	Bengaluru Urban	ANEKAL_66	F15-NJY	Rural	RURAL(NJY)	1220201902010109	Secure	Q0245278	-/1 A 11kV/110V	20000	DLMS	OP, RS232, RS485					
5	BGR	Ramnagar	Kammasandra Agrahara Gate, Chandapura-Anekal Road, Anekal, Bengaluru-562106.	Kammasandra Agrahara	Yarandanahalli	Bengaluru Urban	ANEKAL_66	F21-NJY-HONNAKALASAPURA	Rural	RURAL(NJY)	1220201902010111	L&T	16093977	200/1 A 11kV/110V	2000	DLMS	OP, RS232, RS485					
6	BGR	Ramnagar	Kammasandra Agrahara Gate, Chandapura-Anekal Road, Anekal, Bengaluru-562106.	Kammasandra Agrahara	Yarandanahalli	Bengaluru Urban	ANEKAL_66	F20-VANAKANAHALLY NJY	Rural	RURAL(NJY)	1220201902010113	L&T	16093967	200/1 A 11kV/110V	2000	DLMS	OP, RS232, RS485					
7	BGR	Ramnagar	Kumbaranahalli (V), Haragadde (P), Kasaba Hobli, Anekal Taluk, Bengaluru Urban Dist. Pin: 560105.	Kumbaranahalli	Yarandanahalli	Bengaluru Urban	KUMBARANAHALLI_66	F3- Soppahalli	Rural	Agriculture	1220204902020103	L&T	19009781	11kV/110V, 200/1A	2000	DLMS	OP, RS232, RS485	ok	00647122		22/1/2023	
8	BGR	Ramnagar	Kumbaranahalli (V), Haragadde (P), Kasaba Hobli, Anekal Taluk, Bengaluru Urban Dist. Pin: 560105.	Kumbaranahalli	Yarandanahalli	Bengaluru Urban	KUMBARANAHALLI_66	F4- Shakthi	Rural	RURAL(NJY)	1220204902020104	L&T	19009778	11kV/110V, 200/1A	2000	DLMS	OP, RS232, RS485	ok	00647122		22/1/2023	
9	BGR	Ramnagar	220/66/11KV R/S Jigani Dena bank opposite BG-Anekal Main Road	Jigani Industrial Area	Yarandanahalli	Bengaluru Urban	NEW JIGANI_66	F45-JADE-MURTHY	Rural	Agriculture	1220204903020307	Secure	Q0245841	_/1A,_/110V/_/3	40000	DLMS	OP, RS232, RS485					

			Jigani(H)/(P) Anekal Taluk Bangalore-560105																			
10	BGR	Ramnagar	66/11 KV substation Samanduru, Near Rachamanahallii, Anekal Taluk, Bangaluru 562107	Samanduru	Yarandanahalli	Bangaluru	SAMANDURU_66	F03-GUDDANAHALLI NJY	Rural	RURAL(NJY)	1220201907010101	L&T	15192369	11kv/110V, 100/1A	2000	DLMS	OP, RS232, RS485	no	00648122	8991737107 82079 6815	24/1/2023	
11	BGR	Ramnagar	66/11 KV substation Samanduru, Near Rachamanahallii, Anekal Taluk, Bangaluru 562107	Samanduru	Yarandanahalli	Bangaluru	SAMANDURU_66	F04-GANDHI GRAMA	Rural	Agriculture	1220201907010102	L&T	15192377	11kv/110V, 100/1A	2000	DLMS	OP, RS232, RS485	no	00648122	8991737107 82079 6815	24/1/2023	
12	BGR	Ramnagar	66/11 KV substation Samanduru, Near Rachamanahallii, Anekal Taluk, Bangaluru 562107	Samanduru	Yarandanahalli	Bangaluru	SAMANDURU_66	F05-HALEHALLI	Rural	Agriculture	1220201907020101	L&T	15192411	11kv/110V, 100/1A	2000	DLMS	OP, RS232, RS485	no	00648122	8991737107 82079 6815	24/1/2023	
13	BGR	Ramnagar	220kV Receiving Station, KPTCL, Sarjapura, Anekal Taluk, Bagalur Road , Abbayya circle, Sarjapura , Bengaluru-562125	Sarjapura	Yarandanahalli	Bengaluru urban	SARAJAPURA_220	F02-DASARHALLI	Rural	Agriculture	1220202902010102	Secure	Q0246025	-/1A,-/110V (Basic Meter)	40000	DLMS	OP, RS232, RS485	ok	00649122	8991737107 82079 6820	23/1/2023	
14	BGR	Ramnagar	220kV Receiving Station, KPTCL, Sarjapura, Anekal Taluk, Bagalur Road , Abbayya circle, Sarjapura , Bengaluru-562125	Sarjapura	Yarandanahalli	Bengaluru urban	SARAJAPURA_220	F04-HANDENAHALLI	Rural	Agriculture	1220202902010104	Secure	Q0245561	-/1A,-/110V (Basic Meter)	20000	DLMS	OP, RS232, RS485	ok	00649122	8991737107 82079 6820	23/1/2023	
15	BGR	Ramnagar	220kV Receiving Station, KPTCL, Sarjapura, Anekal Taluk, Bagalur Road , Abbayya circle, Sarjapura , Bengaluru-562125	Sarjapura	Yarandanahalli	Bengaluru urban	SARAJAPURA_220	F09-BILLAPURA SJP	Rural	Agriculture	1220202902020302	Secure	Q0245714	-/1A,-/110V (Basic Meter)	40000	DLMS	OP, RS232, RS485	ok	00649122	8991737107 82079 6820	23/1/2023	
16	BGR	Ramnagar	220kV Receiving Station, KPTCL, Sarjapura, Anekal Taluk, Bagalur Road , Abbayya circle, Sarjapura , Bengaluru-562125	Sarjapura	Yarandanahalli	Bengaluru urban	SARAJAPURA_220	F11-NJY HANDENAHALLY	Rural	RURAL(NJY)	1220202902020305	Secure	Q0246099	-/1A,-/110V (Basic Meter)	40000	DLMS	OP, RS232, RS485	ok	00649122	8991737107 82079 6820	23/1/2023	
17	BGR	Ramnagar	66/11 KV substation KPTCL, Suryangar, Karnatak Housing Borad, Suryanagar Phase 1, l (T), Bangaluru-562106	Surynagar Phase 1	Yarandanahalli	Bangaluru	SURYANAGAR_66	F07-NAGANAYAKANAHALLI	Rural	Agriculture	1220203903010108	L&T	16094004	11 kV / √ 3/110 V / √ 3, 200/1 A	2000	DLMS	OP, RS232, RS485					
18	BGR	Ramnagar	220/66/11kV RS Yarandanahalli, KPTCL,KACHANAYANAHALLI (DINNE),BOMMASANDRA INDUSTRIAL AREA,NEAR SBI BOMMASANDRA, PI-560099	KACHANAYANAHALLI (DINNE)	Yarandanahalli	Bengaluru Urban	YERANDANAHALLI_220	F31-AGRI FEEDER	Rural	Agriculture	1220203901010502	Secure	Q0246170	-/1 A 11kV/110V	40000	DLMS	OP, RS232, RS485					
19	BGR	BRAZ	66/11 KV sub-station Addagal Diguvanchithapalli Village Rayalpadu Hobli Srinivasapuram Taluk Kolar District.	Addagal	Kolar	Kolar	ADDAGAL_66	F02-MUDIMADAGU	Rural	Agriculture	1230103905020100	Secure	Q0247230	CT: 200/1A VT: _/110V/_/√3	40000	DLMS	OP, RS232, RS485	ok	00671122		28/1/2023	
20	BGR	BRAZ	66/11 KV sub-station Addagal Diguvanchithapalli Village Rayalpadu Hobli Srinivasapuram Taluk Kolar District.	Addagal	Kolar	Kolar	ADDAGAL_66	Byraganapalli	Rural	RURAL(NJY)	1230103905010301	Secure	Q0246795	CT: 200/1A VT: _/110V/_/√3	20000	DLMS	OP, RS232, RS485	ok	00671122		28/1/2023	
21	BGR	BRAZ	66/11 KV sub-station Addagal Diguvanchithapalli Village Rayalpadu Hobli Srinivasapuram Taluk Kolar District.	Addagal	Kolar	Kolar	ADDAGAL_66	Koorigepalli	Rural	Agriculture	1230103905010302	Secure	Q0246775	CT: _/1A VT: _/110V/_/√3	30000	DLMS	OP, RS232, RS485	ok	00671122		28/1/2023	
22	BGR	BRAZ	66/11 KV sub-station Addagal Diguvanchithapalli Village Rayalpadu Hobli Srinivasapuram Taluk Kolar District.	Addagal	Kolar	Kolar	ADDAGAL_66	Marasanapalli	Rural	Agriculture	1230103905010303	Secure	Q0247116	CT: _/1A VT: _/110V/_/√3	20000	DLMS	OP, RS232, RS485	no	00671122		28/1/2023	meter problem

23	BGR	BRAZ	66/11 KV sub-station Addagal Diguvanchithapalli Village Rayalpadu Hobli Srinivasapuram Taluk Kolar District.	Addagal	Kolar	Kolar	ADDAGAL_66	Chillorapalli	Rural	Agriculture	1230103905010304	Secure	Q0259859	CT: 200/1A VT: _/110V/_/√3	30000	DLMS	OP, RS232, RS485	ok	00671122		28/1/2023	
24	BGR	BRAZ	66/11 KV sub-station Addagal Diguvanchithapalli Village Rayalpadu Hobli Srinivasapuram Taluk Kolar District.	Addagal	Kolar	Kolar	ADDAGAL_66	Kadirampalli	Rural	Agriculture	1230103905010502	L&T	18049514	CT-200/1 A, VT: _/110V/_/√4	2000	DLMS	OP, RS232, RS485	no	00671122		28/1/2023	property file issues
25	BGR	BRAZ	66/11 KV sub-station Addagal Diguvanchithapalli Village Rayalpadu Hobli Srinivasapuram Taluk Kolar District.	Addagal	Kolar	Kolar	ADDAGAL_66	Srirampura	Rural	Agriculture	1230103905010503	L&T	18049542	CT-200/1 A, VT: _/110V/_/√5	2000	DLMS	OP, RS232, RS485	no	00671122		28/1/2023	property file issues
26	BGR	BRAZ	66/11 KV sub-station Addagal Diguvanchithapalli Village Rayalpadu Hobli Srinivasapuram Taluk Kolar District.	Addagal	Kolar	Kolar	ADDAGAL_66	G Bayapalli	Rural	Agriculture	1230103905010504	L&T	18079759	CT-200/1 A, VT: _/110V/_/√6	2000	DLMS	OP, RS232, RS485	no	00671122		28/1/2023	property file issues
27	BGR	BRAZ	66/11 KV sub-station Addagal Diguvanchithapalli Village Rayalpadu Hobli Srinivasapuram Taluk Kolar District.	Addagal	Kolar	Kolar	ADDAGAL_66	Mallimorapalli	Rural	RURAL(NJY)	1230103905010505	Secure	KAB00990	CT-200/1 A, VT: _/110V/_/√6	2000	DLMS	OP, RS232, RS485	no	00671122		28/1/2023	Non DLMS Meter
28	BGR	BRAZ	66/11 KV sub-station Addagal Diguvanchithapalli Village Rayalpadu Hobli Srinivasapuram Taluk Kolar District.	Addagal	Kolar	Kolar	ADDAGAL_66	Degavachintapalli	Rural	Agriculture	1230103905010506	Secure	KAB01421	CT-200/1 A, VT: _/110V/_/√6	2000	DLMS	OP, RS232, RS485	no	00671122		28/1/2023	Non DLMS Meter
29	BGR	BRAZ	66/11 KV sub-station Addagal Diguvanchithapalli Village Rayalpadu Hobli Srinivasapuram Taluk Kolar District.	Addagal	Kolar	Kolar	ADDAGAL_66	F01-GOWNIPALLI	Rural	Agriculture	1230103905020101	Secure	Q0247340	CT: 200/1A VT: _/110V/_/√3	30000	DLMS	OP, RS232, RS485	ok	00671122		28/1/2023	
30	BGR	BRAZ	66/11 KV sub-station Addagal Diguvanchithapalli Village Rayalpadu Hobli Srinivasapuram Taluk Kolar District.	Addagal	Kolar	Kolar	ADDAGAL_66	F03-ADDAGAL	Rural	Agriculture	1230103905020103	Secure	Q0247133	CT: 200/1A VT: _/110V/_/√3	30000	DLMS	OP, RS232, RS485	ok	00671122		28/1/2023	
31	BGR	BRAZ	66/11 KV sub-station Addagal Diguvanchithapalli Village Rayalpadu Hobli Srinivasapuram Taluk Kolar District.	Addagal	Kolar	Kolar	ADDAGAL_66	Anepalli	Rural	RURAL(NJY)	1230103905020199	Secure	Q0246796	CT: 200/1A VT: _/110V/_/√3	2000	DLMS	OP, RS232, RS485	ok	00671122		28/1/2023	
32	BGR	BRAZ	66/11KV S/S at Narasapura Krishnapura village Narsapura hobli Kolar(Tq)	Narasapura	Kolar	Kolar	NARSAPUR_66	Alpine	Rural	Mixed	1230102908020301	Secure	Q0247326	CT: _/1A VT: _/110V/_/√3	20000	DLMS	OP, RS232, RS485	no	00656122		14/12/2022	Q0603726,DCU issues
33	BGR	BRAZ	66/11KV S/S at Narasapura Krishnapura village Narsapura hobli Kolar(Tq)	Narasapura	Kolar	Kolar	NARSAPUR_66	Kendatty	Rural	Agriculture	1230102908020302	Secure	Q0247188	CT: _/1A VT: _/110V/_/3	20000	DLMS	OP, RS232, RS485	no	00656122		14/12/2022	Q0603769,DCU issues
34	BGR	BRAZ	66/11KV S/S at Narasapura Krishnapura village Narsapura hobli Kolar(Tq)	Narasapura	Kolar	Kolar	NARSAPUR_66	Narasapura	Rural	Agriculture	1230102908020303	Secure	Q0247203	CT: _/1A VT: _/110V/_/3	20000	DLMS	OP, RS232, RS485	no	00656122		14/12/2022	Q0603743,DCU issues
35	BGR	BRAZ	66/11KV S/S at Narasapura Krishnapura village Narsapura hobli Kolar(Tq)	Narasapura	Kolar	Kolar	NARSAPUR_66	Mahendra	Rural	Mixed	1230102908020304	Secure	Q0247208	CT: _/1A VT: _/110V/_/√3	20000	DLMS	OP, RS232, RS485	no	00656122		14/12/2022	Q0595153,DCU issues
36	BGR	BRAZ	66/11KV S/S at Narasapura Krishnapura village Narsapura hobli Kolar(Tq)	Narasapura	Kolar	Kolar	NARSAPUR_66	Jodi krishnapura	Rural	Agriculture	1230102908020305	Secure	Q0246784	CT: _/1A VT: _/110V/_/3	20000	DLMS	OP, RS232, RS485	no	00656122		14/12/2022	Q0595152,DCU issues
37	BGR	BRAZ	66/11kV Sub-Station, Rayalpad, Srinivaspura Taluk	Rayalpad	Kolar	Kolar	RAYALPADU_66	F06-MANJEVARIPALLI	Rural	Agriculture	1230103909020101	L&T	21000519	CTR:200/1A,PTR:11KV/110V	20000	DLMS	OP, RS232, RS485	ok	00662122		12/12/22	
38	BGR	BRAZ	66/11kV Sub-Station, Rayalpad, Srinivaspura Taluk	Rayalpad	Kolar	Kolar	RAYALPADU_66	F07-RAYALPADU LOCAL NJY	Rural	RURAL(NJY)	1230103909020102	L&T	21000374	CTR:200/1A,PTR:11KV/110V	20000	DLMS	OP, RS232, RS485	ok	00662122		12/12/22	

39	BGR	BRAZ	66/11kV Sub-Station, Rayalpad, Srinivaspura Taluk	Rayalpad	Kolar	Kolar	RAYALPADU_66	F08-DEVANAGARIPALLI	Rural	Agriculture	1230103909020103	L&T	21000389	CTR:200/1A,PTR:11KV/110V	20000	DLMS	OP, RS232, RS485	ok	00662122		12/12/22	
40	BGR	BRAZ	66/11kV Sub-Station, Rayalpad, Srinivaspura Taluk	Rayalpad	Kolar	Kolar	RAYALPADU_66	F2 - BASANAPALLI	Rural	Agriculture	BESCOM YET TO GENERATE	L&T	21000371	CTR:200/1A,PTR:11KV/110V	20000	DLMS	OP, RS232, RS485	ok	00662122		12/12/22	
41	BGR	BRAZ	66/11 kV S/S Premises Settemadhamagala. Settemadhamangala Grama, Sugatur Hobli, Kolar Taluk, Kolar District.	S.M Mangala	Kolar	Kolar	SMMANGALA_66	Thotly	Rural	Agriculture	1230102907010101	Secure	Q0246472	CT: _/1A VT: _/110V/_/3	20000	DLMS	OP, RS232, RS485	ok	00653122		15/12/2022	
42	BGR	BRAZ	66/11 kV S/S Premises Settemadhamagala. Settemadhamangala Grama, Sugatur Hobli, Kolar Taluk, Kolar District.	S.M Mangala	Kolar	Kolar	SMMANGALA_66	Shettykunte	Rural	Agriculture	1230102907010102	Secure	Q0246854	CT: _/1A VT: _/110V/_/3	20000	DLMS	OP, RS232, RS485	ok	00653122		15/12/2022	
43	BGR	BRAZ	66/11 kV S/S Premises Settemadhamagala. Settemadhamangala Grama, Sugatur Hobli, Kolar Taluk, Kolar District.	S.M Mangala	Kolar	Kolar	SMMANGALA_66	Aleri	Rural	Agriculture	1230102907010103	Secure	Q0247186	CT: _/1A VT: _/110V/_/3	20000	DLMS	OP, RS232, RS485	ok	00653122		15/12/2022	
44	BGR	BRAZ	66/11 kV S/S Premises Settemadhamagala. Settemadhamangala Grama, Sugatur Hobli, Kolar Taluk, Kolar District.	S.M Mangala	Kolar	Kolar	SMMANGALA_66	Madderi	Rural	Agriculture	1230102907010104	Secure	Q0246733	CT: _/1A VT: _/110V/_/3	20000	DLMS	OP, RS232, RS485	ok	00653122		15/12/2022	
45	BGR	BRAZ	66/11 kV S/S Premises Settemadhamagala. Settemadhamangala Grama, Sugatur Hobli, Kolar Taluk, Kolar District.	S.M Mangala	Kolar	Kolar	SMMANGALA_66	NJY Kakinetha	Rural	RURAL(NJY)	1230102907010105	Secure	Q0247221	CT: _/1A VT: _/110V/_/3	10000	DLMS	OP, RS232, RS485	ok	00653122		15/12/2022	
46	BGR	BRAZ	66/11 kV S/S Premises Settemadhamagala. Settemadhamangala Grama, Sugatur Hobli, Kolar Taluk, Kolar District.	S.M Mangala	Kolar	Kolar	SMMANGALA_66	NJY Madanahally	Rural	RURAL(NJY)	1230102907010301	Secure	Q0246982	CT: _/1A VT: _/110V/_/3	10000	DLMS	OP, RS232, RS485	ok	00653122		15/12/2022	
47	BGR	BRAZ	66/11 kV S/S Premises Settemadhamagala. Settemadhamangala Grama, Sugatur Hobli, Kolar Taluk, Kolar District.	S.M Mangala	Kolar	Kolar	SMMANGALA_66	Balagere	Rural	Agriculture	1230102907020301	Secure	Q0247142	CT: _/1A VT: _/110V/_/3	20000	DLMS	OP, RS232, RS485	ok	00653122		15/12/2022	
48	BGR	BRAZ	66/11 kV S/S Premises Settemadhamagala. Settemadhamangala Grama, Sugatur Hobli, Kolar Taluk, Kolar District.	S.M Mangala	Kolar	Kolar	SMMANGALA_66	Chimahally	Rural	Agriculture	1230102907020302	Secure	Q0246479	CT: _/1A VT: _/110V/_/3	20000	DLMS	OP, RS232, RS485	ok	00653122		15/12/2022	
49	BGR	BRAZ	66/11 kV S/S Premises Settemadhamagala. Settemadhamangala Grama, Sugatur Hobli, Kolar Taluk, Kolar District.	S.M Mangala	Kolar	Kolar	SMMANGALA_66	Seekal	Rural	Agriculture	1230102907020303	Secure	Q0247352	CT: _/1A VT: _/110V/_/3	20000	DLMS	OP, RS232, RS485	ok	00653122		15/12/2022	
50	BGR	BRAZ	66/11 kV S/S Premises Settemadhamagala. Settemadhamangala Grama, Sugatur Hobli, Kolar Taluk, Kolar District.	S.M Mangala	Kolar	Kolar	SMMANGALA_66	M N Hally I P	Rural	Agriculture	1230102907020304	Secure	Q0247335	CT: _/1A VT: _/110V/_/3	20000	DLMS	OP, RS232, RS485	ok	00653122		15/12/2022	
51	BGR	BRAZ	66/11 KV sub-station Somayajapalli. Somayajapalli village, Ronnur Hobli, Srinivasapura Taluk, Kolar District.	Somayajalahalli	Kolar	Kolar	SOMAYAJANAHALLI_66	MUDDEPALLI	Rural	Agriculture	1230103904010101	Secure	Q0259834	CT: _/1A VT: _/110V/_/√3	20000	DLMS	OP, RS232, RS485	ok	00693122		12/11/22	
52	BGR	BRAZ	66/11kV Talagawara sub-station,Talagawara(P&V),chintamani(T)-563125	Talagawara	chintamani	Chickballapura	TALAGAWARA_66	Yoginarayana	Rural	RURAL(NJY)	1230402901020304	Secure	Q0246586	-/1 A, -/ 110 v / _/3	20000	DLMS	OP, RS232, RS485		00700I22	899173710782079 6837	03/04/23	
53	BGR	BRAZ	66/11kV Talagawara sub-station,Talagawara(P&V),chintamani(T)-563125	Talagawara	chintamani	Chickballapura	TALAGAWARA_66	F12-Mylapura	Rural	Agriculture	1230402901020306	Secure	Q0246627	-/1 A, -/ 110 v / _/3	20000	DLMS	OP, RS232, RS485		00700I22	899173710782079 6837	03/04/23	
54	BGR	BRAZ	Cheemangala, Jangamakote Hobli, Sidlaghatta Taluk , Chikkaballapura Dist. 562102	Cheemangala	chintamani	Chikkaballapura	CHEEMANGALA_66	F01-H-CROSS	Rural	RURAL(NJY)	1230404904010101	Secure	Q0247192	1A,/110V/√3	20000	DLMS	OP, RS232, RS485		00697I22	899173710782079 6807	03/04/23	
55	BGR	BRAZ	Cheemangala, Jangamakote Hobli, Sidlaghatta Taluk , Chikkaballapura Dist. 562102	Cheemangala	chintamani	Chikkaballapura	CHEEMANGALA_66	F03-BASAVAPATNA	Rural	Agriculture	1230404904010102	Secure	Q0246463	1A/110V/√3	20000	DLMS	OP, RS232, RS485		00697I22	899173710782079 6807	03/04/23	

56	BGR	BRAZ	Cheemangala, Jangamakote Hobli, Sidlaghatta Taluk , Chikkaballapura Dist. 562102	Cheemangala	chintamani	Chikkaballapura	CHEEMANGALA_66	F05-KANNAMANGALA	Rural	Agriculture	1230404904010103	Secure	Q0246573	1A/110V/√3	20000	DLMS	OP, RS232, RS485		00697I22	899173710782079 6807	03/04/23	
57	BGR	BRAZ	Cheemangala, Jangamakote Hobli, Sidlaghatta Taluk , Chikkaballapura Dist. 562102	Cheemangala	chintamani	Chikkaballapura	CHEEMANGALA_66	F02-ATTIGANAHALLI	Rural	Agriculture	1230404904020101	Secure	Q0246643	1A/110V/√3	20000	DLMS	OP, RS232, RS485		00697I22	899173710782079 6807	03/04/23	
58	BGR	BRAZ	Cheemangala, Jangamakote Hobli, Sidlaghatta Taluk , Chikkaballapura Dist. 562102	Cheemangala	chintamani	Chikkaballapura	CHEEMANGALA_66	F04-NJY-CHIKKADASARAHALLI	Rural	RURAL(NJY)	1230404904020301	Secure	Q0246526	1A,/110V/√3	20000	DLMS	OP, RS232, RS485		00697I22	899173710782079 6807	03/04/23	
59	BGR	BRAZ	Cheemangala, Jangamakote Hobli, Sidlaghatta Taluk , Chikkaballapura Dist. 562102	Cheemangala	chintamani	Chikkaballapura	CHEEMANGALA_66	F06-CHIKKADASARAHALLI	Rural	Agriculture	1230404904020302	Secure	Q0246618	1A,/110V/√3	20000	DLMS	OP, RS232, RS485		00697I22	899173710782079 6807	03/04/23	
60	BGR	BRAZ	Cheemangala, Jangamakote Hobli, Sidlaghatta Taluk , Chikkaballapura Dist. 562102	Cheemangala	chintamani	Chikkaballapura	CHEEMANGALA_66	F07-CHEEMANGALA	Rural	Agriculture	1230404904020303	Secure	Q0246500	1A/110V/√3	20000	DLMS	OP, RS232, RS485		00697I22	899173710782079 6807	03/04/23	
61	BGR	BRAZ	Cheemangala, Jangamakote Hobli, Sidlaghatta Taluk , Chikkaballapura Dist. 562102	Cheemangala	chintamani	Chikkaballapura	CHEEMANGALA_66	F10-NJY CHINTHADAPI	Rural	RURAL(NJY)	1230404904020305	Secure	Q0246520	1A,/110V/√3	10000	DLMS	OP, RS232, RS485		00697I22	899173710782079 6807	03/04/23	
62	BGR	BRAZ	Cheemangala, Jangamakote Hobli, Sidlaghatta Taluk , Chikkaballapura Dist. 562102	Cheemangala	chintamani	Chikkaballapura	CHEEMANGALA_66	F11-KALANAYAKANAHALLI	Rural	Agriculture	1230404904020306	Secure	Q0246527	1A,/110V/√3	20000	DLMS	OP, RS232, RS485		00697I22	899173710782079 6807	03/04/23	
63	BGR	BRAZ	Jangamakote , Sidlaghatta Taluk, Chikkaballapura Dist.562102	Jangamakote	chintamani	Chikkaballapura	JANGAMAKOTE_66	YENNANGURU	Rural	Agriculture	1230404905010101	Secure	Q0246492	1A/110V/√3	20000	DLMS	OP, RS232, RS485		00733I22	899173710782079 6838	03/04/23	
64	BGR	BRAZ	Jangamakote , Sidlaghatta Taluk, Chikkaballapura Dist.562102	Jangamakote	chintamani	Chikkaballapura	JANGAMAKOTE_66	HOSPETE	Rural	Agriculture	1230404905010102	Secure	Q0246612	1A/110V/√3	20000	DLMS	OP, RS232, RS485		00733I22	899173710782079 6838	03/04/23	
65	BGR	BRAZ	Jangamakote , Sidlaghatta Taluk, Chikkaballapura Dist.562102	Jangamakote	chintamani	Chikkaballapura	JANGAMAKOTE_66	BYRASANDRA	Rural	Agriculture	1230404905010103	Secure	Q0246513	1A/110V/√3	20000	DLMS	OP, RS232, RS485		00733I22	899173710782079 6838	03/04/23	
66	BGR	BRAZ	Jangamakote , Sidlaghatta Taluk, Chikkaballapura Dist.562102	Jangamakote	chintamani	Chikkaballapura	JANGAMAKOTE_66	NJY NAGAMANGALA	Rural	RURAL(NJY)	1230404905010104	Secure	Q0246476	1A,/110V/√3	20000	DLMS	OP, RS232, RS485		00733I22	899173710782079 6838	03/04/23	
67	BGR	BRAZ	Jangamakote , Sidlaghatta Taluk, Chikkaballapura Dist.562102	Jangamakote	chintamani	Chikkaballapura	JANGAMAKOTE_66	NJY JANGAMAKOTE	Rural	RURAL(NJY)	1230404905020301	Secure	Q0247193	1A,/110V/√3	20000	DLMS	OP, RS232, RS485		00733I22	899173710782079 6838	03/04/23	
68	BGR	BRAZ	Jangamakote , Sidlaghatta Taluk, Chikkaballapura Dist.562102	Jangamakote	chintamani	Chikkaballapura	JANGAMAKOTE_66	SUGTURU	Rural	Agriculture	1230404905020302	Secure	Q0246605	1A/110V/√3	20000	DLMS	OP, RS232, RS485		00733I22	899173710782079 6838	03/04/23	
69	BGR	BRAZ	Jangamakote , Sidlaghatta Taluk, Chikkaballapura Dist.562102	Jangamakote	chintamani	Chikkaballapura	JANGAMAKOTE_66	BALUVANAHALLI	Rural	Agriculture	1230404905020303	Secure	Q0246758	1A/110V/√3	20000	DLMS	OP, RS232, RS485		00733I22	899173710782079 6838	03/04/23	
70	BGR	BRAZ	Jangamakote , Sidlaghatta Taluk, Chikkaballapura Dist.562102	Jangamakote	chintamani	Chikkaballapura	JANGAMAKOTE_66	NJY VENKATAPURA	Rural	RURAL(NJY)	1230404905020304	Secure	Q0246478	1A,/110V/√3	20000	DLMS	OP, RS232, RS485		00733I22	899173710782079 6838	03/04/23	

1(b) - For all Divisions with AT&C losses greater than 25% or at-least 1/3 of the total Divisions of DISCOM;

In an Urban High Loss Division, check 5 or 1% of Metering points (whichever is higher) at DTs where communicable meters were already installed under other schemes such as R-APDRP and IPDS.

- In an Urban Division, where communicable meters were already installed under other schemes such as R-APDRP and IPDS. the functional and communication status of meters of 32 DTs of Urban Divisions was checked. The data are tabulated below;

Sl. No.	Division Name	Feeder name/ No.	DT Name/ No.	Functional status	Communication status
1	MALLESHWARAM	F06-BRAHMAPURAM	10000416829	Functional	NIL
2	MALLESHWARAM	F28-BYRAPPA-RMU	10000416350	Functional	NIL
3	MALLESHWARAM	F05-ROBERTSONBLOCK	10030939161	Functional	NIL
4	MALLESHWARAM	F10-SUBRAMANY-NAGAR	10000415919	Functional	NIL
5	MALLESHWARAM	F04-DEVAIAH-PARK	10000415993	Functional	NIL
6	MALLESHWARAM	F03-PHOENIX & PEGUSUS	10001863001	Functional	NIL
7	MALLESHWARAM	F25-TVS-SUZUKI-SHOW-ROOM	10000416043	Functional	NIL
8	MALLESHWARAM	F07-F--II-BLOCK-&-C	10000415500	Functional	NIL
9	MALLESHWARAM	F11-PRAKASH NAGAR	10000415641	Functional	NIL
10	MALLESHWARAM	F26-SAI MANDIRA	10000405443	Functional	NIL
11	MALLESHWARAM	F11-PRAKASH NAGAR	10000415569	Functional	NIL
12	MALLESHWARAM	F10-HERCULAS-DOLARIS CYGRUS	10001326717	Functional	NIL
13	MALLESHWARAM	F05-VEGA-ANDROMEDA-LYNX	10001326723	Functional	NIL
14	MALLESHWARAM	F04-GKW-&-KIRLOSKAR	10000414690	Functional	NIL
15	MALLESHWARAM	F07-F--II-BLOCK-&-C	10001503038	Functional	NIL
16	VIDANSOUDHA	F13-VASANTHNAGAR	10000002080	Functional	NIL
17	VIDANSOUDHA	F02-RBI	10000976126	Functional	NIL
18	VIDANSOUDHA	F07-STADIUM	10000975678	Functional	NIL
19	VIDANSOUDHA	F07-STADIUM	10000975669	Functional	NIL
20	VIDANSOUDHA	F05-KAVERI-BHAVAN-AND-AUX	10001831020	Functional	NIL
21	VIDANSOUDHA	F20-CUBBON-PET	10034183767	Functional	NIL
22	VIDANSOUDHA	F01-PANJAB-NATIONAL-BANK	10034181819	Functional	NIL
23	VIDANSOUDHA	F13-S-J-PARK-RMU64A	10000975664	Functional	NIL
24	VIDANSOUDHA	F16-BANNAPPA-PARK	10032857474	Functional	NIL
25	VIDANSOUDHA	F06-K.G.ROAD	10033540196	Functional	NIL

Sl. No.	Division Name	Feeder name/ No.	DT Name/ No.	Functional status	Communication status
26	VIDANSOUDHA	F01-MASJID-ROAD	10033835404	Functional	NIL
27	VIDANSOUDHA	F10-MILLIA-RMU	10034107373	Functional	NIL
28	VIDANSOUDHA	F08-JANATHA-RMU	10030583849	Functional	NIL
29	VIDANSOUDHA	F12-DENTAL-COLLEGE-RMU	10034147491	Functional	NIL
30	VIDANSOUDHA	F05-A-M-ROAD/RMU-65	10034253600	Functional	NIL
31	VIDANSOUDHA	F20-CUBBON-PET	10034308086	Functional	NIL
32	VIDANSOUDHA	F06-K.G.ROAD	10034297997	Functional	NIL

Total of min. of 10 or 1% of metering points (whichever is higher) between 11kV/6.6kV feeders and DTs by checking functional and communication status of meters, foot survey of feeder to check for thefts/ hooking etc.

- For Metering points between 11kV feeders and DTs , functional and communication status of meters and foot survey of feeder for checking for thefts/ hooking etc has been carried out for 20 number of feeders.

Sl. No.	Division Name	Feeder name/ No.	DT Name/ No.	Functional status	Communication status
1	HIRIYURU	F09-HULIYURROAD	161040101106	Functional	NIL
2	HIRIYURU	F05-HIRIYURBYPASS	161040101185	Functional	NIL
3	HIRIYURU	F07-NJYARANAKATTE	161040103870	Functional	NIL
4	HIRIYURU	F05-MALLAPPANAHALLY	161040108562	Functional	NIL
5	MADHUGIRI	F02-MADHUGIRI-TOWN	162030101129	Functional	NIL
6	MADHUGIRI	F04-HOSAKERE	162030105029	Functional	NIL
7	MADHUGIRI	F04-SARJAMMANAHALLI NJY	162030104243	Functional	NIL
8	MADHUGIRI	F11-THINGALUR-NJY	16203020223 1	Functional	NIL
9	CHINTHAMANI	F07-LOCAL	152010402002	Functional	NIL
10	CHINTHAMANI	F10-PRABHAKAR LAYOUT	152010402029	Functional	NIL
11	CHINTHAMANI	F17-RAMAMANDIRA	152010402083	Functional	NIL
12	CHINTHAMANI	F07-LOCAL	152010402081	Functional	NIL
13	KOLAR	F07-KOLAR-TOWN	10000548162	Functional	NIL
14	KOLAR	F06-DC-OFFICE	10000669669	Functional	NIL
15	KOLAR	F22-GOWRIPET	10000562104	Functional	NIL
16	KOLAR	F15-NEW INDUSTRIAL FEEDER SHRINATH	10031556962	Functional	NIL
17	KGF	F05-TOWN	10000735285	Functional	NIL
18	KGF	F04 AMMARAVATHI	10000732438	Functional	NIL
19	KGF	F15-DESHIHALLI	10000732544	Functional	NIL
20	KGF	F01-INDUSTRIAL	10000781407	Functional	NIL

Verify metering and connection status of min. of 10 or 2% consumers of the Division (whichever is higher) of the following category of consumers – Agriculture (Metered and Un-metered)

- Functional and communication status of meters of 25 consumers of Agriculture category (Metered and Un-metered) was checked and verified. The data is tabulated below;

Sl. No.	Division	Sub - Division	Feeder no/ name	Metering status	Connection status
1	HIRIYUR	HIRIYUR	F01-GORALADUKU	Un-metered	Active
2	HIRIYUR	CHALLAKERE	F01-DEVARAMARIKUNTTE	Un-metered	Active
3	HIRIYUR	MOLAKALMURU	F01-ASHOKSIDDAPURA	Un-metered	Active
4	HIRIYUR	THALLAK	F01-BHEEMANAKERE	Un-metered	Active
5	HIRIYUR	MOLAKALMURU	F05-MATADAJOGIHALLY	Un-metered	Active
6	KOLAR	KOLAR URBAN	F01-HONNENAHALLI	Un-metered	Active
7	KOLAR	KOLAR URBAN	F06-DC-OFFICE	Un-metered	Active
8	KOLAR	KOLAR URBAN	F07-KOLAR-TOWN	Un-metered	Active
9	KOLAR	SRINIVASAPURA	F01-ARIKUNTE	Un-metered	Active
10	KOLAR	SRINIVASAPURA	F08-DEVANAGARIPALLI	Un-metered	Active
11	MADHUGIRI	MADHUGIRI	F11-KATTHIRAJANAHALLI	Un-metered	Active
12	MADHUGIRI	PAVAGADA	F01- KANNAMEDI	Un-metered	Active
13	MADHUGIRI	KODIGENAHALLY	F18-BACHENAHALLI	Un-metered	Active
14	MADHUGIRI	KORATAGERE	F01-CHIKKAPALANAHALLI	Un-metered	Active
15	MADHUGIRI	SIRA RURAL	F16-KILARADAHALLI	Un-metered	Active
16	KGF	BETHAMANGALA	F01-GUTTAHALLI	Un-metered	Active
17	KGF	KGF	F15-OORGAUMPET	Un-metered	Active
18	KGF	MALUR	F01-KEMPANAHALLI	Un-metered	Active
19	KGF	BANGARPET	F15-DESHIHALLI	Un-metered	Active
20	CHINTHAMANI	CHINTHAMANI RURAL	F01-JANGALHALLI	Un-metered	Active
21	CHINTHAMANI	SHIDLAGATTA RURAL	F13-NJY-THALAKAYALABETTA	Un-metered	Active
22	CHINTHAMANI	SHIDLAGATTA URBAN	F01-CHINTAMANI	Un-metered	Active
23	CHIKKABALLAPURA	CHIKKABALLAPURA RURAL	F20-AJJAWARA	Un-metered	Active
24	KUNIGAL	HOSADURGA	F4 DODDAMAVATTURU	Un-metered	Active
25	KUNIGAL	KUNIGAL	F01-BORALINGANAPALYA	Un-metered	Active

Verify metering and connection status of min. of 10 or 2% consumers of the Division (whichever is higher) of the following category of consumers –Govt. category connection (ULB, RLB etc.)

- Functional and communication status of meters of 14 Govt. category connection (ULB, RLB etc.) was checked and verified. The data is tabulated below;

Sl. No.	Division	Sub - Division	Feeder no/ name	Metering status	Connection status
1	HIRIYUR	HIRIYUR	F19-NJY KC ROPPA	Metered	Active
2	HIRIYUR	CHALLAKERE	F01-DEVARAMARIKUNTTE	Metered	Active
3	KOLAR	KOLAR RURAL	F01-INDUSTRIAL-AREA	Metered	Active
4	KOLAR	KOLAR URBAN	F20-VISWESWARAYA STADIUM	Metered	Active
5	MADHUGIRI	MADHUGIRI	F12-POOJARAHALLY NJY	Metered	Active
6	MADHUGIRI	PAVAGADA	F01-HUSSAINPURA	Metered	Active
7	KGF	BANGARPET	F04 AMMARAVATHI	Metered	Active
8	KGF	MULBAGAL	F17-DOMMASANDRA	Metered	Active
9	CHINTHAMANI	CHINTHAMANI RURAL	F16-MINDIGAL	Metered	Active
10	CHINTHAMANI	CHINTHAMANI URBAN	F01-BURAMAKALAHALLI	Metered	Active
11	CHIKKABALLAPURA	CHIKKABALLAPURA RURAL	F02-TAPASIPURA	Metered	Active
12	CHIKKABALLAPURA	CHIKKABALLAPURA URBAN	F16-NANJAPURA	Metered	Active
13	KUNIGAL	KUNIGAL	F02-BOMMADIGERE	Metered	Active
14	KUNIGAL	HOSADURGA	F12-P-H-HALLI NJY	Metered	Active

Verify metering and connection status of min. of 10 or 2% consumers of the Division (whichever is higher) of the following category of consumers –LT Industrial

- Functional and communication status of meters of 16 consumers of LT Industrial category was checked and verified. The data is tabulated below;

Sl. No.	Division	Sub - Division	Feeder no/ name	Metering status	Connection status
1	HIRIYUR	HIRIYUR	F01-YELLADAKERE	Metered	Active
2	HIRIYUR	CHALLAKERE	F15-HULLIKATTE NJY	Metered	Active
3	HIRIYUR	MOLAKALMURU	F02-MOLKALMURU	Metered	Active
4	KOLAR	KOLAR RURAL	F01-INDUSTRIAL-AREA	Metered	Active
5	KOLAR	KOLAR URBAN	F01-HONNENAHALLI	Metered	Active
6	MADHUGIRI	MADHUGIRI	F01-BEDATTHURU	Metered	Active
7	MADHUGIRI	SIRA RURAL	F01-BUKKAPATNA	Metered	Active
8	KGF	KGF	F18-DODDACHINAHALLI NJY	Metered	Active
9	KGF	MALUR	F20-HAROHALLI	Metered	Active
10	CHINTHAMANI	CHINTHAMANI RURAL	F16-MINDIGAL	Metered	Active
11	CHINTHAMANI	CHINTHAMANI URBAN	F01-BURAMAKALAHALLI	Metered	Active
12	CHIKKABALLAPURA	CHIKKABALLAPURA RURAL	F02-TAPASIPURA	Metered	Active
13	CHIKKABALLAPURA	CHIKKABALLAPURA URBAN	F15-CHELUMENAHALLI-NJY	Metered	Active
14	KUNIGAL	KUNIGAL	F01-BORALINGANAPALYA	Metered	Active
15	KUNIGAL	HOSADURGA	F12-P-H-HALLI NJY	Metered	Active
16	KUNIGAL	YEDIYUR	F01-SIIDLINGESHWAR	Metered	Active

Annual Energy Audit of FY 2022-23 Proceedings at Bangalore Electricity Supply Company Limited (BESCOM)

(Designated Consumer: DIS0009KR)

Dates 22nd June 23 to 23rd June 23

TEAM FROM EAST COAST SUSTAINABLE PRIVATE LIMITED, VISAKHAPATNAM	TEAM FROM BANGALORE ELECTRICITY SUPPLY COMPANY LIMITED
1. Mr G Srinivasa Rao, AEA 2. Mr. S. Janardhana Rao, Sector Expert 3. Mr. P.V. Ramprasad, CEA 4. Mr. Jishnu Sanath, CEA 5. Mr. K. Lokeswara Rao, Energy Engineer	1. Mr. M.L. Nagaraj, CGM (Operations) 2. Mr. Yogesh B.K., General Manager (El) (M&C) 3. Mr. H.B. Basavaraju, DGM, Energy Audit (Energy Auditor) 4. Ms. Liji Joy, AGM, Energy Audit 5. Ms. Anupama, AGM, Energy Audit (IT Manager)

The audit team has verified various measurement and monitoring systems available at Bangalore Electricity Supply Company Ltd for relevant Annual Energy Audit for FY 2022-23. Subsequently, the audit team verified the data filled in Pro-forma for Discom Energy Accounting by the Designated Consumer (DC) with primary and secondary documents and the details are tabulated as follows.

S. No	Reference	Name	Available Monitoring System	Record Verification	Supporting Document	Remarks
FY 2022-23 Data Verification						
Input Energy						
1	Al to A22	Input Energy (MU)	DC has a system of recording the energy input manually and information is provided by the Power Purchase Department and consolidating the same on monthly, quarterly and yearly basis The net energy input to the DC periphery is estimated after adjusting net energy traded at the periphery	The Input energy purchased by the DISCOM in MU was 33831.14 MU. The Input energy purchased has been verified from the information provided by the power purchase department. The Net input energy (received at DISCOM periphery or at distribution point, after adjustment) to the DC was 32334.65 MU for FY 2022-23. The Net input energy has been verified from the information provided by the power purchase department For the percentage metering of DT's, percentage metering of consumers and number of feeders, has been verified from the record provided by Metering & Commercial Section of BESCOM	The Input energy purchased and net input energy (received at DISCOM periphery or at distribution point, after adjustment) has been verified from the monthwise document from the power purchase department	Received
Division Losses						
2	Column A to W	No of connection metered (Nos)	DC has category wise connections and information is sourced through Demand Collection and Billing (DCB) Software	For one division (Tumkur): - the parameters (no of metered connections, no of unmetered connections, connected load metered (MW), connected load unmetered (MW), Input energy (MU), metered energy (MU) has been verified based on the report generated from Demand Collection and Billing Software (DCB Software)	Report produced from DCB software	Received
		No of connection Un-metered (Nos)				
		Connected Load Metered (MW)	DC has category wise connections and information is sourced through DCB Software			
		Connected Load Un-metered (MW)				
		Input Energy (MU)	The Input energy to the division is provided by the Power Purchase Department			
		Metered energy (MU)	DC has category wise connections and information is sourced through DCB Software			
		Unmetered energy/Assessment Energy (MU)	DC has segregated the feeders under Niranthara Jyothi Yojana into rural feeders and agricultural feeders For assessment of energy used by agricultural pump sets, the power consumption per HP of agricultural pump set is multiplied with the total installed capacity (HP) of agricultural pump sets on the feeders (Enumerated no of agricultural pump sets in the feeder x HP Capacity of the agricultural pump set x Energy consumed by agricultural pump set kW/HP x 7 hours per day power supply)	Un-metered energy sale for FY-23 was 6278.29 MU from data obtained from the DCB Software. The unmetered sales as per the subsidy demand submissions to the Govt of Karnataka is also 6278.29 MU DC methodology for the estimation of the energy used by agricultural pump sets has been provided for Agriculture feeder F08-Gopasandra of Devanahally subdivision, emanating from Channarayapatna_66 station The un-metered agricultural consumption = Input energy - Metered Sales - Allowable Loss (10%)	Report produced from DCB software and Nsoft software Procedure of umetered agricutural consumption of IP sets obtained from Nsoft portal	Received
		T&D Losses (MU)	Is the difference between the Input Energy and Billed Energy (Metered Energy + Unmetered/Estimated Energy)	For one division (Tumkur) this data has been verified	Report produced from DCB software	
		Billed Amount	DC has category wise date on sale of power and billing as part of DCB Software			
		Collected Amount				

East Coast Sustainable Pvt. Ltd. Received

		AT&C Loss	AT&C loss is estimated based on BEE formula	For one division (Tumkur) the data on billed amount and collected amount has been verified. The demand (billed amount) has been verified from the DCB software. For one division (Tumkur). The collected amount has been verified from the report generated from the DCB Software.	Report produced from DCB software	
Details of Input Energy Sources						
3	A	Generation at Transmission Periphery (Details)	DC has various sources of power such as intra-state generators, embedded, central share, from power exchanges, purchases from energy traders, renewable energy sources. Allocation from these sources and drawl by the DC is reflected in monthly energy accounting statement (FBSS) of State Load Dispatch Center (SLDC). Generation sources with fixed charge component have fixed contracted quantity in MW. However, allocation from other sources such as traders, power exchanges, RE sources and central share keep varying in terms of MW. Any over drawl or under-drawl by DC vis-a-vis the allocation is settled on a monthly basis through imbalance pool settlement.	1. Yearly allocation of energy from various generation sources among ESCOMS for financial year 23 (Government of Karnataka) has been provided and verified.	Government of Karnataka Order (File No Energy/161/PSR/2022-Bangalore dated 29-03-2022) Excel document - Energy balancing abstract 2022-23	Received
	B	Embedded Generation in DISCOM Area				
Details of Feeder wise Losses						
4		Feederwise Energy Accounting	DC computes feeder wise energy accounting for RAPDRP Area (by MS Infinite computer solutions) and Non-RAPDRP Area (by NSoft Software). For each feeder, there are details of the feeder type, number of consumers, irrigation pump sets, feeder energy metering, imported energy meter, exported energy meters, metered sales, un-metered sales, total sales. DC is computing T&D losses for each feeder.	DC has provided Feederwise energy accounting data and the copy of which has been verified. Additionally, the energy audit team of BESCOM seggragates the feeders based on their losses for further action. A sample report in this regard has been verified. BESCOMS's centralised feeder management team is also maintaining the data relating to availability of feeders and metering status of the feeders. A sample report in this regard has been verified.	DC has provided the report generated from Nsoft. BESCOM's sample report for energy audit of feeders. BESCOM's sample report of centralised feeder management team.	Received
Details of Feeder wise Losses						
5		Feederwise Energy Accounting	DC computes AT&C losses for each feeder.	DC has provided Feederwise energy accounting data and the copy of which has been verified. Additionally, the energy audit team of BESCOM seggragates the feeders based on their losses for further action. A sample report in this regard has been verified. BESCOMS's centralised feeder management team is also maintaining the data relating to availability of feeders and metering status of the feeders. A sample report in this regard has been verified.	DC has provided the report generated from Nsoft. BESCOM's sample report for energy audit of feeders. BESCOM's sample report of centralised feeder management team.	Received
Details of Consumers and consumption						
6		Consumers and Consumption	Details of consumers and their respective consumption has been obtained.	The data for consumers and consumption has been verified by the data obtained from the DCB software.	Report produced from DCB software	Received
Details of DT Wise metering and DT losses						
7		DT Wise Metering	Details of DT wise metering has been obtained.	The data for DT Wise metering has been verified by the data obtained from the respective Operations department and Meter section.	Documents obtained from Operations and meter section	Received
		DT Losses	Details of DT losses has been obtained.	The data for DT Wise losses has been verified by the data obtained from Energy audit Cell and during field inspection.	Documents obtained from EA section and field	Received

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Details of Subsidy

8		Subsidy	Details of Subsidy has been obtained	The subsidy calculation methodology for the BJKJ (Bagya Jyothi Kutir Jyothi) is Subsidy = CDT (Commission Determined Tariff) x Consumption as per the Tariff Order 2022(Pg 389) and for Agricultural IP sets category less than 10 hp as per Tariff order 2022 (PPg 395). Subsidy received from the Government has been verified from the Govt release orders. The subsidy amount to be paid by the Goverment to BESCOM is adjusted with the Electricity duty collected by BESCOM.	Obtained Tariff Order 2022 (Page 389,395) , Govt orders for subsidy for all quarters of FY 23	Received

Clauses of BEE Regulations

Clause No	Clause Details	Sub Clause Number	Subclause Details	Present Status	Documents Verified	Remarks
3	Intervals of time for conduct of annual energy audit	a	Conducted an annual energy audit for every financial year and submitted the annual energy audit report to the Bureau and respective State Designated Agency and also made available on the website of the electricity distribution company within a period of four months from the expiry of the relevant financial year	Annual energy audit for FY 2022-2023 being conducted. Report will be submitted to BEE and SDA. Report has been uploaded onto BESCOM website.	Checked the BESCOM Website	Soft copy has been submitted Checked bescom website, screenshot attached
4	Intervals of time for conduct of periodic energy accounting	1(a)	All feeder wise, circle wise and division wise periodic energy accounting is conducted by the energy manager of the electricity distribution company for each quarter of the financial year.	Periodic energy accounting for FY22-23 has been done for all quarters		Soft copy has been submitted
		1(b)	Submitted the periodic energy accounting report to the Bureau and respective State Designated Agency and also made available on the website of electricity distribution company within forty-five days from the date of the periodic energy accounting.	Periodic energy accounting for FY22-23 has been done for all quarters by the DC and submitted to BEE, SDA. DC has uploaded the energy accounting reports onto the website of DC.	Checked the BESCOM Website	Soft copy has been submitted Checked bescom website and screenshot attached.
		2(a)	Electricity distribution company conducted its first periodic energy accounting, for the last quarter of the financial year immediately preceding the date of such commencement (i.e. 6th October 2021)	Not applicable. This was already verified in the previous audit of FY 21.		
		2(b)	Electricity distribution company conducted its subsequent periodic energy accounting for each quarter of the financial year for a period of two financial years from the date of such commencement, and submit the periodic energy accounting report within sixty days from the date of periodic energy accounting.	The DC has submitted the periodic energy auditing reports as per the Energy Audit regulations for all quarters for the 2 subsequent financial years.		
		a	Identification and mapping of all of the electrical network assets	Under RAPDRP Areas GIS Mapping of 25 towns has been completed. Under IPDS (Integrated Power Distribution Scheme) survey has been completed, Go Live is yet to be done.		
		b	Identification and mapping of high tension and low-tension consumers	All the HT and LT consumers have been mapped.		
		c	Development and implementation of information technology enabled energy accounting and audit system, including associated software	DC has energy accounting and audit system including associated software. DC uses MS Infinite computer solutions (for RAPDRP) and Nsoft Software (For Non RAPDRP).		

	Pre-requisites for annual energy audit and periodic energy accounting		Electricity distribution company ensures the installation of functional meters for all consumers, transformers and feeders. Meter installation is done in a phased manner within a period of three financial years from the date of the commencement of these regulations in accordance with the trajectory set out in the First Schedule	All feeders up to 11kV have been metered. All consumers have been metered except consumers under agriculture category. As of 31st March 2023 of the total 4,78,361 distribution transformers, 115487 distribution transformers have been metered. 3,49,514 distribution transformers are unmetered. 13360 nos. of the IP feeding DTCs are metered though the same is exempted from metering as per directions from the Energy department. (Out of 3,49,514 nos. of unmetered DTs, 1,13,037 nos. of DTs are to be metered, as the balance DTs are on the exclusive IP feeder (segregated Agriculture feeders under NJY project) and single installations with exclusive DTCs, which are exempted from metering.)	Document provided by DC has been verified data obtained from the centralised transformer's maintenance department and meter section	Received
			d.1. 100% Communicable Feeder Metering integrated with AMI, by 31st December 2022 along with replacement of existing non-communicable feeder meters.	d.1. 100% of the feeders are having DLMS (Device Language Message Specification - Communicable Meters). No of DCU's installed is 97 and No of Station DCU's installed is 96 amd No of feeders covered under RFMS is 862 as on 31st May 2023	BESCOM has installed DLMS communicable meters and communication is under process.	
		d	d.2. All **Distribution Transformers** (other than HVDS DT up to 25kVA and other DTs below 25 kVA) shall be metered with communicable meters. Communicable DT Metering for the following areas/ consumers to be completed by December 2023 and in balance areas by December 2025: d.2.1. All Electricity Divisions of 500 AMRUT cities, with AT&C Losses > 15% d.2.2. All Union Territories (for areas with technical difficulty, non-communicable meters may be installed) d.2.3. All Industrial and Commercial consumers d.2.4. All Government offices at Block level and above d.2.5. Other high loss areas i.e. rural areas with losses more than 25% and urban areas with losses more than 15%	d.2.1. Obtaining approval from Regulatory commission is under process for AMI of DTC's in BESCOM Area. d.2.2. Not Relevant for DC. d.2.3. AMR works taken up under RAPDRP, IPDS and DDUGJY schemes for industrial HT-9688 nos. & LT industrial & commercial (above 40HP installations) for 12078 nos. Further, action is in progress for replacement of existing non-DLMS meters by DLMS meters of HT & LT Industrial and Commercial installations. 2.4 Proposal for AMI implementation to All Government offices at Block level and above is under process and yet to be taken up. d.2.5. DC intends to install communicable meters with AMI for **other high loss areas** i.e. rural areas with losses more than 25% and urban areas with losses more than 15% under Revamped Distribution Sector Scheme (RDSS) of REC. BESCOM has enabled AMR for 95872 nos. of DTC meters under various projects, however no meters are enabled with AMI. The contract period of AMR agencies expired in RAPDRP & Non-RAPDRP area on March-2019. Due to the expiry of the existing contracts, to maintain the existing metering system works carried out before 2013 and to ensure proper operation of meters, metering system and modems, it was proposed to float tender under OPEX model. Due to the introduction of MoP-RDSS scheme wherein one of the major component is metering which includes DTCs, as per the direction of Management the OPEX proposal is shelved. The installation of the smart meters has not yet commenced as the tender work is under process.	d.2.3. BESCOM has provided status report	received
5			d.3. **Prepaid Smart Consumer Metering** to be completed for all directly connected meters and AMR in case of other meters, by December 2023 in the following areas: d.3.1. All Electricity Divisions of 500 AMRUT cities, with AT&C Losses > 15%; d.3.2. All Union Territories (for areas with technical difficulty, prepaid meters to be installed); d.3.3. All Industrial and Commercial consumers, d.3.4. All Government offices at Block level and above; d.3.5. Other high loss areas i.e. rural areas with losses more than 25% and urban areas with losses more than 15%.	d.2.1. Installation of the smart meters has not yet commenced as the tender work is under process. d.2.2. Not Relevant for DC. d.2.3. AMR works taken up under RAPDRP, IPDS and DDUGJY schemes for industrial HT-9688 nos. & LT industrial & commercial (above 40HP installations) for 12078 nos. Further, action is in progress for replacement of existing non-DLMS meters by DLMS meters of HT & LT Industrial and Commercial installations. d.2.4. Proposal for AMI implementation to All Government offices at Block level and above is under process and yet to be taken up. d.2.5. DC does not have such magnitude of losses in rural (25%) and urban (15%).	Details received from Meters and commercial section and Smart grid.	
			d.4. Consumer Metering: 98% by FY 2022-23 99% by FY 2023-24	92.65% Consumer metering has been completed as on 31st March 23. All installations are metered except IP set installations below 10HP.	Consumer Metering as on Mar-23 Total Installations -13901031 Metered-12879149 % Metering-92.65%	

			d.5. Targets for functional meters— Meter FY 22-23 FY 23-24 FY24-25 Feeder metering 98.5% 99.5% 99.5% DT metering 90% 95% 98% Consumer metering 93% 96% 98%	1)Purchase orders for supply of meters for replacement of consumers non-functional meters are being placed on vendors as per requirement received from Divisions and sufficient stock is available at divisional stores for replacement 2. For DTCs, as per the directives, no new DTC meters and non-functional meters replacement has been taken up by BESCOM. 3. However, as a case study, 75 nos. in Malleshwaram and 40 nos. in Vidhanasoudha division, LT CT meters are provided for replacment of existing DTCs MNR and replacement is in progress. 4. Also 2492 nos. of LT CT operated meters are provided to 17 Divisions of BESCOM for DTC MNR metering and replacement is in progress	Feeder Metering- Monitored by KPTCL DT Metering as on Mar-23 Total DT-478361 Metered DT-128847 (including IP feeding DT metered) %DT metering-26.94% Consumer Metering as on Mar-23 Total Installations -13901031 Metered-12879149 % Metering-92.65%	Details received from Meters section
		e	e.1. All distribution transformers (other than high voltage distribution system up to 25kVA and other distribution system below 25 kVA) is metered with communicable meters. e.2. And existing non communicable distribution transformer meters is replaced with communicable meters and integrated with advanced metering infrastructure.	Obtaining approval from Regulatory commission is under process for AMI of DTC's in BESCOM Area.	Details received from Smart Grid section	
		f	Electricity distribution company has established an information technology enabled system to create energy accounting reports without any manual interference and such systems may be within a period of three years from the date of the commencement of these regulations in case of urban and priority area consumers, and within five years from the date of the commencement of these regulations in case of rural consumers	DC has energy accounting and audit system including associated software. DC uses MS Infinite computer solutions (for RAPDRP) and Nsoft Software (For Non RAPDRP).		
		g	Electricity distribution company has a centralized energy accounting and audit cell comprising of— (i) a nodal officer, an energy manager and an information technology manager, having professional experience of not less than five years; and (ii) a financial manager having professional experience of not less than five years	The DC has energy audit department with the following staff 1. A nodal officer- CGM-Operations 2. Designated energy manager who is a qualified energy auditor- DGM/EA 3. A qualified information technology manager- AGM/IT 4. A qualified financial manager- AOFinance		Full fledged energy auditing department is in place and functional
6	Reporting requirements for annual energy audit and periodic energy accounting	a	Electricity distribution company has a nodal officer, who is a full time employee of the electricity distribution company in the rank of the Chief Engineer or above, for the purpose of reporting of the annual energy audit and periodic energy accounting and communicate the same to the Bureau.	The DC is complying with this requirement		Full fledged energy auditing department is in place and functional
		b	Electricity distribution company ensures that the energy accounting data is generated from a metering system or till such time the metering system is not in place, by an agreed method of assumption as may be prescribed by the State Commission	DC has energy accounting and audit system including associated software. DC uses MS Infinite computer solutions(for RAPDRP) and Nsoft Software (For Non RAPDRP). The agricultural unmetered energy is accounted based on KERC guidelines.		
		c	Metering of distribution transformers at High Voltage Distribution System up to 25KVA is done on cluster meter installed by the electricity distribution company	All HVDS installations are dedicated EIP feeders and meter is provided at Sub-station level		

		d	The energy accounting and audit system and software is developed to create monthly, quarterly and yearly energy accounting reports.	The DC has software's for energy accounting and audit and the software's are having the capability to create monthly, quarterly and yearly energy accounting reports.		
		e	Electricity distribution company has provided the details of the information technology system in place as specified in clause (f) of regulation 5 that ensures minimal manual intervention in creating the energy accounting reports and any manual intervention of any nature, in respect of the period specified therein, shall be clearly indicated in the periodic energy accounting report	The DC has software's for energy accounting and audit and the software's are having the capability to create monthly, quarterly and yearly energy accounting reports.		
Additional data required during Energy Audit as per SOP issued by Ministry of Power						
I	Validation through sample data checks and field visits	a	**Validation of feeder data**: Based on data available in 11 kV Feeder meter at substation for a sample size of 10% for which documentary evidence to be captured in the audit report.	Validation of feeder data for 650 feeders has been done as per report generated from DCB software.	Reports from software	
		b	**Validation of energy flow data and losses**: Based on field survey as per the following sample size: - Min. 10 or 1% (whichever is higher) of DISCOM's input energy metering points between Transmission and 66kV/33kV/11kV distribution feeders by checking functional and communication status of meters etc. **- For all Divisions with AT&C losses greater than 25%** or at-least 1/3 of the total Divisions of DISCOM, verify - Total of min. 10 or 1% of metering points (whichever is higher) between 220-132-110- 66 /33 kV outgoing and 22kV-11kV-6.6kV-3kV incoming feeders/ direct end-consumer by checking functional and communication status of meters. - In an Urban High Loss Division, check 5 or 1% of Metering points (whichever is higher) at DTs where communicable meters were already installed under other schemes such as R-APDRP and IPDS. - Total of min. of 10 or 1% of metering points (whichever is higher) between 11kV/6.6kV feeders and DTs by checking functional and communication status of meters, foot survey of feeder to check for thefts/ hooking etc - Verify metering and connection status of min. of 10 or 2% consumers of the Division (whichever is higher) of the following category of consumers – Agriculture (Metered and Un-metered), Govt. category connection (ULB, RLB etc.), and LT Industrial	Based on field survey, The following data has been verified: - Functional and communication status of 70 number of input energy metering points between Transmission and 11kV distribution feeders has been provided and verified. The meter test reports provided has been verified. BESCOM has **5 Divisions with AT&C losses greater than 25% - Madhugiri, Hiriyuru, Chintamani, KGF and Kolar-** The following data has been verified: - Functional and communication status of and number of metering points (whichever is higher) between 220-132-110- 66 /33 kV outgoing and 22kV-11kV-6.6kV-3kV incoming feeders/ direct end-consumer is monitored by the transmission company KPTCL. - In an Urban Division, where communicable meters were already installed under other schemes such as R-APDRP and IPDS, the functional and communication status of meters of 32 DTs of Urban Divisions was checked. The meter test reports provided has been verified. -For Metering points between 11kV feeders and DTs , functional and communication status of meters and foot survey of feeder for checking for thefts/ hooking etc has been carried out for 20 number of feeders. - Functional and communication status of meters of 25 consumers of Agriculture category (Metered and Un-metered) was checked and verified. - Functional and communication status of meters of 14 Govt. category connection (ULB, RLB etc.) was checked and verified. - Functional and communication status of meters of 16 consumers of LT Industrial category was checked and verified.	Meter test reports obtained from BESCOM	Received

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	TEAM FROM EAST COAST SUSTAINABLE PRIVATE LIMITED, VISAKHAPATNAM		TEAM FROM BANGALORE ELECTRICITY SUPPLY COMPANY, BANGALORE	
	1. Mr.G. Srinivasa Rao, AEA		1. M.L.Nagaraj, CGM (Operations)	
	2. Mr. S. Janardhana Rao, Sector Expert		2. Mr. Yogesh B.K., General Manager (EI) (M&C)	
	3. Mr. P.V. Ramprasad, CEA		3. H.B. Basavaraju, DGM, Energy Audit cell (Energy Auditor)	
	4. Mr. Jishnu Sanath, CEA		4. Ms. Liji Joy, AGM, Energy Audit Cell	
	5. Mr. K. Lokeswara Rao, Energy Engineer		5. Ms. Anupama, AGM, Energy Audit Cell (IT Manager)	

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