REPORT ON ANNUAL ENERGY AUDIT (2021-22)

Southern Power
Distribution Company of A.P. Ltd
దక్షిణ ప్రాంత విద్యుత్ పంపిణీ సంస్థ

Designated Consumer

(DIS0005AP)

Southern Power Distribution Company of A.P Limited (APSPDCL)

Corporate Office, Tiruchanur Road,
Kesavayanagunta,
Tirupati - 517503

Submitted By

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August 2022

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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 AP Southern Power Distribution Company Ltd (APSPDCL) for Financial Year 2021-22
(Designated Consumer Number: DIS0005AP).

Dear Sir,

Please find here with the Energy Audit Report of AP Southern Power Distribution Company Limited (Designated Consumer Number : DIS0005AP) 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)

The Energy Audit Report is for the financial year 2021-22.

10/8/22

Dr G.Subramanyam

Accredited Energy Auditor (AEA-0019)

Siri Exergy & Carbon Advisory Services Pvt.Ltd,

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Mr . SH. Rasheed

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APSPDCL, Tirupati

CHIEF GENERAL MANAGER
TRG, EA & PLG
CORPORATE OFFICE, APSPDCL
TIRUPATI

ACKOWLEDGEMENT

Siri Exergy & Carbon Advisory Services (P) Ltd, Hyderabad wishes to place on record its deep gratitude to the progressive management of APSPDCL - Tirupati for vesting its confidence in Siri Exergy & Carbon Advisory Services (P) Ltd to carry out Annual **Energy Audit of Fy 2021-22 of** APSPDCL.

The study team is especially thankful and appreciative of the keen interest and commitment of Mr. Sh.Rasheed CGM-Energy Audit & Planning, Training - Nodal Officer towards the Energy Audit Cell.

We are especially thankful to

Mr. G.Balakrishna Reddy	GM/ Energy Audit
Mr. M Ayub Khan	EE /Energy Audit
Mr. G. Krishna Murthy	DEE/ Energy Audit
Mrs. D. Lakshmi	AE/ Energy Audit

We are thankfully all the other executives and staff for the assistance during the entire period of the Audit at APSPDCL, Tirupati

--Siri Exergy Team--

List of Abbreviations

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

1. Executive Summary & Critical Analysis :

The Southern Power Distribution Company of Andhra Pradesh Ltd (APSPDCL) was incorporated under the Companies Act, 1956 as a Public Limited Company on 01-04-2000 with headquarters at Tirupati to carry out electricity distribution for the districts of Krishna, Guntur, Prakasam, Nellore, Chittoor and Kadapa.

On 2 June 2014, due to bifurcation of the erstwhile Andhra Pradesh Anantapur and Kurnool districts were added to the Southern Power Distribution Company of AP Ltd.

AP Power Sector Reforms envisage creation of Distribution Companies as Government Undertakings. The Andhra Pradesh Gazette No.37 published by the Government of Andhra Pradesh on Friday 31 March 2000 declared formally formation of Distribution Companies. In this process, Andhra Pradesh Southern Power Distribution Company was formed for the following six districts of Andhra Pradesh. The corporate office and headquarters of APSPDCL is at Tirupati City.

Quality power at economic rates acts a catalyst in transforming the state by fostering growth in agricultural, industrial and commercial areas while meeting the increasing domestic demand. On Feb 1, 1999, Government of Andhra Pradesh initiated the first phase of reforms and restructuring in AP's power sector by unbundling APSEB into APGENCO and APTRANSCO to cater to Generation and Transmission & Distribution respectively. APTRANSCO was further reorganized into four distribution companies to cater to the needs to the different districts of AP.

APSPDCL was formed on April 1, 2000 to serve Krishna, Guntur, Prakasam, Nellore, Chittoor and Kadapa districts.

After the bifurcation of the erstwhile Andhra Pradesh into the two new states of Andhra Pradesh and Telangana on 2 June-2014, two more districts Anantapur and Kurnool were added to the Southern Power Distribution Company of AP Ltd.

- To develop and maintain an efficient, co-ordinated and economical distribution system;
- To supply electricity on an application of the consumer in accordance with the provisions specified in the Electricity Act 2003;
- To provide non-discriminatory open access to the consumers;
- To establish a forum for redressal of grievances of the consumers;

Since the State Government of Andhra Pradesh has vested the function of distributing power in the designated area to APSPDCL,APEPDCL, APCPDCL, the Business Scope of the Company falls within the legal framework as specified in the Act and can include:

- To develop and maintain an efficient, co-ordinated and economical distribution system;
- To Operate the existing distribution infrastructure efficiently &effectively;

- Merchant Sale of Power in the event of availability of surplus power after meeting the requirement of own consumers with whom the capacity is contracted presently;
- Other associated businesses such as Training, Research and Development activities, Technical consultancy services, and O&M related services;
- Contracts for outsourcing of distribution related activities & joint venture participation;

APSPDCL provides services to approx, 7879953 consumers of various categories of Consumers. The Consumer base of APSPDCL consists of Domestic, Non-Domestic , Agricultural and Industrial Consumers as major categories.

While the energy billed by APSPDCL for the Customer is 23173.12 MU, the monthly consumption per customer stands at (340.047)KWH/Month. APSPDCL caters to area spread in 5 Circles, 28 Divisions.

The following districts of the state of Andhra Pradesh lie under the jurisdiction area of APSPDCL - Nellore, Tirupati, Kadapa, and Ananthapur & Kurnool.

➢ Name of Circle & Division/Sub-Division Data for FY 2021-22

Name of Circle	Total No. of Division	Total No. of Sub-Division
Nellore	6	19
Tirupati	7	25
Kadapa	6	20
Ananthapur	5	21
Kurnool	4	18
APSPDCL	**28**	**103**

➢ Power Purchase by APSPDCL for FY 2021-22

Total Power Purchase by the APSPDCL in FY 2021-22 is shown in the below table.

	POWER PURCHASE COST SUMMARY 21-22 (Provisional)15-06-2022				
	Type	**Energy**	**Fixed Cost**	**Variable Cost**	**TOTAL**
SPDCL	Conventional	21273221247	22794882061	71567566554	94362448615
	Solar	7142161298	0	30294133873	30294133873
	RE - Non Solar	6771524068	0	31737955835	31737955835
	Transmission	0	13682615489	994792476	14677407964
	TOTAL	**35186906613**	**36477497550**	**134594448738**	**171071946288**

Power Purchase Cost for Current Year (FY 2020-21) Second Half and Ensuing Year (FY 2021-22)

Consequent to formation of APCPDCL which has commenced business operations w.e.f. 1st April 2020, the State Govt vide GO Ms No 13, dt 6th April 2020 have specified Ratios to the three DISCOMs, that will be applicable for all the existing Power Purchase Agreements (PPAs) of combined purchases in respect of all ongoing and under construction Generation Stations for which PPAs have been signed except for the projects exclusively allocated on the basis of geographical location by the Government of Andhra Pradesh and other PPAs entered into by individual DISCOMs.

Presently the ratios of APEPDCL, APSPDCL and APCPDCL (Distribution Licensees in AP) in the Power Purchase Agreements (PPAs) in pursuant to the above, are indicated as below:

Sl.No.	Name of Discom	Allocated Share in %
1	APSPDCL	40.44%
2	APEPDCL	36.22%
3	APCPDCL	23.34%
	Total	**100.00%**

PP COST SUMMARY

Based on the availability, requirement and costs for each source, the summary of power purchase cost for APDISCOMs for the Current Financial Year FY 2021-22 is projected as follows:
Based on the availability, requirement and costs for each source, the summary of power purchase cost for Andhra Pradesh for FY 2022-23 is projected as follows:

Projections for FY 2022-23

State							
Ownership/Source	**Dispatch**	**Fixed Costs (Rs Crs)**	**Variable Cost (Rs Crs)**	**Total Cost (Rs Crs)**	**Fixed Cost (Rs,/Unit)**	**Variable Cost (Rs,/Unit)**	**Total Cost (Rs,/Unit)**
AP Genco-thermal	24602.81	2456.45	9233.44	11689.89	1.00	3.75	4.75
CGS	14142.10	1475.24	4246.20	5721.44	1.04	3.00	4.05
Thermal-IPPs	1707.21	270.36	393.93	717.09	1.58	2.31	4.20
Joint Sector	11615.71	1801.19	3801.83	5603.03	1.55	3.27	4.82
Hydel	3119.35	628.10	0.00	628.10	2.01	0.00	2.01
NCE/RE	14363.75	0.00	4408.45	4408.45	0.00	3.07	3.07
Market/Short Term	5264.31	0.00	2105.72	2105.72	0.00	4.00	4.00
Total	**74815.24**	**6631.34**	**24189.58**	**30873.72**	**0.89**	**3.23**	**4.13**

➢ Source of Generation Station for FY 2021-22

The Generation at Transmission Periphery of APSPDCL for FY 2021-22 is given below.

Sl.No	Type of Generation Station	Generation Capacity (MW)	% Share
1.	Biomass	1000	3.28%
2.	Gas	1348.8	4.44%
3.	Liquid	4116	13.54%
4.	Renewable	8419.75	28%
5.	Solid	15517	51.04%
	Total	**30401.55**	**100%**

➢ Circle wise Connections & Energy Consumptions for FY 2021-22

Circle	Division	Total Number of connections (Nos)	% Share	Total Connected Load (MW)	% Share	Input energy (MU)	% Share	Billed energy (MU)	% Share
Nellore	Nellore Town	263939.00	17.66	742.67	25.76	591.17	12.72	542.60	12.66
	Nellore Rurals	270153.00	18.08	460.93	15.99	1078.55	23.22	978.44	22.83
	NAIDUPETA	236382.00	15.82	538.87	18.69	1031.63	22.21	974.36	22.73
	KAVALI	374161.00	25.04	604.76	20.98	1016.20	21.87	925.77	21.60
	GUDUR	213499.00	14.29	360.83	12.52	783.75	16.87	730.69	17.05
	ATMAKURU	136338.00	9.12	174.65	6.06	144.52	3.11	134.83	3.15
	Total	1494472.00	100.00	2882.71	100.00	4645.82	100.00	4286.69	100.00
Tirupati	TIRUPATI TOWN	340508.00	18.33	808.58	20.76	992.57	15.50	944.70	15.95
	TIRUPATI RURALS	249366.00	13.42	563.31	14.46	1087.57	16.98	992.34	16.75
	PUTTUR	289621.00	15.59	629.64	16.16	1040.82	16.25	960.38	16.21
	PILERU	223689.00	12.04	448.36	11.51	491.03	7.67	440.08	7.43
	MADANAPALE	335504.00	18.06	594.82	15.27	709.89	11.08	648.77	10.95
	CHITTOOR TOWN	208702.00	11.23	396.66	10.18	661.33	10.32	630.65	10.65
	CHITTOOR RURALS	210424.00	11.33	454.45	11.67	1422.24	22.20	1306.83	22.06
	Total	1857814.00	100.00	3895.84	100.00	6405.44	100.00	5923.76	100.00
Kadapa	RAYACHOTY	170030.00	13.90	307.14	10.82	325.78	9.00	305.85	9.21
	RAJAMPET	205949.00	16.84	482.45	17.00	612.47	16.92	554.60	16.70
	PULIVENDULA	124893.00	10.21	393.11	13.85	625.98	17.29	564.26	16.99
	PRODDATUR	278857.00	22.80	695.20	24.49	1029.64	28.45	940.10	28.31
	MYDUKUR	210899.00	17.24	447.45	15.76	510.97	14.12	464.26	13.98
	KADAPA	232484.00	19.01	513.02	18.07	514.65	14.22	491.30	14.80
	Total	1223112.00	100.00	2838.36	100.00	3619.51	100.00	3320.37	100.00
Ananthapur	KALYANDURG	295962.00	16.95	557.28	14.71	815.81	13.37	719.95	13.00
	KADIRI	298513.00	17.10	563.83	14.89	662.26	10.86	615.79	11.12
	HINDUPUR	294356.00	16.86	837.50	22.11	2005.76	32.88	1831.72	33.08
	GOOTY	315359.00	18.06	808.50	21.35	1178.17	19.31	1056.74	19.08
	ANANTHAPUR	541744.00	31.03	1020.21	26.94	1438.94	23.59	1313.52	23.72
	Total	1745934.00	100.00	3787.31	100.00	6100.95	100.00	5537.71	100.00
Kurnool	NANDYAL	418915.00	26.88	696.89	27.01	990.95	22.30	893.85	21.78
	KURNOOL TOWN	491461.00	31.53	872.58	33.82	1386.65	31.20	1304.07	31.77
	DHONE	198600.00	12.74	441.68	17.12	1017.80	22.90	947.91	23.09
	ADONI	449645.00	28.85	569.24	22.06	1048.38	23.59	958.76	23.36
	Total	1558621.00	100.00	2580.39	100.00	4443.78	100.00	4104.58	100.00

➢ Customer Profile of APSPDCL for FY 2021-22

C. Circle wise losses											Commercial Parameter			
Sl. No	Name of circle	Name of the Div.	2021-22								Billed Amount in Rs. Crore	Collected Amount in Rs. Crore	Collection Efficiency	AT & C loss (%)
			Consumer profile					Energy parameters						
			Consumer category	Total Number of connections (Nos)	% of number of connections	Total Connected Load (MW)	% of connected load	Input energy (MU)	Billed energy (MU) Total energy	% of energy consumption				
1	AP SPDCL	AP SPDCL	Residential	5826259	74%	5327.44	33%	25215.49	5181.95	22%	14058.78	12935.08	0.92	15.45
			Agricultural	1194633	15%	5666.28	35%		7166.64	31%				
			Commercial/ Industrial-LT	695839	9%	1691.29	11%		1441.37	6%				
			Commercial/ Industrial-HT	3247	0%	1947.35	12%		6010.45	26%				
			Others	159975	2%	1352.23	8%		3372.70	15%				
Sub-total		**APSPDCL Circle Total**		7879953	100%	15984.6	100%	25215.49	23173.12	100%	**14058.78**	**12935.08**	**92.01**	**15.45**

➢ Goals and Objectives

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

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

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

➢ Energy Input, Output & Losses for FY 2021-22

(a)	**Energy Input Details**		
(i)	Input Energy Purchase (From Generation Source)	Million kwh	35188.91
(ii)	Net input energy (at DISCOM Periphery after adjusting the transmission losses and energy traded)	Million kwh	25215.49
(iii)	Total Energy billed (is the Net energy billed, adjusted for energy traded))	Million kwh	23173.12
(b)	Transmission and Distribution (T&D) loss Details	Million kwh	2042.38
		%	8.10%
	Collection Efficiency	%	92.01
(c)	Aggregate Technical & Commercial Loss	%	15.45

➢ Energy Conservation measures already taken

ENERGY CONSERVATION MEASURES ALREADY TAKEN AND PROPOSED FOR FUTURE

APSPDCL has been making conscious efforts on energy conservation over the years and has implemented the following energy conservation measures

Under the Demand Side Management Based Efficient Lighting Programme (DELP),

APSPDCL has distributed 61, 28,744 LED bulbs resulting in a monthly savings of 35.10 million units.

Under the agriculture Demand Side Management Scheme APSPDCL has replaced 31,301 number conventional 5HP submersible pumps with 5 star rated energy efficient submersible pumps. The project was implemented with the support of EESL, New Delhi at a cost of Rs 292.54 Crores.

Under the Implementation of Energy Efficient Tube Lights Programme Scheme APSPDCL supported EESL, New Delhi in distribution of Energy Efficient Tube Lights to consumers on a payment basis. Till date 27,360 Energy Efficient Tube Lights have been distributed in the five districts of APSPDCL.

Under SCSP&TSP programme, APSPDCL distributed to the SC & ST consumers two LED bulbs per consumer and till date 9, 37,272 LED bulbs have been distributed.

DELP (DSM Based Energy Efficient Lighting Program)			**02.02.2021**
Sl. No.	**Name of the Circle**	**Total Quantity distributed (Nos.)**	**Energy Savings in MU per Year**
1	Nellore	1183001	75.96
2	Tirupati	1586920	102.00
3	Kadapa	949401	61.44
4	Ananthapur	1121845	98.64
5	Kurnool	1287577	83.16
Total		**6128744**	**421.20**

➢ Critical Analysis

- APSPDCL provides service to approx. 7879953 consumers of various categories of consumers. The consumers of APSPDCL consist of Domestic, Non-Domestic, Agricultural, and Industrial Consumers as major categories.

- While the energy billed by APSPDCL for the customer is 23173.12 MU, the monthly consumption per customer stands 245 KWH/month. APSPDCL caters to area of 5 circles, with 28 Divisions.

- Verified Distribution (T&D)losses, Collection efficiency & aggregate technical & commercial losses of APSPDCL for FY 2021-22 i.e, 1st April 2021 to 31st March 2022 is 8.10%, 92.01%, and 15.45% respectively.

- The electrical energy which is supplied by various interstate purchase power agreements at 220KV, 132KV, 33 KV, and the same is supplied to customers at 220KV, 132 KV, 33KV, 11KV, 400 V and 230 V Single phase.

- APSPDCL has 100% metering available at 11/33/66 KV systems.

- APSPDCL is a very vast distribution network having 5 Circles , with 28 Divisions and 103 sub divisions, 6593 number of feeders, 623890 number of DTs and 7879953 number of consumers.

2. BACKGROUND

2.1 Extant Regulation & Role of BEE

The Objectives of BEE

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

Role of BEE

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

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

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

- The designated consumer whose energy consumption is more than the prescribed norms and standards shall be entitled to purchase the energy savings certificate to comply with the prescribed norms and standards

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

Promotional Role

The major Promotional Role of BEE includes:

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

2.2 Purpose of Audit & Accounting Report

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

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

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

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

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

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

2.3 Period of Energy Audit& Accounting

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

3. INTRODUCTION OF DISCOM

3.1 Profile of APSPDCL

APSPDCL, belongs to DISCOM Sector,

3.2 NAME AND ADDRESS OF DESIGNATED CONSUMER

Sr. No.	Parameter	Description
1.	Name of Unit	APSPDCL, Tirupati
2.	Registration Number	DIS005AP
3.	Name of Energy Manager	Mr. S.Soma Sekhar Executive Engineer - Energy Audit EA- 7172
4.	Activity	Power Distribution

3.3 NAME AND DETAILS OF ENERGY MANAGER AND AUTHORISEDSIGNATORY OF DC

Details of Energy Auditor	Details of Authorized Signatory
Mr. G. Subramanyam- Director & ACCREDITED ENERGY AUDITOR (AEA-0019), M/s. Siri Exergy & Carbon Advisory services Pvt Ltd,93A, Janaki Enclave, Saroor Nagar, Hyderabad - 500035	Mr. Sh.Rasheed CGM – Energy Audit (Training & Planning)

3.4 SUMMARY PROFILE OF DC

APSPDCL is responsible for power distribution in the five districts of Andhra Pradesh (Chitoor, Kadapa, Nellore, Kurnool, and Ananthapur).

In the year 2000, Government of Andhra Pradesh initiated the first phase of reforms and restructuring in AP's power sector by unbundling Andhra Pradesh State Electricity Board into Andhra Pradesh Generation Co and Andhra Pradesh Transmission Co to cater to Generation and Transmission & Distribution respectively. Andhra Pradesh Transmission Co was further reorganized into four distribution companies to cater to the needs to the different districts of Andhra Pradesh. Post bifurcation of the Andhra Pradesh state, the APSPDCL responsibilities has been restricted to the five districts of Andhra Pradesh (Chitoor, Kadapa, Nellore, Kurnool, and Ananthapur).

APSPDCL provides services to approx, 7879953 consumers of various categories of Consumers. The Consumer base of APSPDCL consists of Domestic, Non-Domestic , Agricultural and Industrial Consumers as major categories.

While the energy billed by APSPDCL for the customers is 23173.12 MU, which is catering to area of 5 Circles , with 28 Divisions.

VISION

To ensure reliable and quality power at reasonable and competitive tariffs to our consumers so as to boost agricultural, industrial and overall economic development of the state and thus become the best distribution utility of India.

MISSION

1. To ensure a balanced all-round development of power infrastructure in all circles of operation.
2. To achieve high standards of consumer satisfaction by committing to Honesty, Transparency and Integrity in all of our actions.
3. To achieve technological excellence and financial turnaround for the overall benefit of the consumers.
4. To become a self-learning organization focusing on continuous improvement

3.4.1 Infrastructure of APSPDCL

Form-Details of Input Infrastructure			
1	**Parameters**	**Total**	**Covered during in audit**
i	Number of circles	5	5
ii	Number of divisions	28	28
iii	Number of sub-divisions	103	103
iv	Number of feeders	6593	6495
v	Number of DTs	623890	623890
vi	Number of consumers	7879953	7879953

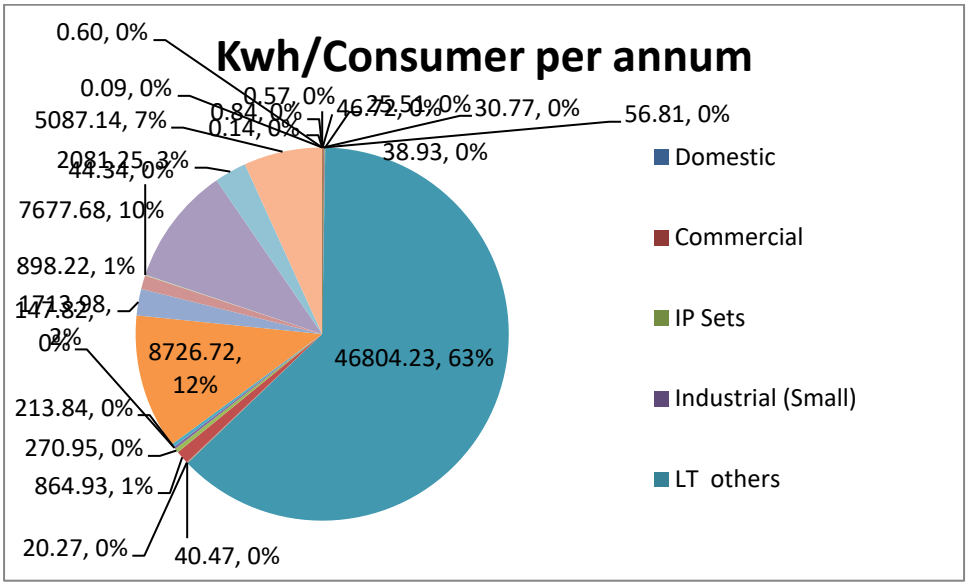
Sr. No	Particulars	Value in FY 2021-22
1.	No. of 11 KV reference I/C	3017
2.	Length of 11KV Line (KM)	136956
3.	Length of Low –tension Line (KM)	166034
4.	Number of Distribution Transformers	623890
5.	Number of Circles	5
6.	Number of divisions	28
7.	Number of Sub-Divisions	103
8.	Number of Feeders	6593

APSPDCL customer wise connections & energy consumptions for FY 2021-22

Energy Consumption with type of consumers is given in the below table.

(Details of Consumers)						
Summary of Energy						
Period From April ' 21 to March ' 22						
S.No	Type of Consumers	Category of Consumers (EHT/HT/LT /Others)	Voltage Level (In Voltage)	No of Consumers	Total Consumption (In MU)	Kwh/Consumer per annum
1	Domestic	LT		5826259	5181.95	0.09
2	Commercial	LT		633245	918.15	0.14
3	IP Sets	LT		1194633	7166.64	0.60
4	Industrial (Small)	LT		62594	523.23	0.84
5	LT others	LT		159409	909.96	0.57
6	Others-1 (if any , specify in remarks)	Cat:1	11KV	33	15.42	46.72
7	Others-2 (if any , specify in remarks)	Cat:2	11KV	917	282.1644	30.77
8	Others-3 (if any , specify in remarks)	Cat:3	11KV	1668	947.62	56.81
9	Others-4 (if any , specify in remarks)	Cat:4	11KV	253	98.50	38.93
10	Others-5 (if any , specify in remarks)	Cat:5	11KV	140	35.71	25.51
11	Others-5 (if any , specify in remarks)	RESCO	11KV	1	468.04	46804.23
12	Others-5 (if any , specify in remarks)	Cat:1	33KV	5	2.02	40.47
13	Others-5 (if any , specify in remarks)	Cat:2	33KV	361	73.16	20.27
14	Others-5 (if any , specify in remarks)	Cat:3	33KV	248	2145.03	864.93
15	Others-5 (if any , specify in remarks)	Cat:4	33KV	25	67.74	270.95
16	Others-5 (if any , specify in remarks)	Cat:5	33KV	44	65.04	147.82
17	Others-5 (if any , specify in remarks)	Cat:2	132KV	18	38.49	213.84
18	Others-5 (if any , specify in remarks)	Cat:3	132KV	28	2443.48	8726.72
19	Others-5 (if any , specify in remarks)	Cat:4	132KV	31	531.33	1713.98
20	Others-5 (if any , specify in remarks)	Cat:5	132KV	15	134.73	898.22
21	Others-5 (if any ,	Cat:2	220KV	3	1.33	44.34

(Details of Consumers)						
Summary of Energy						
Period From April ' 21 to March ' 22						
S.No	**Type of Consumers**	**Category of Consumers (EHT/HT/LT /Others)**	**Voltage Level (In Voltage)**	**No of Consumers**	**Total Consumption (In MU)**	**Kwh/Consumer per annum**
	specify in remarks)					
22	Others-5 (if any , specify in remarks)	Cat:3	220KV	4	307.11	7677.68
23	Others-5 (if any , specify in remarks)	Cat:4	220KV	5	104.06	2081.25
24	Others-5 (if any , specify in remarks)	Cat:5	220KV	14	712.20	5087.14



- **Voltage Wise Meter Consumers**

Sr. No.	Parameters	66kV and above	33kV	11/22kV	LT
1.	Number of Conventional metered Consumers	116	680	3017	6687277
2.	Number of Consumers with smart meters	0	0	0	0
3.	Number of Consumers with smart prepaid meters	0	0	0	0

4.	Number of Consumers with AMR meters	0	0	0	0
5.	Number of Consumers with non-smart prepaid meters	0	0	0	0
6.	Number of unmetered consumers	0	0	0	1188863
	Number of total consumers	**116**	**680**	**3017**	**7876140**

- **No.of Distribution Transformers**

2	Parameters	66kV and above	33kV	11/22kV	LT
b.i.	Number of conventionally metered Distribution Transformers	0	0	113589	
ii	Number of DTs with communicable meters	0	0		
iii	Number of unmetered DTs	0	0	510301	
iv	**Number of total Transformers**	0	0	**623890**	0

- **No.of Feeders**

2	Parameters	66kV and above	33kV	11/22kV	LT
c.i.	Number of metered feeders		790	5803	
ii	Number of feeders with communicable meters			5803	
iii	Number of unmetered feeders			0	
iv	**Number of total feeders**		790	5803	
d.	Line length (ct km)	326158.1			
e.	Length of Aerial Bunched Cables	19924			
f.	Length of Underground Cables	88			

4. Discussion & Analysis

4.1 Energy Accounts for Previous Year

The Southern Power Distribution Company of Andhra Pradesh Ltd (APSPDCL) was incorporated under the Companies Act, 1956 as a Public Limited Company on 01-04-2000 with headquarters at Tirupati to carry out electricity distribution for the districts of Krishna, Guntur, Prakasam, Nellore, Chittoor and Kadapa.

On 2 June 2014, due to bifurcation of the erstwhile Andhra Pradesh Anantapur and Kurnool districts were added to the Southern Power Distribution Company of AP Ltd.

AP Power Sector Reforms envisage creation of Distribution Companies as Government Undertakings. The Andhra Pradesh Gazette No.37 published by the Government of Andhra Pradesh on Friday 31 March 2000 declared formally formation of Distribution Companies. In this process, Andhra Pradesh Southern Power Distribution Company was formed for the following six districts of Andhra Pradesh. The corporate office and headquarters of APSPDCL is at Tirupati City.

4.2 Energy Accounts & Performance in Current Year

- **Power Purchase details are given in the below table**

Power Purchase Requirement Estimates by the Licensee for FY 2021-22

S. No.	DISCOMs	Sales (MU)	Losses (MU)	Power purchase requirement (MU)	T&D loss
(a)	(b)	(c)	(d)	(e)=(c)+(d)	(f)=1-(c)/(e)
1	SPDCL	24272.22	3123.36	27395.58	11.40%
2	EPDCL	22596.46	2419.74	25016.19	9.67%
3	CPDCL	14182.12	1774.51	15956.63	11.12%
4	Total	61050.80	7317.61	68368.4	10.70%

	POWER PURCHASE COST SUMMARY 21-22 (Provisional)15-06-2022				
	Type	**Energy**	**Fixed Cost**	**Variable Cost**	**TOTAL**
SPDCL	Conventional	21273221247	22794882061	71567566554	94362448615
	Solar	7142161298	0	30294133873	30294133873
	RE - Non Solar	6771524068	0	31737955835	31737955835
	Transmission	0	13682615489	994792476	14677407964
	TOTAL	**35186906613**	**36477497550**	**134594448738**	**171071946288**
CPDCL	Conventional	12281032034	13154558142	41313191098	54467749240
	Solar	37923844	0	267589862	267589862
	RE - Non Solar	101005241	0	703767038	703767038
	Transmission	0	7728524944	574145803	8302670747
	TOTAL	**12419961119**	**20883083085**	**42858693801**	**63741776886**
TOTAL	Conventional	52609365547	56335597162	176953561582	233289158744
	Solar	7196919812	0	30659899642	30659899642
	RE - Non Solar	6932408618	79163942	32805536403	32884700345
	Transmission	0	32929712632	2459922038	35389634670
	TOTAL	**66738693977**	**89344473736**	**242878919665**	**332223393401**

➢ Circle Wise Input Energy & Billed Energy for FY 2021-22

C. Circle wise losses				
Sl. No	**Name of circle**	**Name of the Division**	**2021-22**	
			Energy parameters	
			Input energy (MU)	**Total Billed energy (MU)**
1	Nellore	Nellore Town	591.17	404.676
				20.104
				49.521
				53.887
				14.411
Sub-total		**Sub-Total**	**591.169**	**542.600**
2	Nellore	NELLORE RURALS	1078.55	183.594
				383.454
				81.642
				289.371
				40.381
Sub-total		**Sub-Total**	**1078.546**	**978.442**
3	Nellore	NAIDUPETA	1031.63	165.996
				139.670
				32.289

C. Circle wise losses				
Sl. No	**Name of circle**	**Name of the Division**	**2021-22**	
			Energy parameters	
			Input energy (MU)	**Total Billed energy (MU)**
				554.747
				81.654
Sub-Total			**1031.633**	**974.357**
4	Nellore	KAVALI	1016.20	266.959
				349.964
				56.571
				105.102
				147.173
Sub-total		**Sub-Total**	**1016.2**	**925.769**
5	Nellore	GUDUR	783.75	135.442
				355.373
				29.844
				176.442
				33.588
Sub-total		**Sub-Total**	**783.75**	**730.688**
6	Nellore	ATMAKURU	144.52	65.738
				32.126
				11.651
				2.293
				23.024
Sub-total		**Sub-Total**	**144.518**	**134.832**
7	Tirupati	TIRUPATI TOWN	992.565	382.690
				13.816
				106.992
				371.721
				69.484
Sub-total		**Sub-Total**	**992.565**	**944.703**
8	Tirupati	TIRUPATI RURALS	1087.568	166.454
				168.718
				36.564
				606.314
				14.290
Sub-total		**Sub-Total**	**1087.568**	**992.341**
9	Tirupati	PUTTUR	1040.823	164.430
				173.975
				50.351
				504.318
				67.308

C. Circle wise losses				
Sl. No	**Name of circle**	**Name of the Division**	**2021-22**	
			Energy parameters	
			Input energy (MU)	**Total Billed energy (MU)**
Sub-total		**Sub-Total**	**1040.823**	**960.382**
10	Tirupati	PILERU	491.031	95.910
				255.744
				21.071
				6.862
				60.493
Sub-total		**Sub-Total**	**491.031**	**440.080**
11	Tirupati	MADANAPALE	709.892	164.053
				338.676
				49.664
				37.905
				58.472
Sub-total		**Sub-Total**	**709.892**	**648.770**
12	Tirupati	CHITTOOR TOWN	661.325	141.690
				152.720
				57.305
				134.622
				144.318
Sub-total		**Sub-Total**	**661.325**	**630.654**
13	Tirupati	CHITTOOR RURALS	1422.236	97.207
				301.390
				34.076
				375.143
				499.018
Sub-total		**Sub-Total**	**1422.236**	**1306.834**
14	Kadapa	RAYACHOTY	325.783	101.236
				149.140
				20.278
				7.193
				28.001
Sub-total		**Sub-Total**	**325.783**	**305.848**
15	Kadapa	RAJAMPET	612.473	145.385
				254.582
				28.026
				50.407
				76.197
Sub-		**Sub-Total**	**612.473**	**554.597**

C. Circle wise losses				
Sl. No	**Name of circle**	**Name of the Division**	**2021-22**	
			Energy parameters	
			Input energy (MU)	**Total Billed energy (MU)**
total				
16	Kadapa	PULIVENDULA	625.983	73.358
				305.360
				14.925
				142.196
				28.420
Sub-total		**Sub-Total**	**625.983**	**564.259**
17	Kadapa	PRODDATUR	1029.643	212.292
				169.879
				67.106
				395.704
				95.121
Sub-total		**Sub-Total**	**1029.643**	**940.102**
18	Kadapa	MYDUKUR	510.973	117.218
				281.585
				25.740
				14.711
				25.007
Sub-total		**Sub-Total**	**510.973**	**464.261**
19	Kadapa	KADAPA	514.653	237.309
				80.220
				57.465
				47.602
				68.708
Sub-total		**Sub-Total**	**514.653**	**491.304**
20	Ananthapur	KALYANDURG	815.812	105.172
				476.505
				23.986
				38.230
				76.062
Sub-total		**Sub-Total**	**815.812**	**719.955**
21	Ananthapur	KADIRI	662.262	130.202
				307.191
				31.144
				15.464
				131.785
Sub-total		**Sub-Total**	**662.262**	**615.787**

C. Circle wise losses				
Sl. No	**Name of circle**	**Name of the Division**	**2021-22**	
			Energy parameters	
			Input energy (MU)	**Total Billed energy (MU)**
22	Ananthapur	HINDUPUR	2005.762	126.729
				251.361
				52.897
				1224.828
				175.899
Sub-total		**Sub-Total**	**2005.762**	**1831.715**
23	Ananthapur	GOOTY	1178.172	189.105
				353.503
				114.599
				207.494
				192.035
Sub-total		**Sub-Total**	**1178.172**	**1056.736**
24	Ananthapur	ANANTHAPUR	1438.942	254.865
				802.694
				77.828
				31.082
				147.049
Sub-total		**Sub-Total**	**1438.942**	**1313.518**
25	Kurnool	NANDYAL	990.95	299.525
				332.470
				85.163
				121.383
				55.308
Sub-total		**Sub-Total**	**990.95**	**893.848**
26	Kurnool	KURNOOL TOWN	1386.65	420.843
				183.111
				105.372
				262.526
				332.219
Sub-total		**Sub-Total**	**1386.65**	**1304.072**
27	Kurnool	DHONE	1017.8	108.485
				154.054
				68.562
				171.286
				445.520
Sub-total		**Sub-Total**	**1017.8**	**947.907**
28	Kurnool	ADONI	1048.38	225.392

C. Circle wise losses				
Sl. No	Name of circle	Name of the Division	2021-22	
			Energy parameters	
			Input energy (MU)	Total Billed energy (MU)
				379.250
				50.741
				61.620
				241.753
Sub-total		Sub-Total	1048.38	958.756

➢ Month Wise Input Energy for FY 2021-22

CIRCLE WISE INPUTS FROM APRIL 2021 TO MARCH 2022

Sl.No.	Circle	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	TOTAL
1	Nellore	415.86	445.76	444.99	417.34	435.79	395.75	387.57	292.60	329.69	335.08	343.84	410.11	**4645.82**
2	Tirupati	683.27	620.90	539.91	494.08	572.94	516.40	463.47	351.99	419.80	492.66	545.92	695.58	**6405.44**
3	Kadapa	377.13	335.86	295.11	268.71	338.66	311.32	282.65	182.57	221.43	280.55	314.39	411.13	**3619.51**
4	Ananta pur	595.29	484.97	445.05	417.69	552.20	553.33	482.45	342.83	437.95	554.92	568.24	666.02	**6100.95**
5	Kurnool	330.64	276.65	264.07	279.67	485.56	446.07	481.40	344.73	349.75	417.22	363.15	404.85	**4443.78**
6	APSPDCL	**2402.18**	**2164.14**	**1989.13**	**1877.50**	**2385.15**	**2222.87**	**2097.55**	**1514.73**	**1758.61**	**2080.43**	**2135.55**	**2587.69**	**25215.53**

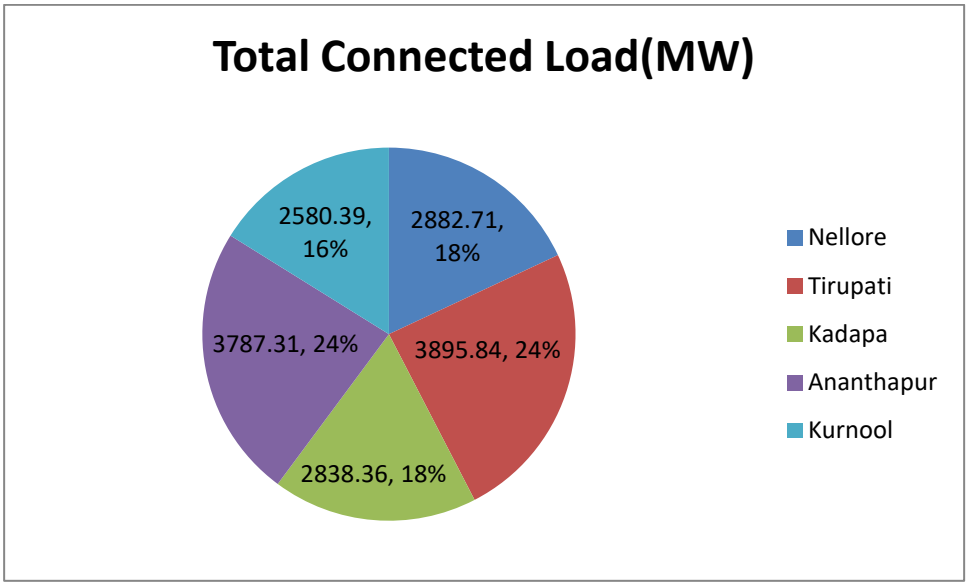
➢ Summary sheet of AT&C losses

Form –Input energy (Details of Input energy & Infrastructure)		
Sr. No	Parameters	Value (2021-22)
A.1	Input Energy purchased (Million Units)	25772.696
A.2	Net input energy (received at DISCOM periphery or at distribution point) (MU)	25215.49
A.3	Total energy billed	23173.12
A.4	Transmission & & Distribution loss (MU)	2042.38
A.5	Transmission & Distribution loss (%)	8.10 %
A.6	Collection efficiency (%)	92.01 %
A.7	Aggregate Technical & Commercial Loss (%)	15.45 %

➢ Circle Wise Connections & Input Energy

APSPDCL, having 5 Circles , with 28 Divisions, and 103 Sub divisions , the circle wise total numbers of connections, connected load (MW), Total input energy (MU)is given in the table.

Circle	Division	Total Number of connections (Nos)	Total Connected Load (MW)	Input energy (MU)	Billed energy (MU)
Nellore	Nellore Town	263939	742.67	591.17	542.6
	Nellore Rurals	270153	460.93	1078.55	978.44
	NAIDUPETA	236382	538.87	1031.63	974.36
	KAVALI	374161	604.76	1016.2	925.77
	GUDUR	213499	360.83	783.75	730.69
	ATMAKURU	136338	174.65	144.52	134.83
	Total	1494472	2882.71	4645.82	4286.69
Tirupati	TIRUPATI TOWN	340508	808.58	992.57	944.7
	TIRUPATI RURALS	249366	563.31	1087.57	992.34
	PUTTUR	289621	629.64	1040.82	960.38
	PILERU	223689	448.36	491.03	440.08
	MADANAPALE	335504	594.82	709.89	648.77
	CHITTOOR TOWN	208702	396.66	661.33	630.65
	CHITTOOR RURALS	210424	454.45	1422.24	1306.83
	Total	1857814	3895.84	6405.44	5923.76
Kadapa	RAYACHOTY	170030	307.14	325.78	305.85
	RAJAMPET	205949	482.45	612.47	554.6
	PULIVENDULA	124893	393.11	625.98	564.26
	PRODDATUR	278857	695.2	1029.64	940.1
	MYDUKUR	210899	447.45	510.97	464.26
	KADAPA	232484	513.02	514.65	491.3
	Total	1223112	2838.36	3619.51	3320.37
Ananthapur	KALYANDURG	295962	557.28	815.81	719.95
	KADIRI	298513	563.83	662.26	615.79
	HINDUPUR	294356	837.5	2005.76	1831.72
	GOOTY	315359	808.5	1178.17	1056.74
	ANANTHAPUR	541744	1020.21	1438.94	1313.52
	Total	1745934	3787.31	6100.95	5537.71
Kurnool	NANDYAL	418915	696.89	990.95	893.85
	KURNOOL TOWN	491461	872.58	1386.65	1304.07
	DHONE	198600	441.68	1017.8	947.91
	ADONI	449645	569.24	1048.38	958.76
	Total	1558621	2580.39	4443.78	4104.58
Grand Total		7879953	15984.61	25215.5	23173.11


Total Connected Load(MW)
2882.71, 18%
3895.84, 24%
2838.36, 18%
3787.31, 24%
2580.39, 16%
Nellore
Tirupati
Kadapa
Ananthapur
Kurnool

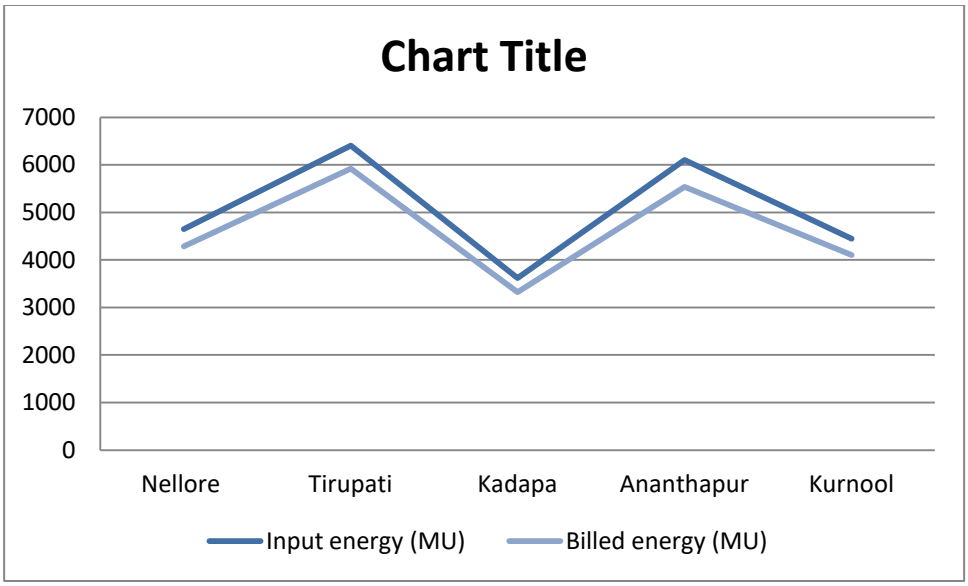


Chart Title
7000
6000
5000
4000
3000
2000
1000
0
Nellore
Tirupati
Kadapa
Ananthapur
Kurnool
Input energy (MU)
Billed energy (MU)

➢ Circle Wise T&D & AT&C Losses

C. Circle wise losses				
Sl. No	Name of the Division	Losses		
		T&D loss (MU)	T&D loss (%)	AT&C loss (%)
1	Nellore Town	48.57	8.22%	8.22%
Sub-total	Sub-Total	48.57	8.22%	8.22%
2	NELLORE RURALS	100.1	9.28%	9.28%
Sub-total	Sub-Total	100.1	9.28%	9.28%
3	NAIDUPETA	57.28	5.55%	5.55%
Sub-Total		57.28	5.55%	5.55%
4	KAVALI	90.43	8.90%	8.90%
Sub-total	Sub-Total	90.43	8.90%	8.90%
5	GUDUR	53.06	6.77%	6.77%
Sub-total	Sub-Total	53.06	6.77%	6.77%
6	ATMAKURU	9.69	6.70%	6.70%
Sub-total	Sub-Total	9.69	6.70%	6.70%
1	Nellore Circle	359.13	7.73%	7.73%
Sub-total	Nellore Circle Total	359.13	7.73%	7.73%
7	TIRUPATI TOWN	47.86	4.82%	10.36%
Sub-total	Sub-Total	47.86	4.82%	10.36%
8	TIRUPATI RURALS	95.23	8.76%	26.99%
Sub-total	Sub-Total	95.23	8.76%	26.99%
9	PUTTUR	80.44	7.73%	7.73%
Sub-total	Sub-Total	80.44	7.73%	7.73%
10	PILERU	50.95	10.38%	10.94%
Sub-total	Sub-Total	50.95	10.38%	10.94%
11	MADANAPALE	61.12	8.61%	10.32%
Sub-total	Sub-Total	61.12	8.61%	10.32%
12	CHITTOOR TOWN	30.67	4.64%	4.64%
Sub-total	Sub-Total	30.67	4.64%	4.64%
13	CHITTOOR RURALS	115.4	8.11%	11.62%
Sub-total	Sub-Total	115.4	8.11%	11.62%
1	Tirupati Circle	481.68	7.52%	11.44%
Sub-total	Tirupati Circle Total	481.68	7.52%	11.44%
14	RAYACHOTY	19.93	6.12%	6.12%
Sub-total	Sub-Total	19.93	6.12%	6.12%
15	RAJAMPET	57.88	9.45%	17.10%
Sub-total	Sub-Total	57.88	9.45%	17.10%
16	PULIVENDULA	61.72	9.86%	9.86%
Sub-total	Sub-Total	61.72	9.86%	9.86%
17	PRODDATUR	89.54	8.70%	24.33%
Sub-total	Sub-Total	89.54	8.70%	24.33%
18	MYDUKUR	46.71	9.14%	9.14%
Sub-total	Sub-Total	46.71	9.14%	9.14%
19	KADAPA	23.35	4.54%	4.54%
Sub-total	Sub-Total	23.35	4.54%	4.54%
1	Kadapa Circle	299.14	8.26%	9.90%
Sub-total	Kadapa Circle Total	299.14	8.26%	9.90%
20	KALYANDURG	95.86	11.75%	11.75%
Sub-total	Sub-Total	95.86	11.75%	11.75%
21	KADIRI	46.48	7.02%	10.69%
Sub-total	Sub-Total	46.48	7.02%	10.69%
22	HINDUPUR	174.05	8.68%	26.55%
Sub-total	Sub-Total	174.05	8.68%	26.55%
23	GOOTY	121.44	10.31%	20.97%

C. Circle wise losses				
Sl. No	Name of the Division	Losses		
		T&D loss (MU)	T&D loss (%)	AT&C loss (%)
Sub-total	Sub-Total	121.44	10.31%	20.97%
24	ANANTHAPUR	125.42	8.72%	9.23%
Sub-total	Sub-Total	125.42	8.72%	9.23%
1	Ananthapur Circle	563.24	9.23%	13.99%
Sub-total	Ananthapur Circle Total	563.24	9.23%	13.99%
25	NANDYAL	97.1	9.80%	9.80%
Sub-total	Sub-Total	97.1	9.80%	9.80%
26	KURNOOL TOWN	82.58	5.96%	43.63%
Sub-total	Sub-Total	82.58	5.96%	43.63%
27	DHONE	69.89	6.87%	68.07%
Sub-total	Sub-Total	69.89	6.87%	68.07%
28	ADONI	89.62	8.55%	24.79%
Sub-total	Sub-Total	89.62	8.55%	24.79%
29	Kurnool Circle	339.2	7.63%	37.87%
Sub-total	Kurnool Circle Total	339.2	7.63%	37.87%
1	APSPDCL	2042.38	8.10%	15.45%
Sub-total	**APSPDCL Circle Total**	**2042.38**	**8.10%**	**15.45%**

- **Circle wise Billed Energy & Collection efficiency**

APSPDCL has 5803 no's 11 KV feeders and all are metered. APSPDCL has taken a number of initiatives, to reduce feeder T&D % losses.

- Circles wise collection efficiency: Below are the Division wise collection efficiency value from APSPDCL.

Name of Circle	Name of Division	Commercial Parameter (Crore)		Collection Efficiency %
		Billed Amount in Rs.	Collected Amount in Rs.	
Nellore	Nellore Town	355.10	364.36	100
	Nellore Rurals	596.54	625.04	100
	Naidupeta	614.93	628.83	100
	Kavali	493.91	508.40	100
	Gudur	426.55	440.60	100
	Atmakuru	54.79	61.01	100
	Nellore Circle	2541.81	2628.25	100
Tirupati	Tirupati Town	574.27	540.85	94
	Tirupati Rurals	364.10	291.36	80
	Puttur	223.84	236.56	100
	Pileru	338.56	336.44	99
	Madanpalle	533.64	523.66	98
	Chittoor Town	233.49	237.71	100
	Chitoor Rurals	1215.49	1169.17	96

Name of Circle	Name of Division	Commercial Parameter (Crore)		Collection Efficiency %
		Billed Amount in Rs.	Collected Amount in Rs.	
	Tirupati Circle	3483.38	3335.74	96
Kadapa	Raychotu	177.02	189.46	100
	Rajampet	365.85	334.95	92
	Pullivendela	256.79	313.94	100
	Proddaturu	598.85	496.31	83
	Mydukur	274.54	287.98	100
	Kadapa	292.14	307.50	100
	Kadapa Circle	1966.19	1930.14	98
Ananthapur	Kalyandurg	491.06	536.81	100
	Kadiri	619.41	594.93	96
	Hindupur	505.19	406.34	80
	Gooty	834.57	735.39	88
	Ananthapur	1037.20	1031.32	99
	Ananthapur Circle	3487.43	3304.793	95
Kurnool	Nandyala	534.15	554.66	100
	Kurnool Town	816.45	489.37	60
	Dhone	666.77	228.62	34
	Adoni	563.59	463.51	82
	Kurnool Circle	2580.96	1736.15	67
APSPDCL	APSPDCL	14058.78	12935.08	92

- **Generation station & Its Capacity**

Details of Input Energy Sources

Period From April '21 to March '22

A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
1	Dr.NTTPS	1260	Solid	LTPPA	Intra State		220	
2	Dr.NTTPS-IV	500	Solid	LTPPA	Intra State		400	
3	RTPP Stage-I	420	Solid	LTPPA	Intra State		220	
4	RTPP Stage-II	420	Solid	LTPPA	Intra State		220	
5	RTPP Stage-III	210	Solid	LTPPA	Intra State		220	
6	RTPP Stage-IV	600	Solid	LTPPA	Intra State		400	
7	Srisailam -RBPH	770	Liquid	LTPPA	Intra State		132	
8	NSRCPH	90	Liquid	LTPPA	Intra State		220	
9	NSTPDC PH	50	Liquid	LTPPA	Intra State		220	
10	Upper Sileru	240	Liquid	LTPPA	Intra State		132	
11	Lower Sileru	460	Liquid	LTPPA	Intra State		132	
12	Donkarai	25	Liquid	LTPPA	Intra State		132	
13	Pennaahobilam	20	Liquid	LTPPA	Intra State		132	
14	Mini Hydel (Chettipeta)	1	Liquid	LTPPA	Intra State		220	
15	Machkund	84	Liquid	LTPPA	Intra State		220	
16	TB Dam	28.8	Liquid	LTPPA	Intra State		220	
17	APGPCL Stage I	100	Gas	LTPPA	Intra State		400	
18	APGPCL Stage II	172	Gas	LTPPA	Intra State		400	
19	APPDCL Unit -1	800	Solid	LTPPA	Intra State		400	
20	APPDCL Unit -2	800	Solid	LTPPA	Intra State		400	
21	Godavari Gas Power Plant	217	Gas	LTPPA	Intra State		400	
22	NTPC (SR) Ramagundam I&II	2100	Solid	LTPPA	Inter State		400	
23	NTPC ER	0	Solid	LTPPA	Inter State		400	
24	NTPC (SR) Simhadri Stage 1	1000	Solid	LTPPA	Inter State		400	
25	NTPC (SR) Simhadri Stage 2	1000	Solid	LTPPA	Inter State		400	
26	NTPC (SR) Talcher St. II	2000	Solid	LTPPA	Inter State		400	
27	NTPC (SR)	500	Solid	LTPPA	Inter State		400	

Details of Input Energy Sources

Period From April '21 to March '22

A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
	Ramagundam Stage-III							
28	NTPC Kudgi Stage 1	2400	Solid	LTPPA	Inter State		400	
29	NTPC DADRI	1020	Solid	LTPPA	Inter State		400	
30	NTECL Valluru	1500	Solid	LTPPA	Inter State		400	
31	NLC Stage-I	630	Solid	LTPPA	Inter State		400	
32	NLC Stage-II	840	Solid	LTPPA	Inter State		400	
33	NPC (MAPS)	440	Solid	LTPPA	Inter State		400	
34	NPC (Kaiga Unit-I,II & III)	880	Solid	LTPPA	Inter State		400	
35	NTPL (NLC Tamilnadu Power Ltd Stage-1)	1000	Solid	LTPPA	Inter State		400	
36	NLC NNTPS	1000	Solid	LTPPA	Inter State		400	
37	Spectrum Power	350	Gas	LTPPA	Inter State		220	
38	Lanco Kondapalli	1476	Gas	LTPPA	Inter State		220	
39	Thermal Powertech Corporation India	1320	Solid	STOA	Inter State		220	
40	Hinduja National Power Corp Ltd(HNPCL)	1000	Solid	LTPPA	Inter State		400	
41	Srivathsa Power		Solid	LTPPA	Inter State		33	
42	Indian Energy Exchange Ltd	IEX	Biomass	LTPPA	Inter State		220	
43	Indian Energy Exchange Ltd(STOA charges)	IEX	Biomass	LTPPA	Inter State		220	
44	Power Exchange India Ltd	IEX	Liquid	LTPPA	Intra State		33	
45	Power Exchange India Ltd(STOA Charges)	IEX	Liquid	LTPPA	Intra State		11	
46	NHPC Limited (Trading)	IEX	Solid	LTPPA	Intra State		33	

Details of Input Energy Sources

Period From April '21 to March '22

A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
47	Kreate Energy(Trading)	IEX	Solid	LTPPA	Intra State		33	
48	PTC India Ltd (Trading)	IEX	Solid	LTPPA	Intra State		33	
49	NTPC Limited (Trading)	IEX	Solid	STOA	Intra State		33	
50	Kreate Energy (STOA Charges)	IEX	Solid	STOA	Intra State		33	
51	NVVNL Limited (Trading)	IEX	Solid	STOA	Intra State		220	
52	NVVNL-JPL	IEX	Solid	LTPPA	Intra State		220	
53	PTC-OTPC	IEX	Solid	LTPPA	Intra State		220	
54	PTC-SEIL	IEX	Solid	STOA	Intra State		220	
55	PTC-EMPL	IEX	Solid	LTPPA	Intra State		220	
56	SEMBCORP GAYATRI POWER LTD	IEX	Solid	LTPPA	Intra State		220	
57	MANIKARAN POWER LIMITED(STOA Charges)	IEX	Solid	LTPPA	Intra State		220	
58	INTER STATE TRADERS (SHORT TERM)	IEX	Solid	LTPPA	Intra State		220	
59	Sagar Sugars (Seasonal)	20	Renewable	LTPPA	Intra State		132	
60	Empee Power Company(India)	4	Renewable	LTPPA	Intra State		33	
61	Sri Venkata Sreedevi(Bollineni Castings)	6	Renewable	LTPPA	Intra State		33	
62	Balaji Agro	0	Renewable	LTPPA	Intra State		33	
63	Jyothi Bio Energy 6MW	6	Renewable	LTPPA	Inter State		33	
64	Jyothi Bio Energy 6MW	6	Renewable	LTPPA	Inter State		33	
65	Clarion Power	0	Renewable	LTPPA	Intra State		33	

Details of Input Energy Sources

Period From April '21 to March '22

A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
66	Greenko (Sri Balaji Biomass)	6	Renewable	LTPPA	Intra State		33	
67	Sri Rayalaseema Energy	1.6	Renewable	LTPPA	Intra State		33	
68	3F Industries Ltd (Foods & Fats)		Renewable	LTPPA	Inter State		33	
69	Redan Infra Pvt Ltd	7.5	Renewable	LTPPA	Intra State		11	
70	Jindal urban waste Mangament (guntur)		Renewable	LTPPA	Inter State		33	
71	Balaji Energy pvt ltd	3	Renewable	LTPPA	Intra State		33	
72	Km Power Velpanur	4	Renewable	LTPPA	Intra State		33	
73	Km Power Gkondur	13	Renewable	LTPPA	Intra State		33	
74	Km Power Madhavaram	4	Renewable	LTPPA	Intra State		33	
75	Ncl energy Chabolu	7.5	Renewable	LTPPA	Intra State		33	
76	Vetamamidi MHPP Project		Renewable	LTPPA	Inter State		33	
77	Ncl Energy TB Dam	7.5	Liquid	LTPPA	Intra State		33	
78	KANDALERU	10.4	Renewable	LTPPA	Intra State		33	
79	Deccan cements		Renewable	LTPPA	Inter State		33	
80	The KCP Ltd., GNT - 4096, 4000 & 4089		Renewable	LTPPA	Inter State		33	
81	Trimula Cotton & Agro Products GNT 4079 Unit - I, II & III		Renewable	LTPPA	Inter State		33	
82	NEDCAP,1.60 MW	1.6	Renewable	LTPPA	Intra State		33	
83	Nandi Rollers Flour Mills (P)	0.8	Renewable	LTPPA	Intra State		33	

Details of Input Energy Sources

Period From April '21 to March '22

A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
	Ltd.,							
84	Orange Sorting Machines (India) Pvt. Ltd	0.8	Renewable	LTPPA	Intra State		33	
85	Prakash Beedies Pvt. Ltd.	0.8	Renewable	LTPPA	Intra State		33	
86	Vikram Traders	0.8	Renewable	LTPPA	Intra State		33	
87	Compucom Software Ltd	0.8	Renewable	LTPPA	Intra State		33	
88	Chandulal Surajlal	0.8	Renewable	LTPPA	Intra State		33	
89	G.Shoe Export	0.8	Renewable	LTPPA	Intra State		33	
90	Arts & Crafts Exports	0.8	Renewable	LTPPA	Intra State		33	
91	Meghna Associates	0.8	Renewable	LTPPA	Intra State		33	
92	Mayura Steels Pvt. Ltd.	0.8	Renewable	LTPPA	Intra State		33	
93	Shilpa Medicare Ltd	1.6	Renewable	LTPPA	Intra State		33	
94	S. Kumar	0.8	Renewable	LTPPA	Intra State		33	
95	Siddaganga Oil Extractions Pvt Ltd	1.6	Renewable	LTPPA	Intra State		33	
96	Protectron Elecromech Pvt. Ltd Ankireddipally	0.8	Renewable	LTPPA	Intra State		33	
97	Canara Cement Pipes	0.8	Renewable	LTPPA	Intra State		33	
98	Texmo Precision Castings	2.4	Renewable	LTPPA	Intra State		33	
99	Texmo Industries	1.6	Renewable	LTPPA	Intra State		33	
100	Vaayu Phase - I	4.8	Renewable	LTPPA	Intra State		33	
101	Vaayu Phase -II	4.8	Renewable	LTPPA	Intra State		33	
102	Vaayu Phase -III	4.8	Renewable	LTPPA	Intra State		33	
103	Vaayu Phase -IV	11.2	Renewable	LTPPA	Intra State		33	
104	Vaayu Phase -V	4.8	Renewable	LTPPA	Intra State		33	

Details of Input Energy Sources

Period From April '21 to March '22

A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
105	Vaayu Phase -VI	9.6	Renewable	LTPPA	Intra State		33	
106	Vaayu Phase -VII	10.4	Renewable	LTPPA	Intra State		33	
107	Vish Wind Phase I	0.8	Renewable	LTPPA	Intra State		33	
108	Vish Wind Phase II	4	Renewable	LTPPA	Intra State		33	
109	Vish Wind Phase III	1.6	Renewable	LTPPA	Intra State		33	
110	Vish Wind Phase - IV	1.6	Renewable	LTPPA	Intra State		33	
111	International Conveyors Ltd., Phase I	0.8	Renewable	LTPPA	Intra State		33	
112	International Conveyors Ltd., Phase II	0.8	Renewable	LTPPA	Intra State		33	
113	Triveni Enterprises	0.8	Renewable	LTPPA	Intra State		33	
114	Happy Valley Developers	0.8	Renewable	LTPPA	Intra State		33	
115	Shreem Electric Ltd.,	1.6	Renewable	LTPPA	Intra State		33	
116	Texonic Instruments	0.8	Renewable	LTPPA	Intra State		33	
117	Ramsons Asbestos Cement Products	0.8	Renewable	LTPPA	Intra State		33	
118	Hetero Wind Power(13.5)	13.5	Renewable	LTPPA	Intra State		33	
119	Sunwin Powertech(4 MW)	4	Renewable	LTPPA	Intra State		33	
120	Vibrant (0.8MW)	0.8	Renewable	LTPPA	Intra State		33	
121	Hetero Wind Power(10.5 MW)	10.5	Renewable	LTPPA	Intra State		33	
122	Hetero Wind Power(6MW)	6	Renewable	LTPPA	Intra State		33	
123	Hetero Wind Power(24 MW)	24	Renewable	LTPPA	Intra State		33	
124	Fujin Wind Parks	46	Renewable	LTOA	Intra State		220	

Details of Input Energy Sources

Period From April '21 to March '22

A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
125	Aeolus Wind parks Pvt.Ltd	50.6	Renewable	LTOA	Intra State		220	
126	Dindore Winds Pvt. Ltd	9.2	Renewable	LTPPA	Intra State		220	
127	PTC Energy - Kandimallayapalli	40	Renewable	LTPPA	Intra State		220	
128	M.G.M. Springs Pvt. Ltd	0.8	Renewable	LTPPA	Intra State		33	
129	Protectron Electromech Pvt.Ltd	0.8	Renewable	LTPPA	Intra State		33	
130	Vish Wind Infrastructure Pvt Ltd (Phase-I)	12.8	Renewable	LTPPA	Intra State		33	
131	Vish Wind Infrastructure Pvt Ltd (Phase-II)	6.4	Renewable	LTPPA	Intra State		33	
132	Vish Wind Infrastructure Pvt Ltd (Phase-III)	1.6	Renewable	LTPPA	Intra State		33	
133	Tadas Wind Energy Pvt Ltd (Phase -I)	12.8	Renewable	LTPPA	Intra State		33	
134	Tadas Wind Energy Pvt Ltd (Phase -II)	3.2	Renewable	LTPPA	Intra State		33	
135	Tadas Wind Energy Pvt Ltd (Phase -III)	6.4	Renewable	LTPPA	Intra State		33	
136	Tadas Wind Energy Pvt Ltd (Phase -IV)	9.6	Renewable	LTPPA	Intra State		33	
137	Tadas Wind Energy Pvt Ltd (Phase -V)	8	Renewable	LTPPA	Intra State		33	
138	Tadas Wind Energy Pvt Ltd (Phase -VI)	8	Renewable	LTPPA	Intra State		33	

Details of Input Energy Sources

Period From April '21 to March '22

A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
139	Tadas Wind Energy Pvt Ltd (Phase -VII)	2.4	Renewable	LTPPA	Intra State		33	
140	Oil Country Tubular Ltd	0.8	Renewable	LTPPA	Intra State		33	
141	R3K Power LLP(Formerly Sukaso Ceracolors Pvt.Ltd.)	1.6	Renewable	LTPPA	Intra State		33	
142	Neminath Trading Company	0.8	Renewable	LTPPA	Intra State		33	
143	Khandke Wind Energy Pvt Ltd (Phase-I)	2.4	Renewable	LTPPA	Intra State		33	
144	Khandke Wind Energy Pvt Ltd (Phase-II)	6.4	Renewable	LTPPA	Intra State		33	
145	Khandke Wind Energy Pvt Ltd (Phase-III)	4	Renewable	LTPPA	Intra State		33	
146	Khandke Wind Energy Pvt Ltd (Phase-IV)	2.4	Renewable	LTPPA	Intra State		33	
147	Khandke Wind Energy Pvt Ltd (Phase-V)	16	Renewable	LTPPA	Intra State		33	
148	Saptagir Camphor Ltd-1	0.8	Renewable	LTPPA	Intra State		33	
149	Amrit Bottlers Pvt Ltd	2	Renewable	LTPPA	Intra State		33	
150	Saptagir Camphor Ltd-2	0.8	Renewable	LTPPA	Intra State		33	
151	KKV Agro Powers Ltd	1.6	Renewable	LTPPA	Intra State		33	
152	TSSS Infotech and Infra Pvt Ltd	2.4	Renewable	LTPPA	Intra State		33	
153	Sterling Agro Industries Ltd-1	1.6	Renewable	LTPPA	Intra State		33	

Details of Input Energy Sources

Period From April '21 to March '22

A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
154	Sterling Agro Industries Ltd-2	7.2	Renewable	LTPPA	Intra State		33	
155	Mytrah Vayu (Pennar) Pvt Ltd (Phase-I)	16.8	Renewable	LTPPA	Intra State		33	
156	Indian Oil Corporation Ltd (16.8 MW)	16.8	Renewable	LTPPA	Intra State		33	
157	Indian Oil Corporation Ltd (10.5 MW)	10.5	Renewable	LTPPA	Intra State		33	
158	Mytrah Vayu (Pennar) Pvt Ltd (Phase-II to VIII)	46.2	Renewable	LTPPA	Intra State		33	
159	En En Electrical Engineers Pvt Ltd	2.1	Renewable	LTPPA	Intra State		33	
160	Santhiram Wind Power Private Ltd	2.1	Renewable	LTPPA	Intra State		33	
161	Hi-tech Systems & Services Ltd	2.1	Renewable	LTPPA	Intra State		33	
162	Woodside Fashions Ltd	2.1	Renewable	LTPPA	Intra State		33	
163	Ostro Andhra Wind Pvt Ltd	98.7	Renewable	LTPPA	Intra State		33	
164	Ostro AP Wind Pvt Ltd	98.7	Renewable	LTPPA	Intra State		33	
165	Danu Wind Parks Pvt Ltd	17.6	Renewable	LTPPA	Intra State		33	
166	Natco Power Pvt Ltd	1.6	Renewable	LTPPA	Intra State		33	
167	Vena Energy Power Resources Pvt Ltd(Phase-I to III)	200	Renewable	LTPPA	Intra State		33	
168	Axis Wind Farms (Anantapur)Pvt Ltd	105	Renewable	LTPPA	Intra State		33	
169	Axis Wind Farms	105	Renewable	LTPPA	Intra State		33	

Details of Input Energy Sources

Period From April '21 to March '22

A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
	(Rayalaseema) Pvt Ltd							
170	Vibrant Greentech India Pvt Limited 2.0 MW	2	Renewable	LTPPA	Intra State		33	
171	Guttaseema Wind Energy Company Pvt Ltd 80 MW	80	Renewable	LTPPA	Intra State		33	
172	Eenadu Television Private Ltd 2.1 MW (BLG-049)	25.1	Renewable	LTPPA	Intra State		33	
173	Ushodaya Enterprises Private Ltd 4.2 MW (BLG-50,72)	4.2	Renewable	LTPPA	Intra State		220	
174	SANDLA WIND PROJECT Pvt. Ltd 50.4 MW (VPD-040-041)	50.4	Renewable	LTPPA	Intra State		33	
175	Mangalam Fashions Limited 2.1 MW (BLG-48)	2.1	Renewable	LTPPA	Intra State		220	
176	Levelstate Systems Pvt. Ltd 2.1 MW (BLG-74)	2.1	Renewable	LTPPA	Intra State		220	
177	Woodside Fashions Limited 2.1 MW (BLG-73)	2.1	Renewable	LTPPA	Intra State		220	
178	Imperial Arts 2.1 MW (BLG 91)	2.1	Renewable	LTPPA	Intra State		220	
179	Jai Bharat Gum & Chemicals Ltd 2.1 MW (BLG-122)	2.1	Renewable	LTPPA	Intra State		220	
180	Dinesh Enterprises 2.1 MW (BLG-121)	2.1	Renewable	LTPPA	Intra State		220	
181	Kaushaliya Devi Dhoot 2.1 MW	2.1	Renewable	LTPPA	Intra State		220	

Details of Input Energy Sources

Period From April '21 to March '22

A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
	(BLG-94)							
182	Satya Narayana Dhoot 2.1 MW (BLG-95)	2.1	Renewable	LTPPA	Intra State		220	
183	OM Prakash Soni 2.1 MW (BLG-44)	2.1	Renewable	LTPPA	Intra State		220	
184	Manoj Agarwalla 2.1 MW (BLG-045)	2.1	Renewable	LTPPA	Intra State		220	
185	Prince Art Exporter 4.2 MW (BLG 92-93)	4.2	Renewable	LTPPA	Intra State		220	
186	SAI PET Preforms 2.1 MW (BLG-47)	2.1	Renewable	LTPPA	Intra State		220	
187	Shree Ram Industries 4.2 MW (BLG 42,43)	4.2	Renewable	LTPPA	Intra State		220	
188	Shri Nath Gum & Chemicals 2.1 MW (BLG-046)	2.1	Renewable	LTOA	Intra State		220	
189	Rajasthan Gum Private Ltd 8.4MW (BLG=117,118,119, 120)	8.4	Renewable	LTPPA	Intra State		220	
190	Chimique (India) Ltd 2.1 MW AVR002	2.1	Renewable	LTPPA	Intra State		220	
191	Hi-Tech Systems & Services Pvt Ltd 2.1 MW (BLG-051)	2.1	Renewable	LTPPA	Intra State		33	
192	Mytrah Vayu (Indravathi) Private Ltd 65.1 MW (PPD-40-06-035)	65.1	Renewable	LTPPA	Intra State		33	
193	Orange Uravakonda Wind Power Pvt	101.2	Renewable	LTPPA	Intra State		220	

Details of Input Energy Sources

Period From April '21 to March '22

A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
	Ltd(BLG-075-077-028-029-158-126)							
194	Jai Bharat Gum & Chemicals Ltd 2.1MW Vajrakarur (AVAR022)	2.1	Renewable	LTPPA	Intra State		33	
195	RBA Properties Ltd 2.1 (AVR001)	2.1	Renewable	LTPPA	Intra State		33	
196	Rajasthan Gum Private Ltd 4.2 MW (VAJ002)	4.2	Renewable	LTPPA	Intra State		33	
197	Jai Bharat Gum & Chemicals Ltd 4.2MW (VAJ-012)	4.2	Renewable	LTPPA	Intra State		33	
198	Saipuram Wind Energy Pvt Ltd 104.5 MW	104.5	Renewable	LTPPA	Intra State		220	
199	Adurjee & Bros Private Limited 14.7MW (BLG-136)	14.7	Renewable	LTOA	Intra State		220	
200	Naukhal Investment Private Limited 4.2 MW (BLG-130)	4.2	Renewable	LTOA	Intra State		220	
201	Cyrus Poonawalla Family Trust 2.1 MW (BLG-112)	2.1	Renewable	LTOA	Intra State		220	
202	Mayank Green Energy 2.1 MW (BLG-52)	2.1	Renewable	LTOA	Intra State		220	
203	Hi-Tech Systems & Services Pvt Ltd 8.4 MW (BLG-32-41)	8.4	Renewable	LTOA	Intra State		33	
204	Hi-Tech Systems & Services Pvt Ltd 4.2MW (BLG-30)	4.2	Renewable	LTPPA	Intra State		33	

Details of Input Energy Sources

Period From April '21 to March '22

A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
205	Villos Greenfield Farms 6.3 MW (BLG-129)	6.3	Renewable	LTPPA	Intra State		220	
206	CYZA Chem Private Limited 4.2 MW (BLG-107)	4.2	Renewable	LTPPA	Intra State		220	
207	Poonawala Estates Stud and Agri Farm Pvt Ltd 4.2 MW (BLG-111)	4.2	Renewable	LTPPA	Intra State		220	
208	Chanda Investment & Trading Co.Pvt Ltd 4.2 MW (BLG-132)	4.2	Renewable	LTPPA	Intra State		220	
209	Poonawalla Aviation Pvt Ltd 6.3MW (BLG-137)	6.3	Renewable	LTPPA	Intra State		220	
210	Poonawalla Shares and Securities Pvt Ltd 4.2 (BLG-109)	4.2	Renewable	LTPPA	Intra State		220	
211	Eenadu Television Private Ltd 10.5MW (VAJ011) -	10.5	Renewable	LTPPA	Intra State		33	
212	Ushodaya Enterprises Pvt. Ltd 6.3 MW (BLG-53-56)	6.3	Renewable	LTPPA	Intra State		220	
213	Arkas Energy LLP 2.1 MW (VAJ007)	2.1	Renewable	LTPPA	Intra State		33	
214	Chimique (India) Ltd 2.1MW (VAJ-006)	2.1	Renewable	LTPPA	Intra State		33	
215	Ushodaya Enterprises Pvt. Ltd 2.1MW (VAJ-	2.1	Renewable	LTPPA	Intra State		33	

Details of Input Energy Sources

Period From April '21 to March '22

A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
	003)							
216	Eenadu Television Private Ltd 2.1MW BLG164	2.1	Renewable	LTPPA	Intra State		220	
217	Vayuputhra Energy Private Limited 20 MW	20	Renewable	LTPPA	Intra State		220	
218	NALCO,Gandikota	50.2	Renewable	LTPPA	Intra State		33	
219	IOCL(14.7MW)	14.7	Renewable	LTPPA	Intra State		33	
220	IOCL(4.2MW)	4.2	Renewable	LTPPA	Intra State		33	
221	Sri KPR Infra & Project Ltd	2	Renewable	LTPPA	Intra State		33	
222	KRBL LTD(2.1)MW	2.1	Renewable	LTPPA	Intra State		33	
223	Sri KPR Industries Ltd(Sri Venkateswara Pipes Limited)	2	Renewable	LTPPA	Intra State		33	
224	Weld fuse Pvt ltd	2.1	Renewable	LTPPA	Intra State		33	
225	Orange Ananthapur wind power Pvt Ltd(28.03.16 to21.07.16)	99.1	Renewable	LTPPA	Intra State		220	
226	Tata Power Renewable Energy Ltd	0	Renewable	LTPPA	Intra State		33	
227	Ostro Anantapur Pvt Ltd	197.4	Renewable	LTPPA	Intra State		33	
228	Poly Solar Park	5.95	Renewable	LTPPA	Intra State		33	
229	Jed Solar park	0	Renewable	LTPPA	Intra State		33	
230	Zemira Renewable Energy Ltd(50.4MW)	50.4	Renewable	LTPPA	Intra State		33	
231	RSM Estates Ltd	2	Renewable	LTPPA	Intra State		220	
232	Mangalam	2	Renewable	LTPPA	Intra State		33	

Details of Input Energy Sources

Period From April '21 to March '22

A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
	fashions Limited							
233	Bommidala Enterprises Pvt Ltd	2	Renewable	LTPPA	Intra State		33	
234	Daulat Financial Services Pvt Ltd 2MW	2	Renewable	LTPPA	Intra State		33	
235	Amrit bottles Pvt Ltd 2MW	2	Renewable	LTPPA	Intra State		33	
236	HC commercial Ltd2.00MW	2	Renewable	0	Intra State		33	
237	Sri KPR Infra & Projects Ltd (2MW)	2	Renewable	0	Intra State		33	
238	Rajasthan Gum Private Ltd 2.1	2.1	Renewable	LTPPA	Intra State		33	
239	KRBL 8.4 tallimadugula	8.4	Renewable	LTPPA	Intra State		33	
240	Hi-Tech systems & Services Ltd 2.1MW Tallimadugula	2.1	Renewable	LTPPA	Intra State		33	
241	Sterling Agro Industries ltd 4.2MW	4.2	Renewable	LTPPA	Intra State		33	
242	Sri Vijayeebhava Enterprises Pvt Ltd 2.1MW	2.1	Renewable	LTPPA	Intra State		33	
243	NREDCAP Ltd 4MW Molagavali	4	Renewable	LTPPA	Intra State		33	
244	PTC Energy Ltd 50MW Molagavalli-3	50	Renewable	LTPPA	Intra State		33	
245	Molagavalli Renewable Pvt Ltd 46MW	46	Renewable	LTPPA	Intra State		33	
246	PTC Energy Ltd 40MW	40	Renewable	LTPPA	Intra State		132	

Details of Input Energy Sources

Period From April '21 to March '22

A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
	Payalakunta							
247	Animala wind power pvt Ltd 60MW	60	Renewable	LTPPA	Intra State		220	
248	Animala wind power pvt Ltd 30MW	30	Renewable	LTPPA	Intra State		132	
249	PTC Energy Ltd 49.5MW Devanakonda	49.5	Renewable	LTPPA	Intra State		220	
250	Green Infra Wind Solutions LTD (SEMBCORP)	49.5	Renewable	LTPPA	Intra State		220	
251	Danu Wind Parks Pvt Ltd (23MW)	23	Renewable	LTPPA	Intra State		33	
252	Renew Wind Energy 4.2 (Shivapur) Pvt Ltd	4.2	Renewable	LTPPA	Intra State		220	
253	Renew Wind Energy39.9 (Shivapur) Pvt Ltd	39.9	Renewable	LTPPA	Intra State		220	
254	Renew Wind Energy31.5(Shivapur) Pvt Ltd	31.5	Renewable	LTOA	Intra State		220	
255	Renew Wind Energy 44.1(Shivapur) Pvt Ltd	44.1	Renewable	LTOA	Intra State		220	
256	BNR Constructions	1	Renewable	LTOA	Intra State		33	
257	Sai Silks (Kalamandir)	2	Renewable	LTPPA	Intra State		33	
258	ANANTPURA WIND ENERGIES PVT LTD.,	10	Renewable	LTPPA	Intra State		33	
259	AXIS WIND FARMS (MPR DAM) PVT LTD	100	Renewable	LTPPA	Intra State		220	

Details of Input Energy Sources

Period From April '21 to March '22

A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
260	BETA WIND FARM PRIVATE LTD	50.4	Renewable	LTPPA	Intra State		220	
261	BHARAT WIND FARM	0	Renewable	LTPPA	Intra State		33	
262	ENERGON POWER RESOURCES PVT LTD 100MW	0	Renewable	LTPPA	Intra State		33	
263	HELIOS INFRATECH PRIVATE LIMITED	100.8	Renewable	LTPPA	Intra State		220	
264	HYDERABAD CHEMICALS LTD., 4.5 MW(Vibrant 4.5MW)	4.5	Renewable	LTPPA	Intra State		33	
265	JINDAL ALUMINIUM LIMITED 25.2 MW	25.2	Renewable	LTPPA	Intra State		132	
266	KCT RENEWABLE ENEGRY PVT LTD (KCTRE-1) 20MW	20	Renewable	LTPPA	Intra State		33	
267	KCT RENEWABLE ENEGRY PVT LTD (KCTRE-2) 20MW	20	Renewable	LTPPA	Intra State		33	
268	KCT RENEWABLE ENEGRY PVT LTD 18.7	18.7	Renewable	LTPPA	Intra State		33	
269	KCT RENEWABLE	24	Renewable	LTPPA	Intra State		0	

Details of Input Energy Sources

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A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
	ENERGY PVT LITD - 24 MW(FORMERLY KARAMCHAND THAPAR)							
270	KCT RENEWABLE ENERGY PVT LTD., 20.4 MW	20.4	Renewable	LTPPA	Intra State		33	
271	MYTRAH VAYU (INDRAVATI) PVT LTD 39.9MW	39.9	Renewable	LTPPA	Intra State		33	
272	MYTRAH VAYU (KRISHNA) PRIVATE LIMITED 2.3 MW	2.3	Renewable	LTPPA	Intra State		33	
273	MYTRAH VAYU (KRISHNA) PVT LTD 8.5 MW	8.5	Renewable	LTPPA	Intra State		33	
274	MYTRAH VAYU (KRISHNA) PVT. LTD.,(37.4MW)	37.4	Renewable	LTPPA	Intra State		33	
275	MYTRAH VAYU (TUNGABHADRA) PVT. LTD 100.6MW	100.6	Renewable	LTPPA	Intra State		33	
276	MYTRAH VAYU (TUNGABHADRA) PVT. LTD 98.3MW	98.3	Renewable	LTPPA	Intra State		33	
277	NILE LIMITED	2	Renewable	LTPPA	Intra State		33	
278	NREDCAP 2.5MW NELLORE	2.5	Renewable	LTPPA	Intra State		33	
279	NREDCAP LTD 5.95MW	5.95	Renewable	LTPPA	Intra State		33	
280	NREDCAP LTD. 2.75 MW	2.75	Renewable	LTPPA	Intra State		33	
281	RAYALA WIND	101.2	Renewable	LTPPA	Intra State		33	

Details of Input Energy Sources

Period From April '21 to March '22

A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
	POWER COMPANY PVT LTD., (101.2 MW)							
282	RAYALA WIND POWER COMPANY PVT LTD., (50 MW)	50	Renewable	LTPPA	Intra State		33	
283	RAYALA WIND POWER COMPANY PVT LTD., (8 MW)	8	Renewable	LTPPA	Intra State		33	
284	RAYALASEEMA WIND ENERGY CO. PVT LTD.,	10	Renewable	LTPPA	Intra State		0	
285	SKEIRON RENEWABLE ENERGY AMIDYALA LTD	0	Renewable	LTPPA	Intra State		33	
286	VAYU URJA BHARAT PVT LTD	24	Renewable	LTPPA	Intra State		33	
287	VIBRANT GREENTECH INDIA PVT LTD (HYD CHEMICALS LTD)-5.1 MW	5.1	Renewable	LTPPA	Intra State		33	
288	VIBRANT GREENTECH INDIA PVT LTD 8MW	8	Renewable	LTPPA	Intra State		33	
289	WEIZMANN LTD., PHIII	0	Renewable	LTPPA	Intra State		0	
290	ZR RENEWABLE ENERGY PVT LTD	16	Renewable	LTPPA	Intra State		33	
291	Blyth Wind Park Pvt Ltd(Banked energy)	25.6	Renewable	LTPPA	Intra State		33	

Details of Input Energy Sources

Period From April '21 to March '22

A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
292	Srinivasa Cotton & Oil Mills Pvt Ltd(Banked Energy)	2	Renewable	LTPPA	Intra State		33	
293	Indulpadu cotton mills(banked Energy)	2	Renewable	LTPPA	Intra State		33	
294	Heritage Foods ltd, Chinnahutur(banked Energy)	2.1	Renewable	LTPPA	Intra State		33	
295	Heritage Foods ltd, Tatrakallu(banked Energy)	2.1	Renewable	LTPPA	Intra State		220	
296	Ramabhadra Industries Pvt. LTd.,(banked Energy)	2	Renewable	LTPPA	Intra State		33	
297	Tirumala Cotton & Agro Products(banked Energy)	2.1	Renewable	LTPPA	Intra State		33	
298	ITC(banked Energy)		Renewable	LTPPA	Intra State		33	
299	hetero Wind power(banked energy)	94.5	Renewable	LTPPA	Intra State		132	
300	IOCLbanked energy		Renewable	LTPPA	Intra State		33	
301	ATRIA WIND POWER PRIVATE LIMITED	25.5	Renewable	LTPPA	Intra State		33	
302	Heritage Foods ltd, Belugappa	0	Renewable	LTPPA	Intra State		0	
303	Rambhadra Industries, BLG 55	2.1	Renewable	LTPPA	Intra State		33	
304	Rambhadra	2.1	Renewable	LTPPA	Intra State		33	

Details of Input Energy Sources

Period From April '21 to March '22

A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
	Industries, BLG 97							
305	Bharath Wind Farm Ltd., Phase - I		Renewable	LTPPA	Intra State		33	
306	Sri Power Gen - II (A)	2	Renewable	LTPPA	Intra State		33	
307	Amrit Jal Ventures Pvt. Ltd	1	Renewable	LTPPA	Intra State		33	
308	Gajanan Financial Services Ltd	1	Renewable	LTPPA	Intra State		11	
309	Kishore Infra		Renewable	LTPPA	Intra State		33	
310	AP Industrial Infra Corp. Ltd., (APIIC)	1	Renewable	LTPPA	Intra State		11	
311	Amaravathi Textiles P Ltd	10	Renewable	LTPPA	Intra State		33	
312	SAI Achyuth (New)	5	Renewable	LTPPA	Intra State		33	
313	Raja Ratna Energy Holdings Pvt Ltd(N)	0	Renewable	LTPPA	Intra State		33	
314	Palnadu Power		Renewable	LTPPA	Intra State		33	
315	Bright Solar	10	Renewable	LTPPA	Intra State		33	
316	Welspun 30MW	30	Renewable	LTPPA	Intra State		33	
317	Welspun 70MW	70	Renewable	LTPPA	Intra State		33	
318	Renew Solar 21MW	21	Renewable	LTPPA	Intra State		33	
319	New Era Enviro Ventures Pvt Ltd	10	Renewable	LTPPA	Intra State		33	
320	Azure Power	50	Renewable	LTPPA	Intra State		33	
321	Renew Solar 39MW	39	Renewable	LTPPA	Intra State		132	
322	GRT Jewellers	6	Renewable	LTPPA	Intra State		33	
323	Arohi Solar Pvt Ltd 50MW	50	Renewable	LTPPA	Intra State		132	
324	Niranjana Solar Energy Pvt Ltd	10	Renewable	LTPPA	Intra State		33	
325	Hindupur Solar Park Pvt Ltd (ANAN)	40	Renewable	LTPPA	Intra State		33	
326	EAAMA Estate Pvt Ltd		Renewable	LTPPA	Intra State		33	
327	ARkha solar power pvt ltd		Renewable	LTPPA	Intra State		33	

Details of Input Energy Sources

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A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
328	Sri Chakra Cement Ltd		Renewable	LTPPA	Intra State		33	
329	Sri Power Gen Power (Cherivi) (K)	2	Renewable	LTPPA	Intra State		33	
330	Sri Lakshmi Venkateswara Green Energy Pvt Ltd		Renewable	LTPPA	Intra State		33	
331	Adhedya Power Pvt Ltd	2	Renewable	LTPPA	Intra State		33	
332	ACME Jai Salmer	20	Renewable	LTPPA	Intra State		33	
333	Dayanidhi Solar Power Pvt Ltd	40	Renewable	LTPPA	Intra State		132	
334	Vishwatma Solar Energy Pvt. Ltd	30	Renewable	LTPPA	Intra State		132	
335	Sumeru Energy Pvt. Ltd	0.5	Renewable	LTPPA	Intra State		33	
336	VBC RENEWABLE ENERGY PVT LTD		Renewable	LTPPA	Intra State		33	
337	Sprouts Energy Pvt Ltd	2	Renewable	LTPPA	Intra State		33	
338	YASHWANTH SOLAR ENERGY PVT LTD	1	Renewable	LTPPA	Intra State		33	
339	Hindupur Solar Park Pvt Ltd(Chittor 40 MW)	40	Renewable	LTPPA	Intra State		33	
340	Waneep	25	Renewable	LTPPA	Intra State		132	
341	M/s. APGENCO SOLAR 400MW	400	Renewable	LTPPA	Intra State		220	
342	Visakhapatnam Port Trust		Renewable	LTPPA	Intra State		33	
343	New & Renewable Energy Development Corporation Of Andhra Pradesh Ltd (Solar Project)		Renewable	LTPPA	Intra State		33	
344	Apgenco (solar) Project		Renewable	LTPPA	Intra State		33	

Details of Input Energy Sources

Period From April '21 to March '22

A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
345	M/s.Solar Energy Corporation of India Ltd (SECI-ACME) 150MW	150	Renewable	LTPPA	Intra State		220	
346	M/s.Solar Energy Corporation of India Ltd (SECI-FRV-1) 50MW	50	Renewable	LTPPA	Intra State		220	
347	M/s.Solar Energy Corporation of India Ltd (SECI-AZURE) 50MW	50	Renewable	LTPPA	Intra State		132	
348	M/s.Solar Energy Corporation of India Ltd (SECI-TATA) 100MW	100	Renewable	LTPPA	Intra State		0	
349	Waneep Solar Pvt Ltd 25MW- Nagari	25	Renewable	LTPPA	Intra State		132	
350	M/s. Rain Coke Ltd	22	Renewable	LTPPA	Intra State		33	
351	M/s. SEI GREEN FLASH PVT LTD	30	Renewable	LTPPA	Intra State		132	
352	M/s. SEI ARUSHI PVT LTD	30	Renewable	LTPPA	Intra State		132	
353	M/s.Solar Energy Corporation of India Ltd (SECI-FRV-2) 50MW	50	Renewable	LTPPA	Intra State		220	
354	SB SOLAR 3MW	3	Renewable	LTPPA	Intra State		33	
355	NTPC NVVNL Bundled Power (Only SOLAR)	0	Renewable	LTPPA	Intra State		220	
356	NTPC NVVNL Bundled Power (Only COAL)	IEX	Renewable	LTPPA	Intra State		33	
357	NTPC NSM Phase-II, Bundled Power (SOLAR)	0	Renewable	LTPPA	Intra State		220	
358	NTPC NSM Phase-II, Bundled Power		Renewable	LTPPA	Intra State		33	

Details of Input Energy Sources

Period From April '21 to March '22

A. Generation at Transmission Periphery (Details)

S.No.	Name of Generation Station	Generation Capacity (In MW)	Type of Station Generation (Based- Solid (Coal ,Lignite)/Liquid/Gas/Renewable (biomass-bagasse)/Others)	Type of Contract (in years/months/ days)	Type of Grid (Intra-state/Inter-state)	Point of Connection (POC) Loss	Voltage Level (At input)	Remarks (Source of data)
	(COAL)							
359	NTPC NPKunta Ultra Mega Solar Project 250MW	250	Renewable	LTPPA	Intra State		220	
360	NTPC SBG NPKunta Solar Project	250	Renewable	LTPPA	Intra State		220	
361	NTPC AYANA NPKUNTA	250	Renewable	LTPPA	Intra State		220	
362	NTPC SPRNG	250	Renewable	LTPPA	Intra State		220	
363	KSK Mahanadi Power Co., Ltd.,	1800	Renewable	LTPPA	Inter State		400	
364	G.Shoe Export	0.8	Renewable	LTPPA	Intra State		33	

➢ Division Wise Performance

C. Circle wise losses												Commercial Parameter			
Sl. No	Name of circle	Circle code	Name of the Division	2021-22								Billed Amount in Rs. Crore	Collected Amount in Rs. Crore	Collection Efficiency	AT & C loss (%)
				Consumer profile	Energy parameters					Losses					
				Consumer category	Billed energy (MU)				% of energy consumption	T&D loss (MU)	T&D loss (%)				
					Input energy (MU)	Metered energy	Unmetered/assessment energy	Total energy							
1	Nellore	4	Nellore Town	Residential	591.17	404.676	0	404.676	75%	48.57	8.22%	355.1	364.36	1	8.22
				Agricultural		20	0.104439896	20.104	4%						
				Commercial/Industrial-LT		49.521	0	49.521	9%						
				Commercial/Industrial-HT		53.887	0	53.887	10%						
				Others		14.411	0	14.411	3%						
Sub-total			Sub-Total		591.169	542.495	0.104439896	542.6	100%	48.57	8.22%	355.1	364.36	100	8.22
2	Nellore	4	NELLORE RURALS	Residential	1078.55	183.594	0	183.594	19%	100.1	9.28%	596.54	625.04	1	9.28
				Agricultural		220	163.454	383.454	39%						
				Commercial/Industrial-LT		81.642	0	81.642	8%						
				Commercial/Industrial-HT		289.371	0	289.371	30%						
				Others		40.381	0	40.381	4%						
Sub-total			Sub-Total		1078.546	814.988	163.454	978.442	100%	100.1	9.28%	596.54	625.04	100	9.28
3	Nellore	4	NAIDUPETA	Residential	1031.63	165.996	0	165.996	17%	57.28	5.55%	614.93	628.83	1	5.55
				Agricultural		40.03	99.64	139.67	14%						
				Commercial/Industrial-LT		32.289	0	32.289	3%						
				Commercial/Industrial-HT		554.747	0	554.747	57%						
				Others		81.654	0	81.654	8%						
Sub-Total					1031.633	874.717	99.64023061	974.357	100%	57.28	5.55%	614.93	628.83	100	5.55
4	Nellore	4	KAVALI	Residential	1016.2	266.959	0	266.959	29%	90.43	8.90%	493.91	508.4	1	8.9
				Agricultural		177.694	172.27	349.964	38%						

C. Circle wise losses												Commercial Parameter			
Sl. No	Name of circle	Circle code	Name of the Division	2021-22								Billed Amount in Rs. Crore	Collected Amount in Rs. Crore	Collection Efficiency	AT & C loss (%)
				Consumer profile	Energy parameters				Losses						
				Consumer category	Input energy (MU)	Billed energy (MU)			% of energy consumption	T&D loss (MU)	T&D loss (%)				
						Metered energy	Unmetered/assessment energy	Total energy							
				Commercial/Industrial-LT		56.571	0	56.571	6%						
				Commercial/Industrial-HT		105.102	0	105.102	11%						
				Others		147.173	0	147.173	16%						
Sub-total			Sub-Total		1016.2	753.5	172.2702309	925.769	100%	90.43	8.90%	493.91	508.4	100	8.9
5	Nellore	4	GUDUR	Residential	783.75	135.442	0	135.442	19%	53.06	6.77%	426.55	440.6	1	6.77
				Agricultural		185.35	170.023	355.373	49%						
				Commercial/Industrial-LT		29.844	0	29.844	4%						
				Commercial/Industrial-HT		176.442	0	176.442	24%						
				Others		33.588	0	33.588	5%						
Sub-total			Sub-Total		783.75	560.665	170.0229292	730.688	100%	53.06	6.77%	426.55	440.6	100	6.77
6	Nellore	4	ATMAKURU	Residential	144.52	65.738	0	65.738	49%	9.69	6.70%	54.79	61.01	1	6.7
				Agricultural		16.62	15.506	32.126	24%						
				Commercial/Industrial-LT		11.651	0	11.651	9%						
				Commercial/Industrial-HT		2.293	0	2.293	2%						
				Others		23.024	0	23.024	17%						
Sub-total			Sub-Total		144.518	119.326	15.50570255	134.832	100%	9.69	6.70%	54.79	61.01	100	6.7
1	Nellore	4	Nellore Circle	Residential	4645.82	1222.41	0	1222.405	225%	359.13	7.73%	2541.81	2628.25	1	7.73
				Agricultural		659.69	621	1280.691	236%						
				Commercial/Industrial-LT		261.52	0	261.518	48%						
				Commercial/Industrial-HT		1181.84	0	1181.842	218%						
				Others		340.23	0	340.231	63%						
Sub-total			Nellore Circle Total		4645.816	3665.69	621	4286.687	100%	359.13	7.73%	2541.81	2628.25	100	7.73

C. Circle wise losses											Commercial Parameter			
Sl. No	Name of circle	Circle code	Name of the Division	2021-22							Billed Amount in Rs. Crore	Collected Amount in Rs. Crore	Collection Efficiency	AT & C loss (%)
				Consumer profile	Energy parameters				Losses					
				Consumer category	Billed energy (MU)			% of energy consumption	T&D loss (MU)	T&D loss (%)				
					Input energy (MU)	Metered energy	Unmetered/assessment energy	Total energy						
7	Tirupati	5	TIRUPATI TOWN	Residential	992.565	382.69	0	382.69	41%	47.86	4.82%	574.27	540.85	0.94	10.36
				Agricultural		0	13.816	13.816	1%						
				Commercial/Industrial-LT		106.992	0	106.992	11%						
				Commercial/Industrial-HT		371.721	0	371.721	39%						
				Others		69.484	0	69.484	7%						
Sub-total			Sub-Total		992.565	930.887	13.81613089	944.703	100%	47.86	4.82%	574.27	540.85	94.18	10.36
8	Tirupati	5	TIRUPATI RURALS	Residential	1087.568	166.454	0	166.454	17%	95.23	8.76%	364.1	291.36	0.8	26.99
				Agricultural		0	168.718	168.718	17%						
				Commercial/Industrial-LT		36.564	0	36.564	4%						
				Commercial/Industrial-HT		606.314	0	606.314	61%						
				Others		14.29	0	14.29	1%						
Sub-total			Sub-Total		1087.568	823.623	168.7180002	992.341	100%	95.23	8.76%	364.1	291.36	80.02	26.99
9	Tirupati	5	PUTTUR	Residential	1040.823	164.43	0	164.43	17%	80.44	7.73%	223.84	236.56	1	7.73
				Agricultural		0	173.975	173.975	18%						
				Commercial/Industrial-LT		50.351	0	50.351	5%						
				Commercial/Industrial-HT		504.318	0	504.318	53%						
				Others		67.308	0	67.308	7%						
Sub-total			Sub-Total		1040.823	786.407	173.9747392	960.382	100%	80.44	7.73%	223.84	236.56	100	7.73
10	Tirupati	5	PILERU	Residential	491.031	95.91	0	95.91	22%	50.95	10.38%	338.56	336.44	0.99	10.94
				Agricultural		0	255.744	255.744	58%						
				Commercial/Industrial-LT		21.071	0	21.071	5%						
				Commercial/Industrial-HT		6.862	0	6.862	2%						

C. Circle wise losses												Commercial Parameter			
Sl. No	Name of circle	Circle code	Name of the Division	2021-22								Billed Amount in Rs. Crore	Collected Amount in Rs. Crore	Collection Efficiency	AT & C loss (%)
				Consumer profile	Energy parameters					Losses					
				Consumer category		Billed energy (MU)			% of energy consumption	T&D loss (MU)	T&D loss (%)				
					Input energy (MU)	Metered energy	Unmetered/assessment energy	Total energy							
				Others		60.493	0	60.493	14%						
Sub-total			Sub-Total		491.031	184.336	255.7441584	440.08	100%	50.95	10.38%	338.56	336.44	99.37	10.94
11	Tirupati	5	MADAN APALE	Residential	709.892	164.053	0	164.053	25%	61.12	8.61%	533.64	523.66	0.98	10.32
				Agricultural		6.15	332.526	338.676	52%						
				Commercial/Industrial-LT		49.664	0	49.664	8%						
				Commercial/Industrial-HT		37.905	0	37.905	6%						
				Others		58.472	0	58.472	9%						
Sub-total			Sub-Total		709.892	316.243	332.5264	648.77	100%	61.12	8.61%	533.64	523.66	98.13	10.32
12	Tirupati	5	CHITTOOR TOWN	Residential	661.325	141.69	0	141.69	22%	30.67	4.64%	233.49	237.71	1	4.64
				Agricultural		0	152.72	152.72	24%						
				Commercial/Industrial-LT		57.305	0	57.305	9%						
				Commercial/Industrial-HT		134.622	0	134.622	21%						
				Others		144.318	0	144.318	23%						
Sub-total			Sub-Total		661.325	477.934	152.71988	630.654	100%	30.67	4.64%	233.49	237.71	100	4.64
13	Tirupati	5	CHITTOOR RURALS	Residential	1422.236	97.207	0	97.207	7%	115.4	8.11%	1215.49	1169.17	0.96	11.62
				Agricultural		0	301.39	301.39	23%						
				Commercial/Industrial-LT		34.076	0	34.076	3%						
				Commercial/Industrial-HT		375.143	0	375.143	29%						
				Others		499.018	0	499.018	38%						
Sub-total			Sub-Total		1422.236	1005.444	301.3902025	1306.834	100%	115.4	8.11%	1215.49	1169.17	96.19	11.62
1	Tirupati	4	Tirupati Circle	Residential	6405.44	1212.4332	0	1212.4332	20%	481.68	7.52%	3483.38	3335.74	0.96	11.44
				Agricultural		6.15	1398.889511	1405.0395	24%						

C. Circle wise losses												Commercial Parameter			
Sl. No	Name of circle	Circle code	Name of the Division	2021-22								Billed Amount in Rs. Crore	Collected Amount in Rs. Crore	Collection Efficiency	AT & C loss (%)
				Consumer profile	Energy parameters				Losses						
				Consumer category	Input energy (MU)	Billed energy (MU)			% of energy consumption	T&D loss (MU)	T&D loss (%)				
						Metered energy	Unmetered/assessment energy	Total energy							
				Commercial/Industrial-LT		356.02306	0	356.02306	6%						
				Commercial/Industrial-HT		2036.8843	0	2036.8843	34%						
				Others		913.38316	0	913.38316	15%						
Sub-total			Tirupati Circle Total		6405.44	4524.8737	1398.889511	5923.7632	100%	481.68	7.52%	3483.38	3335.74	95.76	11.44
14	Kadapa	6	RAYACHOTY	Residential	325.783	101.236	0	101.236	33%	19.93	6.12%	177.02	189.46	1	6.12
				Agricultural		0.04	149.1	149.14	49%						
				Commercial/Industrial-LT		20.278	0	20.278	7%						
				Commercial/Industrial-HT		7.193	0	7.193	2%						
				Others		28.001	0	28.001	9%						
Sub-total			Sub-Total		325.783	156.748	149.1004045	305.848	100%	19.93	6.12%	177.02	189.46	100	6.12
15	Kadapa	6	RAJAMPET	Residential	612.473	145.385	0	145.385	26%	57.88	9.45%	365.85	334.95	0.92	17.1
				Agricultural		0.02	254.562	254.582	46%						
				Commercial/Industrial-LT		28.026	0	28.026	5%						
				Commercial/Industrial-HT		50.407	0	50.407	9%						
				Others		76.197	0	76.197	14%						
Sub-total			Sub-Total		612.473	300.035	254.5615479	554.597	100%	57.88	9.45%	365.85	334.95	91.55	17.1
16	Kadapa	6	PULIVENDULA	Residential	625.983	73.358	0	73.358	13%	61.72	9.86%	256.79	313.94	1	9.86
				Agricultural		0.17	305.19	305.36	54%						
				Commercial/Industrial-LT		14.925	0	14.925	3%						
				Commercial/Industrial-HT		142.196	0	142.196	25%						
				Others		28.42	0	28.42	5%						
Sub-total			Sub-Total		625.983	259.069	305.1898536	564.259	100%	61.72	9.86%	256.79	313.94	100	9.86

C. Circle wise losses												Commercial Parameter			
Sl. No	Name of circle	Circle code	Name of the Division	2021-22								Billed Amount in Rs. Crore	Collected Amount in Rs. Crore	Collection Efficiency	AT & C loss (%)
				Consumer profile	Energy parameters					Losses					
				Consumer category	Input energy (MU)	Billed energy (MU)			% of energy consumption	T&D loss (MU)	T&D loss (%)				
						Metered energy	Unmetered/assessment energy	Total energy							
17	Kadapa	6	PRODDATUR	Residential	1029.643	212.292	0	212.292	23%	89.54	8.70%	598.85	496.31	0.83	24.33
				Agricultural		0.57	169.309	169.879	18%						
				Commercial/Industrial-LT		67.106	0	67.106	7%						
				Commercial/Industrial-HT		395.704	0	395.704	42%						
				Others		95.121	0	95.121	10%						
Sub-total			Sub-Total		1029.643	770.793	169.3088418	940.102	100%	89.54	8.70%	598.85	496.31	82.88	24.33
18	Kadapa	6	MYDUKUR	Residential	510.973	117.218	0	117.218	25%	46.71	9.14%	274.54	287.98	1	9.14
				Agricultural		0.28	281.305	281.585	61%						
				Commercial/Industrial-LT		25.74	0	25.74	6%						
				Commercial/Industrial-HT		14.711	0	14.711	3%						
				Others		25.007		25.007	5%						
Sub-total			Sub-Total		510.973	182.956	281.3049137	464.261	100%	46.71	9.14%	274.54	287.98	100	9.14
19	Kadapa	6	KADAPA	Residential	514.653	237.309	0	237.309	48%	23.35	4.54%	292.14	307.5	1	4.54
				Agricultural		0.19	80.03	80.22	16%						
				Commercial/Industrial-LT		57.465	0	57.465	12%						
				Commercial/Industrial-HT		47.602		47.602	10%						
				Others		68.708		68.708	14%						
Sub-total			Sub-Total		514.653	411.273	80.03034781	491.304	100%	23.35	4.54%	292.14	307.5	100	4.54
1	Kadapa	4	Kadapa Circle	Residential	3619.508	886.798	0	886.79752	27%	299.14	8.26%	1965.19	1930.14	0.98	9.9
				Agricultural		1.27	1239.495909	1240.7659	37%						
				Commercial/Industrial-LT		213.54	0	213.54021	6%						
				Commercial/Industrial-HT		657.813	0	657.81316	20%						

C. Circle wise losses													Commercial Parameter			
Sl. No	Name of circle	Circle code	Name of the Division	2021-22									Billed Amount in Rs. Crore	Collected Amount in Rs. Crore	Collection Efficiency	AT & C loss (%)
				Consumer profile	Energy parameters					Losses						
				Consumer category	Billed energy (MU)				% of energy consumption	T&D loss (MU)	T&D loss (%)					
					Input energy (MU)	Metered energy	Unmetered/assessment energy	Total energy								
				Others		321.454	0	321.45384	10%							
Sub-total			Kadapa Circle Total		3619.508	2080.875	1239.495909	3320.3706	100%	299.14	8.26%		1965.19	1930.14	98.22	9.9
20	Anantha pur	7	KALYANDURG	Residential	815.812	105.172	0	105.172	15%	95.86	11.75%		491.06	536.81	1	11.75
				Agricultural		0.14	476.365	476.505	66%							
				Commercial/Industrial-LT		23.986	0	23.986	3%							
				Commercial/Industrial-HT		38.23	0	38.23	5%							
				Others		76.062	0	76.062	11%							
Sub-total			Sub-Total		815.812	243.59	476.3647718	719.955	100%	95.86	11.75%		491.06	536.81	100	11.75
21	Anantha pur	7	KADIRI	Residential	662.262	130.202	0	130.202	21%	46.48	7.02%		619.41	594.93	0.96	10.69
				Agricultural		0.03	307.161	307.191	50%							
				Commercial/Industrial-LT		31.144	0	31.144	5%							
				Commercial/Industrial-HT		15.464	0	15.464	3%							
				Others		131.785	0	131.785	21%							
Sub-total			Sub-Total		662.262	308.626	307.1606778	615.787	100%	46.48	7.02%		619.41	594.93	96.05	10.69
22	Anantha pur	7	HINDUPUR	Residential	2005.762	126.729	0	126.729	7%	174.05	8.68%		505.19	406.34	0.8	26.55
				Agricultural		0.03	251.331	251.361	14%							
				Commercial/Industrial-LT		52.897	0	52.897	3%							
				Commercial/Industrial-HT		1224.828	0	1224.828	67%							
				Others		175.899	0	175.899	10%							
Sub-total			Sub-Total		2005.762	1580.384	251.3308037	1831.715	100%	174.05	8.68%		505.19	406.34	80.43	26.55
23	Anantha pur	7	GOOTY	Residential	1178.172	189.105	0	189.105	18%	121.44	10.31%		834.57	735.39	0.88	20.97
				Agricultural		0.08	353.423	353.503	33%							

C. Circle wise losses												Commercial Parameter			
Sl. No	Name of circle	Circle code	Name of the Division	2021-22								Billed Amount in Rs. Crore	Collected Amount in Rs. Crore	Collection Efficiency	AT & C loss (%)
				Consumer profile	Energy parameters					Losses					
				Consumer category		Billed energy (MU)			% of energy consumption	T&D loss (MU)	T&D loss (%)				
					Input energy (MU)	Metered energy	Unmetered/assessment energy	Total energy							
				Commercial/Industrial-LT		114.599	0	114.599	11%						
				Commercial/Industrial-HT		207.494	0	207.494	20%						
				Others		192.035	0	192.035	18%						
Sub-total			Sub-Total		1178.172	703.313	353.4228333	1056.736	100%	121.44	10.31%	834.57	735.39	88.12	20.97
24	Anantha pur	7	ANANT HAPUR	Residential	1438.942	254.865	0	254.865	19%	125.42	8.72%	1037.2	1031.32	0.99	9.23
				Agricultural		0.33	802.364	802.694	61%						
				Commercial/Industrial-LT		77.828	0	77.828	6%						
				Commercial/Industrial-HT		31.082	0	31.082	2%						
				Others		147.049	0	147.049	11%						
Sub-total			Sub-Total		1438.942	511.154	802.3644957	1313.518	100%	125.42	8.72%	1037.2	1031.32	99.43	9.23
1	Anantha pur	4	Ananthapur Circle	Residential	6100.95	806.074	0	806.0735	24%	563.24	9.23%	3487.43	3304.793	0.95	13.99
				Agricultural		0.61	2190.643582	2191.2536	66%						
				Commercial/Industrial-LT		300.454	0	300.45355	9%						
				Commercial/Industrial-HT		1517.099	0	1517.0992	46%						
				Others		722.831	0	722.83067	22%						
Sub-total			Ananthapur Circle Total		6100.95	3347.067	2190.643582	5537.7105	167%	563.24	9.23%	3487.43	3304.79	94.76	13.99
25	Kurnool	8	NANDYAL	Residential	990.95	299.525	0	299.525	34%	97.1	9.80%	534.15	554.66	1	9.8
				Agricultural		0.88	331.59	332.47	37%						
				Commercial/Industrial-LT		85.163	0	85.163	10%						
				Commercial/Industrial-HT		121.383	0	121.383	14%						
				Others		55.308	0	55.308	6%						

C. Circle wise losses												Commercial Parameter			
Sl. No	Name of circle	Circle code	Name of the Division	2021-22								Billed Amount in Rs. Crore	Collected Amount in Rs. Crore	Collection Efficiency	AT & C loss (%)
				Consumer profile	Energy parameters				Losses						
				Consumer category	Input energy (MU)	Billed energy (MU)			% of energy consumption	T&D loss (MU)	T&D loss (%)				
						Metered energy	Unmetered/assessment energy	Total energy							
Sub-total			Sub-Total		990.95	562.258	331.59	893.848	100%	97.1	9.80%	534.15	554.66	100	9.8
26	Kurnool	8	KURNOOL TOWN	Residential	1386.65	420.843	0	420.843	32%	82.58	5.96%	816.45	489.37	0.6	43.63
				Agricultural		1.12	181.991	183.111	14%						
				Commercial/Industrial-LT		105.372	0	105.372	8%						
				Commercial/Industrial-HT		262.526	0	262.526	20%						
				Others		332.219	0	332.219	25%						
Sub-total			Sub-Total		1386.65	1122.081	181.9913687	1304.072	100%	82.58	5.96%	816.45	489.37	59.94	43.63
27	Kurnool	8	DHONE	Residential	1017.8	108.485	0	108.485	11%	69.89	6.87%	666.77	228.62	0.34	68.07
				Agricultural		1	153.054	154.054	16%						
				Commercial/Industrial-LT		68.562	0	68.562	7%						
				Commercial/Industrial-HT		171.286	0	171.286	18%						
				Others		445.52	0	445.52	47%						
Sub-total			Sub-Total		1017.8	794.852	153.0541913	947.907	100%	69.89	6.87%	666.77	228.62	34.29	68.07
28	Kurnool	8	ADONI	Residential	1048.38	225.392	0	225.392	24%	89.62	8.55%	563.59	463.51	0.82	24.79
				Agricultural		1.93	377.32	379.25	40%						
				Commercial/Industrial-LT		50.741	0	50.741	5%						
				Commercial/Industrial-HT		61.62	0	61.62	6%						
				Others		241.753	0	241.753	25%						
Sub-total			Sub-Total		1048.38	581.436	377.32	958.756	100%	89.62	8.55%	563.59	463.51	82.24	24.79
29	Kurnool	4	Kurnool Circle	Residential	4443.78	1054.24	0	1054.244	26%	339.2	7.63%	2580.96	1736.15	0.67	37.87
				Agricultural		4.93	1043.956	1048.886	26%						
				Commercial/Industrial-LT		309.84	0	309.838	8%						

C. Circle wise losses												Commercial Parameter			
Sl. No	Name of circle	Circle code	Name of the Division	2021-22								Billed Amount in Rs. Crore	Collected Amount in Rs. Crore	Collection Efficiency	AT & C loss (%)
				Consumer profile	Energy parameters					Losses					
				Consumer category	Input energy (MU)	Billed energy (MU)			% of energy consumption	T&D loss (MU)	T&D loss (%)				
						Metered energy	Unmetered/assessment energy	Total energy							
				Commercial/Industrial-HT		616.82	0	616.815	15%						
				Others		1074.8	0	1074.801	26%						
Sub-total			Kurnool Circle Total		4443.78	3060.63	1043.956	4104.583	100%	339.2	7.63%	2580.96	1736.15	67.27	37.87
1	APSPDCL	4	APSPDCL	Residential	25215.49	5181.95	0	5181.95	22%	2042.38	8.10%	14058.78	12935.08	0.92	15.45
				Agricultural		672.65	6493.98	7166.64	31%						
				Commercial/Industrial-LT		1441.37	0	1441.37	6%						
				Commercial/Industrial-HT		6010.45	0	6010.45	26%						
				Others		3372.7	0	3372.7	15%						
Sub-total			**APSPDCL Circle Total**		**25215.494**	**16679.13**	**6493.98**	**23173.12**	**100%**	**2042.38**	**8.10%**	**14058.78**	**12935.08**	**92.01**	**15.45**

4.4 Energy Conservation measures already taken & Proposed for Future

APSPDCL has taken a number of Initiatives to reduce AT&C losses and some of the majo initiatives are : -

APSPDCL has been making conscious efforts on energy conservation over the years and has implemented the following energy conservation measures

Under the Demand Side Management Based Efficient Lighting Programme (DELP),

APSPDCL has distributed 61, 28,744 LED bulbs resulting in a monthly savings of 35.10 million units.

Under the agriculture Demand Side Management Scheme APSPDCL has replaced 31,301 number conventional 5HP submersible pumps with 5 star rated energy efficient submersible pumps. The project was implemented with the support of EESL, New Delhi at a cost of Rs 292.54 Crores.

Under the Implementation of Energy Efficient Tube Lights Programme Scheme APSPDCL supported EESL, New Delhi in distribution of Energy Efficient Tube Lights to consumers on a payment basis. Till date 27,360 Energy Efficient Tube Lights have been distributed in the five districts of APSPDCL.

Under SCSP&TSP programme, APSPDCL distributed to the SC & ST consumers two LED bulbs per consumer and till date 9, 37,272 LED bulbs have been distributed.

DELP (DSM Based Energy Efficient Lighting Program)			**02.02.2021**
Sl. No.	**Name of the Circle**	**Total Quantity distributed (Nos.)**	**Energy Savings in MU per Year**
1	Nellore	1183001	75.96
2	Tirupati	1586920	102.00
3	Kadapa	949401	61.44
4	Ananthapur	1121845	98.64
5	Kurnool	1287577	83.16
Total		**6128744**	**421.20**

IMPLEMENTATION OF DDUGJY

The MOP has sanctioned DDUGJY scheme with a project cost of Rs 521.54 Cr

1) Electrification of colonies & Release of BPL HHs
2) HVDS
3) DTRmetering
4) System strengthening & augmentation (SS and others works)

a)Fundingpattern

The financial support under the scheme is as under

Govt. of India : 60%

Grant contribution by Discoms :10%

Loan from M/s REC ltd :30%

Additional Grant from GOI for timely completion of Project :15%

b)Nodal Agency

M/sREC Ltd is the nodal agency for the DDUGJY scheme.

c) Project Management Agency:

M/s RECPDCL, New Delhi was appointed as PMA

d)Implementation Period:

Projects under the scheme shall be completed within a period 30months from date of sanction of project for semi turnkey projects

1.RE Component

S.no	Description	Status of work
1	No. of habitations Covered : 20,647 Nos. No. of habitations Electrified : 20,647No's (100%)	All works completed
2	No. of BPL Households covered : 5, 09,480 Nos. No. of BPL Households electrified : 5, 19,480No's (102%)	All works completed

2. Non-RE Component

S.no	Description	Status of work
1	**33/11KV Sub-Stations & lines:** New 33/11KV Substations covered : 53 Nos New 33/11KV Substations commissioned: 53 Nos (100%)	All works completed
2	**DTR Metering**: No. of DTRs metering sanctioned : 3693 Nos. No. of DTRs metering required in MHQ : 3618 Nos.as per filed No. of DTRs metering provided : 3618 Nos. (100%)	All works completed
3	**SAGY (Sansad Adarsh Gram Yojana):** No. of villages covered under SAGY : 18 Nos. No. of villages electrified under SAGY : 18 Nos. (100%) No. of Households services covered : 5,241 Nos No. of Households services electrified : 5,241 Nos. (100%)	All works completed
4	**HVDS works:** **Districts covered: Prakasam, Ananthapur& Kurnool** No. of DTRs (25KVA/16KVA Covered) : 7794 Nos. No. of DTRs (25KVA/16KVA erected) : 4958 Nos. (64%) Conversion of LT to HT line Covered : 1301 Km Conversion of LT to HT line erected : 506.31Km (39 %) LT AB Cable Covered : 862 Km LT AB Cable erected : 508 Km (59%) No. of Agl. Services covered : 19,711 Nos. No. of Agl. Services completed :11,969 Nos. (61%)	64% work completed. Balance works short closed as per field conditions.
5	**Addl 33/11 KV sub-stations** 33/11 KV Sub-station :66 Nos Commissioned :53 Nos Balance :13 Nos	Addl SSs are proposed under the balance avail balance funds. Works are under progress and will be completed by 30.09.2019

Details of item wise works are here with enclosed

DDUGJY - DEENDAYAL UPADHYAYA GRAM JYOTI YOJANA (STATE - WISE AND UTILITY - WISE PHYSICAL/FINANCIAL PROGRESS)								
STATE: Andhra Pradesh UTILITY: APSPDCL MONTH ENDING:31.08.2019								
Physical Progress								
Sr. No	**Milestone Name**	**Unit e**	**Sanctioned DPR Quantity**	**Revised DPR Quantity**	**Awarded**	**Completed Quantity**		
						Up to 31.07.19	**During the Month of Aug'19**	**Cum.**
1	33/11 kV New Substation	Nos.	52	53	53	53	0	53
		MVA	260	265	265	265	0	265
2a	Distribution Transformers (RE & SAGY)	Nos.	7404	6367	6367	6367	0	6367
		MVA	118.46	102.4	102.4	102.4	0	102.4
2b	Distribution Transformers (HVDS) *	Nos.	6343	4958	4958	4958	0	4958
		MVA	144.83	114.221	114.22	114.22	0	114.22
3a	LT AB cable Line (RE & SAGY) **	Ckm	6095.51	5312.32	5312.32	5312.32	0	5312.32
3b	LT AB cable Line (HVDS) *	Ckm	869.12	508.07	508.07	508.07	0	508.07
4a	11 kV Line (Sub-stations & SAGY)	Ckm	566.75	473.96	473.96	284.58	0	284.58
4b	11 kV Line (HVDS) *	Ckm	382.3	64.16	64.16	64.16	0	64.16
4c	Conversion LT to 11KV line *	Ckm	2424.71	506.31	506.31	506.31	0	506.31
5	6.3 KV Line	Ckm	1578.9	1022.87	1022.87	1022.87	0	1022.87
6	33KV & 66kV Line **	Ckm	448.8	414.09	414.09	295.31	0	295.31
7	Metering on LV Side of DTRs	Nos.	3693	3618	3618	3618	0	3618
8	Intensive Electrification of Villages	Nos.	7161	7161	7161	7161	0	7161
9	SAGY Villages	Nos.	18	18	18	18	0	18
10	Connection to BPL Households(RE)	Nos.	519480	519480	519480	519480		519480
11	Capacitor Banks	Nos.	52	53	53	53	0	53
12	Addl. 33/11 KV Sub-stations	Nos.	-	66	66	52	1	53
13	33 KV line for Addl. 33/11 KV Sub-stations	Ckm		533.1	533.1	283.18	8.90	292.08
14	11 KV line for Addl. 33/11 KV Sub-stations	Ckm		435.84	435.84	228.92	2.50	231.42
15	Connection to BPL Households (SAGY)	Nos.	-	5241	5241	5241	0	5241

(Figure in Rs.Cr.)

Status of claims:

	Total Amount Sanctioned	**Expenditure Incurred**	**Claims Submitted**	**Amount Released**	**Balance provision available**
Grant	312.924	456.47	281.564	268.590	44.334
Loan	156.462		146.233	146.233	10.229
APSPDCL contribution	52.154		Amount of Rs.58.3 Cr spent from own funds.		
Total	**521.540**	**456.47**	**427.797**	**414.823**	**54.563**

INTEGRATED POWER DEVELOPMENT SCHEME(IPDS) AS ON 15.09.2019

Govt. of India has launched Integrated Power Development Scheme (IPDS) for the Urban areas (statutory Towns) with the following components:

(i) Strengthening of Sub-transmission and Distribution network in urban areas including provisioning of solar panels on Govt. buildings including Net-metering.

(ii) Metering of feeders / distribution transformers / consumers in urban areas and,

(iii) IT enablement of distribution sector and strengthening of distribution network,

Funding pattern

The financial support under the scheme shall be as under

Govt. of India	:	60% Grant
Contribution by Discoms	:	10%
Loan (FIs/ Banks)/Discom's own fund	:	30%

Additional Grant from GOI for timely completion of Project: 15%

Nodal Agency

M/s PFC Ltd is the nodal agency for the IPDS scheme.

Project ManagementAgency:

APSPDCL has issued LOA to M/s PFC consulting Ltd, New Delhi as PMA

Statutorytowns:

GOI proposes to cover all statutory towns in the district

ImplementationPeriod:

Projects under the scheme shall be completed within a period of 24 months from the date of issue of Letter of Award (LoA) for turnkey and 30 months from date of sanction of project for semi turnkey project

Details of Sanctioned DPR and Grants by M/s PFC Ltd

(All Amounts are in Crs)

S. No.	Name of the Circle	No. of Towns Covered	Scheme Code	Date of Sanction	Sanctioned DPR Cost (in Crs.)	MoP Grant @ 60% (in Crs.)	GoI Grant for PMA @ 0.5% of Approved DPR	Total GoI Grant
1	Vijayawada	06	31551003	26-02-15	80.84	48.50	0.404	48.91
2	Guntur	13	31551001	26-02-15	99.87	59.92	0.499	60.42
3	Tirupati	08	31551002	26-02-15	45.70	27.42	0.229	27.65
4	Ongole	04	31851008	16-03-16	28.02	16.81	0.140	16.95
5	Nellore	04	31851007	16-03-16	28.39	17.03	0.142	17.18
6	Kadapa	07	31851005	16-03-16	30.33	18.20	0.152	18.35
7	Ananthapuram	07	31851004	16-03-16	29.11	17.47	0.146	17.61
8	Kurnool	05	31851006	16-03-16	26.76	16.06	0.134	16.19

S. No.	Name of the Circle	No. of Towns Covered	Scheme Code	Date of Sanction	Sanctioned DPR Cost (in Crs.)	MoP Grant @ 60% (in Crs.)	GoI Grant for PMA @ 0.5% of Approved DPR	Total GoI Grant
9	GIS	2	31851G01	07-12-18	57.33	34.40	0.287	34.68
10	RT-DAS	54	31857004	07-12-18	10.57	6.34	0.053	6.39
11	IT Phase-II	11	31857001	22-02-17	16.79	10.07	0.084	10.16
12	ERP	1	31857002	01-03-18	14.21	8.53	0.071	8.60
13	Smart Metering	1	31857003	28-03-18	5.00	3.00	0.025	3.03
Total					**472.92**	**283.75**	**2.36**	**286.12**

Work Status

Sl. No	IPDS Phase	Name of the Circle	Work Details	Actual Status
1	IPDS-I	3	Erection **37 Nos** 33/11 KV Sub Stations & Strengthening Works 1. Outdoor- 12 Nos 2. Indoor/Semi Indoor- 22 Nos 3. GIS- 3 Nos	All Work completed
2	IPDS-II	5	Erection **24 Nos** 33/11 KV Sub Stations & Strengthening Works 1. Outdoor- 12 Nos 2. Indoor/Semi Indoor- 12 Nos	All Work completed
3	IPDS-III (Addl DPR)	1	1. Erection of 3 Nos New Semi Indoor SS& Lines 2. Erection of 31 Nos 500 KVA Oil Type DTRs	All Work completed
4	IT Phase-II	5	**Implementation of IT Enablement Project** 1. Addl Server at DC/DR : 15 Nos 2. Addl Licenses : 15 Nos 3. Net work Equipment: 42 Locations 4. Work Station PCs : 86 Nos 5. GIS Survey : 31 SS & 653 CKM 6. Feedr/DT/Boundary Meters : 100 Nos 7. Modems : 897 Nos	1. Hardware Installaed (All 15 Servers) at DR in Tirupati 2. GIS Servey completed in 11 Towns & Integration works under Progress. 3. M/s Enzen Global IT infra works is under progress and works will be completed on 11/2019
5	ERP	1	**Implementation of ERP:** Addl. Servers- 1 Nos Full user S4/HANA Licenses (New) - 847 Nos Full user S4/HANA Licenses (Up Gradation) - 950 Nos	1. Migrated and Implemented S4/HANA w.e.f 25.03.2019 2. Analytical Environment (BW) implementation works under Progress.
6	Smart Meter	1	Installation of 25000 Nos Smart Meters in Tirupati Circle	LOA issued to M/s EESL

Sl. No	IPDS Phase	Name of the Circle	Work Details	Actual Status
7	GIS	2	Erection of 8 Nos New GIS SS & Lines + Vijayawada- 3 Nos + Guntur - 5 Nos	3 Nos Tenders called for 8 Nos GIS Sub Stations in Guntur & Vijayawada on 27.04.2019 and Bid opened on 10.05.2019 & Technical Evaluation is under Progress.
8	RT DAS	8	Implementation of Real time data acquisition system in 54 Towns	1 No Tender called for RT-DAS works in 54 Towns on 15.02.2019 and Bid opened on 17.05.2019 & Price Bid Opened on 18.08.19 & LOA will be Awarded by 31.08.19

Details of item wise works are here with enclosed

Sl. No	Description of Work	Unit	DPR Qty	Revised Agt Qty	Cum Progress	% w.r.t Revised DPR
1	33/11 KV Sub Stations	Nos	61	64	64	100%
a	i) Out Door	Nos	24	24	24	100%
b	ii) Indoor & Semi-Indoor	Nos	33	34	34	100%
c	iii) GIS S/S	Nos	3	3	3	100%
2	33/11 KV S/S : Additional Transformer (PTR)	Nos	9	9	9	100%
3	33/11 KV S/S : Capacity enhancement (PTR)	Nos	15	15	15	100%
4	Renovation & Modernisation of 33/11 kV SS	Nos.	164	167	167	100%
5	33 KV Line: New Feeder	Kms	207.84	267.05	267.05	100%
6	33 KV Line: Reconductoring/Augmentation	Kms	25.60	9.00	9.00	100%
7	11 KV Line: New Feeder	Kms	334.58	246.61	246.61	100%
8	11 kV Line : Augmentation/Reconductoring	Kms	250.03	159.05	159.05	100%
9	Arial Bunched Cable (33KV & 11KV Covered Conductor)	Kms	186.88	155.55	155.55	100%
10	UG Cable (33KV & 11 KV)	Kms	57.80	30.38	30.38	100%
11	Installation of Distribution Transformer	Nos	885	904	904	100%
12	Capacity enhancement of LT sub-station (DTR)	Nos	544	536	536	100%
13	LT Line : New Feeder	Kms	345.56	274.02	274.02	100%
14	LT Line : Augmentation	Kms	160.76	87.80	87.80	100%
15	Capacitor Bank	Nos	3	3	3	100%
16	iii) Feeder / DT meters	Nos	8712	4770	4770	100%
17	iv) Consumers meters	Nos	15000	15000	15000	100%
18	Solar Pannel	Kwp	1560	1356	1356	100%
19	Others (Re-Alignment 33KV & 11KV)	Kms	187.87	39.76	39.76	100%

Status of Claims: Details of funds released under IPDS (All Amounts are in Crs)

S. No.	Name of the Circle	DPR Cost	Sanctioned Amount		Claims Submitted		Released Amount		Balance to be Release in Crs	
			Grant	Loan	Grant	Loan	Grant	Loan	Grant	Loan
1	IPDS-Phase-I	208.08	124.85	62.42	113.30	55.70	112.68	55.70	0.62	0.00
2	IPDS-Phase-II	142.61	85.57	42.78	77.66	35.61	71.09	35.61	6.57	-
3	IPDS-Phase-III	18.33	11.00	5.50	3.33	-	-	-	3.33	-
4	IT Phase-II	16.79	10.07	5.04	9.14	-	3.05	-	6.10	-
5	ERP	14.21	8.53	4.26	7.73	-	2.58	-	5.15	-
6	Smart Metering	5.00	3.00	1.50	0.91	-	-	-	0.91	-
7	GIS	57.33	34.40	17.20	3.47	-	-	-	3.47	-
8	RT-DAS	10.57	6.34	3.17	0.64	-	0.64	-	-	-
	TOTAL	**472.92**	**283.75**	**141.88**	**216.18**	**91.31**	**190.03**	**91.31**	**26.15**	**0.00**

District wise Expenditure incurred: (All Amounts are in Crs)

S. No.	Name of the Circle	No. of Towns Covered	Scheme Code	Date of Sanction	Sanctioned DPR Cost	Amount Paid to Vendors & Contractors
1	Vijayawada	06	31551003	26-02-15	80.84	82.05
2	Guntur	13	31551001	26-02-15	99.87	81.5
3	Tirupati	08	31551002	26-02-15	45.70	43.10
4	Ongole	04	31851008	16-03-16	28.02	26.40
5	Nellore	04	31851007	16-03-16	28.39	26.24
6	Kadapa	07	31851005	16-03-16	30.33	26.4
7	Ananthapuram	07	31851004	16-03-16	29.11	29.85
8	Kurnool	05	31851006	16-03-16	26.76	25.30
9	GIS	2	31851G01	07-12-18	57.33	0
10	RT-DAS	54	31857004	07-12-18	10.57	0
11	IT Phase-II	11	31857001	22-02-17	16.79	18.28
12	ERP	1	31857002	01-03-18	14.21	15.72
13	Smart Metering	1	31857003	28-03-18	5.00	0
Total					**472.92**	**393.17**

4.5 Critical Analysis

I. Discom Parameter for evaluation of performance

- Ideally, reduction of technical losses should be the parameter for evaluation of performance of Discoms sector. However, the technical losses of the discoms are not available and also it involves a cumbersome process to calculate the technical losses, which varies based on various factors like loading pattern etc.

- Now, only the T&D losses and AT&C losses are available as the performance parameter for achieving energy efficiency by DISCOMs.

- It was decided that out of the two parameters, T&D loss parameter seems to be appropriate parameter which reflects energy savings to a greater extent as compared to AT&C losses

Transmission & Distribution losses (T&D losses)

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

- Aggregate technical and commercial losses (AT&C losses)
- AT&C Losses = {1- (Billing Efficiency x Collection Efficiency)} x 100

Where,

- Billing efficiency = Total unit Billed/ Total unit Inputs
- Collection efficiency = Revenue collected / Amount Billed

.

The overall averaged T & D Losses & AT & C Losses of the APSPDCL Discom, is 8.10 % & 15.45% which is less compared to other Discom sector.

M/s Siri Exergy & Carbon Advisory services Pvt. Ltd. Hyderabad was entrusted the job of carrying out an annual energy Audit for the financial year 2021-22 and submit the annual audit report of APSPDCL, Tirupati 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, Govt. of India. Audit team has conducted energy audit of the designated Consumer (DC) during 09th – 11th August, 2022.

4.6 INCLUSIONS AND EXCLUSIONS

- Only Open access is included in the estimation of losses.
- Subsidy received from the government is considered for estimation Collection efficiency and AT&C losses

4.7 DETAIL FORMATS TO BE ANNEXED

- Month wise Input and Billed Energy
- T&D losses computation approach
- Un-metered energy consumption approach
- Internal field audit report of input and billed energy
- Performance of Discom on distribution losses
- Outcome of internal field audit
- Measures taken to reduce losses and improve losses
- Zone/Circle/Division/Sub-Division wise loss Computation
- Reduction achieved, measured adopted for energy conservation and quantity of energy saved.
- Report on distribution losses
- List of measuring equipments and calibration certificates and frequency of calibration
- Write up on energy scenario
- Generation via Solar , DG and any other source and share of energy consumption
- Net Input Energy Computational details
- Category wise consumers details
- Category wise consumers connected load and % load.
- Bifurcation of Billed energy(metered billed energy and U metered billed energy)
- Disconnected consumers details
- Loss Analysis report
- Write up on procedure followed technical loss analysis

5 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.

Sr. No	Query by EA	Response by EM of DISCOM	Notes by EA
1	Why the overall AT&C losses increase substantially compared to the year 2019-2020	The actual subsidy received from Government of Andhra Pradesh has only been considered because of which the collection efficiency has been adversely affected. Additionally, the collection efficiency was also adversely impacted by COVID.	As there is a time lag between the claim and receipt of the subsidy from the Government's, a confirmation of the subsidy receivable from the Government of Andhra Pradesh could have been pursued by the DISCOM.
2	Feeder wise billed amount and collection efficiency details are presently not available in Energy Audit dashboard to estimate feeder wise AT&C losses for feeders other than RAPDRP towns.	Feeder wise billed amount and collection efficiency details will be incorporated in to the Energy Audit dashboard to estimate feeder wise AT&C in due course.	It is suggested DC to add this functionality to existing feeder wise energy audit to meet the requirements under Bureau of Energy Efficiency (Manner and Intervals for Conduct of Energy Audit (Accounting) in Electricity Distribution Companies) Regulations of 2021.

6 Annexures

i. Introduction to Verification Firm

Siri Exergy & Carbon Advisory Services Pvt. Limited is registered as an Empanelled Accredited Energy Auditing Firm with Bureau of Energy Efficiency (BEE) bearing Registration No. EmAEA –0019.

Siri Exergy & Carbon Advisory Services Pvt. Limited 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 Siri Exergy 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.

ii. Name of the Firm

Name of the Accredited Firm	Accredited Energy Auditor
Siri Exergy & Carbon Advisory Services (P)Ltd, Plot No 93 A, Janaki Enclave , Saroor Nagar, Hyderabad - 500035	Dr.G.Subramanyam –AEA - 0019

iii. Composition of Team

Sr. No.	Name	Qualification	EmAEA/AEA/ EA/EM Registration No.	Experience in years	Sector
Team Leader					
1	Dr G. Subramanyam	Accredited Energy Auditor	AEA-0019	30	Energy
Team Head/Sector Expert/CEA					
2	Mr. I V Ramesh Kumar	AEA	AEA-0084	37	Energy
3	Mr G Ram Reddy	Retd SE – Sector Expert		37	Energy
Team Member					
4	Mr. P N P Srinivas	B.E, (Electrical)	-	10	Energy

iv. **Registration No** –

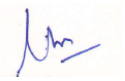
EmAEA – 0019

v. Undertaking from EmAEA

We M/s. Siri Exergy & Carbon Advisory services (P)Ltd hereby confirm that our AEA and any of the audit team member mentioned in this report has conduct mandatory annual energy audit (Accounting) for APSPDCL (hereafter called as DC).

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

Authorized Signatory



(Dr.G.Subramanyam)
Director

II. Minutes of Meeting with the Discom Firm

Annual Energy Audit of FY 2021-22, MINUTES OF MEETING

Name of the DC: AP Southern Power Distribution Company Ltd (APSPDCL) , Tirupati

Name of the EmAEA Team: Siri Exergy & Carbon Advisory Services P Ltd, Hyderabad

- Dates: 8-10th August 2022

Team Members from M/s Siri Exergy & Carbon Advisory Services P Ltd, Hyderabad

No	Name	Designation
1.	Dr.G.Subramanyam	Accredited Energy Auditor & Team Leader
2.	Mr. IV Ramesh Kumar	Accredited Energy Auditor
3.	Mr. G Ram Reddy	Discom Sector Expert
4.	Mr. PNP Srinivas	Engineer, Team Member

Members Present from **DHBVN**

S No	Name	Designation
1	Mr. Sh Rasheed	CGM- Energy Audit & Planning, Training
2	Mr. G.Balakrishna Reddy	GM- Energy Audit
3	Mr.M Ayub Khan	EE - Energy Audit
4	Mr. G. Krishna Murthy	DEE - Energy Audit
5	Mrs.D. Lakshmi	AEE - Energy Audit
6	Mr.S.Soma sekhar	EE/O&M – Energy Manager

As part of Annual Energy Audit of FY 2021-22, the site visit was made during the period 8-10th August 22 and the minutes of the closing meeting are as follows:

Siri Exergy Team met all the key personnel and thanked **APSPDCL- Tirupati** team for giving the opportunity for Annual Energy Audit of FY 2021-22

The EmAEA team reviewed the initiatives carried out by **APSPDCL- Tirupati** towards AT&C loss reduction, and the following other activities which were carried out:

- Siri Exergy Team has explained the BEE scope of work under Annual Energy Audit during Kick off meeting
- Verification of data for FY 2021-22 and performance during FY 2021-22
- The information regarding energy data sheet in Form-1 and sector specific Pro-forma format for the FY 2021-22 were verified towards the following:
  a) Electrical Energy Input from Audit Report
  b) Billed Energy, T&D loss and AT&C loss for the Year 2021-22
  c) Connected Load, Metered / Unmetered consumers data from MIS data base
  d) Computation of Agricultural consumption data

- Verification of Month wise energy Input, circle wise energy loss, category wise billing efficiency, Category wise collection Efficiency, and AT&C losses for the FY 2021-22
- Details of Energy conservation options already implemented, various schemes under implementation, and the Budget being spent on each scheme verified.
- Hard copies of Annual Report 2021-22 and MIS Reports
- Details of High and Low T&D loss Feeders and Circles
- APSPDCL Network diagram, Asset List and details of Smart Metering, DTs metering collected.

Siri Exergy Team thanked **APSPDCL- Tirupati** for excellent support & Cooperation extended.

Signatue 10/2/22
Name : Dr G Subramanyam
Designation : Accredited Energy Auditor & Team Leader

Company/Firm : **Siri Exergy & Carbon Advisory Services Pvt Ltd**

G. SUBRAMANYAM
Director
Siri Exergy & Carbon Advisory Services (P) Ltd.
93A, Janaki Enclave, Saroornagar,
Hyderabad - 500 035 Telangana State.

Signature
Name : Mr. Sh Rasheed
Designation : CGM- Energy Audit & Planning, Training

Company/Firm : **APSPDCL-Tirupati**

CHIEF GENERAL MANAGER
TRG, EA & PLG
CORPORATE OFFICE, APSPDCL
TIRUPATI

III. Checklist prepared by EmAEA

List of documents required are:

- Month Wise input and billed energy.
- T&D losses computation approach.
- Un-metered energy consumption approach.
- Internal field audit report of input and billed energy
- Performance of discom on distribution losses
- Outcome of Internal field audit.
- Measures taken to reduce losses and improve losses.
- Zone/Circle/Division/Sub-Division wise loss computation.
- Reduction achieved, measures adopted for energy conservation and quantity of energy saved.
- Report on distribution losses.
- List of measuring equipments and calibration certificates and frequency of calibration.
- Write up on energy scenario.
- Generation via solar,DG and any other source and share of energy consumption
- Net Input Energy Computation Details
- Category wise Consumers details
- Category wise consumers connected load and % load.
- Bifurcation of billed Energy(metered billed energy and Un-metered billed energy)
- Disconnected Consumers details
- Load Analysis report.
- Write up on procedure followed Technical loss analysis.

IV. Brief Approach, Scope & Methodology for audit

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

V. Infrastructure Details

Form-Details of Input Infrastructure					
1	**Parameters**	**Total**	**Covered during in audit**	**Verified by Auditor in Sample Check**	**Remarks (Source of data)**
i	Number of circles	5	5		
ii	Number of divisions	28	28		
iii	Number of sub-divisions	103	103		
iv	Number of feeders	6593	6495		
v	Number of DTs	623890	623890		
vi	Number of consumers	7879953	7879953		
2	**Parameters**	**66kV and above**	**33kV**	**11/22kV**	**LT**
a. i.	Number of conventional metered consumers	116	680	3017	6687277
ii	Number of consumers with 'smart' meters	0	0	0	0
iii	Number of consumers with 'smart prepaid' meters	0	0	0	0
iv	Number of consumers with 'AMR' meters	0	0	0	0
v	Number of consumers with 'non-smart prepaid' meters	0	0	0	0
vi	Number of unmetered consumers	0	0	0	1188863
vii	**Number of total consumers**	116	680	3017	7876140
b.i.	Number of conventionally metered Distribution Transformers	0	0	113589	
ii	Number of DTs with communicable meters	0	0		
iii	Number of unmetered DTs	0	0	510301	
iv	**Number of total Transformers**	0	0	**623890**	0
c.i.	Number of metered		790	5803	

Form-Details of Input Infrastructure					
1	**Parameters**	**Total**	**Covered during in audit**	**Verified by Auditor in Sample Check**	**Remarks (Source of data)**
	feeders				
ii	Number of feeders with communicable meters			5803	
iii	Number of unmetered feeders			0	
iv	**Number of total feeders**		790	5803	
d.	Line length (ct km)	326158.1			
e.	Length of Aerial Bunched Cables	19924			
f.	Length of Underground Cables	88			
3	**Voltage level**	**Particulars**	**MU**	**Reference**	**Remarks (Source of data)**
i	66kV and above	Long-Term Conventional	8,527.81791	CGS+Thermal powertech+bundled power+CTU	
		Medium Conventional			
		Short Term Conventional	4617.181145	IEX,PXIL+UI	
		Banking			
		Long-Term Renewable energy			
		Medium and Short-Term RE			
		Captive, open access input			
		Sale of surplus power			
		Quantum of inter-state transmission loss	557.20590	Diff between Energy purchaged & Net Discom drawls	
		Power procured from inter-state	13,144.99906	Based on data from Form 5	

Form-Details of Input Infrastructure					
1	**Parameters**	**Total**	**Covered during in audit**	**Verified by Auditor in Sample Check**	**Remarks (Source of data)**
		sources			
		Power at state transmission boundary	13,144.99906		
ii	33kV	Long-Term Conventional	9,104.16090	Apgenco Thermal+APPDCL+Godavari gas plant	
		Medium Conventional			
		Short Term Conventional	228.94000	Spectrum+lanco	
		Banking			
		Long-Term Renewable energy	1487.756829	Apgenco hydel	
		Medium and Short-Term RE			
		Captive, open access input			
		Sale of surplus power			
		Quantum of intra-state transmission loss	0		
		Power procured from intra-state sources	10,820.85773		
iii		**Input in DISCOM wires network**	23,965.85679		
iv	33 kV	Renewable Energy Procurement	11031.03656	solar+wind	
		Small capacity conventional/	192.01314	Bio mass+Bagasse+	

Form-Details of Input Infrastructure					
1	**Parameters**	**Total**	**Covered during in audit**	**Verified by Auditor in Sample Check**	**Remarks (Source of data)**
		biomass/ hydro plants Procurement		Mini hydel+Iwaste	
		Captive, open access input			
v	11 kV	Renewable Energy Procurement			
		Small capacity conventional/ biomass/ hydro plants Procurement			
		Sales Migration Input			
vi	LT	Renewable Energy Procurement			
		Sales Migration Input			
vii		**Energy Embedded within DISCOM wires network**	11223.05		
viii		**Total Energy Available/ Input**	35,188.90649		
4	**Voltage level**	**Energy Sales Particulars**	**MU**	**Reference**	
i	LT Level	DISCOM' consumers	14,684.02	Include sales to consumers in franchisee areas, unmetered consumers	
		Demand from	0	Non DISCOM's	

Form-Details of Input Infrastructure					
1	**Parameters**	**Total**	**Covered during in audit**	**Verified by Auditor in Sample Check**	**Remarks (Source of data)**
		open access, captive		sales	
		Embedded generation used at LT level		Demand from embedded generation at LT level	
		Sale at LT level	14,684.0		
		Quantum of LT level losses	496.53		
		Energy Input at LT level	15,181		
ii	11 kV Level	DISCOM' consumers	1,847.463	Include sales to consumers in franchisee areas, unmetered consumers	
		Demand from open access, captive	12.290	Non DISCOM's sales	
		Embedded generation at 11 kV level used		Demand from embedded generation at 11kV level	
		Sales at 11 kV level	1,859.753		
		Quantum of Losses at 11 kV	740.93		
		Energy input at 11 kV level	2,600.683		
iii	33 kV Level	DISCOM' consumers	2,352.987	Include sales to consumers in franchisee areas, unmetered consumers	
		Demand from open access,	305.7400	Non DISCOM's sales	

Form-Details of Input Infrastructure					
1	**Parameters**	**Total**	**Covered during in audit**	**Verified by Auditor in Sample Check**	**Remarks (Source of data)**
		captive			
		Embedded generation at 33 kV or below level		This is DISCOM and OA demand met via energy generated at same voltage level	
		Sales at 33 kV level	2,658.727		
		Quantum of Losses at 33 kV	804.91		
		Energy input at 33kV Level	3,463.64		
iv	> 33 kV	DISCOM' consumers	4288.649	Include sales to consumers in franchisee areas, unmetered consumers	
		Demand from open access, captive	438.810	Non DISCOM's sales	
		Cross border sale of energy			
		Sale to other DISCOMs	9,383.77000		
		Banking			
		Sales at 66kV and above (EHV)	14,111.229		
Total Energy Requirement			**35,356.099**		
Total Energy Sales			**33,313.729**		

Energy Accounting Summary					
5	**DISCOM**	**Input (in MU)**	**Sale (in MU)**	**Loss (in MU)**	**Loss %**
i	LT	15,181	14,684	497	3.27
ii	11 Kv	2,601	1,860	741	4.16
iii	33 kv	3,464	2,659	805	3.78
iv	> 33 kv	14,111	14,111	0	
6	**Open Access, Captive**	**Input (in MU)**	**Sale (in MU)**	**Loss (in MU)**	
i	LT	0	0	0	
ii	11 Kv	2.78	3	0.16	
iii	33 kv	90.73	88	2.73	
iv	> 33 kv				

Loss Estimation for DISCOM	
T&D loss	2,632
D loss	2,075
T&D loss (%)	7.480
D loss (%)	5.868

VI. Power Purchase Details

AP DISCOMS PP COST FOR APSPDCL (FINAL) DT:22.06.2022

Vendor No.	Source	Vendor Name	Energy	Fixed Cost	Variable Cost	Total	Rs./ KWh
1310016	Thermal	Dr.NTTPS	2734152976	2497545007	8936039897	11433584903	4.18
1310016	Thermal	Dr.NTTPS-IV	1083471588	1000634592	3372445122	4373079714	4.04
1310016	Thermal	RTPP Stage-I	461622089	693936418	1771762984	2465699402	5.34
1310016	Thermal	RTPP Stage-II	595669593	811870847	2278050364	3089921211	5.19
1310016	Thermal	RTPP Stage-III	323721212	544752494	1241517101	1786269595	5.52
1310016	Thermal	RTPP Stage-IV	861857435	2215510202	3139328189	5354838391	6.21
1310016	**SGS**	**Sub Total APGenco Thermal**	**6060494893**	**7764249560**	**20739143656**	**28503393216**	**4.70**
1310016	Hydel	Srisailam -RBPH	510002755	809009920	0	809009920	**1.59**
1310016	Hydel	NSRCPH	100313257	92795640	0	92795640	**0.93**
1310016	Hydel	NSTPDC PH	48478550	183852720	0	183852720	**3.79**
1310016	Hydel	Upper Sileru	116376740	284943989	0	284943989	**2.45**
1310016	Hydel	Lower Sileru	329343157	546142646	0	546142646	**1.66**
1310016	Hydel	Donkarai	23448285	29681666	0	29681666	**1.27**
1310016	Hydel	Pennaahobilam	1817747	48100160	0	48100160	**26.46**
1310016	Hydel	Mini Hydel (Chettipeta)	867886	6374720	0	6374720	**7.35**

Vendor No.	Source	Vendor Name	Energy	Fixed Cost	Variable Cost	Total	Rs./ KWh
1310016	Hydel	Machkund	137241709	137595318	0	137595318	**1.00**
1310016	Hydel	TB Dam	64616154	86352942	0	86352942	**1.34**
1310016	**SGS**	**Sub Total APGenco Hydel**	**1332506240**	**2224849720**	**0**	**2224849720**	**1.67**
1310016		**APGenco Total**	**7393001133**	**9989099280**	**20739143656**	**30728242936**	**4.16**
1310394	Thermal	APPDCL Unit -1	1005193739	1562204529	3156308340	4718512870	**4.69**
1310394	Thermal	APPDCL Unit -2	910935535	1562204529	2860337581	4422542110	**4.85**
1310394	Thermal	FCA CLAIMS FY 21-22	0	7334374	-236128216	-228793842	**0.00**
1310497	Own Gas	Godavari Gas Power Plant	177498185	76202648	454353642	530556290	**2.99**
	1	**SGS TOTAL**	**9486628593**	**13197045360**	**26974015004**	**40171060364**	**4.23**
1310654	Thermal	NTPC (SR) Ramagundam I & II	696011647	484149338	1970909011	2455058350	**3.53**
1310654	Thermal	NTPC (SR) Simhadri Stage 1	1115389213	1302125044	3198677247	4500802291	**4.04**
1310654	Thermal	NTPC (SR) Simhadri Stage 2	469808832	816305534	1374975587	2191281121	**4.66**
1310654	Thermal	NTPC (SR) Talcher St. II	453168147	350781288	791647651	1142428939	**2.52**
1310654	Thermal	NTPC (SR) Ramagundam Stage-III	200801364	173005326	561915915	734921241	**3.66**
1310654	Thermal	NTPC Kudgi Stage 1	340151862	963281668	1329880781	2293162449	**6.74**
1310654	Thermal	NTPC DADRI	0	73042474	6734718	79777192	**0.00**
1310334	Thermal	NTECL Valluru	207639068	425342412	700853499	1126195911	**5.42**
1310003	Lignite	NLC Stage-I	116882904	86756841	311592849	398349690	**3.41**
1310003	Lignite	NLC Stage-II	182401674	138972860	484678062	623650922	**3.42**
1310004	Nuclear	NPC (MAPS)	11599206	0	30261018	30261018	**2.61**
1310007	Nuclear	NPC (Kaiga Unit-I,II & III)	319370480	0	1104970438	1104970438	**3.46**
1310654	Thermal	NTPC Mouda	0	0	-687544	-687544	**0.00**
SCED	SCED	SCED	0	-26388225	0	-26388225	**0.00**
1310438	Thermal	NTPL (NLC Tamilnadu Power Ltd Stage-1)	213451409	370951588	686834957	1057786545	**4.96**
1310660	Thermal	NLC NNTPS	110805536	209173445	242611278	451784723	**4.08**
	2	**CGS TOTAL**	**4437481342**	**5367499593**	**12795855468**	**18163355060**	**4.09**
1310010	Gas	Spectrum Power	73669649	0	181648161	181648161	**2.47**
1310017	Gas	Lanco Kondapalli	131380062	0	308743145	308743145	**2.35**
1310434	Thermal	Thermal Powertech Corporation India	641909191	1014154114	1434329079	2448483193	**3.81**
1310441	Thermal	Hinduja National Power Corp Ltd(HNPCL)	80484100	0	307449261	307449261	**3.82**

Vendor No.	Source	Vendor Name	Energy	Fixed Cost	Variable Cost	Total	Rs./ KWh
	3	**IPP TOTAL**	**927443002**	**1014154114**	**2232169647**	**3246323761**	**3.50**
1310107	Exchange	Indian Energy Exchange Ltd	3685025185	0	19735350966	19735350966	**5.36**
1310107	STOA	Indian Energy Exchange Ltd(STOA charges)	0	0	878762522	878762522	**0.00**
1310132	Exchange	Power Exchange India Ltd	39787579	0	193346011	193346011	**4.86**
1310132	STOA	Power Exchange India Ltd(STOA Charges)	0	0	9553384	9553384	**0.00**
1310264	Trader	Kreate Energy(Trading)	10840349	0	42566547	42566547	**3.93**
1310038	Trader	PTC India Ltd (Trading)	200737682	0	750709712	750709712	**3.74**
1310264	STOA	Kreate Energy (STOA Charges)	0	0	2667854	2667854	**0.00**
1310046	Trader	NVVNL Limited (Trading)	37477620	0	153690538	153690538	**4.10**
1310046	Trader	NVVNL-JPL	26511232	0	125133013	125133013	**4.72**
1310038	Trader	PTC-OTPC	5283083	0	23775542	23775542	**4.50**
1310038	Trader	PTC-SEIL	26718103	0	128781257	128781257	**4.82**
1310038	Trader	PTC-EMPL	26796251	0	129157932	129157932	**4.82**
1310629	Trader	SEMBCORP GAYATRI POWER LTD	0	-3188	0	-3188	**0.00**
1310391	STOA	MANIKARAN POWER LIMITED(STOA Charges)	0	337662	0	337662	**0.00**
	4	**INTER STATE TRADERS (SHORT TERM)**	**4059177084**	**334474**	**22173495278**	**22173829752**	**5.46**
1310186	Bagasse	Chodavaram Sugars	5956737	9731208	20110608	29841816	**5.01**
1310183	Bagasse	EID Parry India Ltd (GMR Tech)	559600	3679820	-2834773	845047	**1.51**
	5	**NCE -BAGASSE Total**	**6516337**	**13411028**	**17275835**	**30686863**	**4.71**
1310180	Biomass	Shri Papers Limited	13661570	24594093	71859861	96453954	**7.06**
	6	**NCE-Biomass Total**	**13661570**	**24594093**	**71859861**	**96453954**	**7.06**
1310189	Iwaste	3F Industries Ltd (Foods & Fats)	12723000	19741690	66897830	86639520	**6.81**
1310683	Iwaste	Jindal urban waste Mangament (Viskaptanam))	7005080	0	43613626	43613626	**6.23**
	7	**NCE-Industrial Waste TOTAL**	**19728080**	**19741690**	**110511456**	**130253146**	**6.60**

Vendor No.	Source	Vendor Name	Energy	Fixed Cost	Variable Cost	Total	Rs./ KWh
1310192	Mhydel	Sardar Power	6207880	14597116	0	14597116	**2.35**
1310573	Mhydel	Vetamamidi MHPP Project	3910500	6820015	0	6820015	**1.74**
1310051	Mhydel	Ncl Energy TB Dam	9854942	0	17799993	17799993	**1.81**
	8	**Mini Hydel Total**	**19973322**	**21417131**	**17799993**	**39217124**	**1.96**
1310506	Solar	EAAMA Estate Pvt Ltd	4087362	0	27899655	27899655	**6.83**
1310528	Solar	VBC RENEWABLE ENERGY PVT LTD	1243702	0	8496868	8496868	**6.83**
1310650	Solar (Banked)	Cyber Village Solutions Pvt. Ltd.,	39338	0	147163	147163	**3.74**
1310644	Solar (Banked)	REPAL RENEWABLES PVT LTD.,(VIZIANAGARAM DIST)	23290	0	43564	43564	**1.87**
1310646	Solar (Banked)	Visakhapatnam Port Trust	3555133	0	13296197	13296197	**3.74**
1310607	Solar	New & Renewable Energy Development Corporation Of Andhra Pradesh Ltd (Solar Project)	717685	0	4880258	4880258	**6.80**
1310533	Solar	Apgenco (solar) Project	7168160	0	43412202	43412202	**6.06**
	10	**NCE-SOLAR Total**	**16834670**	**0**	**98175907**	**98175907**	**5.83**
1310655	Thermal (Bundled)	NTPC NVVNL Bundled Power (Only COAL)	68185363	0	320122403	320122403	**4.69**
1310567	Thermal (Bundled)	NTPC NSM Phase-II, Bundled Power (COAL)	0	0	41328932	41328932	**0.00**
	11	**OTHERS NCEs Total**	**68185363**	**0**	**361451335**	**361451335**	**5.30**
1310009	CTU	PGCIL POC Charges(CGS Tr.Charges)	0	3910358801	0	3910358801	**0.00**
1310009	CTU	PGCIL Non POC Charges(ULDC)	0	17115511	0	17115511	**0.00**
1310064	STU	APTRANSCO Transmission Charges (EP)	0	7446450513	0	7446450513	**0.00**
1310064	STU	APTRANSCO SLDC Charges (EP)	0	109342982	0	109342982	**0.00**
1310064	STU	AP TRANSCO ANNUAL FEE	0	16607114	0	16607114	**0.00**
1310658	CTU	POSOCO SRLDC Charges	0	13348938	0	13348938	**0.00**

Vendor No.	Source	Vendor Name	Energy	Fixed Cost	Variable Cost	Total	Rs./ KWh
1310434	CTU	Long Term (SEIL-LTOA) Tr. Charges	0	474323	0	474323	**0.00**
1310266	UI	POSOCO-Deviation Charges (CGS UI charges)	76196883	799125722	0	799125722	**10.49**
1310074	CTU	POSOCO Reactive charges/Tangedco	0	8335359	0	8335359	**0.00**
1310659	CTU	POWER COMPANY OF KARNATAKA LIMITED(PCKL) SRPC	0	4536356	0	4536356	**0.00**
	12	**Trasmission & UI Charges**	**76196883**	**12325695618**	**0**	**12325695618**	
	13	**Inter State Traders (MTOA)**	**0**	**0**	**0**	**0**	**0.00**
1310057	Wind	RCI POWER Limited(Differencial cost)	0	0	90347185	90347185	**0.00**
1310081	wind	Bharat Wind Farms(Differencial cost)	0	0	19367557	19367557	**0.00**
1310386	Bagasse	NSL Sugars (KUPPAM)	0	0	3596659	3596659	**0.00**
1310386	Bagasse	NSL Sugars (Tungabhadra)	0	0	1229735	1229735	**0.00**
1310167	Bagasse	SNJ SUGARS(surcharge share)	0	0	31825248	31825248	**0.00**
1310067	Trader	JSW PTC (Surcharge Share)	0	0	56271340	56271340	**0.00**
1310116	Trader	GMR ENERGY TRADING (SURCHARGE SHARE)	0	0	2041726	2041726	**0.00**
1310434	Ipp Thermal	CHANGE IN LAW (SEIL) FOR THE PERIOD	0	0	172938170	172938170	**0.00**
1310434	Ipp Thermal	Carrying Cost) FOR THE PERIOD	0	0	195549723	195549723	**0.00**
	14	**Others**	**0**	**0**	**573167343**	**573167343**	**0.00**
		Grand Total	**19131826245**	**31983893101**	**65425777126**	**97409670227**	**5.09**
		DISCOM TO DISCOMS SETTELMENT EPDCL	6209884023		27825919241	27825919241	**4.48**
		Grand Total including D < > D	**25341710268**	**31983893101**	**93251696367**	**125235589468**	**4.94**
		IEX SALE EPDCL	29064872		166702707	166702707	**5.74**
		IEX SALE TOTAL	**29064872**	**0**	**166702707**	**166702707**	**5.74**

VII. Category of Service Details (With Consumer and Voltage Wise)

The total sales (metered and assessed) for various consumer categories for the FY 2021-22 are presented in the following table.

(Details of Consumers)						
Summary of Energy						
Period From April ' 21 to March ' 22						
S.No	**Type of Consumers**	**Category of Consumers (EHT/HT/LT/Others)**	**Voltage Level (In Voltage)**	**No of Consumers**	**Total Consumption (In MU)**	**Remarks (Source of data)**
1	Domestic	LT		5826259	5181.95	
2	Commercial	LT		633245	918.15	
3	IP Sets	LT		1194633	7166.64	Agriculture
4	Hor. & Nur. & Coffee/Tea & Rubber (Metered)					
5	Hor. & Nur. & Coffee/Tea & Rubber (Flat)					
6	Heating and Motive Power					
7	Water Supply					
8	Public Lighting					
9	HT Water Supply					
10	HT Industrial					
11	Industrial (Small)	LT		62594	523.23	
12	Industrial (Medium)					
13	HT Commercial					
14	Applicable to Government Hospitals & Hospitals					
15	Lift Irrigation Schemes/Lift Irrigation Societies					
16	HT Res. Apartments Applicable to all areas					
17	Mixed Load					
18	LT others	LT		159409	909.96	
19	Others-1 (if any , specify in remarks)	Cat:1	11KV	33	15.42	Function Halls
20	Others-2 (if any , specify in remarks)	Cat:2	11KV	917	282.1644	Start up power
21	Others-3 (if any , specify in remarks)	Cat:3	11KV	1668	947.62	Religious places
22	Others-4 (if any , specify in remarks)	Cat:4	11KV	253	98.50	Railway Traction
23	Others-5 (if any , specify in remarks)	Cat:5	11KV	140	35.71	Aqua culture &

(Details of Consumers)						
Summary of Energy						
Period From April ' 21 to March ' 22						
S.No	**Type of Consumers**	**Category of Consumers (EHT/HT/LT/Others)**	**Voltage Level (In Voltage)**	**No of Consumers**	**Total Consumption (In MU)**	**Remarks (Source of data)**
						Animal Husbandry
24	Others-5 (if any , specify in remarks)	RESCO	11KV	1	468.04	
25	Others-5 (if any , specify in remarks)	Cat:1	33KV	5	2.02	
26	Others-5 (if any , specify in remarks)	Cat:2	33KV	361	73.16	
27	Others-5 (if any , specify in remarks)	Cat:3	33KV	248	2145.03	
28	Others-5 (if any , specify in remarks)	Cat:4	33KV	25	67.74	
29	Others-5 (if any , specify in remarks)	Cat:5	33KV	44	65.04	
30	Others-5 (if any , specify in remarks)	Cat:1	132KV			
31	Others-5 (if any , specify in remarks)	Cat:2	132KV	18	38.49	
32	Others-5 (if any , specify in remarks)	Cat:3	132KV	28	2443.48	
33	Others-5 (if any , specify in remarks)	Cat:4	132KV	31	531.33	
34	Others-5 (if any , specify in remarks)	Cat:5	132KV	15	134.73	
35	Others-5 (if any , specify in remarks)	Cat:1	220KV	0		
36	Others-5 (if any , specify in remarks)	Cat:2	220KV	3	1.33	
37	Others-5 (if any , specify in remarks)	Cat:3	220KV	4	307.11	
39	Others-5 (if any , specify in remarks)	Cat:4	220KV	5	104.06	
40	Others-5 (if any , specify in remarks)	Cat:5	220KV	14	712.20	
			Total	7879953	23173.12	

VIII. ELECTRICAL DISTRIBUTION SYSTEM:

DISTRIBUTION (CAPITAL INVESTMENT) PLAN The Commission has examined the investments proposed by the licensees in the Resource Plans for 4th Control Period. The Commission, while examining the investment proposals, has reckoned / considered all the views / objections / suggestions expressed by the stakeholders in writing and during public hearings, which have been elaborated in Chapter-II in the Resource Plan. The total investments (including ongoing Schemes) approved for the 4th Control Period are Rs.9,239 Cr. in respect of APSPDCL and Rs.4,309 Cr. in respect of APEPDCL. The details of investments as per the Resource Plans for the 4th Control Period is as hereunder: Table 6 – Approved: Investments - APSPDCL (Rs. Cr.)

S. No.	Item	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	Total
1	Ongoing Schemes	750	339	228	-	-	1,317
2	Substations (New & Augmentation)	264	312	370	434	511	1,891
3	Metering & Associated equipment	55	55	55	55	55	275
4	DTR Additions	405	459	529	629	710	2731
5	Lines, Cables & Network	400	472	554	679	775	2880
6	Technology Upgradation and R&M	0	0	0	0	0	0
7	Civil works and Others	25	27	29	31	33	145
Total (Rs.Cr.)		1899	1663	1765	1827	2084	9,239

S.No.	Item	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	Total
1	Ongoing Schemes	471	41	0.75	0.75	0.75	514
2	Substations (New & Augmentation)	197	143	167	196	224	927
3	Metering & Associated equipment	60	60	60	60	60	360
4	Distribution Transformer Additions	144	182	203	230	266	1,027
5	Lines, Cables & Network	173	196	220	260	302	1,151
6	Technology Upgradation and R&M	57	57	57	57	57	285
7	Civil works and Others	21	21	21	21	21	105
Total (Rs.Cr.)		1,123	701	729	825	931	4309

The following methodology has been adopted by the licensees to arrive at the network elements and accordingly investments for the next 5 years in the Control Period. Forecasting circle wise total Power Transformer (PTR) capacities and No. of PTRs: The licensee-wise and circle-wise non co-incident peak demands are arrived based on the year-wise estimated energy requirement with projected loss trajectory on sales for the 4th Control Period and non- coincident load factors of the FY2017-18. Peak Demand (MW) = Energy Required/ (24*365/1000)/Load Factor. The non co-incident peak demands observed during the FY2017-18 have been used to calculate the diversity factor of PTRs in all circles as per the formula given below: PTR diversity factor = Total PTR Capacity/Non co-incident peak demand The PTR diversity factor calculated as above, has been adopted for each year of the Control Period.

Based on the PTR diversity factor and non-coincident demands, the circle wise cumulative PTR capacities were arrived. The PTR capacity so arrived is divided by 5MVA (assumed for a basic 33/11 kV SS) to arrive no. of PTRs. Forecasting circle-wise total Distribution Transformer (DTR) capacities and No. of DTRs: Using the following formula, DTR to PTR ratios for each year of the Control Period has been arrived by taking FY2017-18 as a base. DTR to PTR capacity ratio for year t = (DTR to PTR capacity ratio for year t-1) * (LT/(LT+11kV) sales ratio for year t)/(LT/(LT+11kV) sales ratio for year t-1) Using the following formula, circle wise cumulative DTRs capacity were arrived. DTR capacity = DTR to PTR capacity ratio * forecasted PTR Capacity The

DTR capacity so arrived is divided by 100 kVA (assumed as basic DTR capacity) to arrive at no. of DTRs. Line Lengths estimation: The line length norms (a) LT km per DTR, (b)11 kV km per DTR and (c) 33kV km per 33/11 kV SS have been arrived at based on the actual data of FY2017-18. The line length required at different voltage levels i.e. 33 kV, 11 kV and LT line have been estimated based on the assumption of maintaining High Tension (HT) : Low Tension (LT) ratio of 1 [average of (a) LT km per DTR, (b)11 kV km per DTR] during the 4th control period for 11 kV and LT lines whereas current standards have been assumed to be continued for 33kV lines. Based on the methodology described above, the total 33/11 kV SS and DTRs estimated is given in the tables below and the circle wise distribution network elements estimated by the licensees The Commission while finalizing the investments for the 4th Control Period, has kept in view the following:

As per the Section 42 of the Electricity Act, 2003 read with clause 22 of Regulation 10 of 2013, it shall be the duty of the Distribution Licensee to develop and maintain an efficient, coordinated and economical distribution system in his area of supply and to supply electricity in accordance with the provisions contained in the Act. The Commission is guided under Section 61 (c) of the Electricity Act, 2003, by the factors which would encourage competition, efficiency, economical use of the resources, good performance and optimum investments while determining the tariff. Paragraphs 18 and 19 of Distribution and Retail Supply License stipulates that subject to the availability of adequate generating and transmission capacity, the system is capable of providing consumers within its area of supply with an adequate, safe and economical supply of electricity, having regard to quality, continuity and reliability of service. Historic investments made by the licensees after bifurcation of State. The Commission after examining the investments with reference to the above points and methodology for arriving network elements and computations of the investment, adopted the same methodology as adopted by the licensees with following changes to arrive at network elements and investments: The diversity factors considered uniformly at 2.0 for each year of the Control Period for all circles; The cost data norms as provided by APSPDCL are considered for both the licensees.

As per the National Tariff policy, 2016, all the consumers shall be provided with smart meters whose consumption is more than 200 units. Accordingly, the Commission has limited the investments towards providing smart meters for Domestic consumers. Cost of the smart meter is taken as Rs. 2500 per single phase meter as per the data given in the ARR filings for Retail Supply Business for FY2018-19 as against Rs.5000 considered by the licensee.

With respect to installation of smart meters for 4,33,000 nos. agricultural DTRs, the Commission had issued following direction in the Retail Supply Tariff Order for FY2018-19. “The Commission directs both licensees to take up pilot projects for one selected Division each in their respective jurisdictions for progressively providing 100 percent smart meters to all AGL DTRs as per the National Tariff Policy at least within the next two years.

IX. List of Documents Verified

General Information					
1	**Name of the DISCOM**	SOUTHERN POWER DISTRIBUTION OF AP LIMITED			
2	**i) Year of Establishment**	2000			
	ii) Govt/Public/Private	Government			
3	**DISCOM's Contact details & Address**				
i	City/Town/Village	TIRUPATI			
ii	District	CHITTOOR			
iii	State	ANDHRA PRADESH		Pin	517503
iv	Telephone	0877-2284111		Fax	0877-2284111
4	**Registered Office**				
i	Company's Chief Executive Name	Sri.K.SANTHOSHA RAO,			
ii	Designation	CHAIRMAN AND MANAGING DIRECTOR			
iii	Address	D.No: 19-13-65/A, Tiruchanur road, Behind Srinivasa Kalyana Mandapam			
iv	City/Town/Village	Tirupati		P.O.	
v	District	Chittoor			
vi	State	ANDHRA PRADESH		Pin	517503
vii	Telephone	0877-2284111		Fax	0877-2284111
5	**Nodal Officer Details***				
i	Nodal Officer Name (Designated at DISCOM's)	S.H.RASHEED			
ii	Designation	Chief General Manager, EA,Planning & Training			
iii	Address	D.No: 19-13-65/A, Tiruchanur road, Behind Srinivasa Kalyana Mandapam			
iv	City/Town/Village	Tirupati		P.O.	
v	District	Chittoor			
vi	State	ANDHRA PRADESH		Pin	517503
vii	Telephone	0877-2284111		Fax	0877-2284111
6	**Energy Manager Details***				
i	Name	S.Soma Sekhar			
ii	Designation	Energy Manager		Whether EA or EM	EM
iii	EA/EM Registration No.	EA- 7172			
iv	Telephone	0877-2284111		Fax	0877-2284111
v	Mobile	9440817402	E-mail ID	de_om@apspdcl.in	
7	**Period of Information**				
	Year of (FY) information including Date and Month (Start & End)	1st April '21 - 31st March '22			

Summary Sheet

Performance Summary of Electricity Distribution Companies			
1	Period of Information Year of (FY) information including Date and Month (Start & End)	1st April '21 - 31st March '22	
2	**Technical Details**		
(a)	**Energy Input Details**		
(i)	Input Energy Purchase (From Generation Source)	Million kwh	35188.91
(ii)	Net input energy (at DISCOM Periphery after adjusting the transmission losses and energy traded)	Million kwh	25215.49
(iii)	Total Energy billed (is the Net energy billed, adjusted for energy traded))	Million kwh	23173.12
(b)	Transmission and Distribution (T&D) loss Details	Million kwh	2042.38
		%	8.10%
	Collection Efficiency	%	92.01
(c)	Aggregate Technical & Commercial Loss	%	15.45

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

Authorised Signatory and Seal

Signature:-

Name of Energy Manager*:

Registration Number:

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

Seal

X. Brief Description of Unit/Discom

The A.P. Electricity reform Act 1998, became effective from 1st February 1999 and as envisaged in the Act, the vertically integrated monolithic Andhra Pradesh State Electricity Board has been unbundled in to two separate companies, namely Transmission Corporation of A.P. Limited (AP TRANSCO) and Andhra Pradesh Power Generation Corporation Limited (APGENCO) and have become operational from 1st February 1999. The Southern Power Distribution Company of Andhra Pradesh Limited (APSPDCL) has been formed with the headquarters at Tirupati as a successor entity of the erstwhile Andhra Pradesh State Electricity Board through the second statutory transfer scheme, which was notified in the official gazette of the Government of Andhra Pradesh on 31.03.2000.

The Government of Andhra Pradesh have issued instructions on Bifurcation of Andhra Pradesh Southern Power Distribution Company Limited as Andhra Pradesh Southern Power Distribution Company Limited and Andhra Pradesh Central Power Distribution Company Limited in the G.O.Ms. No. 41, Energy (Power-I) Department, Dt.05.12.2019. Accordingly, M/s Andhra Pradesh Central Power Distribution Corporation Limited was incorporated on 24.12.2019 under the Companies Act, 2013 as per the orders of the Govt of Andhra Pradesh vide G.O.Rt.No.136, Energy (Power-I) Department, Dt.10.12.2019 with Registered Office, Vijayawada. Andhra Pradesh Southern Power Distribution Company Limited is doing its Operations in Chittoor, Kadapa, Kurnool, Ananthapur and Nellore districts

Sr. No.	Parameter	Description
1.	Name of Unit	APSPDCL, Tirupati
2.	Registration Number	DIS005AP
3.	Name of Energy Manager	Mr. S.Soma Sekhar Executive Engineer - Energy Audit
4.	Activity	Power Distribution

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

Online Feeder Monitoring System (OFMS): OFMS has been established to monitor the 11kV feeder supply position with automatic meter reading technology. The progress of it as per below table:

Sl. No	District	RAPDRP		NON- RAPDRP		TOTAL FEEDERS	
		No. of Feeders	Commn. Feeders	No. of Feeders	Commn Feeders	Total No. of Feeders	Total Commn. Feeders
1	Nellore	134	121	894	724	1028	845
2	Tirupati	154	146	1273	1081	1427	1227
3	Kadapa	84	80	1038	889	1122	969
4	Kurnool	126	120	855	711	981	831
5	Anantapur	100	95	950	780	1050	875
	Total:	**598**	**562**	**5010**	**4185**	**5608**	**4747**

Agriculture power supply is being provided to the farmers as per the Government of AP mandate. APSPDCL is making efforts to supply power of 9 hours per day power during the day time. In 2797 feeders 9 hours per day is being provided in day time in a single stretch and 1042 feeders 9 hours per day is being provided in day time in two installments. DPRs have been prepared for providing additional infrastructure in 1105 feeders to facilitate 9 hours per day power supply at a cost of Rs 483.73 crores.

APSPDCL Customer Mobile APP has been prepared for the consumers to avail services such as electricity bill payment, view payment details for the past 12 months, complaint registration and tracking, customers can know supply details section, substation, feeder details along with contact details of the Assistant Engineer and Assistant Divisional Engineer.

APSPDCL has implemented the Government of India Integrated Power Development Scheme (IPDS) for the urban areas (statutory Towns) with the following components:

a) Strengthening of Sub-transmission and Distribution network in urban areas including provisioning of solar panels on Govt. buildings including Net-metering.

b) Metering of feeders / distribution transformers / consumers in urban areas and,

c) IT enablement of distribution sector and strengthening of distribution network etc. Projects to the tune of Rs 472.92 Crores have been implemented under the IPDS and works were related to substation strengthening, feeders, substations, IT enablement projects, ERP implementation, smart meters installation etc.

APSPDCL has implemented the Government of India's Deen Dayal Upadyay Gram Jyothi Yojana scheme with a project cost of Rs 521.54 Cr with the following components:

a) Electrification of colonies & Release of below poverty households

b) HVDS

c) DTR metering

d) System strengthening & augmentation (SS and others works) etc.